THE SPRINGS

REGIONAL SHOPPING CENTER AND INDUSTRIAL PARK

COUNTY OF RIVERSIDE

draft environmental impact report

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THE SPRINGS
ZONE CHANGE
DRAFT
ENVIRONMENTAL IMPACT REPORT

Prepared For:
RIVERSIDE COUNTY

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1.0 INTRODUCTION AND SUMMARY

1.1 Introduction

This Environmental Impact Report (EIR) has been prepared to evaluate the environmental effects of a Zone Change, and a Specific Plan which addresses the Regional Shopping Center portion of the proposed project.

The purpose of this EIR is to provide an accurate and concise information document which delineates and explains the environmental effects resulting from approval of the proposed action and subsequent development. Environmental impacts were determined by identifying the critical environmental issues of the proposed action, suggesting measures to mitigate adverse impacts, listing alternatives to the proposed project and soliciting responsible comment from individual agencies and the general public.

This EIR has been prepared for the County of Riverside in accordance with Guidelines for Implementation of the California Environmental quality Act of 1970 (California Government Code, Sections 15140 through 15145) as amended January 1, 1981.

The zone change, and the Specific Plan are referred to as "the project" within this report. The zone change would change the existing residential zoning of the site to I-P on 153 acres and C-P-S on 115 acres. The remaining 43 acres would retain their existing C-P-S zoning. The County of Riverside requires a Specific Plan for the regional shopping center portion of the project. A Specific Plan is not required by the County on the Industrial Park.

The following firms are associated with the project in the capacities indicated:

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1.2 Summary

This chapter summarizes the environmental impacts of the proposed action; and presents a summary matrix outlining the phasing of selected non-project design mitigation measures.

Land Use

The project is proposing to rezone about 115 acres from R-1 and R-3 to C-P-S (Scenic Highway Commercial), and to rezone approximately 153 acres of R-1, R-2, and R-3 to I-P (Industrial Park). The two existing areas on the site that are currently zoned C-P-S will be retained.

The zone changes are being requested in order to allow for the development of a regional shopping center and an industrial park on the project site.

At the present time the residential zoning on the site is not consistent with the General Plan land use designation of light and medium industrial. The requested C-P-S and I-P zoning of the site would bring the zoning into consistency with the General Plan land use designation.

The development of the proposed project would convert the 311-acre site from agricultural land uses to commercial and industrial land uses.

The project is proposing the development of a regional shopping center and regional oriented retail support commercial uses on 115 acres of the site that has a General Plan land use designation of light and medium industrial. The project is also proposing the development of an industrial park on 153 acres of the site that has a General Plan land use designation of light and medium industrial. The proposed land uses are consistent with the General Plan land use designation.

In the two areas where the C-P-S zoning is being retained the project is proposing the development of highway and community retail commercial uses. The General Plan Land Use Map designates the intersection of State Highway 60 and Day Street for tourist commercial uses. Although the General Plan Land Use Map does not show an exact area in the northeast corner of the site for commercial uses, it could be construed that the existing northeastern portion of the site zoned C-P-S is consistent with the tourist commercial General Plan land use designation. The other area in the southwest corner of the site that has an existing C-P-S zoning does not have a commercial land use designation adjoining to it.

The Edgemont Elementary School is located on the north side of Eucalyptus Avenue adjacent to the southern boundary of Planning Area 8 which proposes light industrial land uses. Several single-family residences are also located on the north side of Eucalyptus Avenue adjacent to the southern boundaries of Planning Areas 7 and 8. Planning

Area 7 proposes professional offices and health club land uses. The proposed industrial park land uses will not be consistent with the adjacent school and residential land uses unless adequate mitigation measures are provided by the proposed project. The General Plan Land Use Element states that, "Industrial developments should be made compatible with adjacent residential uses and other urban uses which should be protected; protective measures may include adequate landscaping buffering, design review procedures, and performance standards in regard to noise, dust, odors, vibration, and glare." Therefore, the proposed industrial park land uses can be consistent with adjacent school and residential land uses if adequate mitigation measures are provided by the proposed project. The proposed project will provide adequate buffering between their project and the adjacent land uses. The adequate buffering will include such things as berms, landscaping, and distance between project buildings and existing adjacent off-site buildings. In addition, the industrial park will be devoted to light, non-polluting industry.

The project would result in the loss of 311 acres of open space. The site is currently used for agricultural purposes and has been dry farmed with a variety of grain crops. As an agricultural site, the project's development of it would not be consistent with the Open Space goal of preserving productive agricultural land for its value in providing food and fiber and in maintaining a viable agricultural industry. However, farming has not been considered viable in recent years due to rapidly increasing costs, marginal soil quality characterized by a hardpan layer immediately beneath the surface, and encroaching urbanization. This trend is expected to continue. Therefore, the site cannot be considered a productive agricultural property, particularly in the long-term. In addition, the project is an infill project, that is, the site is surrounded by urbanized uses.

Soils and Geology

A specific grading plan is unavailable at this time, but on-site topography indicates that maximum cut and fill slope heights will be in the order of 15 feet along roadway alignments. Some remedial grading is expected on the site with no import or export of soil.

There are no active faults within the limits of the subject property.

Hydrology

Implementation of the proposed project would result in three major drainage problems.

Development of this site will necessitate control of surface water runoff so as to conform with the existing watershed boundaries.

Flooding at the eastern portion of the site, as well as drainage problems along the east side of Day Street would result in increased runoff unless mitigation measures are initiated.

Lastly, the existing facilities which provide outlets for the stormwater runoff from the project site have a limited capacity.

The project's civil engineer concludes that with proper design and construction of the proposed mitigation measures the project will be free from the 100-year frequency flood hazard.

Biological Resources

Development of the project site would result in the removal of grain crops, weedy plant species, and some native plants. Since the majority of the natural vegetative cover has been removed sometime ago, the impact to wildlife is expected to be minor, however, there will be

some displacement or the elimination of wildlife. The wildlife observed on the site are considered generalists and should be able to survive in adjacent plant communities.

Noise

During the period of project development, noise will be created from the use road improvement, grading, and construction equipment. The use of this equipment near the southern boundary of the site may result in noise levels which could be annoying to nearby residents, students, and school employees during the daytime hours.

According to the goals and policies outlined in the County of Riverside Noise Element, the site is best suited for non-residential uses such as the proposed commercial/industrial project. These types of land uses are considered less susceptible to noise, and, therefore, are not expected to be adversely impacted or require noise mitigation measures.

A comparative vehicle traffic noise analysis was prepared as part of the noise section of this report. Results of the analysis confirm the fact that the I-15E interchange at Eucalyptus would be the most practical in terms of the project noise impact. Data indicates that even with the increase of project traffic, most of the residences along Eucalyptus and Day Street would be beyond the 65 dB noise exposure area. However, this does not necessarily mean that local receptors would not be annoyed by the increase in traffic noise. It should be pointed out that even though this area is subjected to high levels of jet aircraft noise, the noise from vehicle traffic will be of a different type and frequency.

Housing

It has been projected by SCAG that the number of dwelling units in RSA 46 will rise by 29 percent from 92,673 units in 1978 to 129,300 in 1985. In 1986, 1,013 new jobs will be created as a result of

Phase I of the project. This will result in a demand for housing in the area. Phase II will introduce 1,733 employees to the area in 1989 and Phase III, to be completed in 1992 will generate 1,821 employees which will contribute to an increased demand for housing. This increase in demand will be most visible for low and moderate income housing.

With a 7.9 percent vacancy rate and new residential projects being proposed in the area it would appear that housing will be available to the employees of the proposed project. The affordability factor is the real key to housing availability. If housing is priced in the ranges the employees can afford to pay, then housing will be available. If housing is not affordably priced, then the future employees would be forced to commute to the project site.

The proposed project is expected to employ a total of 6,627 people upon full-buildout. The creation of 6,627 employment positions at the project site would provide employment opportunities for the 9.3 percent who are unemployed.

Air Quality

The construction phase of the project would produce two sources of air pollutant emissions. These are exhaust emissions from construction and grading equipment and dust generated as a result of earth movement and equipment traffic over dust-laden roads. The dust emissions may cause a nuisance to any persons who reside or park motor vehicles in the vicinity of the project. However, the emissions would be of short-term duration.

The contribution of project on-site stationary emissions of nitrogen dioxide to he total nitrogen dioxide emissions projected for Riverside County for 1987 is estimated to be 0.0015 percent, which is considered negligible. The stationary emissions resulting from the project electrical energy demand would occur off-site at electrical

power generating plants located through the utility's generating network. The contribution of project associated motor vehicle emissions to the total estimated 1987 Riverside County emissions ranges from 0.45 percent of particulates to 6.40 percent of hydrocarbons.

The emissions associated with the project would contribute incrementally to total emissions within the local area and result in an incremental air quality deterioration. Although not directly quantifiable, this project would provide employment and shopping opportunities in closer proximity to existing and planned residential developments, thus reducing vehicle trip miles associated with work and shopping.

The predicted maximum hourly average CO concentration generated from motor vehicle traffic during peak hour traffic flow periods was determined as: 3.6 ppm at the Eucalyptus Avenue/Node 20 intersection; and 2.0 ppm at the Day Street/Node 16 intersection. During off peak traffic hours, the hourly average CO concentration from project traffic at these two intersections would be less. The proposed project would not contribute CO in sufficient quantity to exceed the National Ambient Air Quality Standards of 35 ppm/1 hour.

The proposed project is consistent with the Air Quality Management Plan.

Water Quality

Within approximately one year, Northern California water will be available to the project site via extensions of the California Aqueduct. This water is of considerably higher quality than Colorado River Water currently provided in the area which typically tests at about 750 mg/l in Total Dissolved Solids (TDS). This will enable the ECSD plant to better meet the discharge criteria of the waste water discharge permit of the California Regional Water Quality Control Board Santa Ana Region (SARWQCB).

Colorado River water would not be used for irrigation purposes by the proposed project. The water supply for the site would change from low quality (high salt content untreated Colorado River) water to higher quality treated California Water Project water. Since the project would not be using higher salt content Colorado River water, the water that would enter the local groundwater would not be as high in salt content and should be of better quality. Therefore, the amount of salt entering the groundwater basins would be lower in salt content and more desirable in regards to water quality. The quality of dry weather water runoff from the site would also improve since the practice of leaching would not be required. The use of pesticides and fertilizers would be greatly reduced which would also improve the quality of surface water runoff.

The project generated runoff would contain urban pollutants such as gasoline, oil, grease, and lawn and garden fertilizers, and pesticides. These pollutants are not anticipated to have any significant impacts to water quality.

During the rainy seasons, siltation to local waterways could increase during the grading phases of the project. Increased siltation could occur if unprotected dirt is exposed to heavy rainfall. If proper siltation preventive measures are incorporated into the grading phases, no significant impacts are anticipated.

Traffic and Circulation

Trip Generation. Based upon the preliminary development plan, the eight planning areas would generate 72,140 vehicle-trips on a normal weekday. Planning Area 1 (regional shopping center) with 1.3 million square feet of gross floor area would generate approximately 48 percent of the total trips for the entire site.

Non-Project Traffic. The Road Department of the County of Riverside has maintained a periodic schedule of traffic counts. The County has determined that in the area surrounding the project site, the local streets have experienced an average traffic growth rate of 5.2 percent per year. At this growth rate, at the end of a ten-year period, there would be an increase of approximately 66 percent. The current ADT of about 700 vehicles on Day Street at Eucalyptus Avenue would grow to 1,160 vehicles by 1992.

Visual Analysis

The proposed project would significantly alter the visual appearances of the site through proposed landform alterations, the removal of existing vegetation, and the ultimate urban development. Implementation of the proposed project would also alter the visual character of the predominantly rural Moreno Valley area.

The existing landform of the site would be contoured to provide building pads, roadways, drainage improvements, public services and utilities. The project proposes 115 acres in the northwest corner of the site be developed as a regional shopping center. The proposed regional shopping center will completely replace the existing open space with a large mall structure that includes five anchor tenants (2 to 3 stories in height) connected to mall shops (1 to 2 stories in height) surrounding the site will be paved parking areas. Free standing accessory uses to anchor tenants will be located at the perimeter of the parking area.

The project proposes to develop 153 acres of the site as an industrial park. It is not known at this time how much of this area will not be covered by some type of impermeable surface, such as, structures and parking lots. The industrial park will change the visual chartacter of the site from rural to urban.

The remaining acres in the northeast and southwest corners of the site will be developed with highway and community commercial uses. The proposed development on the site would alter the visual character of the property. The view corridors along State Highway 60 and I-15E would be transformed from agricultural open space to intense urban development.

The proposed project will develop a modern light industrial business park and a regional shopping center. An architectural theme will be present throughout the development. The architectural theme will merge the industrial park into the regional shopping center. The signing for both circulation and structures, the landscaping, and other architectural controls will provide for a smooth transition from one area of the project into another.

Wastewater

Albert A. Webb and Associates, consulting engineers for ECSD, anticipates 800,000 gallons of sewerage flow per day from he proposed project. During peak periods this would equate to 4.6 cubic feet per second. the existing sewerage system is not capable of handling the anticipated flow. Hence, Albert A. Webb and Associates has calculated that an 18-inch diameter pipe is needed from the intersection of Eucalyptus and Clark Street to the treatment plant. The estimated project cost of this line, including manholes and repaving is $570,000. In addition, the consulting engineers for ECSD expect the bore underneath I-15E and the railroad at Eucalyptus will cost $120,000. Since the proposed project will be built in three phases, it may be possible to stage the proposed trunk system if available interim capacity is available in the existing trunk sewers.

The existing treatment plant is not capable of taking any significant increase in effluent. The estimated cost of treatment facilities varies from $3 to $4.50 per gallon. The project proponent will assist the district in structuring the financing of the necessary

plant sewage treatment capacity expansion through the formation of a special assessment district. Any shortfall financing requirements may be satisfied by prepayment of connection fees and assessments with provisions for reimbursement to the proponent as fees are collected from users.

Water

The existing water system capacities are sufficient to serve the proposed project. It is estimated that the proposed project would consume approximately 978,820 gallons of water per day.

Solid Waste

The proposed project would generate solid waste from its commercial, professional office, and industrial land uses. The proposed project would generate approximately 61,430 pounds of solid waste per day.

The project would have an impact on any landfill to which the solid waste was hauled. The project would generate between 68 and 77 cubic yards of compacted solid waste per day at the landfill.

Fire Protection

The County Fire Department is currently understaffed at the Edgemont, Sunnymead and Highgrove Stations. The proposed project would result in additional burdens on fire protection staff.

Police Protection

The proposed project itself does not present a service problem for the Riverside County Sheriff Department. The position of the Sheriff Department is that the cumulative effect of all the development occurring in the County is steadily becoming a problem.

The County and the Sheriff Department still cannot predict the effects of Proposition 13 on the Department; however, the problem of needing additional staff is similar in all areas of the County where growth is being experienced.

The Sheriff Department has not projected an exact increase for this area, but there would be an increase in crime.

Health Care

The project is not anticipated to have a significant impact on Riverside hospitals. The existing hospitals and ambulance service in the area have the capacity to provide adequate health care to the employees and visitors to the proposed development. Trauma care, provided primarily by Riverside Community, is adequate for industrial accidents that may occur during construction phases of the project.

Parks and Recreation

The employees generated by the development may use the existing park facilities during lunch time and after work. The additional demand would not impact the existing setting significantly.

Electrical Consumption

Electrical consumption by the proposed project at complete buildout is estimated to be approximately 127,661,350 KWH per year.

The Edison Company does not anticipate any significant environmental impacts as a result of the project.

Natural Gas

The estimated gas consumption for the proposed development at complete buildout is estimated to be approximately 45,622,000 cubic feet per month. The Southern California Gas Company has indicated that the

proposed project will not have a significant impact on their ability to provide natural gas to the development. Any additional natural gas demands could be met by extending the existing 30-inch transmission line to service the project site.

Telephone

Pacific Telephone and General Telephone do not anticipate any significant environmental impacts as a result of the proposed project. The developer will be required to make a monetary deposit for construction charges for telephone facilities under Tariff Rule No. 34.

Archaeological Resources

No archaeological resources were observed on the site during the survey.

Paleontological Resources

Due to the igneous and alluvial nature of the unit no impact on the paleontological resources of the area are anticipated by the development of the project.

Energy Conservation

Anticipated development on the project site in accordance with the proposed zone change would result in increased energy consumption. The estimated future increase in energy consumption resulting from the occupancy of the industrial, commercial development would be approximately 127,661,350 kwh of electricity per year and 45,622,000 cubic feet of natural gas per month. The additional consumption of electricity and natural gas as a result of the project is not expected to affect the availability of non-renewable energy supplies to the region. Future

regional energy supply availability would require the eventual construction of new energy facilities such as LNG off-loading facilities, interstate pipelines and power plants. Such projects are planned by local utilities.

The use of motor vehicles by employee, business, and patron vehicle trips to the proposed commercial and industrial center would result in additional fuel consumption within the Southern California area. Based on an estimated 642,046 vehicle miles traveled per day for the proposed project and the average car getting 25 miles per gallon, an average of 25,682 gallons per day of motor vehicle fuel would be consumed.

To be sure, the proposed commercial and industrial uses would provide employment and shopping opportunities for local residents throughout the Moreno Valley area. Such local opportunities could also result in less motor vehicle fuel consumed in relation to alternative employment and shopping opportunities located in areas outside of the Moreno Valley area.

City of Moreno Valley

"The Springs" retail-industrial complex, due to its relatively large magnitude, would be the primary retail-industrial center in the Moreno Valley area.

A 115-acre regionally oriented shopping center, and a 43-acre highway/commercial center can be anticipated to provide attractive shopping opportunities for residents of the Incorporated (assumed) City of Moreno Valley. Concurrently, residents of the local region may choose to patronize the commercial-retail entities within "The Springs" retail-industrial complex.

Retail sales made at "The Springs" retail shopping entities can be anticipated to result in substantial sales tax revenue returned to the City. Municipal services required to facilitate such retail entities can be anticipated to be effectively financed through City revenue associated with the retail entities at "The Springs" retail-industrial complex.

In addition, the substantial increase in retail entities in the Incorporated (assumed) City of Moreno Valley is anticipated to create employment opportunities for existing and new City residents. An increase in employment in the Moreno Valley community could result in economic benefits throughout the local economic community. Increases in housing, and residential-associated businesses and services could result from an increased population with a solid employment base.

The proposed project details an industrial complex encompassing 153 acres. An industrial center of this magnitude is anticipated to generate employment opportunities for existing and new residents of the Incorporated (assumed) City of Moreno Valley. By providing employment opportunities new City residents may relocate from other areas, thus providing the impetus for housing and residential-associated development.

March Air Force Base

The project would result in the encroachment of urban uses adjacent to March AFB which could potentially: 1) impair airfield operations and 2) impact the safety, health (noise), and general welfare of project employees and patrons.

The uses are within Compatible Use District 13 which is consistent with the recommendations contained in the AICUZ study, although noise attenuation may be required for noise sensitive uses.

Fiscal Analysis

The proposed project is estimated to have a positive fiscal impact for the County of Riverside governmental financing structure. Upon project completion, the revenue/cost ratio is estimated to be +9.16. This ratio indicates that for each $1.00 in County expenditures associated with the project, $9.16 in revenues can be anticipated. Considering the magnitude of revenue producing commercial development included in the proposed project, and government expenditure limitation mandated by State Proposition 4, the proposed project would appear to result in a positive fiscal impact for the County in the future.

Market Analysis

The Springs' entire market area (primary, secondary and tertiary) had a 1980 population of 819,400 which is projected to increase to 924,900 in 1985 at an annual growth rate of 2.45 percent. The major growth area in the region is projected to be to the south and east of Riverside. This area is anticipated to grow at a rate in excess of 3.0 percent per year.

Average household income in the entire market area was $20,158 in 1980. This translates into a total 1980 household income of $6,204 million.

The total gross expenditure potential for GAFO sales in the defined market area in 1984 is estimated to be $1,566 million.

There appears to be excess demand in the market area supporting net additional department store space of 333,300 square feet in 1985.

Summary Matrix of Mitigation Measures

Environmental Discipline	Phase I	Phase II	Phase III
Hydrology	Storm drain Day Street - Retention basins - On-site storm drain system	Retention Basins	
Air Quality	Bus turnouts on-site		
Traffic and Circulation	On-site roadways - Day Street and Eucalyptus Avenue improvements - Improvement of I-15E and Eucalyptus Avenue intersection as determined by CalTrans - Improvement of Highway 60 and Day Street intersection as determined by CalTrans. On-site signalization as warranted. Bus turnouts on-site.	On-site signalization as warranted.	Upgrading of I-15E as determined by CalTrans.
Wastewater	All sewer lines will be sized and extended for full buildout. Additional treatment capacity at the plant will be added as necessary.	Additional treatment capacity at the plant will be added as necessary.	Additional treatment capacity at the plant will be added as necessary.
Water	Transmission lines will be sized and extended for full buildout.		
Fire Protection	Fire station site, building, equipment, and personnel as necessary.	Personnel as necessary.	Personnel as necessary.
Utilities	Will be sized and extended for full buildout.		

2.0 DESCRIPTION OF THE PROJECT

2.1 Location

The proposed 311-acre project site is located in an unincorporated area of Riverside County known as Box Springs (see Figure 1). More specifically, the project site is located south of State Route 60 and east of I-15E. The site is generally bounded by Day Street on the east and Eucalyptus Avenue on the south (see Figure 2).

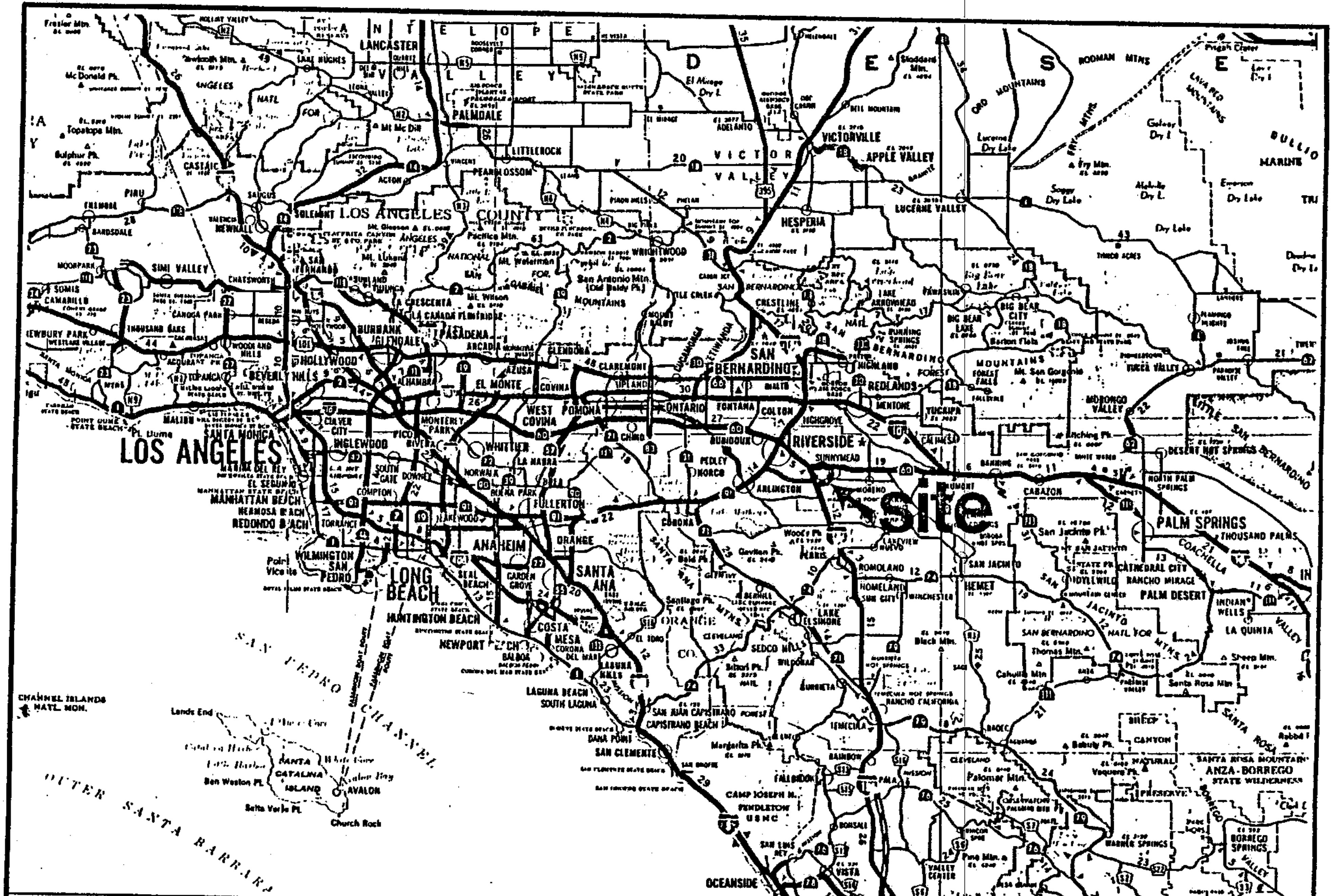
2.2 Project Objectives

The objective of the proposed project is the rezoning of approximately 115 acres from R-1 (Single Family Residential) and R-3 (General Residential) to C-P-S (Scenic Highway Commercial), and the rezoning of 153 acres from R-1, R-2 (Multiple Family Dwellings) and R-3 to I-P (Industrial Park). The two existing areas on the site that are currently zoned C-P-S will be retained.

The zone changes are being requested in order to allow for the development of a regional shopping center and an industrial park on the project site.

2.3 Project Characteristics

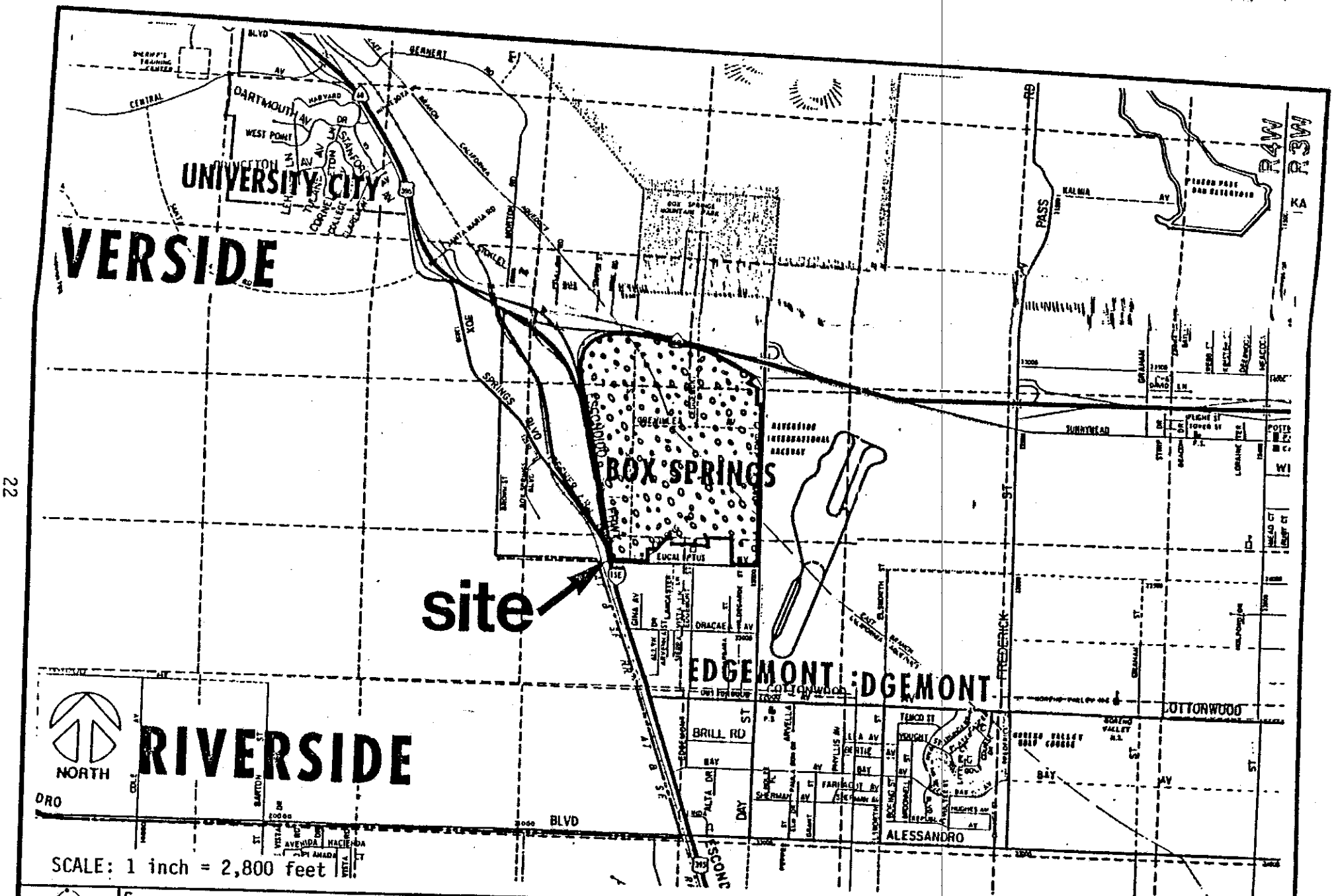
The proposed project site covers an area of 311 acres. On the 311-acre site the project proposes to develop a regional shopping center, an industrial park, and highway commercial uses. The project is proposed as a three phase development. Figure 3 presents the development plan for the project. The development plan divides the project site into eight planning areas. Each of these planning areas is discussed below.



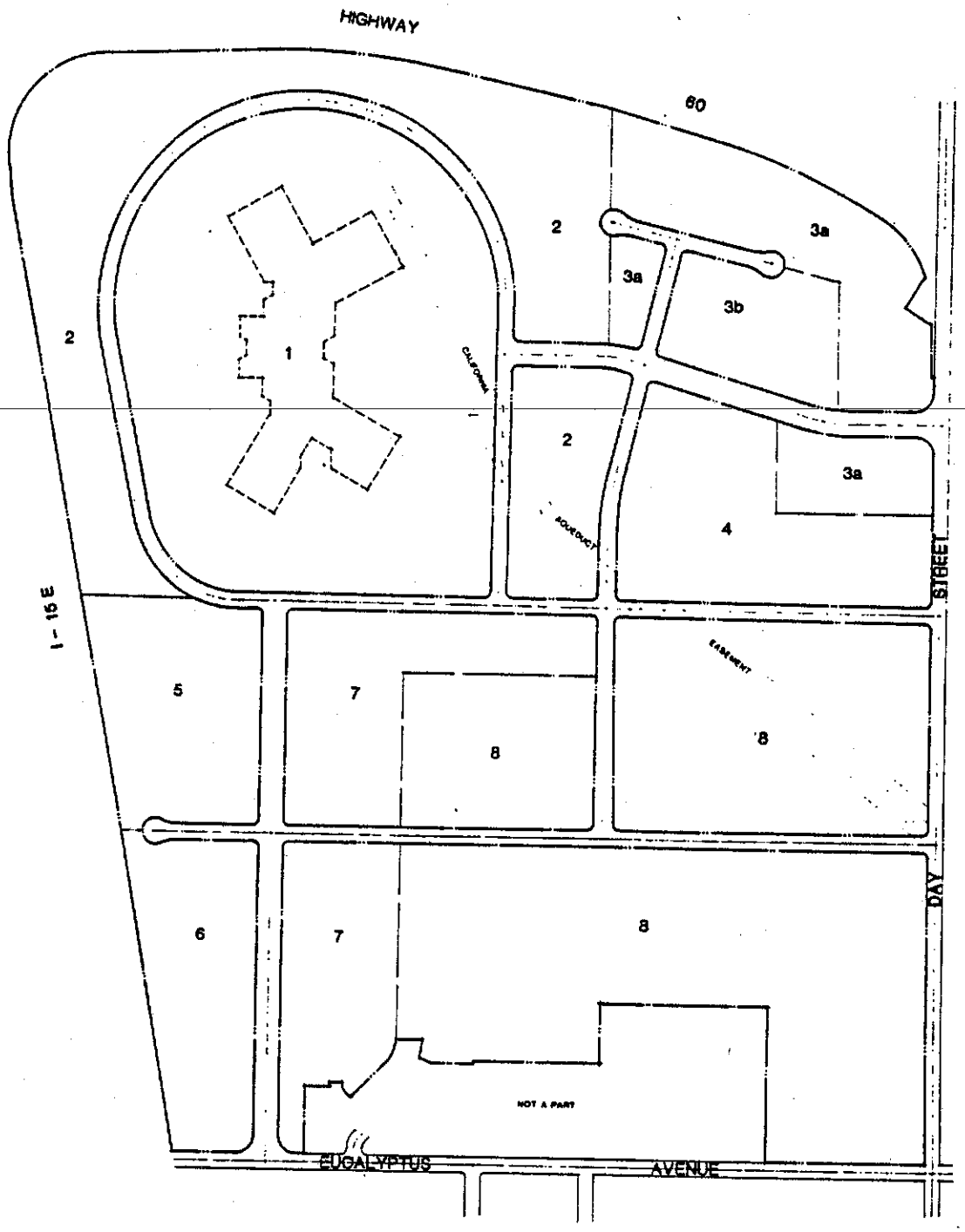
Source: AAA

Title: REGIONAL MAP

1



ultrasystems	Source: THOMAS BROTHERS	Title: VICINITY MAP	2



1	REGIONAL SHOPPING CENTER	90 ACRES
2	REGIONAL ORIENTED RETAIL	28 ACRES
3a	HIGHWAY COMMERCIAL	ACRES
3b	HOTEL	ACRES
4	PROFESSIONAL OFFICE (FINANCIAL, MEDICAL & DENTAL)	10 ACRES
5	CORPORATE OFFICE - RESTAURANT	18 ACRES
6	HIGHWAY / COMMUNITY ORIENTED RETAIL	18 ACRES
7	PROFESSIONAL OFFICE - HEALTH CLUB	15 ACRES
8	LIGHT INDUSTRIAL	106 ACRES
	TOTAL	311 ACRES

0 50 100 200 500

THE SPRINGS

ucrasystems	Source: DeREVERE-WISE-GARAKIAN	Title: SITE PLAN	3

Introduction to Planning Areas One and Two

Planning Areas One and Two are associated with the regional shopping center portion of the proposed project. A specific plan has been prepared on these two planning areas and is being circulated with this report.

Planning Area One
Regional Shopping Center

The regional shopping center will have five independent anchor tenants (Department Stores) linked by enclosed, climate controlled pedestrian mall linkages with access to individual shops. The mall shops will be one to two stores in height, while the anchor tenants will be two to three stories in height. Free standing (T.B.A.) accessory uses to anchor tenants will be located at the perimeter of the parking area. Table 1 presents a land use description, including parking, of the proposed regional shopping center.

TABLE 1

Land Use and Parking Description
Regional Shopping Center

Phase I (1986)			
Anchor Tenants (3)			450,000 sq. ft.
Mall Shops			350,000 sq. ft.
		Total	800,000 sq. ft.
Phase II (1989)			
Anchor Tenant (1)			150,000 sq. ft.
Mall Shops			120,000 sq. ft.
		Cum. Total	1,070,000 sq. ft.
Phase III (1992)			
Anchor Tenant			150,000 sq. ft.
Mall Shops			80,000 sq. ft.
		Cum. Total	1,300,000 sq. ft.
Parking:* Phase I	(4/1,000 sq. ft. G.L.A.)	=	3,200 (minimum)
Phase II	"	=	1,080
Phase III	"	=	920
	Total		5,200 (minimum)

* See Appendix I for reasons why the number of parking spaces is considered to be adequate by the applicant.

Planning Area Two
Regional Oriented Retail

Free standing regional oriented retail uses will be located on the west, north, and northeast sides of the regional shopping center adjacent to the freeways. Free standing uses would consist of sit-down and fast-food restaurants, financial institutions, entertainment uses including theaters, independent retail outlets, such as, furniture showrooms and multi-tenant specialty retail outlets. Parcel sizes will range from ½ acre to approximately three acres. The buildings will primarily be one-story in height, however, some could be two-story buildings. The maximum building area for the regional oriented retail uses is 272,500 square feet of gross leasable area (GLA). Parking will be based on one stall for each 250 square feet of GLA for retail uses, one stall for each 100 square feet of GLA for restaurants, and one stall for each 500 square feet of GLA for furniture and similar showrooms.

Introduction to Planning Areas Three Through Eight

Planning Areas Three through Eight are associated with the industrial park and highway/community commercial portions of the proposed project. A specific plan has not been prepared on these planning areas. Therefore, the uses discussed below for each of these planning areas should be understood as the applicant's projected future land uses; they could change in the future.

Planning Area Three
Highway Commercial - Hotel

Highway commercial will have free standing uses such as automobile service stations, car washes, sit-down and fast-food restaurants, automobile accessory and/or light repair facilities (excluding body work and painting), gift shops, and financial institutions. Parcel sizes will range from ½ acre to approximately 4 acres. The buildings will be primarily one-story in height however, some buildings could be two stories in height. The hotel would range from 6 to 8 stories in height.

Planning Area Four
Professional Office

The professional office uses will consist of free standing buildings with uses such as, financial institutions, utility offices and facilities, and governmental facilities. Planned office complexes will serve various professionals such as, accountants, architects, engineers, and lawyers, as well as medical and dental clinics. Not more than ten percent of the total GLA in the planning area designated for professional office uses will be for light retail uses that are in association with office use. The light retail uses would include such businesses as pharmacies, barber and beauty shops, interior decorator showrooms, and cafeteria/restaurants. The majority of buildings will consist of two-story garden office complexes, with one- and two-story free standing buildings. A theme office complex may be considered at a height of up to eight stories.

Planning Area Five
Corporate Office - Placement

The corporate office - commercial planning area will consist of free standing uses such as, financial institutions, restaurants, and corporate office buildings which require prestige-freeway exposure. The corporate office structures will range from one to three stories in height and will be developed on individual parcels ranging from ½ to five acres.

Planning Area Six
Highway/Community Oriented Retail

Uses in the highway/community oriented retail planning area will consist of multi-tenant retail shops, junior department stores, catalogue showrooms, home-oriented merchandisers, automobile service stations, and/or car washes, and automobile dealerships. Buildings in this area will be primarily one-story in height; there will be occasional two-story buildings. Parcel sizes will range from ½ to five acres.

Planning Area Seven

Professional Office - Health Club

Uses similar to those discussed in planning areas 4 and 5 will be located in this area. Buildings may range up to three stories and contain up to 125,000 square feet of GLA. A health club facility is anticipated with indoor and outdoor recreational facilities including racquetball, gymnasium, dance studio, swimming pool, tennis courts, and jogging track. Parcel sizes will range from ½ to 7 acres.

Planning Area Eight

Light Industrial

The light industrial planning area will have uses that will consist of quality-oriented light manufacturing, research and development, warehousing, multi-tenant industrial facilities, related office uses, and minor screened outdoor storage areas. Truck terminals, and heavy fabrication or manufacturing will not be accommodated. No smoke, noise, odor, or vibration nuisance is anticipated from the proposed uses. Buildings in the planning area will generally be large, one-story facilities with an occasional building being two-story in height. Truck loading facilities will be provided in screened areas. Parcel sizes will range from one to approximately 20 acres.

Table 2 exhibits the buildable square footage for each of the three phases of the project.

TABLE 2

Buildable Square Footage

	Phase I 1986	Phase II 1989	Phase III 1992	Total
1. Regional Shopping Center (90 Acres)	800,000 s.f.	270,000 s.f.	230,000 s.f	1,300,000 s.f.
2. Regional Oriented Retail (25 Acres)	50,000	125,000	92,500	272,500
3. Highway Commercial-Hotel (28 Acres)	100,000	125,000	19,000	224,000
4. Professional Office (18 Acres)	40,000	80,000	40,000	160,000
5. Corporate Office-Restaurant (15 Acres)	20,000	60,000	55,000	135,000
6. Highway/Community Oriented Retail (15 Acres)	10,000	100,000	20,000	130,000
7. Professional Office-Health Club (15 Acres)	10,000	30,000	95,000	135,000
8. Light Industrial (105 Acres)	150,000	450,000	315,000	915,000
Totals 311 Acres	1,180,000	1,240,000	866,500	3,286,500

3.0 ENVIRONMENTAL FACTORS

3.1 Land Use

3.1.1 Setting

3.1.1.1 Zoning

The project site is currently zoned R-1, R-2, R-3, and C-P-S. The R-1 zone allows single-family dwellings and the following typical uses: limited agriculture, noncommercial keeping of horses with minimum lot of 20,000 square feet and 100 foot width, noncommercial keeping of poultry and rabbits with a minimum lot area of one acre, keeping of two sheep or goats with minimum lot area of two acres and home occupations. The R-2 zone allows multiple-family dwellings and the following typical uses: any use permitted in the R-1 zone, multiple-family dwellings on a basis of one dwelling unit per 2,500 square feet of lot area, churches and educational institutions. A maximum 60-percent lot coverage is permitted. A plot plan approval is required prior to construction. The R-3 zone allows general residential uses and the following typical uses: any use permitted in an R-2 zone, apartments, houses, hotels, nonprofit clubs and professional offices. The maximum ratio of floor area to lot area is 2 to 1. A plot plan approval is required prior to construction. The C-P-S zone allows scenic highway commercial uses and the following typical uses: specific wholesale and retail commercial uses are permitted with some commercial uses requiring an approved conditional use permit (CUP). Plot plan approval is required prior to construction or use.

Surrounding zoning designations include C-P-S, and M-1 to the east of the site; W-2, R-2, and C-P-S to the south of the site; M-4 to the west of the site; and State Route 60 to the north of the site. The M-1 zone allows light manufacturing uses and the following typical uses:

any use permitted in Section 9.1(c) of the C-1 zone, veterinarian, animal hospital, machine shop, metal working shop, and body and fender shops. Off-site advertising is allowed with 500 foot intervals. No residential uses are allowed other than caretaker's quarters. The M-4 zone allows medium industrial uses and the following typical uses: any use permitted in the M-1 zone except outdoor advertising, general manufacturing and business uses, and certain other uses with an approved CUP. A caretaker's mobilehome is permitted. The W-2 zone is a controlled development area. The following typical uses are allowed in this zone: any use permitted in the A-1 and R-1 zones. With Plot Plan approval: guest ranches, educational institutions, country clubs, and meat cutting and packaging plants. Subject to an approved CUP the following uses are permitted: airports, cemetery, travel trailer park, mobilehome park, commercial stables, riding academy, and mini warehouses.

3.1.1.2 General Plan

Introduction to Site

The proposed 311-acre project site is presently vacant and undeveloped. The site is currently used for agricultural purposes and has been dry farmed with a variety of grain crops. The Eastern Municipal Water District (EMWD), Metropolitan Water District (MWD), and the State Water Project (California Aqueduct) have buried pipelines which cross the project site. The only visible above ground structure is a service access building for the East Branch California Aqueduct. The Atchison, Topeka, and Santa Fe Railroad easement is located west of the I-15E highway. In addition the Box Springs Industrial Park is located west of the project site. South of the site along the north side of Eucalyptus Avenue are approximately fifteen single-family homes and the Edgemont Elementary School. On the south side of Eucalyptus Avenue are singlefamily homes and a mobilehome park. Land uses east of the site include the 596-acre Riverside International Raceway and a Redi-Mix concrete plant located near the intersection of Day Street and Eucalyptus Avenue.

Land Use Element

The project site is located within the unincorporated Edgemont-Sunnymead area of Riverside County which is subject to the provisions and requirements of the Moreno Valley General Plan.*

Figure 4 presents the Moreno Valley General Plan Land Use Map. On the Plan the project site is designated for light and medium industrial uses. Land uses surrounding the project site include Single-Family Residential (0 to 5 dwelling units per gross acre), Public Facilities, Raceway, and General Commercial. The general vicinity of the State Route 60 - Day Street intersection is designated as Tourist Commercial. The Edgemont Elementary School is located on the north side of Eucalyptus Avenue just west of Day Street.

The existing zoning, R-1, R-2, R-3 and C-P-S on the site, is not consistent with the existing General Plan designation, light and medium industrial.

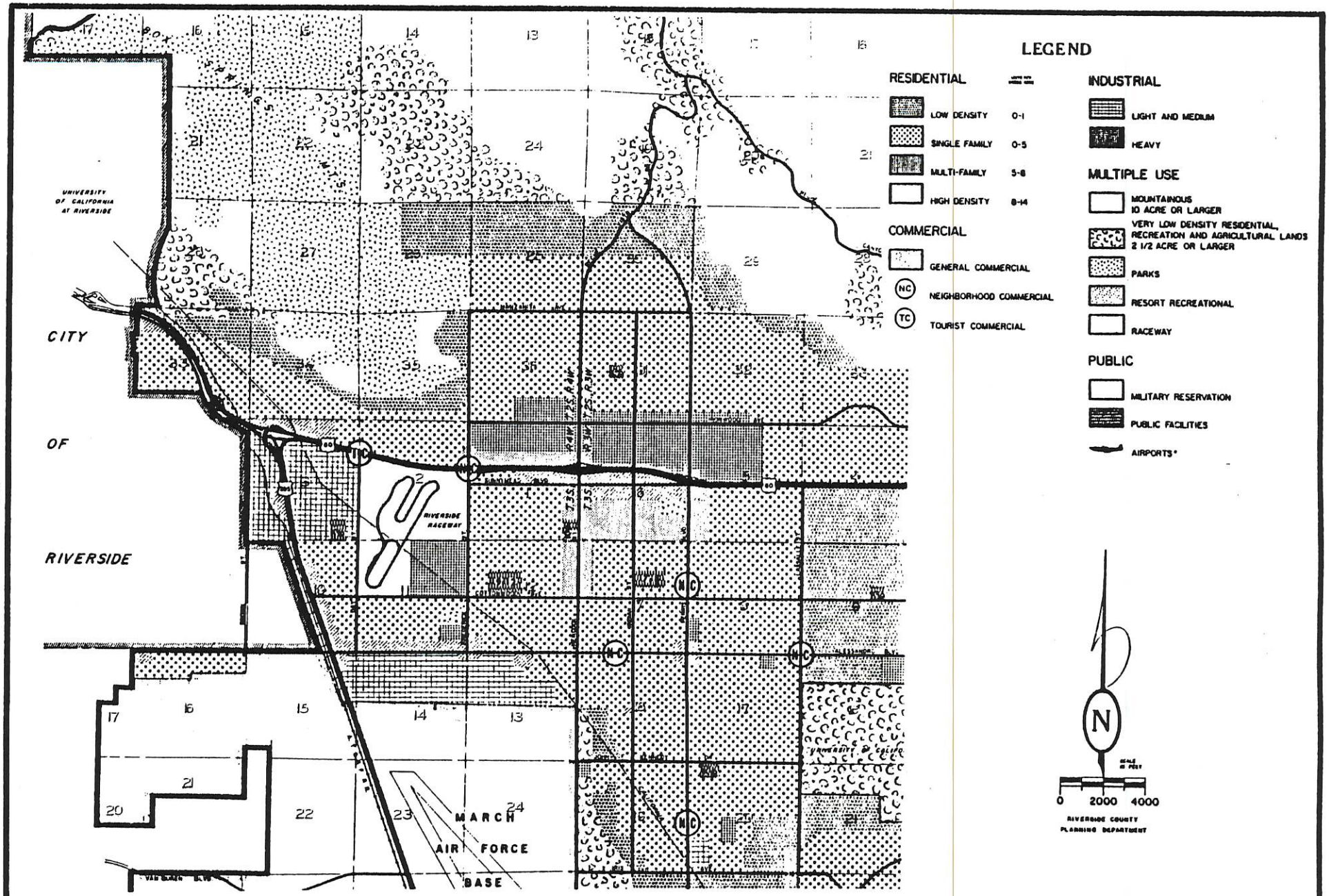
The industrial goal of the Moreno Valley General Plan Land Use Element is as follows:

"To assure ample opportunities for orderly industrial development, and to encourage a variety of types of industry, to provide adequate supplies or suitable and properly distributed land, to maximize compatibility of industry with other land uses, and to provide sufficient local employment opportunities."

The industrial policies of the Moreno Valley General Plan Land Use Element are as follows:

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* The Moreno Valley General Plan was adopted by the Board of Supervisors, October 18, 1977.



Source:

RIVERSIDE COUNTY PLANNING DEPARTMENT

Title:

MORENO VALLEY GENERAL PLAN : 1990
LAND USE ELEMENT MAP

4

1. Industrial developments should be made compatible with adjacent residential uses and other urban uses which should be protected, protective measures may include adequate landscaping buffering, design review procedures; and performance standards in regard to noise, dust, odors, vibration, and glare.

2. Industrial uses should be protected from intrusion by incompatible residential and commercial development.

3. The development of industry shall be facilitated by means of designation and reservation of appropriate land in sufficient quantities to meet projected needs.

4. Industrial areas should be located where they are convenient to, but not too detrimental to, residential and commercial areas: where they are convenient to transportation facilities; and where they are served by adequate public services and facilities and public transportation where practical.

5. Industrial developments shall have adequate off-street loading and parking and direct access to arterial streets.

6. Provision of adequate beautification measures such as screening of outdoor storage and activities areas, landscaped setbacks and green open space areas in and around the industrial development should be encouraged.

7. Space for industrial parks devoted to light, non-polluting industry should be encouraged.

The industrial proposals of the Moreno Valley General Plan are as follows:

"The Plan proposes that approximately 1,522 acres be reserved for industrial uses to 1990. The 1971 land use inventory revealed that only 26 acres were used for industry at that time, while over 16,000 acres were zoned for these purposes. In this Plan industrial acreage accounts for about 1.7 percent of all acreage in Moreno Valley to 1990."

The commercial goals of the Moreno Valley General Plan are as follows:

"To promote adequate distribution of commercial facilities which will provide an adequate supply of goods and services and which will be functional, safe, attractive, and compatible with other land uses."

The commercial policies of the Moreno Valley General Plan are as follows:

1. Commercial uses and facilities should be made compatible with adjacent residential areas by means of sound urban design features such as adequate landscaping and buffering or by means of design review procedures.

2. Commercial uses should be protected from intrusion by incompatible residential and industrial development.

3. Poorly located or unneeded commercial strips along arterial streets and the development of similar strips in the future shall be discouraged, and the grouping of commercial uses into compact, well-organized, and accessible centers shall be encouraged, including small convenience marketing facilities.

4. Existing major commercial centers should be improved by encouraging adequate off-street parking; by improving traffic circulation; by improving appearance through design review, landscaping, litter control, and sign controls; and by expanding the centers to allow growth and variety of business establishments.

5. Central business districts shall be encouraged to revitalize; conditions contributing to blight and areas which are deteriorating should be rehabilitated.

6. Standards regarding the proper amount and type of commercial development for the Valley should be developed.

7. An overabundance of commercial zoning which leads to unsound commercial areas shall be discouraged.

8. Controls of all forms of signs should be strengthened.

9. Utilities should be underground and existing utility poles removed where feasible.

10. Design review procedures should be considered to assure an adequate level of commercial design and development and to enhance appearance of commercial areas.

11. Location of, and approaches to, commercial development shall encourage the safe use of alternate modes of transportation including public transit, walking, and bicycling.

The commercial proposals of the Moreno Valley General Plan are as follows:

"The Plan calls for approximately 902 acres of less than 1.0 percent of all acreage in the study area, to be devoted to General Commercial purposes. Other commercial designations included in this Plan are the following:

> Neighborhood Commercial is intended to serve the everyday needs of local residents, more specifically, to provide a close-at-hand source for convenience shopping, i.e., picking up items between regular shopping trips, thus saving residents a more lengthy trip to a large shopping area.
>
> Tourist Commercial is intended to serve the needs of passing travelers along major highways and the short-stay visitor near recreation facilities and to offer them the opportunity to purchase a needed item at a convenient location.
>
> In addition, the Neighborhood Commercial and Tourist Commercial symbols are intended to designate only approximate locations for these commercial activities.

Also, the revitalization of Sunnymead Boulevard and other appropriate business districts is considered one of the major goals of the Plan, and all efforts should be made to accomplish this end. The commercial needs of Lake Perris should be accommodated in regional recreational-commercial centers which should be designed to accommodate the demands of the recreationists at Lake Perris. The centers should be located conveniently in relation to Lake Perris so that the users will be served."

Housing Element

The County of Riverside recently adopted (April 7, 1981) a second revision to the County's Housing Element. It conforms with the 1977 revised Housing Element Guidelines established by the California Department of Housing and Community Development. These guidelines establish three objectives for the housing element:

(1) The provision of decent housing in a satisfying environment for all persons regardless of age, race, sex, marital status, ethnic background, source of income, or other arbitrary factors;

(2) The provision of adequate housing selection by location, type, price, and tenure;

(3) The development of a balanced residential environment with access to employment opportunities, community facilities, and adequate services.

The California Department of Housing and Community Development has found that the inability to afford suitable housing is the most widespread housing problem in California.

Overpayment or affordability is also a significant problem in Riverside County. The median price range for new homes in the County in 1979 was $80,000 to $99,999. As of April 1980, the median resale price for a home was $73,582. This represents an increase of 225 percent over April 1970, while during this same time span the median income in Riverside County rose only 131 percent.

The Federal Department of Housing and Urban Development (HUD) has established 25 percent as the maximum portion of a household's gross income that should be spend on housing. Included in the 25 percent would be rent or mortgage and interest, property tax, insurance, and

utilities. Using this criteria, a gross household income of $32,976 is required to purchase the $73,582 house. This is determined without considering the costs of utilities, which have become significant factors in housing costs. The median income in Riverside County is $11,979. The median income in the Edgemont Sunnymead area (Census Tract 425.01) is $10,151.*

Riverside County has adopted an R-6 zone which provides affordable housing in the county. Each development, excluding apartments, must meet one of the following requirements:

(1) The average selling price in the development will be 80% of the home sales price in a market area. The market area and home sales price will be determined by the County; or

(2) 25% of the units are provided at a price affordable to a family earning no greater than 120% of the County median income as determined by the County; or

(3) 15% of the units are provided at a price affordable to a family earning 80% or less of the County's median income as determined by the County.

In addition to these requirements, the R-6 zone has other standards that must be met as well as one of the previous requirements. These standards are listed in Appendix D.

Riverside County offers a variety of life styles including resort and retirement communities, urban and rural living. The County consists of ten RSA's which include 17 cities and unincorporated communities.

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* Housing Element, County of Riverside, Map IV-5.

The proposed project is located in RSA 46 (Riverside). The growth scenario for all of the ten RSA's are based on information published by the Riverside County Department of Development and assumptions based on recent trends in the County. The scenario for RSA 46 is as follows:

RSA 46 (Riverside) - Includes the cities of Riverside, Norco, Corona, and surrounding unincorporated areas. Because of the large labor pool, the Riverside area should experience increased clean industrial growth through 1985. In RSA 46, increasing business expansion and new businesses entering the area have absorbed much of the surplus skilled labor pool leaving an abundance of semiskilled and unskilled labor. The retail service trades have also grown and will continue to grow rapidly through 1985, and based on population projections, the construction trade should also continue to grow. The main employment area located RSA 46 are in and around the cities of Riverside and Corona. The Norco, Corona, Riverside, and Sunnymead areas also act as a labor source for surrounding areas including Orange, Los Angeles, and San Bernardino Counties. People working in Orange County and Los Angeles County probably will continue to demand housing in Riverside County, and this will inflate the market for those people who work in Riverside and desire to live near their jobs.

Seismic Safety and Safety Elements

This element adopts a systematic approach which encompasses an analysis of risk determination (the probability of hazard areas in Riverside County within the risk determination guidelines).

The primary goal of this element is to minimize loss of life, injuries, property damage, loss of natural resources, and social and economic dislocations that may result from a major seismic or geologic event, flood or fire. Policy considerations stemming from this objective endeavor to recognize and incorporate natural hazards as important constraints in land use planning and to develop a viable disaster preparedness program.

The County's Seismic Safety Element goal is to minimize loss of life, injury, damage to property and social and economic dislocations resulting from seismic and geologic hazards. The seismic and geologic hazard objectives are:

1. To incorporate seismic and geologic hazard considerations into the County planning and development review process.

2. To identify areas of significant seismic and geologic hazards and promote special land use regulations for those areas.

3. To consider and utilize state-of-the-art advancements relating to mitigation of seismic and geologic hazards.

4. To encourage more detailed scientific analysis of seismic and geologic hazards.

5. To encourage the identification, evaluation, and mitigation of existing structural hazards that are related to seismic considerations.

6. To promote standards that will enable Critical and Essential structures or facilities to remain functional.

7. To promote public awareness of seismic and geologic hazards.

8. To encourage the consideration of seismic and geologic hazards as a factor in assessing property.

The collapse of a major dam, although it is an event of unforeseen severity, would create an inundation several magnitudes greater in area than a flood caused by heavy rains. The California

Government Code requires all dam owners to submit to the State Office of Emergency Services maps showing areas that would be inundated given an instantaneous collapse of their respective dams. Although this type of catastrophe is highly unlikely, the nature of the hazard is such that it should be considered. The goal is to minimize loss of life, injury, damage to property, and social and economic dislocations resulting from flood or dam inundation hazards. The flood hazard objectives are:

1. To incorporate flood hazard considerations into the County planning and development review processes.

2. To identify areas of significant flood hazards and promote special land use regulations for those areas.

3. To promote standards that will enable critical and essential facilities to remain operational during and after a disastrous flood.

4. To minimize costs to both the government and to the general public for providing community protection from disastrous flooding.

5. To provide for the public safety during and after major flooding.

6. To encourage the consideration of flood hazards as a factor in assessing property.

The fire protection goals are:

To minimize loss of life, injuries, property damage, loss of natural resources, and social and economic dislocations due to fire.

The fire protection objectives are:

1. To provide the maximum feasible level of fire protection, recognizing state-of-the-art advancements in fire fighting technology and procedures, as well as the County's ability to pay for improvements.

2. To provide for the public safety during and after major wildland and structural fires.

3. To identify the extent of fire hazards, evaluating both natural and man induced factors for the purpose of introducing these considerations into the general plan process.

4. To reduce the potential of wildland fires by controlling the type and intensities of land uses permitted in fire hazard areas and establishing necessary development standards.

5. To encourage placing the cost of providing necessary fire protection to urban uses or concentrations in areas subject to High or Extreme fire hazard upon those who will directly benefit.

6. To design and locate fire stations and other emergency or critical facilities so as to enable their continued operation.

7. To emphasize a Fire Prevention Program, including reduction of fuel loading in wildland areas, inspection and abatement of hazardous conditions in and around structures, and public information, as being of importance equal to that of fire suppression.

Most of the developed areas of Riverside County are dependent upon quasi-public agencies for the provision of utilities such as water, sewerage, natural gas, electricity and telephone. The interruption or loss of these utilities for any extended period of time would have serious effects upon community social and economic order. There are precautionary or preparatory measures that should be considered as part of the County Disaster Preparedness Program.

The County's goal for quasi-public agencies is to establish and maintain community preparedness and to assure an appropriate response in the event of a major natural disaster so as to reduce loss of life, injury, property damage, and social and economic dislocations.

Noise Element

As modern transportation systems develop and human dependence upon machines continues to increase, the general level of noise seems to be rising in Riverside County. Many residential areas near airports, freeways, and railroads are being adversely affected by annoying or hazardous noise levels. The combination of transportation noises with those produced by other activities such as construction, operation of household power tools, and industry contribute to the ever-increasing background noise in our day-to-day living.

Noise has been variously defined by such terms as "intrusive", "unwanted sound," or "sound without value." It has been established that noise can have physiological, psychological, and economic effects, and as such, noise has a number of characteristics in common with other environmental pollutants. However, noise cannot be seen, and its full effects are still being widely debated and researched. Noise, then has not received the degree of social concern that has recently been given to air and water pollution, yet it deserves the substantial attention the other pollutants are receiving.

The purpose of the Noise Element is to serve as a guide to county officials, other concerned governmental agencies, and to individual citizens concerned with the environment. In addition to fulfilling State Planning Law and guiding citizens to identify and mitigate noise problems, the Noise Element is also intended to provide a beginning approach toward protecting the public from exposure to hazardous noise levels.

The Noise Element goals are:

1. To identify, establish, and maintain acceptably low levels of noise within Riverside County.

2. To protect public health and welfare by mitigating noise impacts on the public and to alert the public about the potential impact of noise.

3. To reduce economic burden and health hazards imposed by noise from transportation modes and other noise sources.

4. Producers of noise should be required to mitigate the noise as much as possible.

Scenic Highways Element

The Scenic Highways Element is designed to assist in the preservation and enhancement of the scenic resources of Riverside County. In addition to enhancing the aesthetic opportunities for residents, the Scenic Highway Program has a significant role in promoting tourism--the County's second largest economic sector.

The Scenic Highway goals are:

1. To protect and enhance scenic resources within specified scenic corridors.

2. To provide enhanced recreational opportunities served by system of scenic highways.

3. To encourage a scenic highway system serving a variety of transportation modes.

Historic Preservation Element

Cultural and historical resources, like natural resources, are vital to the well-being and survival of the human community.

There are a number of Federal, State and local laws and programs regarding the preservation of archaeological and historical sites. The State of California maintains two historical registers. The California Landmarks Program requires that the sites and features be significant in the history of the state. The Points of Historical Interest Program was established to make it possible to register sites of local historic interest. The State Department of Parks and Recreation operates more than 35 historic park sites.

The Riverside County Historical Commission was created by the Board of Supervisors on May 6, 1968. The purpose of the Commission is to:

> . . . discover and identify persons, event and places of historical significance in Riverside County and to make recommendations for appropriate recognition of these persons, events and places and preservation of physical evidence thereof; to encourage the development of the County's historical library and the augmentation and preservation of historical records, documents and memorabilia; to cooperate with and recommend assistance from related agencies; and to advise the Board of Supervisors in historical matters.

Open Space and Conservation Elements

The following broad planning goals, which have been accepted for the area general plans, are offered as a foundation upon which the open space and conservation goals may be based:

1. To create and preserve the best possible living environment for all inhabitants.

2. To attain an urban growth pattern which is orderly, convenient, and efficient and which can be economically provided with needed public services.

3. To achieve a well-balanced and diversified economy, to assure a variety of economic opportunities and to assure employment opportunities for all members of the work force.

4. To assure equal opportunities for education, recreation, housing and health care for persons of all social, ethnic and economic groups.

5. To preserve open space; conserve or wisely use natural resources; and protect outstanding geographical features.

6. To protect and enhance the quality of the physical environment - particularly in regard to air, water, noise, and visual amenities.

The Open Space Element goal is to preserve and maintain an open space system which will permit production of food and fiber, conserve natural resources, preserve scenic beauty, define urban form, provide open space for outdoor recreation, provide public safety and protect health.

The Conservation Element goal is to manage the development and use of natural resources in the County in a manner that will protect and enhance the quality of the total environment.

3.1.1.3 City of Riverside

The City of Riverside "Sphere of Influence" as adopted by the Local Agency Formation Commission (LAFCO) on January 16, 1974, is shown in Figure 5. As shown in this figure, the project site is not located within the City of Riverside sphere of influence.

3.1.2 Impacts

3.1.2.1 Zoning

The project is proposing to rezone about 115 acres from R-1 and R-3 to C-P-S (Scenic Highway Commercial), and to rezone approximately 153 acres of R-1, R-2, and R-3 to I-P (Industrial Park). The two existing areas on the site that are currently zoned C-P-S will be retained.

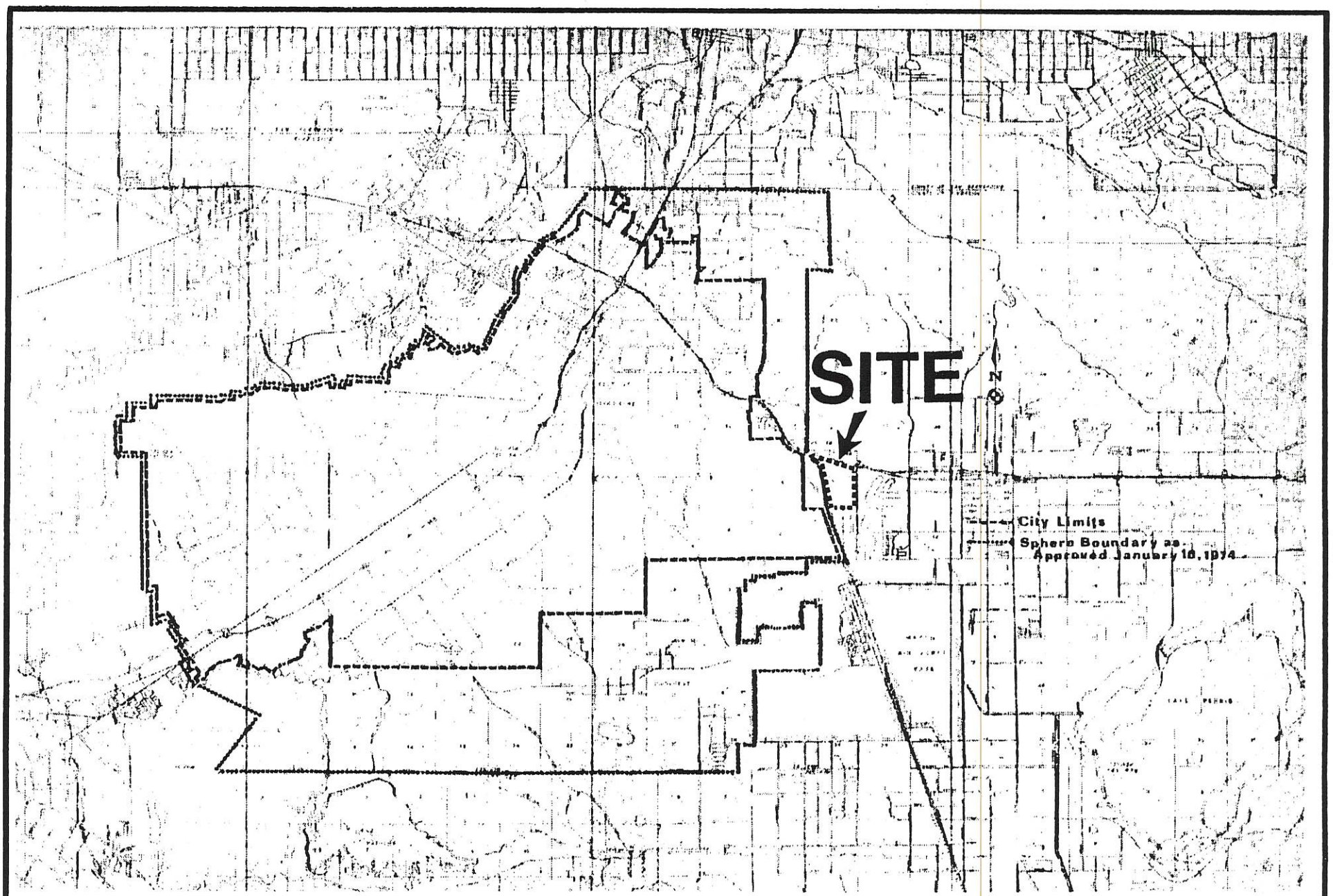
The zone changes are being requested in order to allow for the development of a regional shopping center and an industrial park on the project site.

At the present time the residential zoning on the site is not consistent with the General Plan land use designation of light and medium industrial. The requested C-P-S and I-P zoning of the site would bring the zoning into consistency with the General Plan land use designation.

3.1.2.2 General Plan

Introduction to Site

The development of the proposed project would convert the 311-acre site from agricultural land uses to commercial and industrial land uses.



ultrasystems	Source: CITY OF RIVERSIDE	Title: SPHERE OF INFLUENCE MAP	5

Land Use Element

The project is proposing the development of a regional shopping center and regional oriented retail support commercial uses on 115 acres of the site that has a General Plan land use designation of light and medium industrial. The project is also proposing the development of an industrial park on 153 acres of the site that has a General Plan land use designation of light and medium industrial. The proposed land uses are consistent with the General Plan land use designation.

In the two areas where the C-P-S zoning is being retained the project is proposing the development of highway and community retail commercial uses. The General Plan Land Use Map designates the intersection of State Highway 60 and Day Street for tourist commercial uses. Although the General Plan Land Use Map does not show an exact area in the northeast corner of the site for commercial uses, it could be construed that the existing northeastern portion of the site zoned C-P-S is consistent with the tourist commercial General Plan land use designation. The other area in the southwest corner of the site that has an existing C-P-S zoning does not have a commercial land use designation adjoining to it.

The Edgemont Elementary School is located on the north side of Eucalyptus Avenue adjacent to the southern boundary of Planning Area 8 which proposes light industrial land uses. Several single-family residences are also located on the north side of Eucalyptus Avenue adjacent to the southern boundaries of Planning Areas 7 and 8. Planning Area 7 proposes professional offices and health club land uses. The proposed industrial park land uses will not be consistent with the adjacent school and residential land uses unless adequate mitigation measures are provided by the proposed project. The General Plan Land Use Element states that, "Industrial developments should be made compatible with adjacent residential uses and other urban uses which should be

protected; protective measures may include adequate landscaping buffering, design review procedures, and performance standards in regard to noise, dust, odors, vibration, and glare." Therefore, the proposed industrial park land uses can be consistent with adjacent school and residential land uses if adequate mitigation measures are provided by the proposed project. The proposed project will provide adequate buffering between their project and the adjacent land uses. The adequate buffering will include such things as berms, landscaping, and distance between project buildings and existing adjacent off-site buildings. In addition, the industrial park will be devoted to light, non-polluting industry.

Housing Element

The project contains commercial and industrial land uses only; no residential land uses are planned as a part of the project. For the project's impact on housing see section 3.6.

Seismic Safety and Safety Elements

The project site is considered a seismically active area, as is all of Southern California. As noted in the Geology section (3.2) there are no known active faults on or adjacent to the site. Seismic risk is considered moderate as compared to some areas of Southern California because of the close proximity to the very active San Jacinto Fault Zone. Seismic hazards within the site can be attributed to ground shaking resulting from events on nearby active faults.

The easterly portion of the site is subject to flooding. The project's civil engineer has concluded that with proper design and construction of the proposed mitigation measures the project will be free from the 100 year frequency flood hazard. The mitigation measures that are proposed are listed in the Hydrology section (3.3).

At the present time the site is subject to wildland fires. This is due to the existing agricultural and grassland land uses on the site. The urban uses proposed by the project would reduce this fire hazard.

Noise Element

The proposed project will increase the noise in the project area. The most noticeable noise source will be the automobile. As discussed in the Noise section (3.5) of this report the project site is exposed to high levels of noise from March Air Force Base. A more complete discussion on noise impacts is provided in the Noise section (3.5) of this report.

Scenic Highways Element

Since there are no designated scenic highways on or near the site the project will not impact the County's scenic highways.

Historic Preservation Element

Since there are no known cultural or historical resources on the site, no historical impacts are anticipated.

Open Space and Conservation Elements

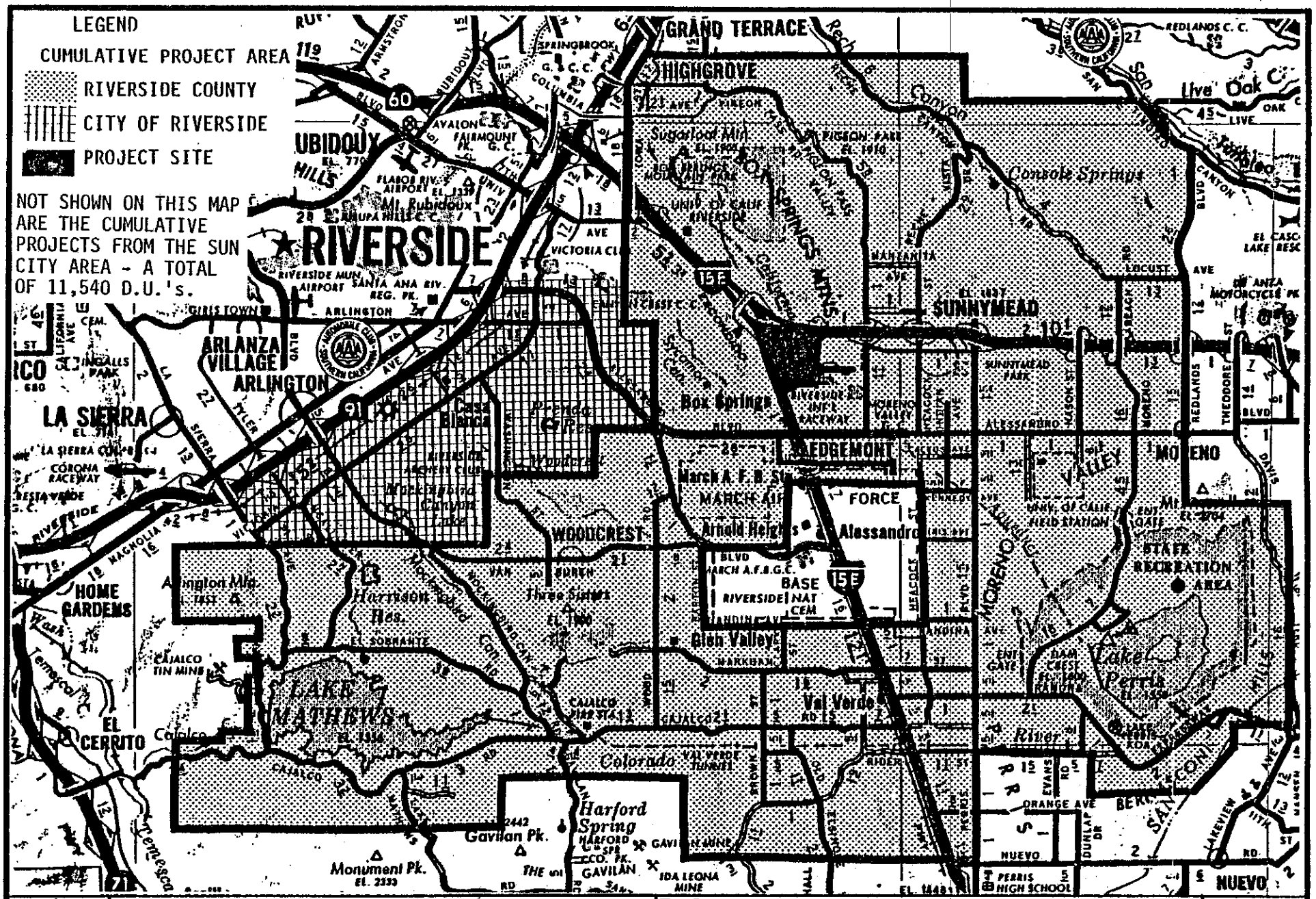
The project would result in the loss of 311 acres of open space. The site is currently used for agricultural purposes and has been dry farmed with a variety of grain crops. As an agricultural site, the project's development of it would not be consistent with the Open Space goal of preserving productive agricultural land for its value in providing food and fiber and in maintaining a viable agricultural industry. However, farming has not been considered viable in recent

years due to rapidly increasing costs, marginal soil quality characterized by a hardpan layer immediately beneath the surface, and encroaching urbanization. This trend is expected to continue. Therefore, the site cannot be considered a productive agricultural property, particularly in the long-term. In addition, the project is an infill project, that is, the site is surrounded by urbanized uses.

3.1.2.3 Cumulative Effects

In order to evaluate the cumulative effects of the proposed project with other developments in the project area, a list of proposed approved and recorded projects was compiled. The cumulative list of projects in Riverside County included projects in the following zoning districts: Woodcrest, Lake Mathews, University, Mead Valley, Cajalco, North Perris Reservoir, Edgemeont/Sunnymead and the Sun City area. In addition, cumulative projects within the City of Riverside were also obtained. The cumulative area within the City of Riverside included the area bounded by the Riverside Freeway (91) on the north, La Sierra Avenue on the west, Alessandro Boulevard on the east and the Riverside City limits on the south. The cumulative project area is shown in Figure 6. A list of the cumulative projects is shown in Appendix E of this report. The cumulative list includes residential, commercial and industrial projects. Data was collected during June and July of 1981 and includes information that was available at that time.

The cumulative projects in Riverside County total approximately 42,540 residential units and 21,169,724 square feet of commercial and industrial use on approximately 19,143 acres. The cumulative projects in the City of Riverside total 2,611 residential units and 322,344 square feet of commercial and industrial use on 1,656 acres. The proposed project totals 3,286,500 square feet of office, commercial and industrial use on 311 acres. The Springs project would result in a 16% increase in the amount of commercial and industrial square footage in the County cumulative project area.


LEGEND
CUMULATIVE PROJECT AREA
RIVERSIDE COUNTY
CITY OF RIVERSIDE
PROJECT SITE
NOT SHOWN ON THIS MAP ARE THE CUMULATIVE PROJECTS FROM THE SUN CITY AREA - A TOTAL OF 11,540 D.U.'s.
RIVERSIDE
GRAND TERRACE
HIGHGROVE
UBIDOUX
ARLANZA VILLAGE
ARLINGTON
LA SIERRA
SUNNYMEAD
Box Springs
EDGEMONT
MORENO VALLEY
MARCH A.F.B.
WOODCREST
Harrison Res.
Three Sisters
Glen Valley
Val Verde
LAKE MATHEWS
Harford Spring
Gavilan Pk.
Monument Pk.
EL CERRITO
HOME GARDENS
Lake Perris
NUEVO
Source:
ULTRASYSTEMS, INC.
Title:
CUMULATIVE PROJECT AREA
6

The cumulative projects would result in significant impacts to public services and utilities, traffic, air quality, reduction of agricultural land and urbanization of the area. The project would contribute to these cumulative projects. The proposed project would not have impacts on schools directly since there are no residential units proposed by the project. However, future employees of the project may relocate to the area which could result in additional students. This project would not require the level of services for police and fire protection as a residential development. Some public services and utilities in the area are already impacted and any additional development in the area could have significant cumulative impacts on these services. Even the proposed development which would not impact some of the services as much as other types of development would directly impact some services.

The project would generate additional traffic to the area since people would be driving to the site for employment. Some of the people that would drive to the site may not currently use the roadways adjacent to the site. Therefore, the project would generate new vehicle trips to the local circulation system. On the other hand, if residents within the cumulative area were employed by the project, then their commuting distance may be reduced which could result in fewer vehicle miles traveled which would directly reduce vehicle emissions and fuel consumption. The increase in vehicle trips in the cumulative area would also continue to degrade air quality in the area. The development of approximately 19,000 acres of existing vacant land in the area would result in a significant urbanization of this portion of Riverside County. Much of the land proposed for development is agricultural land which would also reduce the agricultural and rural flavor of the area.

Most of the future development in the cumulative project area used in this report is proposed for the Sunnymead/Edgemont area. Since the proposed Springs development plan is located in this same area, the Edgemont/Sunnymead area would probably experience the greatest amount of development activity and urbanization in the years ahead.

Although the cumulative area in the City of Riverside is not as intense or as large as the County cumulative area, development in the City of Riverside would contribute to the overall urbanization of the area.

The proposed project could have positive cumulative impacts by providing approximately 6,627 new jobs to the area. Many of these new jobs would be filled by existing residents in both the City and County of Riverside. Some of the new jobs would possibly be filled by people that would have to commute from other areas such as Orange and San Bernardino Counties. The Springs development would provide commercial uses (regional shopping center, office and retail) in an area where these uses are non-existent or not very well established. The project could result in an impact to businesses within the City of Riverside. If most of the residents in the cumulative project area conduct most of their shopping at the Springs site instead of driving into the City of Riverside where most residents probably do their shopping at the present time, then businesses within the City could experience reduced patronage and sales.

3.1.3 Mitigation Measures

The 115 acre commercial portion of the project requires the preparation of a Specific Plan. As proposed the project would provide a full range of commerce and entertainment opportunities for the Moreno Valley Community and its environs. The regional shopping center establishes a compact commercial focal point for the region, with room to expand. The proposed project will also provide convenient highway and community commercial shopping opportunities in closer relationship to emerging residential neighborhoods.

The proposed project will protect the adjoining school and single-family residences with buffers. It is recommended that landscaped berms be placed along the boundary between the project and the two adjoining land uses to visually shield the light industrial uses

from the school and residential uses. The industrial buildings should also be placed at an optimum distance from the adjoining school and residential uses in order to reduce the possibility of noise impacts.

3.1.4 Unavoidable Significant Environmental Effects

The project would result in the conversion of 311 acres of dry farmed agricultural land into urban use.

3.2 Soils and Geology

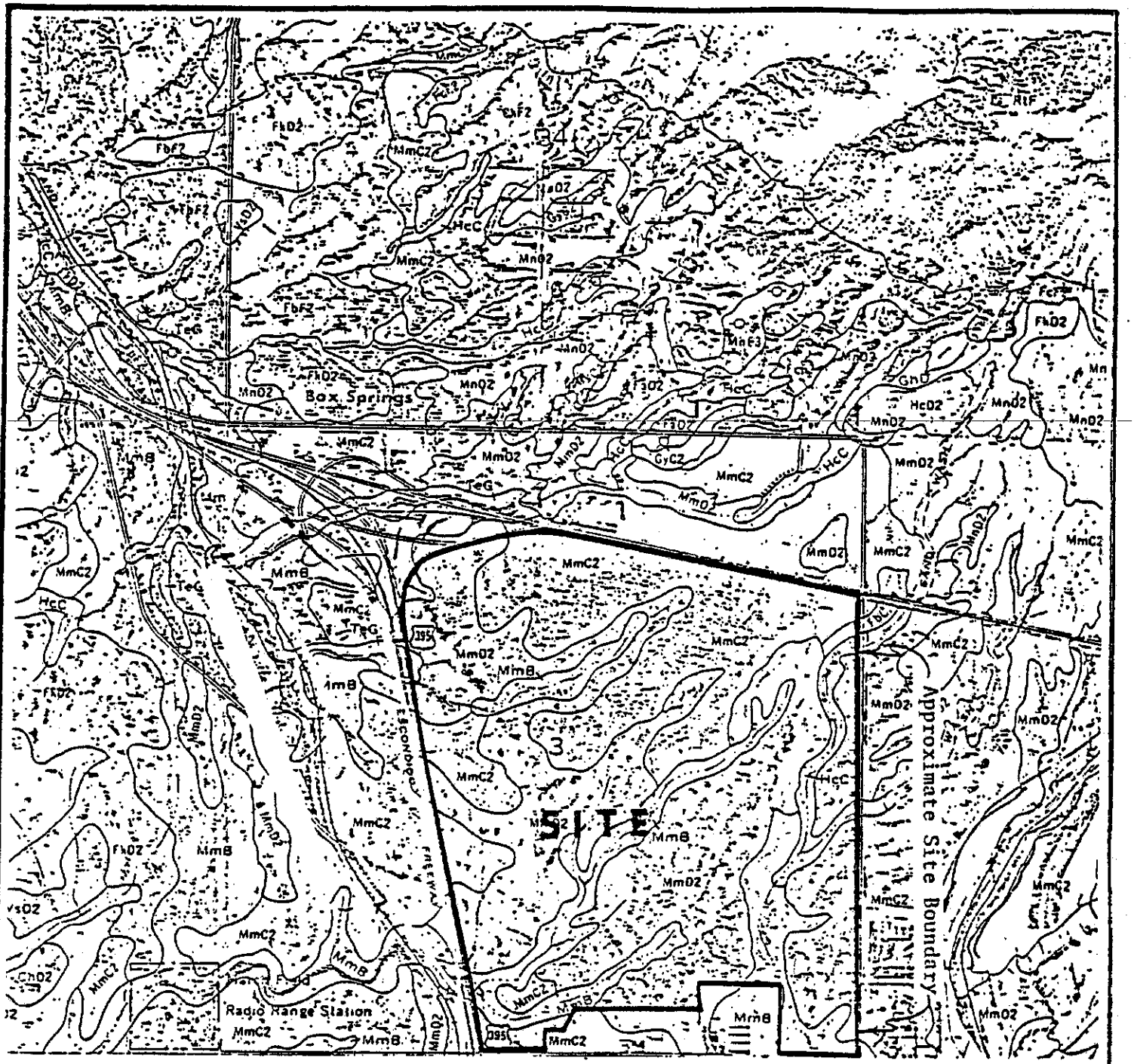
3.2.1 Setting

A geotechnical investigation of the project site was conducted jointly by John R. Byerly, Incorporated, and Gary S. Rasmussen and Associates. The field investigation consisted of excavating 14 exploratory test pits with a tractor-mounted backhoe to a maximum depth of 14 feet below the surface. The soils encountered were examined and visually classified by a soils engineer. Undisturbed and bulk samples were obtained at selected levels within the test pits. These soil samples served as the basis for laboratory testing and the engineering conclusions contained in this report. In addition, the field investigation also included a geologic inspection of the site; a review of stereoscopic aerial photographs flown in 1962 and 1974; review of geologic literature and maps; and a review of significant seismic data.

A fault location investigation was performed on the site to evaluate two suspected fault traces.

On-Site Soils

The Monserate-Arlington-Exeter soils association exists within the area of the site. This association is described as well-drained, nearly level to moderately steep soils that have a surface layer of sandy loam to loam and may be shallow to deep to a hardpan layer. Only the Monserate soil series is found on-site. The Monserate series soils are well drained and predominantly derived from granitic materials. They are used for dry land grain and pasture, for irrigated citrus and truck crops, and for non-farm purposes. Separate soil types (phases) are designated on Figure 7, Soils Map, as MmC2, MmB, and MmD2. A small amount of Hanford coarse sandy loam (HcC) is found within drainages on the site. This material appears to be a depositional product of



SOIL LEGEND

		SLOPES
MmB	MONSERATE SANDY LOAM	0-5%
MmC2	MONSERATE SANDY LOAM	5-8%
MmD2	MONSERATE SANDY LOAM	8-15%
HcC	HANFORD COARSE SANDY LOAM	2-8%
TrG	TERRACE ESCARPEMENT	15-50%

ultrasystems	**Source:** GARY S. RASMUSSEN AND ASSOCIATES	**Title:** SOILS SURVEY MAP	**7**

erosion. The terrace escarpment (TeG) on-site is an area considered to be too steep for agricultural use. Table 3 provides a detailed description of each soil phase.

Subsurface Soil Conditions

Data from test pit explorations indicate that the site was generally underlain be cemented silty sands that are typically loose to slightly dense. These cemented sands are followed by well graded sands, clayey sands and granitic bedrock at depth. The clayey soils are typically granular and non-plastic and are not considered to be significantly expansive. No free groundwater was encountered during the August 20, 1980 investigation.* However, a previous subsurface soils investigation indicated the presence of groundwater at depths of 21.5 feet and 11.0 feet.**

Data from domestic water wells located in the area indicates an impervious layer between free ground water found near the surface and the aquifer from which drinking water is drawn by the Edgemont Water District. The Edgemont well depths vary from 300 to 600 feet from the surface.

On-Site Geology

The site is located on older alluvial material of probably Pleistocene age that was deposited as outwash from the Box Springs Mountains; younger alluvium exists within the present drainages. The older alluvium is composed of well-indurated, red-brown, clayey sand with pebbles and rock fragments. Areas of alluvium which are well-

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* John R. Byerly, Inc., Feasibility Soils Investigation proposed 350-acre Box Springs Canyon Business/Industrial Park, August 20, 1980.

** John R. Byerly, Inc., Feasibility Soils Investigation for Individual Sewage Disposal System Proposed Box Springs Canyon Development, May 15, 1980.

cemented (caliche) are locally present near suspected faults on portions of the site but are not exclusive of those locations. This "hardpan" strata is very dense and relatively impervious to water and may limit the ease of excavation, particularly in dry conditions.

The young alluvial sands within the present on-site drainages are poorly indurated, clean to silty sands and make up only a small portion of the surficial material.

Granitic bedrock probably underlies the older on-site alluvium. The depth to bedrock is shallow (estimated 10-20 feet) in the northeast corner of the site and deep (estimated 100-200 feet) in the southwest portion of the property but may vary greatly.

TABLE 3

ON-SITE SOIL CHARACTERISTICS*

INDIVIDUAL SOIL (PHASES)	SLOPE	LAND CAPABILITY	CHARACTERISTICS	ERODABILITY	SUITABILITY AS TOP SOIL
Monserate sandy loam MmB	0-5%	III e-8	Sandy clay subsoil	Slight	Poor
Monserate sandy loam (MmC2)	5-8%	III e-8	Moderately fertile Hardpan 19-50" deep	Moderate	Poor
Monserate sandy loam MdD2	8-15%	IV e-8	Hardpan 36-54" deep	Moderate	Poor
Handord coarse sandy loam HcC	2-8%	II e-1	Stratified	Slight to moderate	Good
Terrace escarpment TeG	15-50%	VII e-1	Low fertility	Very High	Very Poor

* Gary S. Rasmussen and Associates, Inc. 1980, Preliminary Engineering Geology Investigation on Box Springs Business/Industrial Park.

CAPABILITY CLASSES:

II - Moderate limitations that reduce the choice of plants or that require moderate conservation practices.
III - Severe limitations that reduce the choice of plants, require special conservation practices or both.
IV - Severe limitations that reduce the choice of plants, require very careful management or both.
VII - Very severe limitations that make them unsuited to cultivation and that restrict their use largely to pasture or range, woodland, or wildlife.

CAPABILITY SUBCLASSES:

e - Main limitation is risk to erosion

CAPABILITY UNITS:

1 - An actual or potential erosion hazard.
8 - A problem or limitation of root penetration caused by shallow depth or soil over hard bedrock or hardpan.

Seismicity

The site is considered a seismically active area, as is all of Southern California. There are, however, no known active faults on or adjacent to the site. Seismic risk to considered moderate as compared to some areas of Southern California because of the close proximity to the very active San Jacinto Fault Zone.

Seismic hazards within the site can be attributed to ground shaking resulting from events on nearby active faults.

DISTANCE TO KNOWN ACTIVE FAULTS

Fault	Distance From Site	Maximum Probable Earthquake
San Jacinto	6 miles NE	7.5
San Andreas	15 miles NE	8.0
Elsinore	18 miles SW	7.0
Newport-Inglewood	42 miles SW	6.5

Earthquake epicenters (exceeding 6 on the Richter Scale of Magnitude) within a 65-mile radius of this project, are listed below:

DATE	RICHTER MAGNITUDE	APPROXIMATE DISTANCE SITE TO EPICENTER	FAULT
12/25/1899	7+	45 miles SE	San Jacinto
4/21/1918	6.8	50 miles SE	San Jacinto
7/23/1923	6.3	25 miles E	San Jacinto
3/11/1933	6.3	45 miles SW	Newport-Inglewood
3/25/1937	6.0	60 miles SE	San Jacinto
12/04/1948	6.5	55 miles E	Mission Creek/San Andreas

Additionally, on January 9, 1857, the San Andreas Fault Zone ruptured with an earthquake that has been compared to the 1906 San Francisco great earthquake. Surface rupture extended for a distance of 225 miles between Parkfield to the northwest and Cajon Pass to the southwest. The ground rupture from this earthquake extends to within approximately 25 miles of the subject site. Even though the epicenter was over 100 miles from this project area, the rupture and associated shock waves most certainly intense ground shaking at the site.

A previous investigation of the site by Gary S. Rasmussen & Associates, Inc., dated August 5, 1980, indicated the potential for two faults of unknown activity, to traverse the site. Of these potential faults zone is an anomaly that appears on aerial photographs as a dark band (color variation) within the western portion of the property and trending in a northwest-southeast direction. This lineation is not visible beyond State Route 60 to the northwest or southeast of Eucalyptus Avenue. Additionally, this lineation did not appear on the 1974 or 1977 aerial photographs. The other potential fault identified by Gary S. Rasmussen & Associates, Inc. is the southward projection of a fault identified north of the site, which projects through the central and eastern portion of the property. This projection does not appear on any aerial photographs observed.

Information from a Geotechnical Investigation on property north of The Springs Development provided that the site to the north is underlain by granitic bedrock materials and older alluvium. A fault previously identified by Gary S. Rasmussen & Associates, Inc., has been located which apparently projects onto The Springs property. Based on exposures obtained in our extensive subsurface exploration of the site, no offsets were observed in units other than the granitic bedrock materials. This data results in the conclusion that the observed fault is not considered active. During our investigation on The Springs no evidence of the previously inferred faults were found.

As previously described in this report, many historic earthquakes have occurred in relatively close proximity to the site. Additionally, the closest known active fault to the site is the historically active San Jacinto Fault Zone. Surface rupture has been associated with earthquakes along this fault. The closest previously mapped fault to the site is the Box Springs Fault and another unnamed fault, both within the Box Springs Mountains. These faults are probably not active as determined through trenching in alluvial materials (Rasmussen, 1980).

3.2.2 Impacts

A specific grading plan is unavailable at this time, but on-site topography indicates that maximum cut and fill slope heights will be in the order of 15 feet along roadway alignments. Some remedial grading is expected on the site with no import or export of soil.

There are no active faults within the limits of the subject property. This conclusion is based on the following data:

1. The fault trenches across the two suspected faults exposed older alluvial sediments of at least Pleistocene age with no fault features observed. Numerous areas of caliche and an occasional fracture/joint were observed; however, the caliche zones were not observed to be continuous to the full depth of

the trenches and the fracture/joints in all cases did not offset thin laminations observed within the upper sediments exposed. The caliche observed in the trenches is related to surficial weathering of the soils.

2. Data provided by the State of California, Department of Water Resources indicated that no faults were encountered on the subject property during construction of their pipeline. Communication with the Metropolitan Water District of Southern California indicated that no as-built geologic data could be located for their pipeline on the subject site.

3. Other than the previously mentioned lineament on the western portion of the property (a color differential), no other typical fault features indicating youthful or ancient faulting within the subject property, were observed on any of the aerial photographs reviewed.

4. During trenching operations on property north of The Springs Development, a fault was identified that does project onto the site. This fault was observed within granitic bedrock and not in older alluvium. Using criteria established by the California Division of Mines and Geology this fault is not considered active.

5. The site is not located within an Alquist-Priolo Special Study Zone.

As a result of the hardpan layer at shallow depths, the seismic traverses performed on-site did not provide data for materials below the hardpan strata. As penetration of this material was obtained with the Case 780 backhoe, submittal of the traverse results was determined to be superfluous.

Cumulative Effects

The project would contribute to the cumulative alteration of the existing landform and topography in the Moreno Valley area.

3.2.3 Mitigation Measures

Grading design should be geotechnically reviewed, as necessary, prior to the commencement of grading. Upon completion of the grading, as-graded geologic reports and compaction reports are required. These reports will certify that the graded project is safe, stable and suitable for construction of the proposed structures. Other than the safety of the proposed grading, contouring and blending the graded areas of the site into the terrain and maintenance of finished banks are important. Other mitigation measures include:

- During construction, light sprinkling of exposed soil areas should be undertaken to minimize the adverse impacts of wind-transported dust.

- Grading and revegetation should be staged so that the area extent of bare soil exposed to precipitation at any one time is minimized.

- Appropriate temporary vegetative and structural soil stabilization measures should be applied to graded areas at the earliest possible time.

- Permanent landscaping installed on graded slopes should incorporate an irrigation system to ensure adequate maintenance.

- A compacted fill mat for foundation support will be necessary for the intended structures and should be reviewed for adequate bearing support by a soils engineer.

Based on the results of the investigation indicating no fault features in late Pleistocene deposits nor in the overlying Holocene

soils, special setback requirements are not considered necessary within the northwestern portion of The Springs development; however, it is recommended that all excavations made during construction on the northwest 90 acres, be inspected prior to scarification or filling. This procedure will cause short delays during construction operations and should be considered in the construction budgets. Should any additional information concerning faults or fault-related features be encountered on-site, it may be necessary to modify final plans to allow for the data obtained and its relative significance.

In accordance with Riverside County requirements, compaction tests were performed in the backfill of the fault trenches on the subject property. These tests were performed in accordance with ASTM: D 2937-71 (Drive-Cylinder Method). The fault trenches were backfilled and compacted to either 1) a minimum of 90 percent of the maximum density (ASTM: D 1557-78) or 2) a minimum of the relative in-place density as the on-site soils, whichever is less.

3.2.4 Unavoidable Significant Environmental Effects

No unavoidable significant environmental effects were identified or anticipated.

3.3 Hydrology

3.3.1 Setting

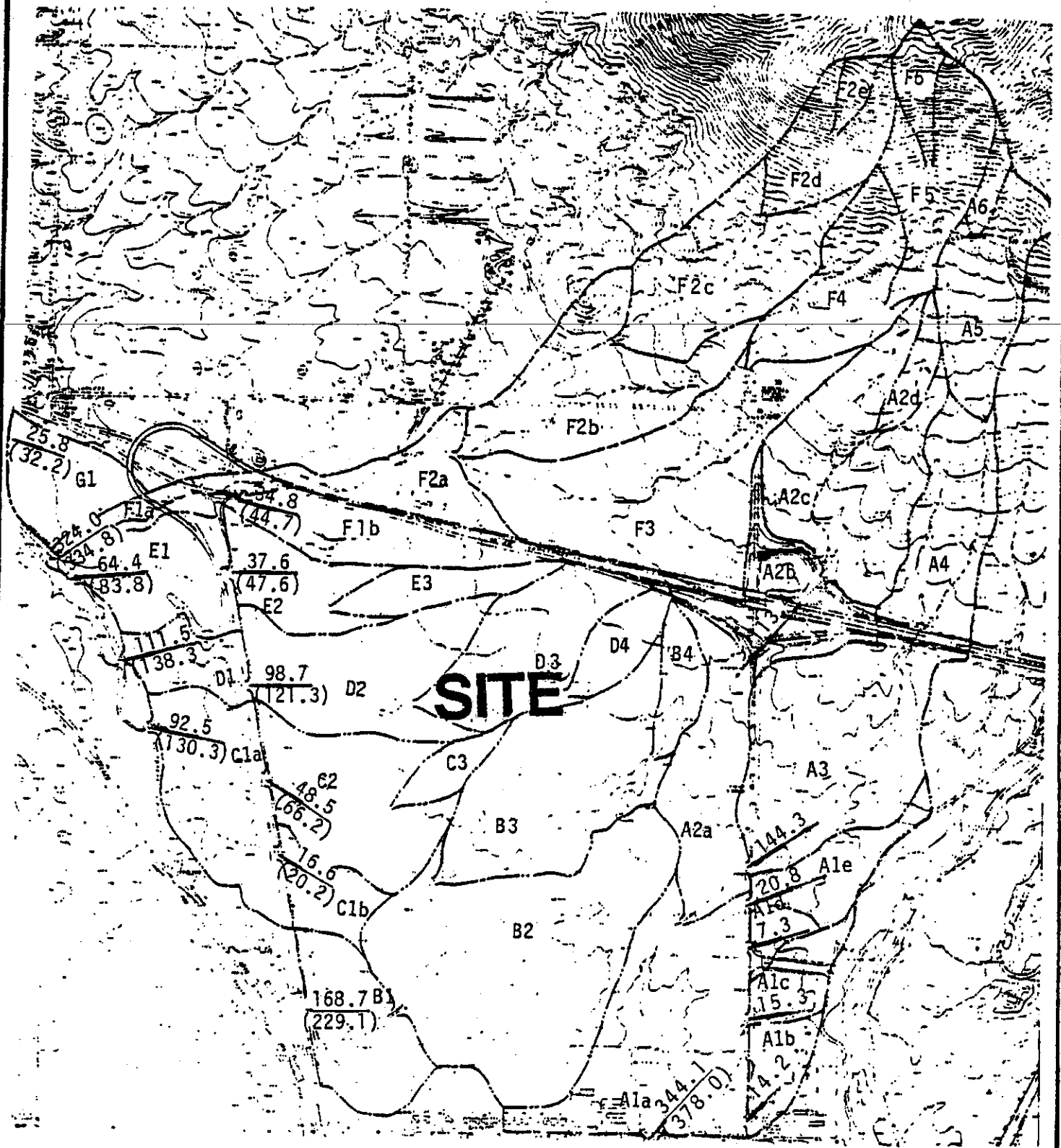
Topographically the project site is situated on an alluvial cone at the southerly side of Box Springs Mountain. It has well defined natural drainage to the south, southwest, and west with an average on-site drainage slope of between 4.0 percent and less than 1.0 percent. Drainage facilities exist under Eucalyptus Avenue and highways I-15E and 60 at various locations. There are no existing drainage facilities in Day Street.

The easterly portion of the site adjacent to Day Street is subject to flooding. The outlet for this area (drainage area A) is southerly under Eucalyptus Avenue and into the existing Edgemont storm channel. Figure 8 presents a Drainage Area Map for the vicinity of the project site. The central and southwesterly portion of the site (drainage area B) drains under Highway I-15E, and under the railroad, and through existing facilities constructed with the Box Springs Industrial Park.

Drainage area A and B are tributary to Sycamore Canyon. Areas C through G drain into Box Springs Canyon. (See Drainage Area Map, Figure 8). Both of these natural watercourses drain northwesterly through the City of Riverside to the Santa Ana River. The City of Riverside in cooperation with the Riverside County Flood Control and Water Conservation District has constructed extensive storm drain facilities, including retention dams in both canyons, for the protection of the improved property within the City.

3.3.2 Impacts

The flow from a 100-year frequency flood has been calculated for both the existing condition and for the future fully developed



	Source:	Title:	
ultrasystems	L.A. WAINSCOTT & ASSOCIATES	DRAINAGE AREA MAP	8

on-site condition. This information is plotted on Figure 8, the Drainage Area Map, and the hydrology calculations are provided in Appendix C.

The watercourses on-site currently drain in a northwesterly direction. Flow from a 100-year frequency flood in Area A1 (Figure 8) before development is 344.1 cubic feet per second; after development the flow would be 378.00 cubic feet per second (CPS) which amounts to an increase of 33.9 cfs. In Area B1 the flow before development is 168.7 cfs, and the flow after development would be 229.1 which amounts to an increase of 60.4 cfs. In Area C1 the flow before development is 92.5 cfs, and the flow after development is 130.3 cfs which amounts to an increase of 37.8 cfs. In Area C1b the flow before development would be 20.2 cfs which amounts to an increase of 3.6 cfs. The increase flow in Area D1 would amount to 26.8 cfs. The increase in flow in Area E1 would amount to 19.4 cfs. The increase in flow in Area F1a would amount to 10.8 cfs. The increase in flow in Area G1 would amount to 6.4 cfs.

Implementation of the proposed project would result in three major drainage problems.

Development of this site will necessitate control of surface water runoff so as to conform with the existing watershed boundaries.

Flooding at the eastern portion of the site, as well as drainage problems along the east side of Day Street would result in increased runoff unless mitigation measures are initiated.

Lastly, the existing facilities which provide outlets for the stormwater runoff from the project site have a limited capacity.

The project's civil engineer concludes that with proper design and construction of the proposed mitigation measures the project will be free from the 100-year frequency flood hazard.

Cumulative Effects

This project, in conjunction with other development within the same drainage areas that serve the site, would generate increased volumes of runoff and increase the need for additional flood control protection facilities in the area.

3.3.3 Mitigation Measures

The following mitigation measures are proposed to alleviate the adverse storm runoff conditions.

- On site grading should respect the existing drainage boundary between Sycamore Canyon (areas A & B) and Box Springs Canyon (areas C thru G), also between drainage areas A & B.

- A major storm drain should be constructed in or adjacent to Day Street to control the storm runoff from the northeast and allow the regrading necessary for the proposed development. This will be done in Phase I.

- Retention basins in the form of open space, playgrounds, and/or off street parking should be developed in two or three locations. These basins should be designed for a controlled discharge equal to the capacity of the existing outlet facilities and should retain below the overflow threshold the incremental increase in runoff for the 100-year storm. This will be done during Phase I and Phase II.

- Two of the retention basins should be located at the outlet to areas A and B. Since the runoff from areas C, D, and E merge in Box Springs Canyon on the west side of the

railroad it may be convenient if possible, to control the incremental increase in one retention basin. This will be done in Phase I and Phase II.

- Depending on the final development plan there will probably be a need for several on-site storm drain systems. These could be designed for Q10 storm flows. This will be done during Phase I.

3.3.4 Unavoidable Significant Environmental Effects

No unavoidable significant environmental effects have been identified.

3.4 Biological Resources

Introduction

The biological resources present on the 311-acre property was assessed by a staff biologist in May, 1980. The assessment consisted of walk-over surveys that followed criss-cross patterns over the entire property. The purpose of the survey was to inventory all plant and animal life. Species identification was based on experience, familiarity with the general area, and the use of available field guides (Munz 1974; McMinn 1974; Peterson 1969). The rare and endangered status of each organism was determined by consulting published species lists prepared by the California Native Plant Society (Powell 1969) and the Department of Fish and Game (1978, 1980).

3.4.1 Setting

The terrain is gently rolling to flat, and is bisected by several shallow east-west drainage channels. The soil is clay-like and intermixed with coarse sand. The soil is well-drained, but there are areas of ponding, particularly, along the east boundary near Day Street.

Vegetation

The vegetation on-site is simple and consists of grain crops, European grasses and broadleaved weeds. The most conspicuous grains include a mixture of Wheat (Triticum aestivium), Oats (Avena fatua), and Barley (Hordeum vulgare). European weedy grasses such as foxtail (Bromus rubens), Crab Grass (Digitoria sanquinalis), and Winter Grass (Poa annua) are common, but have little economic importance. Broadleaved weeds such as Field Mustard (Brassica rapa), Wild Radish (Raphanus sativus), Jointed Charlock (R. raphanistrum), Storksbill (Erodium circutarium), Russian Thistle (Salsola iberica), and several others are found in clearings and along roads.

The few remaining native plants on the project site are widely scattered. These plants Mulefat (Baccharus glutinosa), Willow (Salix lasiolepis), California Buckwheat (Eriogonum fasciculatum), and Bird's Foot Trefoil (Lotus scoparius). These plants are found only in the drainage channels. Under natural conditions, these plants are elements of the coastal sage scrub community which is quite common in this area.

A detailed itemization of all plants encountered on the property are listed in Appendix A. All plants are quite common and are not considered as either rare or endangered by the California Native Plant Society.

Wildlife

The relatively simple vegetative structure provides a low quality wildlife habitat that supports few wildlife species. Wildlife that was observed or expected to occur on the site are listed in Appendix B.

The most abundant wildlife on the site includes a variety of resident birds. Most of the birds encountered on the site are Western Meadowlarks, Rufous-Crowned Sparrows, House Finches, Ravens, and several others. A Red-Tailed Hawk was observed to fly over the site; however, several other raptors are expected to use the site for forage.

Additional wildlife seen or expected to occur on-site include a variety of mammals and reptiles. Mammals include the audubon Cottontail, California Ground Squirrel, Valley Pocket Gopher, Harvest Mouse, and Blacktail Jackrabbit. Reptiles include the Side-Blotched and Western Fence Lizards. Undoubtedly, Gopher and Garden Snakes will also be present.

The Stephens Kangaroo Rat is listed as a rare species by the California Department of Fish and Game. This species is recorded in only 15 isolated localities in Riverside County and a few localities in

Northern San Diego County. Most of the localities that the Stephens Kangaroo Rat has been found are south of the City of Riverside near Perris, Hemet and Fallbrook. It is possible that the Stephens Kangaroo Rat occurs on the site. The systematic walk-over survey of the site did not turn up any signs that the Stephens Kangaroo Rat is located on the site; however, no trapping was utilized.

None of the wildlife observed or expected on the project site are considered rare or endangered by the Department of Fish and Game.

3.4.2 Impacts

Development of the project site would result in the removal of grain crops, weedy plant species, and some native plants. Since the majority of the natural vegetative cover has been removed sometime ago, the impact to wildlife is expected to be minor, however, there will be some displacement or the elimination of wildlife. The wildlife observed on the site are considered generalists and should be able to survive in adjacent plant communities.

Cumulative Effects

The proposed project along with other projects in the area would reduce the amount of open space that presently supports a variety of raptors, birds, rodents, predators, and mammals. The project would also result in an increase of people (moving) to the area which could result in a decline or desertion of raptors in the area.

3.4.3 Mitigation Measures

No mitigation measures are necessary to protect the existing crop and weedy plant species.

If it is determined necessary, trappings could be utilized to determine if there are any Stephens Kangaroo Rat present on the site.

Whenever possible, native trees and shrubs should be reintroduced to the developed portions of the site after the construction phase is completed. There are three advantages to using native rather than ornamental plants: (1) native plants will provide suitable habitat to variety of wildlife; (2) native plants do not require substantial amounts of water and fertilizer to persist; and (3) native plants are maintenance-free. A suggested list of drought-tolerant native plants suitable for landscaping is found in Sunset Magazine's "Good-looking-Unthirsty" (1978).

3.4.4 Unavoidable Significant Environmental Effects

The loss of the biological resources that are present on the site is not considered to be significant in nature.

3.5 Noise

3.5.1 Setting

The project area is exposed to jet aircraft and vehicle traffic noise. The site is exposed to vehicle traffic noise along its northern border from Highway 60 and along the western boundary from I-15E. Jet aircraft fly-bys from March Air Force Base contribute to the overall noise environment of the site.

The project site is located approximately one mile north of the base and is influenced primarily by large military jet aircraft operations on Flight Tract 31. Based on the latest March Air Force Base Air Installation Compatible Use Zone Report (AICUZ),* the project site exists within a noise zone of approximately 66-76 dB(L_{dn}). Refer to Figure 9.

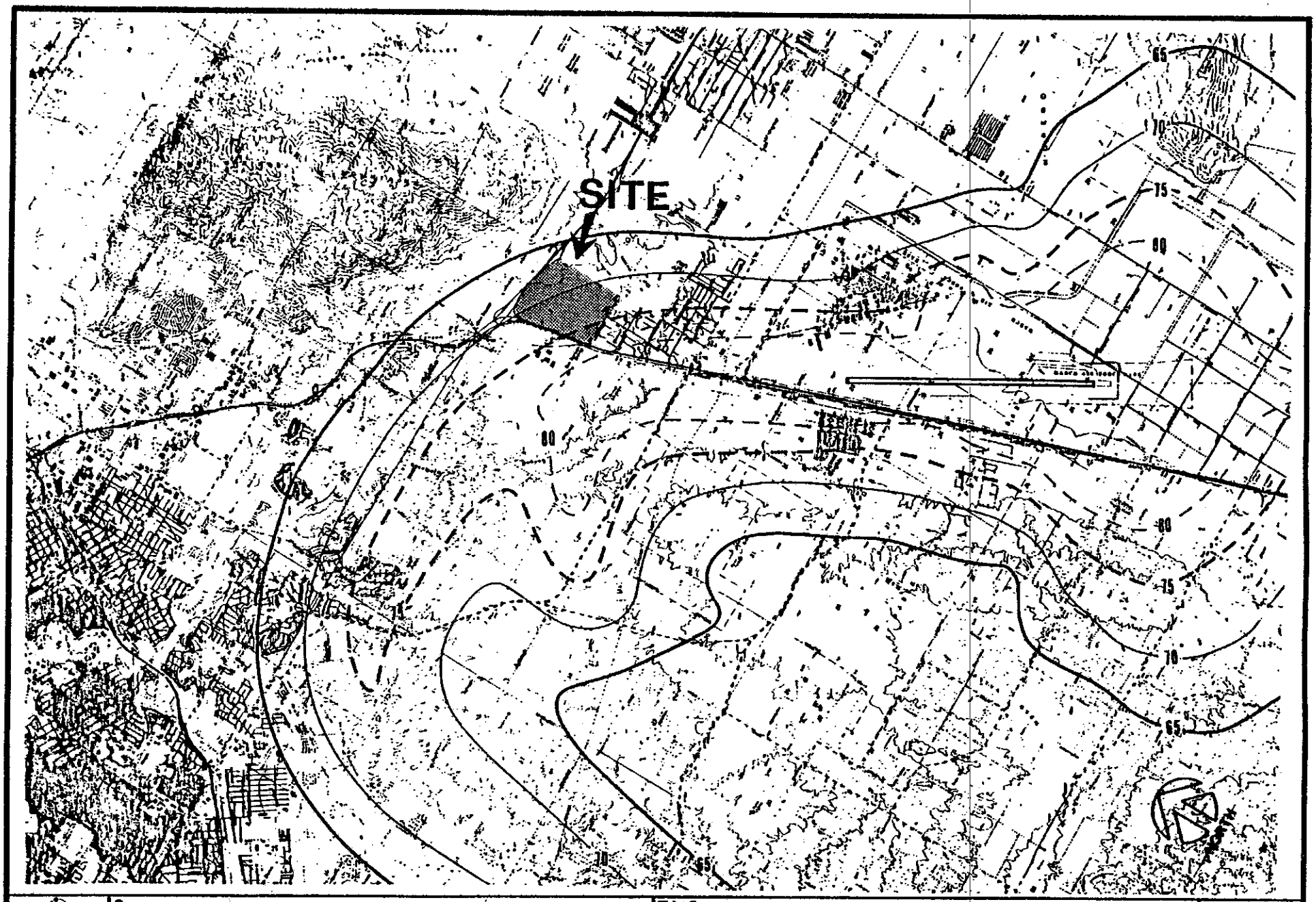
On occasion, the site is also exposed to noise from Riverside International Raceway. There are no estimates of the noise from this facility which is located to the east of the site.

Access to the project site is from Day Street and Eucalyptus. Both of these roadways have very low existing daily traffic volumes. Resulting noise levels are also nominal.

There are a few "noise sensitive" land uses in the project area: these include Edgemont School on Eucalyptus and some single-family residences along Eucalyptus and Day Street.

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* Department of the Air Force March Air Force Base AICUZ Report, amended October, 1979.



ultrasystems	Source: MARCH AIR FORCE BASE AICUZ REPORT (Amended: OCT. 1979)	Title: RELATIONSHIP OF MARCH AIR FORCE BASE NOISE ZONES TO THE SITE	9

3.5.2 Impacts

Road Improvements, Grading and Construction Noise

During the period of project development, noise will be created from the use road improvement, grading, and construction equipment. The use of this equipment near the southern boundary of the site may result in noise levels which could be annoying to nearby residents, students, and school employees during the daytime hours. An example of the magnitude of noise which could be experienced outdoors when such equipment is operating in the near vicinity is illustrated in Figure 10.

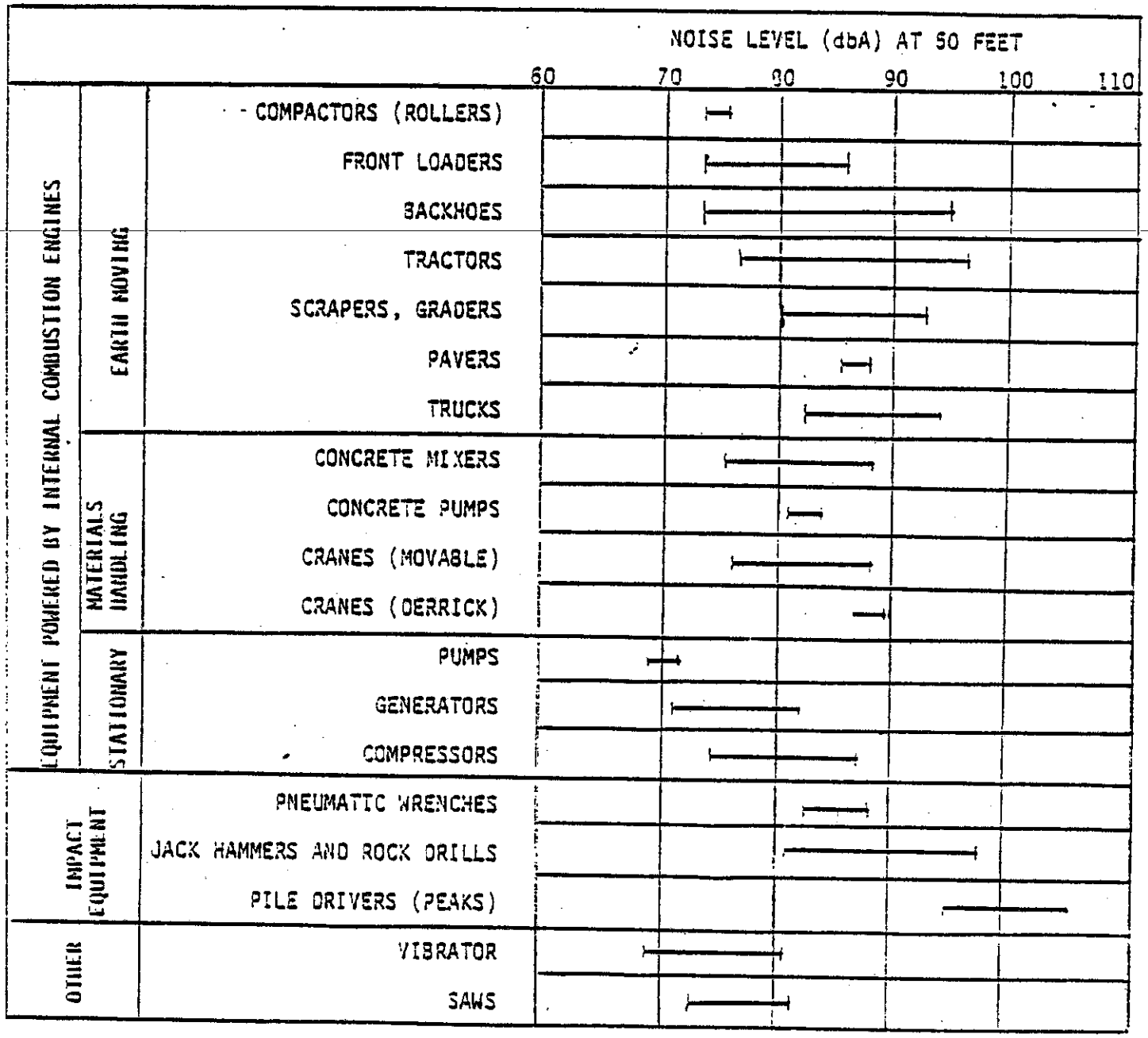
Freeway Traffic, Jet Aircraft and Raceway Noise

According to the goals and policies outlined in the County of Riverside Noise Element,* the site is best suited for non-residential uses such as the proposed commercial/industrial project. These types of land uses are considered less susceptible to noise, and, therefore, are not expected to be adversely impacted or require noise mitigation measures.

Project Traffic Noise

The proposed project is expected to generate a substantial amount of vehicle traffic in the local area. Based on data in the traffic and circulation section of this report (section 3.9), access to the site will be from Day Street north of Eucalyptus and from Eucalyptus near I-15E. There are two scenarios considered in the distribution of project generated traffic: 1) that I-15E will have an interchange

* Noise Element, County of Riverside General Plan.



NOTE: Assume noise levels shown in this figure would decrease by 6 dB(A) for every doubling of distance.

	Source: ENVIRONMENTAL PROTECTION AGENCY 1971: NTID 300-1	**Title:** NOISE LEVELS FOR TYPICAL CONSTRUCTION EQUIPMENT REFERENCED TO 50 FEET	**10**

system at Eucalyptus, or 2) that the interchange will be located south of the site on I-15E at Alessandro Boulevard. The second scenario is expected to generate more traffic in the "noise sensitive" areas along Eucalyptus and near along Day Street near Eucalyptus.

A comparative vehicle traffic noise analysis was prepared as part of the noise section of this report and is presented in Table 4. Results of the analysis confirm the fact that the second scenario (I-15E interchange at Eucalyptus) would be the most practical in terms of the project noise impact. Data in Table 4 indicates that even with the increase of project traffic, most of the residences along Eucalyptus and Day Street would be beyond the 65 dB noise exposure area. However, this does not necessarily mean that local receptors would not be annoyed by the increase in traffic noise. It should be pointed out that even though this area is subjected to high levels of jet aircraft noise, the noise from vehicle traffic will be of a different type and frequency.

Cumulative Effects

This project along with other developments in the area, would contribute to a cumulative increase in local noise levels resulting from construction activity, increased, traffic, and increased human activity.

Cumulative residential development adjacent to, and in the vicinity of, the project could occur to a point that residents could complain about the noise levels associated with March Air Force Base aircraft. These complaints could occur to a level that the aircraft operations at the base could become affected.

3.5.3 Mitigation Measures

The following list of noise mitigation measures are recommended in order to reduce potential noise impacts on nearby "noise sensitive" receptors:

TABLE 4

TRAFFIC NOISE ANALYSIS

Roadway Segment	Traffic Noise Traffic Characteristics: CONDITION Existing	Future (without project)	Future (scenario 1)*	Future (scenario 2)**	Average Daily Traffic (ADT)	Present Trucks	Average Speed (MPH)	Traffic Noise (LdN): Noise level of 65 dB or greater exists within the following distance (ft.) from the centerline of respective roadway segment
Eucalyptus (15E to Day St.)	x				700	1.5	35	3
		x			1,000	1.5	35	3
Eucalyptus (15E to Project Access Rd.)			x		46,090	2.5	30	86
				x	33,470	2.5	30	70
Eucalyptus (Project Access Rd. to Day St.)			x		4,600	1.5	35	21
				x	8,210	1.5	35	30
Day Street (just north Eucalyptus)	x				700	1.5	45	3
		x			1,000	1.5	45	8
			x		4,610	1.5	40	21
				x	8,210	1.5	40	30
Day Street (just south of Eucalyptus)	x				1,800	1.5	45	8
		x			3,000	1.5	45	19
			x		10,210	1.5	40	44
				x	17,430	1.5	40	63

* Scenario 1 - assumes 15E interchange at Eucalyptus
** Scenario 2 - assumes 15E interchange at Alessandro Blvd.

1) Vehicle traffic noise levels were calculated using FHWA highway traffic noise production model-RD-77-108.

- Construction related traffic should not be permitted to use Eucalyptus between the project access road and Day Street or Day Street south of Eucalyptus.

- It is recommended that the State of California Department of Transportation (CalTrans) seriously consider locating the proposed Highway I-15E interchange at Eucalyptus to help reduce the amount of traffic flow and resulting noise in the local residential community.

- Another alternative associated with the construction of the Eucalyptus interchange would be to have on and off-ramp access into the project rather than on to Eucalyptus itself.

Incorporation of some or all of the following measures would help mitigate the noise impacts to the adjoining school and residential units on Eucalyptus Avenue:

- Provide berms or walls along the properties adjoining property lines; the berms or wall should be of sufficient height to break the line-of-sight between source and receptor.

- Provide acoustical glazing on the front of noise conditions, i.e., double pane windows, or extra (thicker) strength glass.

- Provide air conditioning to allow adequate interior ventilation without having to open windows of the buildings.

- Encourage enforcement of 25 mph speed limit in residential areas.

- Provide acoustical insulation for residential house vents.

3.5.4 Unavoidable Significant Environmental Effects

The proposed project will create noise to nearby receptors during the construction phase of development.

The proposed project will generate additional traffic and noise in the local area.

3.6 Housing

This section of the report was compiled utilizing data from the Housing Element of the Riverside County General Plan which was adopted by the Riverside County Board of Supervisors on April 7, 1981. Most of the data in the General Plan is based on the 1978 Special Census which was conducted by the Riverside County Planning Department.

3.6.1 Setting

The project site is located in the Edgemont Sunnymead area, which is an unincorporated portion of Western Riverside County. The project site is located in Regional Statistical Area (RSA) 46 which is composed of the cities of Riverside, Norco, Corona and surrounding unincorporated areas. The project site is in Census Tract 245.01 of RSA 46 which is used to give more geographically specific information.

3.6.1.1 Housing Supply

RSA 46 has a total of 16,218 dwelling units comprised of 11,311 single-family units, 2,323 multi-family units, 2,481 mobile homes, and three dwelling units that could not be classified due to unusual circumstances. 47.3 percent of the multi-family units are rental units.*

3.6.1.2 Housing Costs

The median resale price of an existing single-family home rose 225 percent from 1970 to 1980 in the western portion of Riverside County. The median price of an existing home in Riverside County for April, 1980 was approximately $73,582, a 21 percent increase over April of the previous year. The April 1980 median price for a home in

* Riverside County General Plan page IV-17.

Southern California was $119,200, 18.6 percent above the price in April of 1979.*

At the time of the 1978 Special Census, HUD identified the San Bernardino-Riverside SMSA median income of $11,343 as representative of Riverside County's median income. A low income family was identified as all households whose annual gross incomes were at or below $5,671.50, moderate income families where those grossing at or below $9,074.00 but above $5,671.50 and medium income where those grossing at or below $13,611.60 but above $9,074.00. RSA 46 contained 16.1 percent low income households, 14.5 percent moderate income, and 18.3 percent medium income households.

The need for low and moderate income housing in the area is evident in these statistics.

3.6.1.3 Housing Availability

The available vacancy rate, representing the dwelling units available on the open market for occupancy, in RSA 46 is 7.9 percent. This is above the unincorporated county average of 5.1 percent. Because the seasonal vacancy rate represents units used for recreation, second homes, migratory workers etc., it is the available vacancy rate which represents the accurate number of units on the market for sale or rent.**

3.6.1.4 Availability of Housing Close to Work

The ideal situation is to be located within a few miles from work in an appropriate housing unit that fits the needs and the budget of the worker. This quality will become increasingly attractive as fuel

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* Riverside County General Plan p. IV-53.
** Riverside County General Plan p. IV-18.

costs continue to rise. Based on a question in the 1978 Special Census asking respondents to give miles traveled to work, it was found that more than half of the primary wage earners in Western Riverside County travel 12 or more miles to work and that over 34 percent travel over 21 miles to work, each way.*

3.6.1.5 Employment

As of November, 1981 the unemployment rate in Riverside County was 9.2 percent.**

3.6.2 Impacts

3.6.2.1 Housing Supply

It has been projected by SCAG that the number of dwelling units in RSA 46 will rise by 29 percent from 92,673 units in 1978 to 129,300 in 1985.*** In 1986, 1,013 new jobs will be created as a result of Phase I of the project. This will result in a demand for housing in the area. Phase II will introduce 2,733 employees to the area in 1989 and Phase III, to be completed in 1992 will generate 1,821 employees which will contribute to an increased demand for housing. This increase in demand will be most visible for low and moderate income housing.

3.6.2.2 Housing Costs

There have been dramatic rises in the cost of housing in the past decade. There is no way to accurately predict what housing prices will be throughout this decade.

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* Riverside County General Plan, p. IV-58.
** Caridad Hood, Labor Market Analyst.
*** Riverside County General Plan, p. V-2.

3.6.2.3 Housing Availability

The available vacancy rate in RSA 46 is 7.9 percent. This is above the unincorporated county average of 5.1 percent. Therefore, there are dwelling units available in the project area. In addition, there are proposed new residential developments in the project area. Whether or not the new units will be priced so that the project employees will be able to afford them is not known.

Overpayment or affordability is a significant problem in Riverside County.* Using HUD's 25-percent criteria, only 21 percent of the households in Riverside County could afford the median priced resale home in 1977. Since that time, housing prices have increased faster than income and with higher mortgage rates, the percentage of households able to buy the median priced home today is even less. New households or first-time buyers without substantial down payments are being priced out of the housing market. Today it is not just the poor that cannot afford housing, but as housing prices continue to rise more and more of "middle America" is being excluded from the housing market.

With a 7.9 percent vacancy rate and new residential projects being proposed in the area it would appear that housing will be available to the employees of the proposed project. The affordability factor is the real key to housing availability. If housing is priced in the ranges the employees can afford to pay, then housing will be available. If housing is not affordably priced, then the future employees would be forced to commute to the project site from areas where affordable housing is located; which is most likely the older residential areas in the surrounding cities.

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* Information in this section is from the Housing Element, Riverside County, page III-9.

3.6.2.4 Employment

The proposed project is expected to employ a total of 6,627 people upon full-buildout. Table 5 displays the number of employees expected during each of the three phases and for each planning area.

The creation of 6,627 employment positions at the project site would provide employment opportunities for the 9.3 percent who are unemployed.

TABLE 5
PROJECT EMPLOYEE GENERATION

EMPLOYEE GENERATED PER SQUARE FOOT		PHASE I	PHASE II	PHASE III	TOTAL
1/750	Regional Shopping Center	1,067	360	307	1,734
1/750	Regional Oriented Retail	67	167	123	357
1/500	Highway Commercial Hotel	200	250	38	488
1/250	Professional Office	160	320	160	700
1/320	Restaurant	67	187	172	426
1/750	Community Oriented Retail	13	133	26	172
1/1000	Health Club	10	30	95	135
1/350	Light Industrial	429	1,286	900	2,615
	TOTAL	2,013	2,733	1,821	6,627

3.6.3 Mitigation Measures

In order to keep the supply of lower and moderate-income housing up, federal, state and local housing programs should be used to their fullest extent. These programs are listed in Appendix C of the Riverside County Housing Element. The R-6 zone provides affordable housing for Riverside County and is discussed in Section 3.1 of this report.

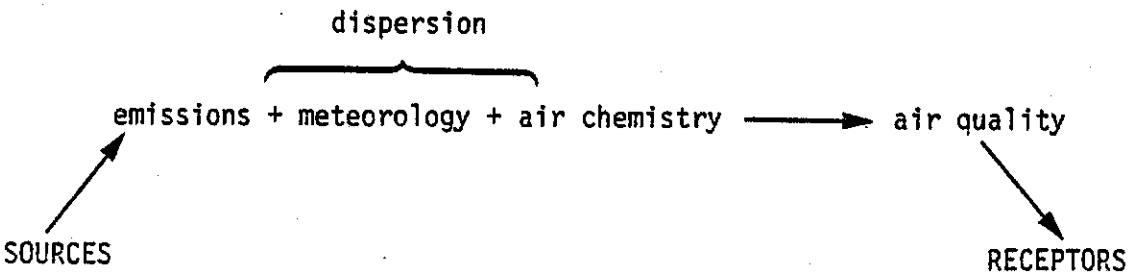
3.6.4 Unavoidable Significant Environmental Effects

New employment opportunities for low and moderate income wage earners will increase the demand for lower and moderate income housing in the Edgemont area which may not be available.

3.7 Air Quality

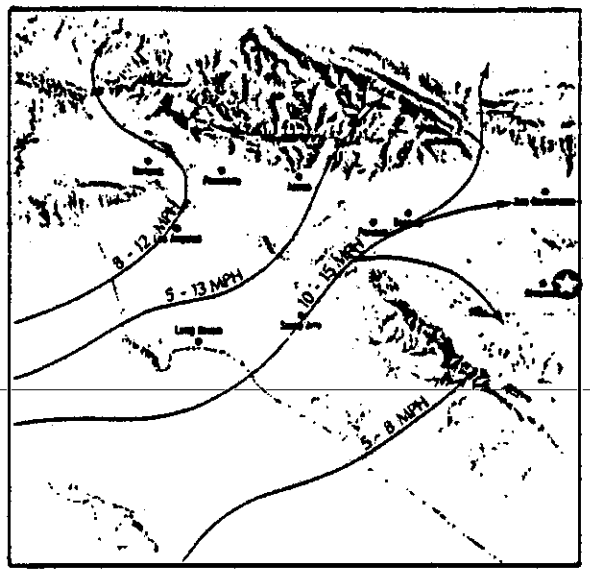
3.7.1 Setting

Air quality is dependent upon the source location, the amount and type of pollutants emitted, and by the subsequent atmospheric dispersion of the pollutants. Schematically, air quality may be described as follows:

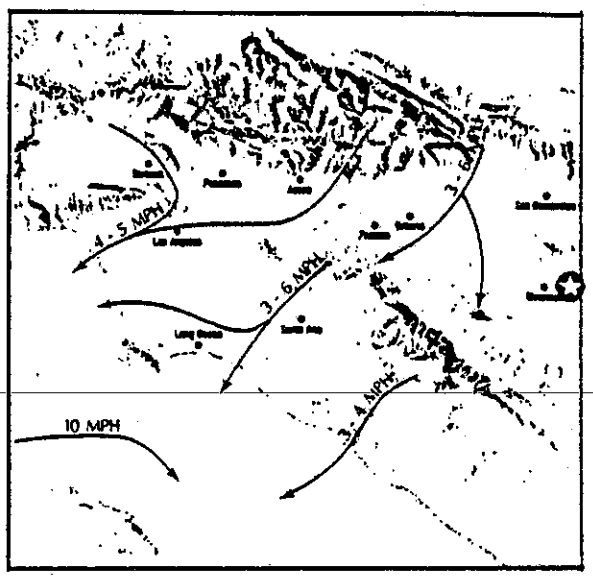


There are several distinctions made in the identification of air pollutants. One distinction made is between primary and secondary air pollutants. Primary pollutants are those pollutants that are emitted directly from sources. Carbon monoxide, hydrocarbons (organic gases), oxides of nitrogen, sulfur dioxide, and particulate matters are primary pollutants. Secondary pollutants are those pollutants formed by chemical and photochemical reactions in the atmosphere. Photochemical oxidants and nitrogen dioxide (NO_2) are the principal secondary pollutants.

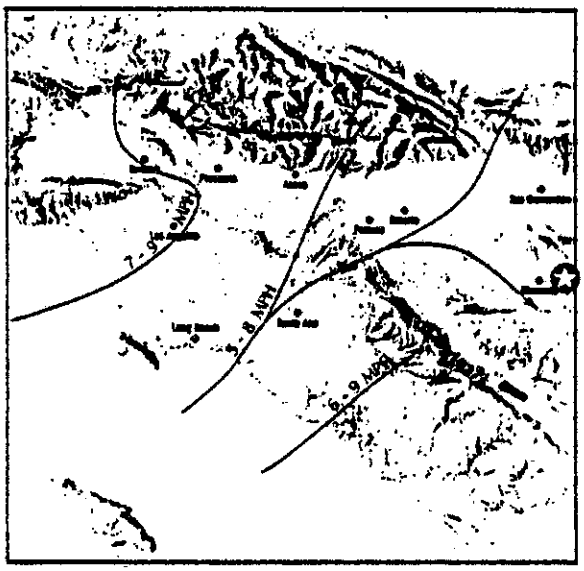
Primary and secondary pollutants are transported and dispersed by meteorological processes. Meteorological factors important to the transport of air pollution within the South Coast Air Basin, in which the proposed project site is located, are wind speed and direction, and the presence of atmospheric temperature inversions. With very light wind speeds (average of 5.7 miles per hour) the basin atmosphere has a limited capability to disperse air pollutants horizontally. As shown in Figure 11, the dominant daily wind pattern is an easterly daytime sea breeze and a westerly night-time land breeze.



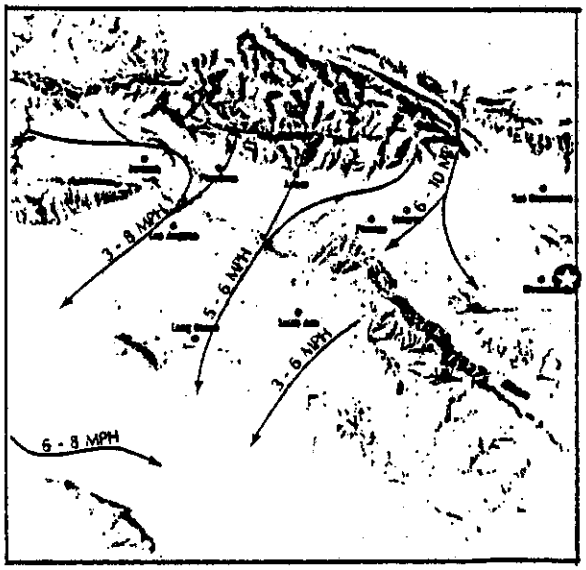
TYPICAL SUMMER DAYTIME OCEAN WINDS
(Noon to 7:00 PM)



TYPICAL SUMMER NIGHT DRAINAGE WINDS
(Midnight to 5:00 AM)



TYPICAL WINTER DAYTIME OCEAN WINDS
(Noon to 5:00 PM)



TYPICAL WINTER NIGHT DRAINAGE WINDS
(Midnight to 7:00 AM)

SITE

These maps show dominant summer and winter patterns in the South Coast Air Basin. For the period of the day shown, the net transport of air onshore usually is greater in the summer, while the net offshore transport as a rule is greater during the winter. Whether there is air movement or air stagnation during the morning and evening hours, before these dominant air flow patterns take effect, is one of the critical factors in determining the smog situation on any given day.

	Source:	Title:	
	SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT	TYPICAL WIND PATTERNS IN GENERAL VICINITY OF PROJECT SITE	11

Atmosphere temperature inversions are common in the South Coast Air Basin and inhibit the vertical dispersion of air pollution while they persist. As a result, air pollutants become more concentrated until the inversion either breaks, or surface winds increase enough to disperse pollutants horizontally.

Levels at which air pollution produces adverse health or welfare effects on receptors are reflected in the ambient air quality standards. The Federal and State Air Quality Standards are required by December 31, 1982 (The Clean Air Act Amendments of 1977), but may be extended with EPA approval for carbon monoxide and oxidant to December 31, 1987. Federal Secondary Standards and California State Air Quality Standards presented in Table 6, were originally set as air quality goals and do not have a specific attainment date. However, under the State Lewis Air Quality Management Act, an Air Quality Management Plan (AQMP) has been prepared for the South Coast Air Basin, aimed at meeting expeditiously both the State and Federal Air Quality Standards. The AQMP has been approved by the California Air Resources Board (ARB) and submitted to the EPA as part of the State Implementation Plan. A request for extending the deadline until 1987 for achieving the Federal standards for ozone and carbon monoxide is included in the plan submitted to EPA.

The South Coast Air Quality Management District measures air quality in the City of Riverside, approximately eight miles northwest of the project site. Air quality information from the Riverside air monitoring station can be assumed to be indicative of the general air quality for the project area. Air quality data for the year 1980, the most recent year for which annual air quality data are available, are given in Table 7 for the Riverside air monitoring station. As shown in the table, the air quality standards for oxidant and particulate matter were exceeded during 1980. The maximum hourly oxidant concentration measured during 1980 at the station was 37 pphm, which is approximately three times the Federal and State Standard.

TABLE 6

FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards	National Standards	
			Primary[1]	Secondary[2]
Oxident (Ozone)	1 hour	0.10 ppm	0.12 ppm	0.12 ppm
Carbon Monoxide	12 hour	10 ppm	--	
	8 hour	--	9 ppm	9 ppm
	1 hour	40 ppm	35 ppm	
Nitrogen Dioxide	Annual Average	--	0.05 ppm	0.05 ppm
	1 hour	0.25 ppm	--	
Sulfur Dioxide	Annual Average	--	0.03 ppm	
	24 hour	0.05 ppm	0.14 ppm	
	3 hour	--	--	0.5 ppm
	1 hour	0.5 ppm	--	--
Suspended Particulate Matter	Annual Geometric Mean	60 ug/m^3	75 ug/m^3	60 ug/m^3
	24 hour	100 ug/m^3	260 ug/m^3	150 ug/m^3
Sulfates	24 hour	25 ug/m^3	--	--
Lead	30 day average	1.5 ug/m^3	1.5 ug/m^3	1.5 ug/m^3
Hydrogen Sulfide	1 hour	0.03 ppm	--	--
Hydrocarbons (Corrected for Methane)	3 hour (6-9 am)	--	0.24 ppm	0.24 ppm
Ethylene	8 hour	0.1 ppm	--	--
	1 hour	0.5 ppm	--	--
Visibility Reducing Particles	1 observation	Insufficient amount to reduce the prevailing visibility to less than 10 miles when the relative humidity is less than 70%		

ppm = parts per million ug/m^3 = micrograms per cubic meter

[1] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[2] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a poolutant.

TABLE 7

SUMMARY OF AIR QUALITY DATA

FOR THE RIVERSIDE AIR MONITORING STATION DURING 1980

CARBON MONOXIDE

MAXIMUM CONCENTRATION IN PPM	NUMBER OF DAYS STANDARD EXCEEDED			
	FEDERAL		STATE	
	>9 PPM	>35 PPM	≥10 PPM	≥40 PPM
1-HOUR	8-HOUR	1-HOUR	12-HOUR	1-HOUR
9	0	0	0	0

OXIDANT

MAXIMUM CONCENTRATION IN PPHM	NUMBER OF DAYS STANDARD EXCEEDED	
	FEDERAL	STATE
1-HOUR	1 HOUR >12 PPHM	1 HOUR ≥10 PPHM
37	132	166

NITROGEN DIOXIDE

MAXIMUM CONCENTRATION IN PPHM	NUMBER OF DAYS STANDARD EXCEEDED
	STATE
1-HOUR	1 HOUR ≥25 PPHM
20	0

HYDROCARBONS

MAXIMUM CONCENTRATION IN PPM	NUMBER OF DAYS STANDARD EXCEEDED
	FEDERAL
1-HOUR	1 HOUR >0.24 PPM (6:00-9:00 AM)
11.0	NM

SULFUR DIOXIDE

MAXIMUM CONCENTRATION IN PPHM	NUMBER OF DAYS STANDARD EXCEEDED		
	FEDERAL	STATE	
1-HOUR	24 HOUR >0.14 PPM	24 HR ≥5 PPHM	1 HR ≥50 PPHM
7	0	0	0

PARTICULATE MATTER

MAXIMUM VALUE IN $\mu g/m^3$	NUMBER OF SAMPLES EXCEEDED STANDARD	
	FEDERAL	STATE
24-HOUR	24 HOUR ≥ 260 $\mu g/m^3$	24 HOUR ≥ 100 $\mu g/m^3$
495	9	41

NM = Pollutant not monitored

Particulate matter consists of particles in the atmosphere resulting from many kinds of dust and fume-producing industrial and agricultural operations, from combustion products, including automobile exhaust, and from atmospheric photochemical reactions. Some natural activity such as wind-raised dust and ocean spray, also put particulates into the atmosphere.

In the respiratory tract, very small particles of certain substances may produce injury by themselves, or may act in conjunction with gases to alter their deposition sites and scope of action. Suspended in the air, particulates of aerosol size can both scatter and absorb sunlight reducing the amount of solar energy reaching the earth, producing haze and reducing visibility. They can also cause a wide range of damage to materials.

3.7.2 Impacts

Short-Term Impacts

The construction phase of the project would produce two sources of air pollutant emissions. These are exhaust emissions from construction and grading equipment and dust generated as a result of earth movement and equipment traffic over dust-laden roads. The dust emissions may cause a nuisance to any persons who reside or park motor vehicles in the vicinity of the project. However, the emissions would be of short-term duration. Based on EPA estimates of dust emissions from construction projects, an estimated 80 pounds of dust per day per acre of grading activity could occur. The actual daily dust emissions would vary depending on the amount of land being graded each day. Upon completion of construction, the dust emissions would cease. However, during grading operations the dust emissions would increase suspended particulate matter concentrations in the site vicinity.

Diesel-powered earth-moving vehicles are expected to be used during the demolition and grading phases. The exhaust emissions from these vehicles is presented in Table 8, assuming an operating schedule of ten hours per weekday during a four-week period.

TABLE 8

EXHAUST AIR POLLUTION
EMISSIONS FROM HEAVY DUTY
CONSTRUCTION EQUIPMENT*

POLLUTANT	EMISSION FACTOR** (GRAMS/MILE)	ESTIMATED EMISSIONS (LBS/WEEKDAY	COMPLETION CONSTRUCTION PHASE (LBS)
Carbon Monoxide	15	29.7	594
Hydrocarbons	2.3	4.6	92
Nitrogen Oxides	14.8	29.3	586
Particulates	2.8	5.6	112
Sulfur Dioxide	1.96	3.9	78

* Assumes 18 heavy duty diesel powered construction equipment; operate for ten hours per day over a four-week period, average operating speed is 35 mph, and travel approximately 900 miles per day.

** Emission Factors for Heavy-Duty Diesel - Paved Construction Equipment. South Coast Air Quality Management District, Air Quality Handbook, Revised October 1980.

Long-Term Impacts

Long-term impacts associated with the project consist of emissions generated by the following sources:

Stationary	Mobile
Off-site generation of electricity for project.	Motor vehicles
On-site use of natural gas for cooking, space heating, and water heating.	

Stationary Sources

Stationary on-site emissions from natural gas combustion associated with the project are presented in Table 9. The contribution of project on-site stationary emissions of nitrogen dioxide to the total nitrogen dioxide emissions projected for Riverside County for 1987 is estimated to be 0.0015 percent, which is considered negligible.

The stationary emissions resulting from the project electrical energy demand would occur off-site at electrical power generating plants located throughout the utility's generating network. The total emissions due to the incremental generation of electricity for this project are given in Table 10.

Mobile Source

An estimate of the total motor vehicle emissions generated by traffic associated with the proposed project is shown in Table 11. As indicated in the table, the contribution of project associated motor vehicle emissions to the total estimated 1987 Riverside County emissions ranges from 0.45 percent of particulates to 6.40 percent of hydrocarbons.

TABLE 9

PROJECT EMISSIONS FROM USE
OF NATURAL GAS (ON-SITE)

POLLUTANT	EMISSION FACTOR* LBS/10^6 CU.FT.	PROJECT EMISSIONS LBS/DAY**	TOTAL 1987 RIVERSIDE COUNTY EMISSIONS TONS/DAY***	PERCENT OF TOTAL COUNTY EMISSIONS
Carbon Monoxide	20	30.0	250	Negl
Total Hydrocarbons	8	12.0	20	Negl
Nitrogen Oxides	120	180.0	60	Negl
Sulfur Oxides	Negl	Negl	15	Negl
Particulates	0.15	0.22	50	Negl

* Air Quality Handbook for Environmental Impact Reports South Coast Air Quality Management District. Revised October, 1980.

** Based on natural gas consumption rate of 45,622,000 cubic feet per month; see section 3.13.2.

*** Figures 11-15, Air Quality Management Plan, South Coast Air Quality Management District, SCAG, January 1979.

Negl = Negligible = (less than .01 percent).

TABLE 10
PROJECT EMISSIONS ASSOCIATED
WITH ELECTRICITY GENERATION (OFF-SITE)

POLLUTANT	EMISSIONS FACTOR* (LBS/1000 KWH)	PROJECT EMISSIONS** (LBS/DAY)
Carbon Monoxide	0.2	69.9
Total Hydrocarbons	0.18	62.9
Nitrogen Oxides	2.3	804.4
Sulfur Oxides	2.7	944.3
Particulates	0.401	140.2

* Air Quality Handbook for Environmental Impact Reports. South Coast Air Quality Management District, October, 1980.
** Based on electrical energy usage of 127,661,350 KWH per year.

TABLE 11
ESTIMATED MOTOR VEHICLE EMISSIONS
ASSOCIATED WITH PROPOSED PROJECT

POLLUTANT	EMISSION FACTOR (GRAMS/MILE)*	ESTIMATED EMISSIONS (LBS/DAY)**	TOTAL 1987 RIVERSIDE COUNTY EMISSIONS (TONS/DAY)***	PERCENT TOTAL SOURCE RECEPTOR AREA EMISSIONS
Carbon Monoxide	19.03	26,912	250	5.38
Hydrocarbons	1.81	2,560	20	6.40
Nitrogen Oxides	2.07	2,927	60	2.44
Sulfur Oxides	0.20	283	15	0.94
Particulates	0.32	453	50	0.45

* 1986 Emission Factors, California State Composite Moving Exhaust Emission Rates. SCAQMD Air Quality Handbook for Environmental Impact Reports, October, 1980. Assumes average vehicle speed of 30 mph.
** Assumes 642,046 vehicle miles traveled; based on a factor of 8.9 miles per trip.
*** Figures 11-15, Air Quality Management Plan, SCAQMD and SCAG, January 1979, p. VIII-36.

This analysis assumes that the vehicle trips, and ergo the motor vehicle emissions, are strictly a result of the proposed project. In reality, this project is a receptor of vehicle trips, not a generator. This means that the vehicle trips would most likely be generated to another location in the South Coast Air Basin (SCAB) if they were not generated to the project. Therefore, the motor vehicle emissions would still be generated in the SCAB regardless of the status of the project. However, this simplified analysis which conforms to the procedures provided in the "Air Quality Handbook for Environmental Impact Reports" as revised October, 1980, does not recognize this. The project would redistribute the motor vehicle emissions to the area of the project from another area in the SCAB.

The emissions associated with the project would contribute incrementally to total emissions within the local area and result in an incremental air quality deterioration. Although not directly quantifiable, this project would provide employment and shopping opportunities in closer proximity to existing and planned residential developments, thus reducing vehicle trip miles associated with work and shopping.

PM Peak Hour Carbon Monoxide Concentrations

In order to quantify the ambient carbon monoxide (CO) concentrations resulting from the increased motor vehicle traffic associated with the project, two key intersections were analyzed using a simplified analysis technique for estimating carbon monoxide concentrations near highway facilities. (Air Quality Handbook, Revised October 1980, South Coast Air Quality Management District, page 37). The two key intersections that were analyzed are: Eucalyptus Avenue/Node 20*, and Day Street/Node 16.

* See Figure 12 in section 3.9. Nodes were assigned to project streets because they have not been named yet.

In this case it is adequate to use the simplified analysis technique which demonstrates that the contribution of CO from the project (based on a worst case) does not cause the standards to be exceeded. This technique predicts conservatively high estimates of CO concentrations under the assumption of worst case meteorological (low wind speed) and traffic conditions.

The CO emissions were projected for the year 1988. An hourly peak hour traffic flow was assumed. The following data were used assuming worst case conditions:

- Peak hour traffic volume from Figure 13.
- Vehicle speed 30 mph.
- Heavy duty truck traffic - 10 percent.
- Low altitude location.
- 22½° angle between wind direction and roadway direction
- Wind speed - 1 meter/second
- At grade roadway receptor 50 feet from downwind edge of roadway
- Atmospheric Stability Class F (very stable).

Traffic information utilized in this analysis was obtained from Section 3.9, Traffic and Circulation, of this report. The peak hour traffic volumes at the two intersections being analyzed are as follows:

Intersection	Peak Hour Volume
Eucalyptus Avenue/Node 20	4,625
Day Street/Node 16	2,640

The predicted maximum hourly average CO concentration generated from motor vehicle traffic during peak hour traffic flow periods was determined as: 3.6 ppm at the Eucalyptus Avenue/Node 20 intersection; and 2.0 ppm at the Day Street/Node 16 intersection.

During off peak traffic hours, the hourly average CO concentration from project traffic at these two intersections would be less. The proposed project would not contribute CO in sufficient quantity to exceed the National Ambient Air Quality Standards of 35 ppm/1 hour. During 1980 the maximum hourly CO concentration measured in the City of Riverside was 9 ppm. Assuming 9 ppm as a worst case background concentration within the vicinity of the project, the worst case maximum hourly CO concentration at these two intersections would be 12.6 ppm at the Eucalyptus Avenue/Node 20 intersection. These values do not exceed the Federal or State one-hour air quality standard for CO.

Since ambient CO concentrations resulting from off peak hour traffic from the proposed zone change are less than the peak hour, the traffic CO emissions would not contribute to exceeding the Federal eight-hour CO air quality standard. CO concentrations on the other streets within the project traffic influence zone would not exceed the concentrations predicted above for the two key intersections.

The peak hourly traffic flow is not expected to increase over the operational lifetime of the project. Furthermore, emissions of carbon monoxides from motor vehicles would decrease significantly between 1988 and the year 2000.

Project Consistency with the Air Quality Management Plan

In January 1979, the SCAQMD and the Southern California Association of Governments (SCAG) adopted an Air Quality Management Plan (AQMP) for the South Coast Air Basin. The plan was required by the Federal Clean Air Act and is intended to reach national ambient air quality standards in the basin by 1982 for some pollutants and 1987 for others.

The AQMP utilizes the SCAG-78 Growth Forecast Policy to determine future levels of air pollution for achieving air quality standards. The SCAG-78 Growth Forecast Policy expresses regional and local growth policies by providing projected population, housing, employment, and land use totals for Regional Statistical Areas (RSA's). An EIR must demonstrate the project's consistency with the AQMP. This is done by showing consistency of local population and land use projections with those in the AQMP.

According to The SCAG-78 Growth Forecast Policy, "Riverside County is forecasted to grow from a 1975 population of 532,000 to 956,000 people in the year 2000. This results in an increase of 424,000 people, or 80 percent. Much of the growth is shown to take place in and around the cities of Riverside, Corona, and Palm Springs." The proposed project site is located in RSA 46 (Riverside/Corona). "The Riverside/ Corona subregion is shown to gain 196,000 new residents, raising the population to 486,000 by the year 2000. This is the largest population gain in the County." The proposed project is a commercial/industrial project and will therefore not directly increase the population in RSA 46. However, people will move to the area to take advantage of the employment opportunities that arise, and the project will support additional residential growth in the area. The proposed project is consistent with the AQMP population forecast.

According to The SCAG-78 Growth Forecast Policy, "Urban areas include the following land use categories which are generally associated with urban use: residential, commercial, industrial, transportation and utilities, and institutional. Non-urban acreage includes agricultural land, vacant land, water bodies, and undevelopable acreage... The forecast assumes that only vacant lands and agricultural lands will be converted to urban use." "Riverside County is forecasted to grow by 51,900 urban acres or a 39 percent increase." The proposed project site is comprised of 311 acres of agricultural and vacant land which would be

converted to urban land uses. The 311 acres is 0.6 percent of the forecasted growth of 51,900 urban acres. The proposed project is consistent with SCAG-78 land use projections in Riverside County.

Project Effects

The air quality emissions from on-site and off-site emission sources associated with the proposed project is shown in Table 12. As indicated in the table, only emission sources associated with the operational phase of the project were totaled. Emissions associated with the construction phase were considered short-term, and therefore, not considered in the long-term contribution of air emissions. The contribution of the estimated project emissions to the 1987 Riverside County emission inventory ranges from less than one percent to six and

TABLE 12

SUMMARY OF PROJECT AIR EMISSIONS
IN POUNDS PER DAY

POLLUTANT	NATURAL GAS	ELECTRICITY	MOTOR VEHICLES	TOTAL OF POLLUTANT	TOTAL 1987 RIVERSIDE COUNTY EMISSIONS (POUNDS/DAY)*	PERCENT PROJECT EMISSIONS OF TOTAL RIVERSIDE COUNTY in 1987
Carbon Monoxide	30.0	69.9	26,912	27,011.9	500,000	5.40
Total Hydrocarbons	12.0	62.9	2,560	2,634.9	40,000	6.59
Nitrogen Oxides	180.0	804.4	2,927	3,911.4	120,000	3.26
Sulfur Oxides	Negl	944.3	283	1,227.3	30,000	4.09
Particulates	0.22	140.2	453	593.42	100,000	0.59

* Air Quality Management Plan, SCAQMD and SCAG, January 1979, Figures 11-15, page VIII-36; converted from tons to pounds.

one-half percent, depending upon the type of pollutant. The proposed project's cumulative air quality emissions would have a significant adverse impact on the environment.

Cumulative Effects

The cumulative air quality emissions from on-site and off-site emission sources associated with the cumulative projects are shown in Table 13. As indicated in the table, only emission sources associated with the operational phase of the projects were totaled. Emissions associated with the construction phase were considered short-term, and therefore, not considered in the long-term contribution of air emissions. The contribution of the estimated cumulative emissions to the 1987 Riverside County emission inventory ranges from 9 percent to 111 percent, depending upon the type of pollutant. The cumulative project's air emissions would have a significant adverse impact on the environment.

TABLE 13

SUMMARY OF CUMULATIVE AIR EMISSIONS
IN POUNDS PER DAY

POLLUTANT	NATURAL GAS	ELECTRICITY	MOTOR* VEHICLES	TOTAL OF POLLUTANT	TOTAL 1987 RIVERSIDE COUNTY EMISSIONS (POUNDS/DAY)**	PERCENT CUMULATIVE EMISSIONS OF TOTAL RIVERSIDE COUNTY IN 1987
Carbon Monoxide	350	568	461,523	462,441	500,000	92
Total Hydrocarbons	140	511	43,897	44,543	40,000	111
Nitrogen Oxides	1,575	6,533	50,202	58,310	120,000	49
Sulfur Oxides	Negl	7,670	4,850	12,520	30,000	42
Particulates	2.4	1,139	7,761	8,903	100,000	9

* Based on 360 trips/day per acre of commercial and industrial (2,320 acres) and 10 trips/day for the 42,540 d.u.; plus project emissions.

** Air Quality Management Plan, SCAQMD and SCAG, January 1979, Figures 11-15, page VIII-36; converted from tons to pounds.

3.7.3 Mitigation Measures

Further development of the site would occur through the site planning process. Any site plan proposed for the site should incorporate the following mitigation measures

- Normal wetting procedures should be followed during the site grading operations to reduce dust emissions.

- Future public transportation concepts should be considered in project site plan development, including the provision of a bus turnout (in Phase I) within the commercial area.

- Solar assisted heating systems should be utilized to reduce on-site use of natural gas and off-site generation of electricity.

- Solar orientation access and passive solar techniques should be considered in the site planning and architectural design.

3.7.4 Unavoidable Significant Environmental Effects

The proposed project is consistent with the AQMP. Consistency with the AQMP is based on land use and population projections established in the SCAG-78 Growth Forecase Policy. Although the project is consistent with the AQMP it would still have a significant adverse impact on air quality. This is because the significance of a project on air quality is based on a different set of criteria than a project's consistency with the AQMP. The SCAQMD defines significant impact as:

> "If an indirect source, such as a subdivision, causes the emission of a pollutant equaling or exceeding 2% of the California ambient air quality standard for the specific Source-Receptor area, it is considered to be significant."

The specific Source-Receptor area information is not available at this writing. However, the specific Source-Receptor areas would be smaller in size than the area of the County. The project, except for particulates, would produce in excess of 3 percent of the 1987 Riverside County air emissions (see Table 12). Therefore, the project's cumulative air quality emissions would have a significant adverse impact on air quality.

3.8 Water Quality

3.8.1 Setting

Potable water for the project is provided by the Eastern Municipal Water District (EMWD). A twelve inch waterline within a twenty foot easement traverses the project site from north to south. The Metropolitan Water District (MWD) operates the Henry Jay Mills Treatment Plant in Riverside, which has an existing capacity of 75,000,500 gallons per day. The Mills Plant is expected to attain full use of treatment systems when new transmission lines are constructed bringing water into and out of the Plant.

Groundwater is not utilized on the project site. No free groundwater was encountered during the John R. Byerly, Inc., Feasibility Soils Investigation on August 20, 1980. However, a previous subsurface soils investigation on May 15, 1980, by John R. Byerly, Inc., indicated the presence of groundwater at depths of 2.15 and 11.0 feet. Data from domestic water wells located in the area indicates an impervious layer between free groundwater found near the surface and the aquifer from which drinking water is drawn by the Edgemont Water District. The Edgemont well depths vary from 300 to 600 feet from the surface.

3.8.2 Impact

The proposed project would consume approximately 978,820 gallons of water per year.

Within approximately one year, Northern California water will be available to the project site via extensions of the California Aqueduct. This water is of considerably higher quality than Colorado River Water currently provided in the area which typically tests at about 750 mg/l in Total Dissolved Solids (TDS). This will enable the

ECSD plant to better meet the discharge criteria of the waste water discharge permit of the California Regional Water Quality Control Board Santa Ana Region (SARWQCB).

Colorado River water would not be used for irrigation purposes by the proposed project. The water supply for the site would change from low quality (high salt content untreated Colorado River) water to higher quality treated California Water Project water. Since the project would not be using higher salt content Colorado River water, the water that would enter the local groundwater would not be as high in salt content and should be of better quality. Therefore,the amount of salt entering the groundwater basins would be lower in salt content and more desirable in regards to water quality. The quality of dry weather water runoff from the site would also improve since the practice of leaching would not be required. The use of pesticides and fertilizers would be greatly reduced which would also improve the quality of surface water runoff.

The project generated runoff would contain urban pollutants such as gasoline, oil, grease, and lawn and garden fertilizers and pesticides. These pollutants are not anticipated to have any significant impacts to water quality.

During the rainy seasons, siltation to local waterways could increase during the grading phases of the project. Increased siltation could occur if unprotected dirt is exposed to heavy rainfall. If proper siltation preventive measures are incorporated into the grading phases, no significant impacts are anticipated.

Cumulative Effects

The proposed project in conjunction with other developments in the area that would use higher quality State Water Project water should result in higher quality runoff and groundwater. A reduction of the use

of pesticides and fertilizers should also help improve the quality of runoff from the site. This project and other projects in the area would create increased urban development pollutants.

3.8.3 Mitigation Measures

During the construction phases of the project, sand bags should be used during the rainy season to reduce runoff velocities and flows which would help reduce siltation in local waterways. Sediment should be trapped in retention basins to decrease the sediment flowing into waterways. Temporary vegetative measures should be used to protect bare soil during the rainy season.

3.8.4 Unavoidable Significant Environmental Effects

No significant environmental effects are anticipated.

3.9 Traffic and Circulation*

3.9.1 Setting

The project site is located at the junction of two major regional routes. State Route 60, the northern boundary of the development site, provides access to the east; Interstate Route 15-East provides access to the south; and the two routes join to provide access to the west.

State Route 60 east of Interstate Route 15-East is a four-lane freeway which carries 32,500 vehicles per day. There is an interchange on State Route 60 at Day Street-the eastern boundary of the site, and on-and off-ramps are provided for both directions of travel on the freeway.

Interstate Route 15-East south of State Route 60 is a four-lane expressway. There are intersections on Interstate Route 15-East at Eucalyptus Avenue, the southern boundary of the site. There is a traffic signal controlled intersection on Interstate Route 15-East at Alessandro Boulevard, an east-west arterial located one and one-tenth miles south of the site. Between State Route 60 and Alessandro Boulevard, Interstate Route 15-East currently carries 27,500 vehicles per day.

The State of California Department of Transportation (Caltrans) has proposed upgrading Interstate Route 15 East to freeway standards by the year 1990. An interchange has been proposed at either Alessandro Boulevard or at Eucalyptus Avenue.

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* Section prepared by Lau and Associates.

Interstate Route 15-East and State Route 60 join to form a six-land freeway extending from their junction in Box Springs northwesterly into the City of Riverside. There is an interchange at Santa Maria Road/Box Springs Boulevard, one-third of a mile west of the site.

Day Street is currently a two-lane street with unimproved dirt shoulders. The pavement is 24 feet wide between State Route 60 and Cottonwood Avenue, one-half mile south of the site, and 40 feet wide between Cottonwood Avenue and Alessandro Boulevard. The current traffic volumes on the street are between 700 and 1,700 vehicles per day. Day Street is master planned in Riverside County as a major street with a 100-foot right-of-way.

Eucalyptus Avenue is a two-lane street with a 36-foot-wide pavement between Interstate Route 15-East and Day Street. The street carries 700 vehicles per day. Eucalyptus Avenue is master planned in the County as a secondary street with an 88-foot right-of-way. The street has already been improved to a 60-foot width west of Interstate Route 15-East.

The Riverside International Raceway is located easterly of the proposed project site. It features internationally known auto drivers in championship events, such as Formula I U.S. Grand Prix West, Golden State 400 Grand National Stock Car Road Race, L & M Continental 500, L.A. Times Grand Prix, and Winston Weston 500. When a major race event is taking place, the surface streets and freeways are subjected to short periods of congestion during the inbound and outbound periods. The entrances and key locations are manned by police officers during these rush periods. The raceway traffic combined with other recreational traffic results in a peak daily traffic of 36,000 vehicles on Route 60 near the project site, compared with the annual average daily traffic (AADT) of 31,000 vehicles.* The peak day traffic is, therefore, 16% higher than the average day traffic.

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* Source: Traffic counts by Caltrans.

Concerning the proposed interchange at Eucalyptus Avenue. Caltrans District 7 has proposed to upgrade Route I-15E to full freeway standards with full access control. Four alternate freeway alignments remain after screening many proposed preliminary alignments. These alternate alignments are designated 1-A, 3-B, 5 and 6-A, and are presented in Appendix G for reference. Under each of these four alternate alignment proposals, a diamond interchange is proposed at Eucalyptus Avenue.

At the present time, Caltrans District 7 is preparing a Stage II Work Program (I-15E freeway project report) which would be submitted to their headquarters in Sacramento, in March of 1982.* Review and comments from Sacramento are expected in May of 1982. The present schedule calls for a design hearing in April of 1983, an EIR public hearing in June of 1983, and final approval of design in July of 1983.

3.9.2 Impacts

The proposed project site consists of 311 acres and is divided into eight planning areas. The entire development is to be constructed in three phases. The target dates for each of the three phases are respectively, 1986, 1989 and 1992.

Trip Generation. Based upon the preliminary development plan, the eight planning areas would generate 72,140 vehicle-trips on a normal weekday. Table 14 presents the trip generation for each planning area. Planning Area 1 (regional shopping center) with 1.3 million square feet of gross floor area would generate approximately 48% of the total trips for the entire site.

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* Per telephone conversation with Mr. William N. Bailey, Caltrans District 7, Project Design Engineer, on February 23, 1982.

TABLE 14

TRIP GENERATION (in vehicle trips per day)

Planning Area	Proposed Use	Area	Daily Trip Generation Rate*	Daily Tri Generated
1	Regional Shopping Center	1.3 million s.f.	26.5/KSF (ITE)	34,450
2	Regional Retail Commercial	25 acres	400/ac-(OCEMA)	10,000
3.	Highway Commercial	14 acres	77/ac-(OCEMA)	1,078
4.	Office Park	18 acres	276-6/ac-(ITE)	4,979
5.	General Office/ Restaurant	15 acres assume 5 KSF	240-1/ac-(ITE) 56-3/KSF (ITE)	3,602 282
6.	Community Shopping	15 acres assume	500/ac-(OCEMA)	7,500
7.	Office Park/ Health Club	8 acres assume 7 acres	276-6/ac-(ITE) --	2,213 350(NB)
8.	Light Industrial	105 acres	52.4/ac-(ITE)	5,502
TOTAL:		311 acres		72,140

* Sources of trip generation rates are as follows:
(ITE): Institute of Transportation Engineers, "Trip Generation", revised 1979.
(OCEMA): Orange County Environmental Agency, "Trip Generation Rates by Land Use", November, 1977, and Orange County Road Department, "Generation Rates", September, 1974.
(NB): John Wayne Tennis Club, Newport Beach.

Trip Distribution. Two assumed patterns of directional trip distribution were analyzed. These two assumptions are shown in Table 14. Assumption #1 reflects the probably distribution under current conditions. Assumption #2 represents a more balanced directional distribution when the general area becomes more fully developed in the long range future.

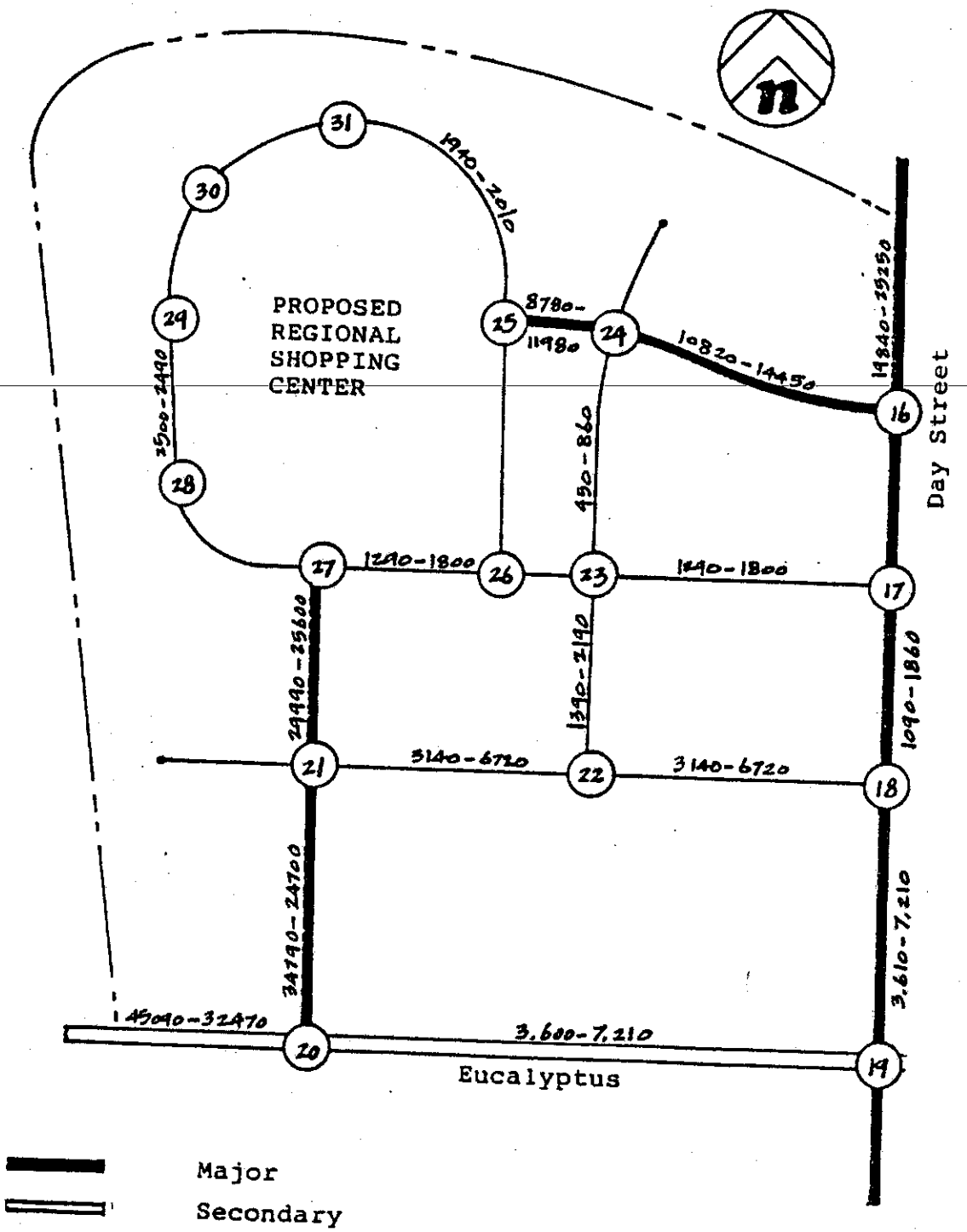
Trip Assignment. The entire project site was divided into traffic analysis zones which mostly coincided with the areas bounded by the proposed internal streets. A micro-computer program employing the "gravity model" (a theory of how trips would be competitively attracted to each traffic analysis zone) was used to distribute and assign the generated vehicle-trips to the existing and proposed street system. The project generated daily street volumes are presented in Figure 12. Two street volumes are given for each street segment. The first volume represents the result of the first assumption concerning directional trip distribution (i.e., Assumption #1 in Table 15). The second volume corresponds to Assumption #2.

TABLE 15

TRIP DISTRIBUTION

Direction	Routes	Percentage of Trips (%) Assumption #1*	Assumption #2
Southerly	I-15E	50	30
Northwesterly	I-15E and Route 60	25	30
Easterly	Route 60	15	20
	Local streets	5	10
Westerly	Local streets	5	10
		100	100

* Same as Donald Frischer and Associates report previously prepared for this site.



No Scale

	Source:	Title:	
ultrasystems	LAU AND ASSOCIATES	PROJECT GENERATED TRAFFIC	12

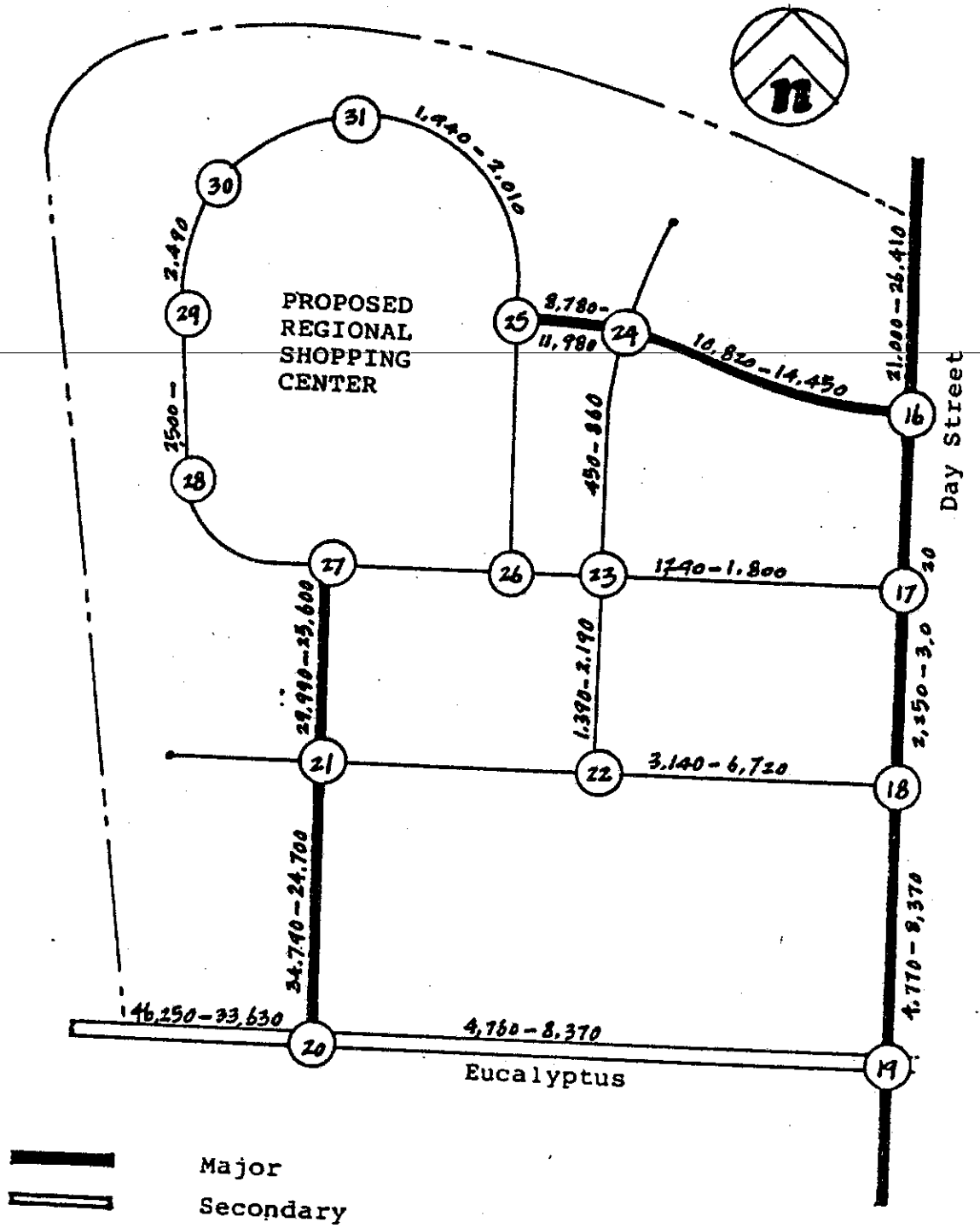
Non-Project Traffic. The Road Department of the County of Riverside has maintained a periodic schedule of traffic counts. The County has determined that in the area surrounding the project site, the local streets have experienced an average traffic growth rate of 5.2% per year. At this growth rate, at the end of a ten-year period, there would be an increase of approximately 66%. The current ADT of about 700 vehicles on Day Street at Eucalyptus Avenue would grow to 1,160 vehicles by 1992.

Projected Future Traffic. The combined project-generated traffic and non-project traffic for 1992 are shown in Figure 13.

P.M. Peak Hour Volumes. The P.M. peak hour would be the most congested hour of the day. The projected P.M. peak hour volume for the entire site was obtained by combining the projected P.M. peak hour volumes for each type of proposed land use development. The total P.M. peak hour volumes are respectively 3,450 vehicles inbound and 5,710 vehicles outbound, for a two-way total of 9,160 vehicles. The projected P.M. peak hour volume is 12.7% of the daily volume.

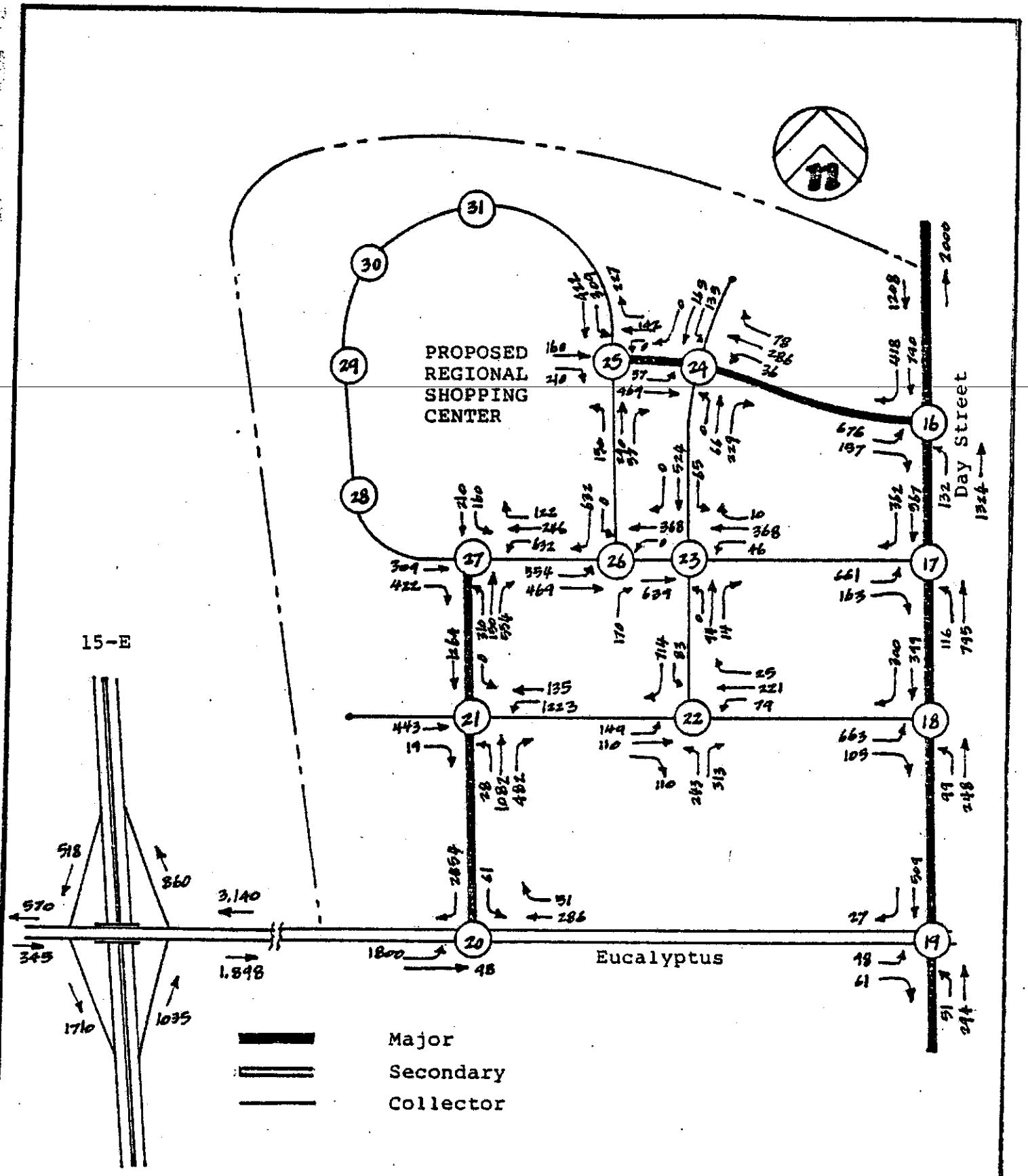
Figure 14 shows the projected P.M. peak hour traffic volumes at the proposed Eucalyptus Avenue interchange with I-15E and at other intersections. The projected volumes at the interchange are those generated by the proposed project only, and do not include other traffic which might be diverted to this proposed interchange, or induced by the proposed freeway construction/reconstruction, or other potential developments, particularly westerly of the freeway. The P.M. peak hour volumes over the proposed freeway overpass (or bridge) suggest that a six-lane bridge would be needed.

The P.M. peak hour volumes shown for the major street intersections provide the needed hourly traffic volumes for intersection geometric design and channelization.



No Scale

	Source:	Title:	
ultrasystems	LAU AND ASSOCIATES	PROJECTED FUTURE TRAFFIC	13



NO SCALE

	Source: LAU AND ASSOCIATES	**Title:** PROJECT GENERATED TRAFFIC P.M. PEAK HOUR	**14**

Of the intersections analyzed, two intersections would have design and operational difficulties. These are the intersections denoted #20 and #21 in Figure 14. The design difficulty involves the extremely heavy left turn volumes, for example, 1800 vehicles per hour eastbound on Eucalyptus Avenue would make a left turn to enter the project site at intersection #20, and westbound left turn (i.e. 1223 vehicles per hour) volumes at intersection #21. Each of these left turning movements would require at least three left turn lanes side by side. The entrance roadway should be wide enough to receive three lanes of left turns abreast. The geometric and channelization design should be carefully planned in order to avoid costly reconstruction later.

Roadway Capacities and Service Levels. The County Road Department has established design capacities and cross-sections for all classifications of streets and highways. Based upon the forecasted traffic volumes shown in Figure 13 and comparing them with the County design ADT's, the roadway capacity deficiencies are noted in Table 16.

TABLE 16

ROADWAY DEFICIENCIES AND SERVICE LEVELS

Street Segment	Projected ADT	Design ADT	Level of Service
Eucalyptus: I-15E to Node 20* (See Figure 12)	33,630-46,250	20,000	Below "E"
Day Street: Route 60 to Node 16	21,000-26 410	24,000 (Major)	"C¯" or better
Node 20 to Node 21	24,700-34,790	24,000 (Major)	"C" to "D¯"
NOde 21 to Node 27	25,600-29,990	24,000 (Major)	"C to "D"

* A "Node" is the same as an intersection. The node numbers were used in the computer analysis. They are used in this table to provide a reference to the streets, since no names have been given to the proposed streets yet.

Traffic Signal Warrants. The California Department of Transportation traffic signal warrants based upon EADT's* were used to determine the possible need for traffic signals. The following intersections were found to meet the minimum EADT warrants for signalization:

1. Node 20 (on Eucalyptus, see Figure 13)
2. Node 21
3. Node 16 (on Day Street)
4. Node 25
5. Node 27
6. Node 19 (Day Street and Eucalyptus Avenue)

Cumulative Effects

There are numerous projects in the area of the proposed project which have been approved, recorded or pending approval. There are 293 such projects in areas under County jurisdiction. There are 82 projects in the City of Riverside. In addition, there are more than 9 proposed major developments in the Sun City area. Including the subject project (i.e. "The Springs"), all proposed projects in Riverside County would generate a daily traffic of approximately 2.4 million vehicle-trips. Table 17 shows the total proposed acreage or square footage by type of land use, and the daily traffic generation.

Impact on I-15E. The proposed projects are scattered throughout the entire County and would increase traffic volumes on most of the surface streets and state highways, as well as interstate freeways, including I-15E. In the past years, the freeways near the interchange of Route 60 and I-15E have had an annual growth rate of 8.3% on the average. If this "ambient" growth rate continues for the next twenty years, the existing traffic would be increased to 4.927 times existing traffic. I-15E between the project site in Box Springs and Sun City could be severely impacted, since major developments are being proposed in the Sun City area in the vicinity of I-15E.

* Estimated Average Daily Traffic. Source: Caltrans, "Traffic Manual", Figure 9-1C (Traffic Signal Warrants).

TABLE 17

PROPOSED PROJECTS IN RIVERSIDE COUNTY AND TRIP GENERATION

		Vehicles-Trips/Day
Sun City area		
Pueblo Del Sol[1]		
Residential[2]	11,540 d.u. @ 10	57,288
Lusk Homes Industrial	162 ac @ 52.4	115,400
Lusk Homes Commercial	1,115,136 sf @ 26.5/ksf	8,489
		29,551
	Subtotal:	210,728
City of Riverside		
Residential	2,611 d.u.	26,110
Commercial	322,344 s.f. @ 26.5/ksf	8,542
Industrial	1,656 acres @ 52.4	86,774
	Subtotal:	121,426
County of Riverside		
"The Springs" (Box Springs project)		72,140
Others: Residential	42,540 d.u. @ 10	425,400
Commercial	21,169,724 s.f. @ 26.5/ksf	560,998
Industrial	19,143 acres @ 52.4	1,003,093
	Subtotal:	2,061,631
	Total:	2,393,785

(1) Source: Ultrasystems, Inc., "EIR for Pueblo Del Sol Project", 1981, p. 77.
(2) Ibid, p. 78

NOTE: Sources of trip generation rates: ITE, "Trip Generation", 1979, and Caltrans, "Tenth Progress Report on Trip Generation Research Counts", 1975.

The existing ADT on I-15E is 31,000 vehicles per day southerly of Van Buren Boulevard. At a growth rate of 8.3% per year, the projected ADT at the end of a 20-year period is 152,734 vehicles per day. It is assumed that in addition, the proposed Box Springs project would add 21,642 vehicle-trips to I-15E between Box Springs and Sun City and that the proposed Sun City projects would add another 32,222 vehicle-trips per day. The projected 20-year ADT on I-15E between Box Springs and Sun City is as follows:

		Vehicle Trips/Day
(1)	Existing ADT 31,000 at 8.3% per year for 20 years =	152,734
(2)	"The Springs" project, 72,140 x 70% external trips x 30% on I-15E southerly of Box Springs =	21,642
(3)	Sun City projects, 210,728 x 70% external trips x 30% on I-15E northerly of Sun City =	44,253
Total (projected ADT on I-15E southerly of Box Springs):		218,629

The projected ADT on I-15E could be more precisely or accurately forecasted using a region-wide computer model and taking into account other proposed developments in San Bernardino County. The projected ADT in the foregoing, however, serves to illustrate that I-15E in the general area around the project would need to be upgraded to full freeway standards, and that the presently proposed four-lane cross-section should likely be inadequate to meet the projected 20-year demand.

3.9.3 Mitigation Measures

The foregoing analysis was based upon the stipulation that a diamond interchange would be constructed on I-15E freeway at Eucalyptus Avenue. This diamond interchange is being proposed by Caltrans, and is shown in alignment alternatives 1-A, 3-B, 5 and 6-A (See Appendix G). Current proposal by Caltrans calls for a 4-lane freeway cross-section. When this project is completed, a six-lane cross-section would be needed immediately northerly and southerly of Eucalyptus Avenue.

Eucalyptus Avenue would need to be widened to six through lanes between the proposed interchange at I-15E and the proposed major street leading to the shopping center (namely, between I-15E and Node 20 in Figure 13).

The segment of Day Street between the Route 60 freeway and Node 16 would also need to be widened to six through lanes.

Extra widening would be needed on Eucalyptus Avenue and Day Street to provide left turn pockets and right turn pockets at the entrances of internal streets.

The proposed north-south internal "major" street between nodes 20 and 27 would need to be planned for six through lanes plus a left turn median.

The General Plan should be amended to designate Eucalyptus Avenue as an "Arterial" between node 20 and I-15E. The County should include design standard and capacities for six-lane "Arterials" in addition to four-lane "Arterials".

Traffic signals would need to be installed at six intersections, represented by nodes 16, 19, 20, 21, 25, and 27 in Figure 13.

The preliminary parking and circulation layout dated January 13, 1982, for the regional shopping center and regional oriented retail uses should be revised to:

1. Provide adequate sight distances on the curved roadway; at 30 mph approximately 350 feet is necessary;

2. Provide a left turn median on the circular roadway;

3. Eliminate or relocate closely spaced "dog-legged" intersections, namely, either eliminate or lengthen centerline offsets across the intersecting streets;

4. Ensure that the left turn pockets shown would have adequate storage lengths;

5. Provide a pedestrian circulation and walkway plan which would minimize the number of potential conflicts with and delay to vehicular traffic flow; and

6. Provide a bus zone or zones for loading and unloading of bus passengers.

During Phase I the project applicant proposes the following:

- On-site roadways will be completed.

- Day Street and Eucalyptus Avenue will be improved as necessary.

- The I-15E and Eucalyptus Avenue intersection will be improved as determined by CalTrans.

- The Highway 60 and Day Street intersection will be improved as determined by CalTrans.

- On-site signalization will be installed as warranted.

- Bus turnouts will be designed into the project.

During Phase II on-site signalization will continue as warranted.

During Phase III I-15E will be improved as determined by CalTrans.

3.9.4 Unavoidable Significant Environmental Effects

The proposed project would generate 72,140 vehicle-trips on a normal weekday. The level of service of Eucalyptus Avenue and I-15E without mitigation modifications would be below "E".

3.10 Visual Analysis

3.10.1 Setting

The project site currently serves as visual open space in the form of dry farmed agricultural land. The property supports grain crops, European grasses, and broadleaved weeds. The terrain is gently rolling to flat, and is bisected by several shallow east-west drainage channels. The only structure on-site is a small fenced-in building housing a water pump that is utilized in connection with the California Aqueduct.

The visual character of the surrounding area is predominantly rural. The area north of State Route 60 rises very quickly into Box Springs Mountain. Rock outcroppings virtually cover the down slopes of this mountain. To the west of the site is Box Springs Industrial Park. Several of the structures in this area are in need of repair and many of the structures are not kept up in the visual sense. South of the project site is a rural residential neighborhood. Units in this area tend to be either well kept up or not kept up at all. Several units on Eucalyptus Avenue across from the site have been abandoned, and the doors and windows boarded. East of the site is the Riverside Raceway. Although the grounds and structures are unique visually and kept up, the structures are not a visual enhancement to the local area.

The site is visible from adjacent land uses and serves as a scenic resource along State Route 60 and I-15E. The terrain in the area reduces long distance views of the site. The existing undeveloped and agricultural character of the site as viewed from scenic corridors is typical of the rural atmosphere in the surrounding project area.

3.10.2 Impacts

The proposed project would significantly alter the visual appearances of the site through proposed landform alterations, the

removal of existing dry farmed agricultural type vegetation, and the ultimate urban development. Implementation of the proposed project would also alter the visual character of the predominantly rural Moreno Valley area.

The existing landform of the site would be recontoured to provide building pads, roadways, drainage improvements, public services and utilities. The project proposes 115 acres in the northwest corner of the site be developed as a regional shopping center. The proposed regional shopping center will completely replace the existing open space with a large mall structure that includes five anchor tenants (2 to 3 stories in height) connected to mall shops (1 to 2 stories in height). surrounding the site will be paved parking areas. Free standing accessory uses to anchor tenants will be located at the perimeter of the parking area.

The project proposes to develop 153 acres of the site as an industrial park. It is not known at this time how much of this area will not be covered by some type of impermeable surface, such as, structures and parking lots. The industrial park will change the visual character of the site from rural to urban.

The remaining acres in the northeast and southwest corners of the site will be developed with highway and community commercial uses. the proposed development on the site would alter the visual character of the property. The view corridors along State Highway 60 and I-15E would be transformed from agricultural open space to intense urban development.

The proposed project will develop a modern light industrial business park and a regional shopping center. An architectural theme will be present throughout the development. The architectural theme will merge the industrial park into the regional shopping center. The signing for both circulation and structures, the landscaping, and other

architectural controls will provide for a smooth transition from one area of the project into another.

In summary, the proposed development will change the existing open space agricultural visual character of the site to a modern light industrial business park and regional shopping center. The view onto the site from the surrounding highways will change from rural to an urban character.

Much of the Moreno Valley rural visual character is undergoing change at this time as new developments are constructed.

Cumulative Effects

This project, along with other proposed development in rural Riverside County, would contribute to the removal of the rural aesthetic resource. The growth-inducing impacts of the project may result in additional development in the area, further altering the topcgraphy, vegetation and scenic quality of the project area.

The cumulative impact would result in the conversion of approximately 18,917 acres of vacant County land in the project area to urban use consisting of residential, commercial and industrial use. A majority of the cumulative projects are located in the Sunnymead/ Edgemont and University areas, while a few of the cumulative projects are located in the Woodcrest area.

The cumulative impact of the projects in the cumulative project area would be a further reduction of agricultural uses in the area and increased urbanization of a predominately rural area. this would result in a direct impact on the rural atmosphere in Moreno Valley area due to increased urbanization. Cumulative visual impacts to the rural atmosphere throughout the cumulative project area due to urbanization by cumulative projects would also occur.

3.10.3 Mitigation Measures

Specific design elements have been included in the Specific Plan to enhance the aesthetics and visual integrity of the project. These design elements include:

1. Maintaining where possible the existing viewshed of the valley floor and surrounding hills.

2. Utilizing the massing and scale of buildings to vary and soften the exposure of development, especially the prominent Regional Shopping Center Mall.

3. Including a grading scheme that provides some relief to the valley floor and parking area, softening through landscape mounding.

4. Designing a landscape theme to include elements such as tree massing to provide relief and soften the visual impact of structures.

5. Designing a landscape theme that will provide identity to the project, provide shading, and emphasize views, especially to the Box Springs Mountain to the north.

6. Including water features to provide an overall visual quality to the project, and to provide physiological relief from heat.

7. Providing attractive landscaped areas and sign standards adjacent to the freeways as well as throughout the project.

3.10.4 Unavoidable Significant Environmental Effects

The project would result in a significant visual impact through replacement of existing agricultural open space with intense urban development.

3.11 Public Services

3.11.1 Wastewater

3.11.1.1 Setting

Edgemont Community Service District

Sewage collection treatment and disposal facilities within the Edgemont-Sunnymead area of Moreno Valley is the responsibility of the Edgemont Community Service District (ECSD). The 59.0 acre Edgemont Sewage Plant, located on Cottonwood Avenue, is approximately two miles southwest of the proposed project site. The plant is an activated sludge facility which is currently operating at its design capacity of between 200,000 and 280,000 gallons per day (GPD). The District has recently received planning grant funds to study several alternatives including expansion of their existing plant and utilization of the City of Riverside's sewage treatment plant.* The former alternative is being studied for a Clean Water Grant for proposed future improvements, which include a 700,000 GPD treatment plant using coagulation, filtration and chlorination treatment procedures.**

Enclosed in Appendix F is data from ECSD's Project Report. The primary purpose of this report is to provide sufficient information for the technical and economic evaluation of the feasibility of constructing treatment and disposal facilities for ECSD.

The Edgemont Community Service District has sewer lines adjacent to the project site. Along Fischer Road and Box Springs Boulevard there is a ten inch sewer trunk which connects with a fifteen

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* Riverside City Planning Department, Southeast Area Study, 1980.
** Albert A. Webb and Associates. Step I Study.

inch sewer trunk line along Cottonwood Avenue. A smaller eight inch sewer trunk line is located along Eucalyptus Avenue.*

3.11.1.2 Impacts

Albert A. Webb and Associates, consulting engineers for ECSD, anticipates 800,000 gallons of sewerage flow per day from the proposed project. During peak periods this would equate to 4.6 cubic feet per second. The existing sewerage system is not capable of handling the anticipated flow. Hence, Albert A. Webb and Associates has calculated that an 18-inch diameter pipe is needed from the intersection of Eucalyptus and Clark Street to the treatment plant. The estimated project cost of this line, including manholes and repaving is $570,000. In addition, the consulting engineers for ECSD expect the bore underneath I-15E and the railroad at Euclayptus will cost $120,000. Since the proposed project will be built in three phases, it may be possible to stage the proposed trunk system if available interim capacity is available in the existing trunk sewers.

The existing treatment plant is not capable of taking any significant increase in effluent. The estimated cost of treatment facilities varies from $3 to $4.50 per gallon. The project proponent will assist the district in structuring the financing of the necessary plant sewage treatment capacity expansion through the formation of a special assessment district. Any shortfall financing requirements may be satisfied by prepayment of connection fees and assessments with provisions for reimbursement to the proponent as fees are collected from users.

Cumulative Effects

The proposed project in conjunction with other large scale projects in the area would require wastewater treatment other than the present disposal system. Therefore, a demand for a new sewage treatment

* Albert A. Webb and Associates, ECSD Wastewater Collection System.

plant or increased capacity at one of the existing treatment plants in the area would be necessary. If California State Project water is used for the domestic water source, then the treated wastewater quality from the standpoint of dissolved salts would be better than Colorado River water which is now being used. Therefore, the introduction of treated wastewater into the groundwater basins would tend to improve basin water quality. In addition, low-cost treated wastewater could be used for irrigation purposes both on the project site and in the project area.

It is expected that the cumulative projects in Riverside County and the City of Riverside would generate 36,812,456 gallons of sewerage flow per day based on the following calculation:

Proposed Project	800,000 gallons	
Residential (County)	905,000 gallons	(750 gal/d.u. x 42,540 d.u.)
Commercial/Industrial (County)	2,116,972 gallons	(21,169,724 sq.ft. x 100 gal/1,000 sq.ft.)
Residential (City)	1,958,250 gallons	(750 gal/d.u. x 2,611 d.u.)
Commercial/Industrial (City)	32,234 gallons	(322,344 sq.ft. x 100 gal/1,000 sq.ft.)
TOTAL	36,912,456 gallons	

3.11.1.3 Mitigation Measures

During Phase I all the necessary sewer lines will be sized and extended for full buildout. Additional treatment capacity at the plant will be added as is necessary in each phase of development.

The consulting engineers for the ECSD believe the project proponent could mitigate the impact the project will have on the ECSD by arranging a financing program, acceptable to the Board of Directors, for the proposed sewerage improvements.

Within approximately one year, Northern California water will be available to the project site via extensions of the California Aqueduct. This water is of considerably higher quality than Colorado River Water currently provided in the area which typically tests at about 750 mg/l in Total Dissolved Solids (T.D.S.). This will enable the E.C.S.D. plant to better meet the discharge criteria of the waste water discharge permit of the California Regional Water Quality Control Board Santa Ana.

3.11.1.4 Unavoidable Significant Environmental Effects

The project will generate approximately 800,000 gallons of sewerage flow per day.

3.11.2 Water

3.11.2.1 Setting

Potable water for the project is provided by the Eastern Municipal Water District (E.M.W.D.). A twelve inch waterline within a twenty foot easement traverses the project site from north to south.

The Metropolitan Water District (M.W.D.) operates the Henry Jay Mills Treatment Plant in Riverside, which has an existing capacity of 75,000,000 gallons per day, far in excess of existing demand. The plant is expected to attain full use of treatment systems when new transmission lines are constructed bringing water into and out of the plant.

Within approximately one year, Northern California water will be available to the project site via extensions of the California Aqueduct. This water is of considerably higher quality than Colorado River Water currently provided in the area which typically tests at about 750 mg/l in Total Dissolved Solids (T.D.S.).

3.11.2.2 Impacts

The existing water system capacities are sufficient to serve the proposed project. It is estimated that the proposed project would consume approximately 978,820 gallons of water per day based on the following:

Sewage	=	800,000 gal/day (See Section 3.11.1)
Landscape Water	=	178,820 gal/day*
Total	=	978,820 gal/day

Cumulative Effects

It is estimated that the cumulative projects would consume approximately 39,635,684 gallons of water per day based on the following calculation:

Proposed Project	978,820 gallons	
Residential (County)	34,032,000 gallons	(800** gal/d.u. x 42,540 d.u.)
Commercial/Industrial (County)	2,498,027 gallons	(118*** gal/1,000 sq.ft. x 21,169,724 sq.ft
Residential (City)	2,088,800 gallons	(800 gal/d.u. x 2,611 d.u.)
Commercial/Industrial (City)	38,037 gallons	(118 gal/1,000 sq.ft. x 322,344 sq.ft.)
TOTAL	39,635,684 gallons	

3.11.2.3 Mitigation Measures

During Phase I all necessary water transmission lines will be sized and extended for full project buildout.

Showerheads, lavatory faucets, and sink faucets must be certified with the Appliance Efficiency Regulations, and are required to be equipped with flow control devices to limit total flow to a maximum of three gallons per minute.

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* Based on 10% of the site being in landscaped area, and .132 gal/day/sq. ft. of landscaped area.
** 50 of the 800 gallons is for landscape watering.
*** 18 of the 118 gallons is for landscape watering

The use of native drought resistant plants in project landscaping would reduce the amount of water necessary for landscaping purposes.

3.11.2.4 Unavoidable Significant Environmental Effects

The proposed project would consume approximately 978,820 gallons of potable water per day.

3.11.3 Solid Waste

3.11.3.1 Setting

The waste from this area of the County could go either to the Badlands or Mead Valley Disposal Sites. The Badlands Disposal Site entrance is at the intersection of Ironwood and Theodore Streets, which is approximately 10 miles east of the proposed project. This is the site that waste from the Sunnymead area used to be taken to. The current waste hauler servicing the Sunnymead area has an office and garage facilities in Perris; therefore, he finds it more convenient to take some of the waste loads from this area to the Mead Valley Disposal Site. The Badlands Disposal Site consists of 1,063 acres and has an expected life well beyond the turn of the century. The Mead Valley Disposal Site has a life expectancy to about he year 2000 at the present rate that wastes are being received. However, if the proposed developments within its service area materialize, the life of this site will be shortened accordingly.

3.11.3.2 Impact

The proposed project would generate solid waste from its commercial, professional office, and industrial land uses. The proposed project would generate approximately 61,430 pounds of solid waste per day based on the following calculation:

Planning Area	Generation Factor	Phase I	Phase II	Phase III	Total
1	2 lbs/day/100 ft^2	16,000	5,400	4,600	26,000
2	2 lbs/day/100 ft^2	1,000	2,500	1,850	5,350
3	2 lbs/day/100 ft^2	2,000	2,500	380	4,880
4	1 lbs/day/100 ft^2	400	800	400	1,600
5	1 lbs/day/100 ft^2	200	600	550	1,350
6	2 lbs/day/200 ft^2	200	2,000	400	2,600
7	1 lbs/day/100 ft^2	100	300	950	1,350
8	2 lbs/day/100 ft^2	3,000	9,000	6,300	18,300
	TOTAL				61,430

The project would have an impact on any landfill to which the solid waste was hauled. For example, the Badlands Disposal Site currently receives approximately 60-75 tons per day of solid waste.* If the approximate 31 tons per day of solid waste from the project were disposed of at the Badlands Disposal Site, it would increase the amount of solid waste being disposed there by approximately 50 percent.

On the average if a dozier is used to compact solid waste at the disposal site, then every cubic yard would have a weight of 800-900 pounds. If a compactor is used, then the weight per cubic yard is increased to 1,200-1,400 pounds. A dozier is being used at the Badlands Disposal Site; therefore, the project would generate between 68 and 77 cubic yards of compacted solid waste per day.

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* Raymond E. Johnson, Waste Disposal Engineer, Riverside County, telecon with Ultrasystems, February 26, 1982.

Cumulative Effects

The cumulative projects would generate approximately 843,449 pounds of solid waste per day based on the following:

Proposed Project	61,430	pounds
Residential (County)	331,812	pounds (7.8 lbs/d.u. x 42,540 d.u.)
Commercial/Industrial (County)	423,394	pounds (2 lbs/100 sq.ft. x 21,169,724 sq.ft.)
Residential (City)	20,366	pounds (7.8 lbs/d.u. x 2,611 d.u.)
Commercial/Industrial (City)	6,447	pounds (2 lbs/100 sq.ft. x 322,344 sq.ft.)
TOTAL	843,449	pounds

The cumulative projects will decrease the life expectancy of the existing landfills in Riverside County.

3.11.3.3 Mitigation Measures

With reference to mitigating measures, it is suggested that the tenants in the proposed shopping center and industrial park be urged to segregate and recycle as much of the solid waste as economically are feasible. If this is accomplished through a contract for the entire project, the economics should be much more favorable than if each of the tenants tries to recycle just their own waste.

Riverside County has a contract with a consultant to review the feasibility of a waste resource recovery facility which would be located within the City of Riverside. The most feasible type of facility at this time appears to be an incinerator which would produce steam for generation of electricity. It is anticipated that he proposed recovery facility would receive the wastes from the cities of Riverside, Corona, Norco, and the Rubidoux, Jurupa and Sunnymead areas. Representatives of Moreno Valley are currently members of the committee reviewing the consultants work on the feasibility of a waste resource recovery

facility so that should the City of Moreno Valley become a reality within the next few years, they would have had a representation in the proposed project.

3.11.3.4 Unavoidable Significant Environmental Effects

The proposed project will generate approximately 61,430 pounds of solid waste per day.

3.12 Public Facilities

3.12.1 Fire Protection

3.12.1.1 Setting

Fire protection to the proposed project site is provided by the Riverside County Fire Department from the Edgemont, Sunnymead and Highgrove fire stations. The Edgemeont Station No. 6, located at 22055 Cottonwood Avenue, is one and one-half miles south of the project site. This station would respond with a 1250 GPM "A" pumper, 750 GPM "A" pumper and rescue squad equipped with mini-pumper and light water system. Sunnymead Station No. 2, 23770 Sunnymead Boulevard, is approximately two miles east of the project site. This station would respond with 1000 GPM "A" pumper, 280 GPM brush truck, and rescue squad. The Highgrove Station No. 19, 910 Central Street, is approximately five miles northwest of the site. This station has a 1,250 GPM "A" pumper and 750 GPM reserve pumper.*

Each County Station is manned full-time with one California Department of Forestry (CDF) fire fighter. Additional manpower is provided on a voluntary basis. Each station will field three to four man crews to first alarm fires.

3.12.1.2 Impacts

The County Fire Department is currently understaffed at the Edgemeont, Sunnymead and Highgrove Stations. The proposed project would result in additional burdens on fire protection staff.

Cumulative Effects

Based on one fire station for every 3,000 residential dwelling units, fire protection services as a result of cumulative projects in

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* Engineer Mike Gray, Riverside County Fire Department, Planning Officer; letter January 7, 1982.

Riverside County would have to be expanded by fourteen fire stations. If the proposed fee schedule is adopted, the proposed developments would be required to pay a total of $12,762,000.* If the fee schedule is not adopted, then the Department would require each developer to pay their fair share toward the cost of providing additional fire protection facilities. The total cost of constructing a fire station is $450,000 broken down as follows: one acre site with improvements, $30,000; one fire station, $270,000; one fully equipped fire engine, $120,000; and fire station equipment, $30,000.

Cumulative residential development in the City of Riverside amounts to 2,611 dwelling units. Given the fact that fire services need to be expanded with every 3,000 new dwelling units, it is possible that cumulative development in the City of Riverside would require expansion of existing fire service facilities.

3.12.1.3 Mitigation Measure

The following items will be required to provide adequate fire protection for the project:

- Establishment of a one and one-half-acre fire station site in Phase I.
- Establishment of a fire station capable of housing a ladder truck in Phase I.
- A ladder truck or snorkel truck built to Fire Department specifications in Phase I.
- An additional four to five Fire Department personnel will be added as necessary.

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* The proposed fee schedule cost is based on 42,540 dwelling units at $300 per dwelling unit.

3.12.1.4 Unavoidable Significant Environmental Effects

The proposed project would impact the existing fire protection facilities. The existing facilities would not be adequate to provide proper fire protection to the project.

3.12.2 Police Protection

3.12.2.1 Setting

Police protection within the unincorporated areas of Edgemont-Sunnymead is provided by the Riverside County Sheriff Department. The Department provides service from the Riverside Office located at the County Courthouse in the City of Riverside.

The Department uses a deployment formula of one field officer for each 4,000 people. The response time to calls is approximately 30 minutes depending on the location of the patrol car.*

3.12.2.2 Impacts

The proposed project itself does not present a service problem for the Riverside County Sheriff Department.** The position of the Sheriff Department is that the cumulative effect of all the development occurring in the County is steadily becoming a problem.

The County and the Sheriff Department still cannot predict the effects of Proposition 13 on the Department; however, the problem of needing additional staff is similar in all areas of the County where growth is being experienced.

The Sheriff Department has not projected an exact increase for this area, but there would be an increase in crime.

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* Sheriff Ben Clark, Riverside County Sheriff Department, August 5, 1980.

** Sheriff Ben Clark, Riverside County Sheriff Department, August 5, 1980.

Cumulative Effects

Based on the ratio of one field officer for each 4,000 in population the cumulative projects in the County would result in a need for 37 additional officers. This is based on a population of 148,890 persons residing in 42,540 dwelling units.

The current cost for a police officer seven days a week, 24 hours a day including equipment and administrative costs is $248,171 per year.* The 37 officers required by the cumulative projects would cost approximately $9,182,327 a year.

Based on the County ratio of one field officer for each 4,000 in population, the cumulative projects in the City would result in a need for 2.3 additional officers. This is based on a population of 9,138 persons residing in 2,611 dwelling units.

3.12.2.3 Mitigation Measures

It was recommended by the Sheriff Department that street lights be included, that street patterns are such to slow traffic, and that high grade security hardware is considered a part of construction.

A private security service will be utilized to provide added security on the project site. The private security officers will patrol the shopping area of the mall and the parking area.

3.12.2.4 Unavoidable Significant Environmental Effects

The proposed project is anticipated to produce an increase in crime in the project area. Additional personnel may be required.

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* Chief Woodworth, Riverside County Sheriff Department.

3.12.3 Health Care

3.12.3.1 Setting

The project area is primarily served by the Riverside Community Hospital located approximately seven miles southwest of the site. This is a 454-bed acute hospital that provides comprehensive acute medical care to Riverside County residents. Additionally, Riverside Community has trauma care services in their 24-hour emergency room. This hospital would be the first alternative in industrial related accidents at the project site.

The project is also served by the Riverside General Hospital located approximately eight miles northwest of the site. This is a 443-bed acute hospital that also offers 24-hour emergency care.

Parkview Community Hospital, located approximately eight miles west of the site occasionally serves the Edgemont area. Parkview does not have a trauma care center, although it does have an emergency room with a 24-hour trauma specialist/physician. Parkview Community generally serves the community as a private health care 156-bed facility.

The only paramedic/ambulance service covering the project site is the Goodhew Ambulance Service. Goodlew takes all emergency calls to Riverside Community Hospital. Other hospitals (Parkview Community and Riverside General) are available on request. Response is directed from Goodhew's Sunnymead location located less than five minutes from the project site.

3.12.3.2 Impacts

The project is not anticipated to have a significant impact on Riverside hospitals. The existing hospitals and ambulance service in the area have the capacity to provide adequate health care to the

employees and visitors to the proposed development. Trauma care, provided primarily by Riverside Community, is adequate for industrial accidents that may occur during construction phases of the project.

Cumulative Effects

Based on a ratio of three acute patient beds per 1,000 in population, the cumulative projects in Riverside County would require 447 additional beds. This is based on 42,540 dwelling units with a population of 148,890 residents.

The cumulative projects in the City of Riverside would amount to 2,611 dwelling units with a corresponding population of 9,138 residents. Applying the same bed ratio as above, the cumulative projects in the City of Riverside would require 27 additional hospital beds.

The cumulative impact of the proposed project and other projects in the area could require the need for a satellite hospital or acute hospital facility located in the cumulative project area.

3.12.3.3 Mitigation Measures

No mitigation measures are proposed.

3.12.3.4 Unavoidable Significant Environmental Effects

No unavoidable adverse impacts are anticipated.

3.12.4 Parks and Recreation

3.12.4.1 Setting

The project site is served by the Riverside County Parks Department. The nearest County parks to the project site are Hanford

Spring Park, which is located approximately eight miles southwest of the site and Box Springs Mountain Park located approximately one mile north of the site. Other parks in the area include City of Riverside parks, such as Arlington, Shamel, and Low Park. Lake Perris is a state park and a fee for the use of the park is required.

3.12.4.2 Impact

The employees generated by the development may use the existing park facilities in the area during lunch time and after work. The additional demand would not impact the existing setting significantly.

Cumulative Effects

Riverside County's standard of ten acres of parkland for every 1,000 people requires one acre of community park; three acres of neighborhood park and six acres of regional park. Cumulative projects in the County amount to 42,540 dwelling units with a corresponding population of 148,890 residents. This increase in population would require 149 acres for community parks, 447 acres for neighborhood parks, and 893 acres for regional parks. The total required parkland would be 1,489 acres.

The City of Riverside's cumulative projects total 2,611 dwelling units with a corresponding population of 9,138 residents. This cumulative population may require additional city parkland as well as impact some of the parks in the County.

The proposed project in conjunction with other development in the area could have a cumulative impact on existing park facilities in the area. The cumulative impact could increase the use of these park facilities to overcrowded conditions.

3.12.4.3 Mitigation Measures

No mitigation measures are necessary.

3.12.4.4 Unavoidable Significant Environmental Effects

No unavoidable adverse impacts are anticipated.

3.13 Utilities

3.13.1 Electrical Consumption

3.13.1.1 Setting

The Southern California Edison Company (SCE) provides electrical service to the project site. Southern California Edison facilities include a 12 Kilowatt (KV) overhead circuit along the eastern side of the site on Day Street and a 12KV overhead circuit along the southern portion of the site on Eucalyptus Avenue. These lines currently serve the existing pump associated with the California Aqueduct located on the project site.

The proposed project would be served in accordance with the rules on file with, and approved by, the Public Utilities Commission of the State of California.

3.13.1.2 Impacts

The project development will occur in three phases culminating in 1992 as described in Table 18. Electrical consumption by the proposed project at complete buildout is estimated to be approximately 127,661,350 KWH per year.

The Edison Company does not anticipate any significant environmental impacts as a result of the project.

Cumulative Effects

Electrical consumption by the cumulative projects is estimated to be 909,231,880 KWH per year based on the following calculation:

Proposed Project	127,661,350 KWH	
Residential (County)	27,651,000 KWH	(650 KWH/d.u. x 42,540 d.u.)
Commercial/Industrial (County)	740,940,340 KWH	(35 KWH/sq.ft. x 21,169,724 sq.ft.)
Residential (City)	1,697,150 KWH	(650 KWH/d.u. x 2,611 d.u.)
Commercial/Industrial	11,282,040 KWH	(35 KWH/sq.ft. x 322,344 sq.ft.)
Total	909,231,880 KWH	

3.13.1.3 Mitigation Measures

The applicant should consult the Southern California Edison Company regarding energy saving materials, building designs, and devices which could be implemented into the project design.

All necessary electrical lines will be sized and extended during Phase I.

TABLE 18
Electrical Consumption

Generation Factor KWH/sq.ft./year	I	II	III	Total
1. 33.3	26,640,000	8,991,000	7,659,000	43,290,000
2. 27.3	1,365,000	3,412,500	2,525,250	7,302,750
3a. 47.8	4,780,000	2,987,500	454,100	8,221,600
3b. 26.0	0	1,625,000	247,000	1,872,000
4. 34.2	1,368,000	2,736,000	1,368,000	5,472,000
5. 34.2	513,000	2,052,000	1,881,000	4,830,500
Rest. 76.9	384,500			
6. 47.8	478,000	4,780,000	956,000	6,214,000
7. 34.2	342,000	1,026,000	3,249,000	4,617,000
8. 50.1	7,515,000	22,545,000	15,781,500	45,841,500
Total	43,385,500	50,155,000	34,120,850	127,661,350

3.13.1.4 Unavoidable Significant Environmental Effects

No significant environmental effects are anticipated.

3.13.2 Natural Gas

3.13.2.1 Setting

Natural gas is provided to the project site by the Southern California Gas Company. Gas service to the project will be provided from an existing 4-inch gas main located at the intersection of Highway I-15E and Eucalyptus Avenue. In addition the Gas Company has a 30-inch transmission line located south of the project site along Cottonwood Avenue. The service would be in accordance with the Company's policies and extension rules on file with the California Public Utilities Commission at the time the contractual arrangements are made.

3.13.2.2 Impacts

The estimated gas consumption for the proposed development at complete buildout is estimated to be approximately 45,622,000 cubic feet per month as described in Table 19. The Southern California Gas Company has indicated that the proposed project will not have a significant impact on their ability to provide natural gas to the development. Any additional natural gas demands could be met by extending the existing 30-inch transmission line to service the project site.

Cumulative Effect

Natural gas consumption by the cumulative projects is estimated to be 486,297,680 cubic feet per month based on the following calculation:

Proposed Project	45,622,000 cu.ft.	
Residential (County)	212,700,000 cu.ft.	(5000 cu.ft./d.u. x 42,540 d.u.)
Commercial/Industrial (County)	211,697,240 cu.ft.	(1000 cu.ft./100 sq.ft. x 21,169,724 sq.ft.)
Residential (City)	13,055,000 cu.ft.	(5000 cu.ft./d.u. x 2,611 d.u.)
Commercial/Industrial	3,223,440 cu.ft.	(1000 cu.ft./100 sq.ft. x 322,344 sq.ft.)
TOTAL	486,297,680 cu.ft.	

3.13.2.3 Mitigation Measures

The applicant should consult the Southern California Gas Company regarding energy saving materials, building designs, and devices which could be implemented or incorporated into the building design.

All natural gas lines will be sized and extended during Phase I.

TABLE 19

Natural Gas Consumption

Generation Factor	I	II	III	Total
1. 20 $ft^3/ft^2/mo.$	16,000,000	5,400,000	4,600,000	26,000,000
2. 20 $ft^3/ft^2/mo.$	1,000,000	2,500,000	1,850,000	5,350,000
3a. 20 $ft^3/ft^2/mo.$	2,000,000	1,250,000	190,000	3,440,000
3b. 50 $ft^3/ft^2/mo.$	0	3,125,000	475,000	3,600,000
4. 3.5 $ft^3/ft^2/mo.$	140,000	280,000	140,000	560,000
5. 3.5 $ft^3/ft^2/mo.$ 5,000 ft^2	52,500	210,000	192,500	455,000
Rest. 25 $ft^3/ft^2/mo.$	125,000	0	0	125,000
6. 20 $ft^3/ft^2/mo.$	200,000	2,000,000	400,000	2,600,000
7. 3.5 $ft^3/ft^2/mo.$	35,000	105,000	332,500	472,500
8. 3.3 $ft^3/ft^2/mo.$	495,000	1,485,000	1,039,500	3,019,500
Total	20,047,500	16,355,000	9,219,500	45,622,000

3.13.2.4 Unavoidable Significant Environmental Effects

No significant unavoidable adverse impacts are anticipated.

3.13.3 Telephone

3.13.3.1 Setting

Telephone service would be provided to the project site by both General Telephone and Pacific Telephone. General Telephone would serve approximately the southern three fourths of the site and Pacific Telephone would serve the northern one fourth. Both telephone companies have existing underground facilities in the project area. Telephone service would be provided in accordance with the current tariffs filed with the California Public Utilities Commission.

3.13.3.2 Impacts

Pacific Telephone and General Telephone do not anticipate any significant environmental impacts as a result of the proposed project. The developer will be required to make a monetary deposit for construction charges for telephone facilities under Tariff Rule No. 34.

Cumulative Effects

No cumulative effects are anticipated.

3.13.3.3 Mitigation Measures

No mitigation measures are proposed other than the extension of all necessary telephone lines onto the site during Phase I.

3.13.3.4 Unavoidable Significant Environmental Effects

No significant unavoidable adverse impacts are anticipated.

3.14 Archaeological Resources

Introduction

A field reconnaissance was performed in May, 1980 on the subject property by Dr. David Van Horn. This chapter describes the results of that field reconnaissance and a records search conducted for the purpose of determining whether development of the proposed project would adversely impact cultural resources.

3.14.1 Setting

Topographically, the property is quite flat and probably comprises an old flood plain. The entire parcel has been under cultivation for cereal crops and native vegetation is almost entirely absent. The site is characterized by many low knolls (averaging only a few feet in elevation) and the run-off from these low knolls form a network of shallow drainages. Plowing for cultivation has had the effect of feathering the drainages off and the principal natural drainage alignments are no longer visible. Rainy weather at the time of the survey supplied water for the drainages though they are probably dry most of the year. Oak trees and rock outcrops are entirely absent on the site.

A records search was conducted at the University of California at Riverside on April 29, 1980. No archaeological resources have been previously recorded as situated within the boundaries of the subject property. However, a series of archaeological sites have been recorded in the hills and mountains to the west. Most of these sites consist of small milling stations. The closest are briefly described in the following paragraphs.

Riv-1207: This site is located about ½ mile west of the subject property. It is recorded as a historic site where three coins

were found; an 1844 Mexican Peso, an 1872 Swedish 2 Ore coin, and an 1882 Canadian Penny.

Riv-1202: This site is situated about 3/4 of a mile west of the subject tract. It was recorded by Mr. Gardner in 1973 and consists of eight bedrock metates on two boulder outcrops.

Riv-1201: This site was recorded by Gardner also. It consists of two milling surfaces on two boulders about 3/4 of a mile west-northwest of the subject tract.

Riv-1206: This is a single milling surface on a small rock located about ½ mile northwest of the subject tract. It was also recorded by Gardner in 1973.

Riv-1203: This consists of two milling surfaces on a single large rock on top of a low rise approximately 3/4 of a mile northeast of our property. It was also recorded by Gardner.

Several other sites are located within a two-mile radius of the subject tract and these include Riv-1203, 1204, 1205, 1198, and 1199. The records clearly indicate that most of the sites in the region are small milling stations located in the foothills of the mountains to the west. This is not surprising since springs, oak trees, and boulders suitable for milling acorns and seeds are more plentiful here than in the valley floor where the subject parcel is situated.

The records also indicate that a survey of Parcel 11,907 (westerly of the subject tract) was conducted by Mr. Larry L. Bowles in 1978. The results of this reconnaissance were negative.

3.14.2 Impacts

No archaeological resources were observed anywhere on the subject parcel. It must be emphasized that surface visibility was

generally poor due to dense cereal grass. Nonetheless, patches of ground where the grass was thin provided good visibility in small areas here and there all over the tract. It is doubtful that any cultural resources were ever present on the site due to the total absence of rock outcrops and oak trees.

3.14.3 Mitigation Measures

No cultural materials were observed and no resources have been previously recorded anywhere on the site. Therefore, no mitigation of cultural resources should be required prior to the initiation of the proposed project.

3.14.4 Unavoidable Significant Environmental Effects

No unavoidable significant environmental effects to archaeological resources are expected to occur as a result of project implementation.

3.15 Paleontological Resources

Introduction

A preliminary paleontological survey of the project site was conducted in April, 1980 by Dr. John Minch. This survey was performed to determine if the development of the site will have any significant adverse impacts on the paleontological resources of the area.

3.15.1 Setting

The project area is underlain by Mesozoic igneous rocks of the Peninsular Ranges Batholith and Holocent alluvial deposits derived from these rocks. This is non-marine and by its nature unfossiliferous. Surface cultivation would have destroyed any surface vertebrate remains.

3.15.2 Impacts

Due to the igneous and alluvial nature of the unit no impact on the paleontological resources of the area are anticipated by the development of the project.

3.15.3 Mitigation Measures

If extensive grading operations in alluvial units are anticipated, periodic in-grading inspections by a paleontologist are recommended to further evaluate the fossil resources of the site. Such inspections can be initiated by the engineering geologist in charge if fossil remains are encountered on the site.

3.15.4 Unavoidable Significant Environmental Effects

No unavoidable significant environmental effects are anticipated to paleontological resources should the project be implemented.

3.16 Energy Conservation

3.16.1 Setting

The current consumption of energy on the project site is limited to a water pump utilized in conjunction with the California Aqueduct. It is assumed that the water pump does not use a substantial amount of electricity.

Natural gas is provided to the project area by the Southern California Gas Company. The Gas Company has had no difficulty in delivering an adequate supply of natural gas to the project area.

Electricity is provided by the Southern California Edison Company. The Company has had no difficulty in providing an adequate supply of electricity to the project area.

3.16.2 Impacts

Anticipated development on the project site in accordance with the proposed zone change would result in increased energy consumption. The estimated future increase in energy consumption resulting from the occupancy of the industrial, commercial development would be approximately 127,661,350 kwh of electricity per year and 45,622,000 cubic feet of natural gas per month. The additional consumption of electricity and natural gas as a result of the project is not expected to affect the availability of non-renewable energy supplies to the region. Future regional energy supply availability would require the eventual construction of new energy facilities such as LNG off-loading facilities, interstate pipelines and power plants. Such projects are planned by local utilities.

The use of motor vehicles by employee, business, and patron vehicle trips to the proposed commercial and industrial center would result in additional fuel consumption within the Southern California

area. Based on an estimated 642,046 vehicle miles traveled per day for the proposed project and the average car getting 25 miles per gallon, an average of 25,682 gallons per day of motor vehicle fuel would be consumed.

This consumption of motor vehicle fuel is perhaps best exemplified as an alternative distribution of motor vehicle fuel. Should the proposed project be developed at a different project location the potential Springs project would require a greater consumption of motor vehicle fuel for job-related commuting, shopping, and leisure travel.

To be sure, the proposed commercial and industrial uses would provide employment and shopping opportunities for local residents throughout the Moreno Valley area. Such local opportunities could also result in less motor vehicle fuel consumed in relation to alternative employment and shopping opportunities located in areas outside of the Moreno Valley area.

Cumulative Effects

The project would result in a cumulative incremental increase in the demand for available energy resources. The cumulative project area would consume approximately 486,297,680 cu. ft./month of natural gas and 909,231,880 KWH/year of electricity.

3.16.3 Mitigation Measures

Solar energy systems should be incorporated where feasible as part of building design as the primary source of service water heating and swimming pool heating. This would conserve a major portion of the natural gas consumption normally associated with conventional water heating equipment. Auxiliary gas-fired water heating equipment would still be necessary to serve as a supplemental source of water heat

during the winter months and on days of foul weather. A state income tax credit that varies with the cost of purchasing and installing each solar system is available.

- Glazing areas should be oriented toward the north and south. This would reduce heat gain and energy consumption for air conditioning. Where ideal orientation of the structure is not feasible, the use of overhangs, movable external shading on windows (to reflect sunlight or allow it to enter), and heat reflective glass, particularly on the east and west exposures, can moderate seasonal increases in temperature resulting in reduced air conditioner use.

- Fluorescent lighting should be installed rather than less efficient types of lighting.

- Attic fans or other ventilation devices for use during summer should be installed.

Non-Residential Building Standards

Any commercial and industrial building eventually constructed within the project area would be designed for optimum energy efficiency in accordance with Energy Conservation Standards for non-residential buildings adopted by the State of California Energy Commission as amended January 2, 1980. The new regulations prescribe energy conservation standards for all new non-residential buildings in California. Specifically, the regulations specify energy-saving designs for roof, wall and floor installations, and also contain lighting, heating and air conditioning, and hot water supply specification standards. The regulations encourage the use of solar power and other non-depleting energy sources. They offer builders the option of utilizing building designs that consume less energy than specified in

the regulations. The regulations provide for their enforcement by local building departments through the building permit process.

Conservation:

The following measures have been included in the Specific Plan for energy conservation:

1. Emphasis will be placed on providing attractive convenient facilities to integrate with public transportation systems and bicycles to reduce the dependance upon the automobile.

2. The proposed Regional Shopping Center will supply many of the region's residents' basic needs. This will further reduce miles currently and potentially traveled by the region's residents to existing centers in remote locations.

3. A network of bicycle and pedestrian trails will encourage travel within the project by modes.

3.16.4 Unavoidable Significant Environmental Effects

The proposed project would result in the demand for available energy resources.

3.17 City of Moreno Valley

3.17.1 Setting

In April 1982, the populace residing in the community commonly referred to as "Moreno Valley" will decide, through an election, if the community of Moreno Valley is to incorporate. Should the residents of the Moreno Valley area choose to incorporate, the newly formed city would appear to be affected by the proposed "The Springs" retail-industrial complex which would be located within the City's established corporate boundaries.

3.17.2 Impacts

The development of "The Springs" retail-industrial complex would appear to have a dramatic impact on the (assumed) Incorporated City of Moreno Valley. "The Springs" retail-industrial complex, due to its relatively large magnitude, would be the primary retail-industrial center in the Moreno Valley area.

A 115-acre regionally oriented shopping center, and a 43-acre highway/commercial center can be anticipated to provide attractive shopping opportunities for residents of the Incorporated (assumed) City of Moreno Valley. Concurrently, residents of the local region may choose to patronize the commercial-retail entities within "The Springs" retail-industrial complex.

Retail sales made at "The Springs" retail shopping entities can be anticipated to result in substantial sales tax revenue returned to the City (See Section 3.19, Fiscal Analysis). Municipal services required to facilitate such retail entities can be anticipated to be effectively financed through City revenue associated with the retail entities at "The Springs" retail-industrial complex.

In addition, the substantial increase in retail entities in the Incorporated (assumed) City of Moreno Valley is anticipated to create employment opportunities for existing and new City residents. An increase in employment in the Moreno Valley community could result in economic benefits throughout the local economic community. Increases in housing, and residential-associated businesses and services could result from an increased population with a solid employment base.

The proposed project details an industrial complex encompassing 153 acres. An industrial center of this magnitude is anticipated to generate employment opportunities for existing and new residents of the Incorporated (assumed) City of Moreno Valley. By providing employment opportunities new City residents may relocate from other areas, thus providing the impetus for housing and residential-associated development.

3.17.3 Mitigation Measures

Since no negative impacts were identified, no mitigation measures are deemed necessary.

3.17.4 Unavoidable Significant Environmental Effects

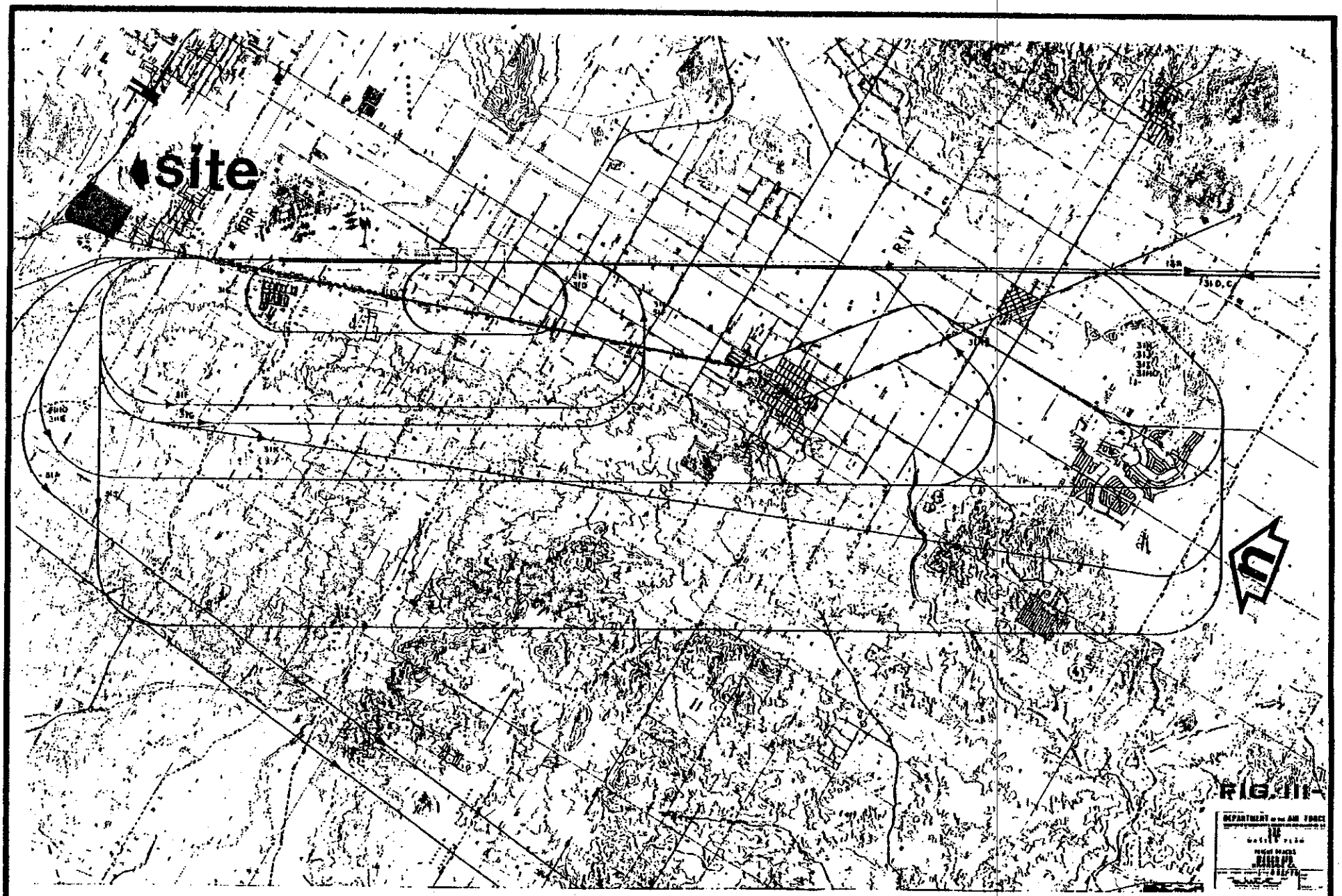
No unavoidable adverse impacts have been identified or are anticipated.

3.18 March Air Force Base

3.18.1 Setting

The project site is located approximately one and one-half miles north of March Air Force Base and two and a half miles from the nearest runway. March AFB is a combat ready force of B-52D and KC-135 aircraft capable of long-range bombardment operations. It also has Air Force Reserve KC-135 and HC-130 aircraft uses for refueling and rescue recovery operations. Transient C-141's often use March AFB flight patterns for training operations. The majority of the flying activity takes place west and southwest of the airfield and is directed to a southwesterly flow about 95 percent of the time. The location of flight patterns in relation to the project site are presented in Figure 15.

Airfield environs planning is concerned with three primary aircraft operational/land use determinants 1) accident potential to land users, 2) aircraft noise, and 3) hazards to operations from land uses (height, obstructions, etc.). Recognizing a responsibility to assist local communities in dealing with the effects of Air Force operations, the Air Force has developed an Air Installation Compatible Use Zone (AICUZ) concept, as amended October, 1979, which delineates land use districts and standards of compatibility for land areas affected by aircraft operations. Current growth patterns are creating a significant amount of conflict in the March AFB area. According to the AICUZ study, the ongoing conversion of agricultural land and open space to residential and associated use is the primary concern over future land uses within the AICUZ area. The AICUZ study has been prepared to promote orderly and compatible use of the land around March AFB. The AICUZ program designates Accident Potential Zones (APZ), Noise Zones (NZ), and land use compatibility guidelines through Compatible Use Districts (CUD).



ultrasystems	Source: AICUZ STUDY	Title: FLIGHT PATTERNS	15

Accident Potential

Figure 16 illustrates the March AFB Accident Potential Zones. At both ends of the March AFB runways, an expanded Clear Zone and two Accident Potential Zones (APZ I and APZ II) have been designated. Land use guidelines for the two APZ's are based on a hazard index system which compares the relationship of accident occurrence for five areas:

1) On or adjacent to the runway
2) Within the Clear Zone
3) In APZ I
4) In APZ II
5) In all other areas within a 10 nautical mile radius of the runway.

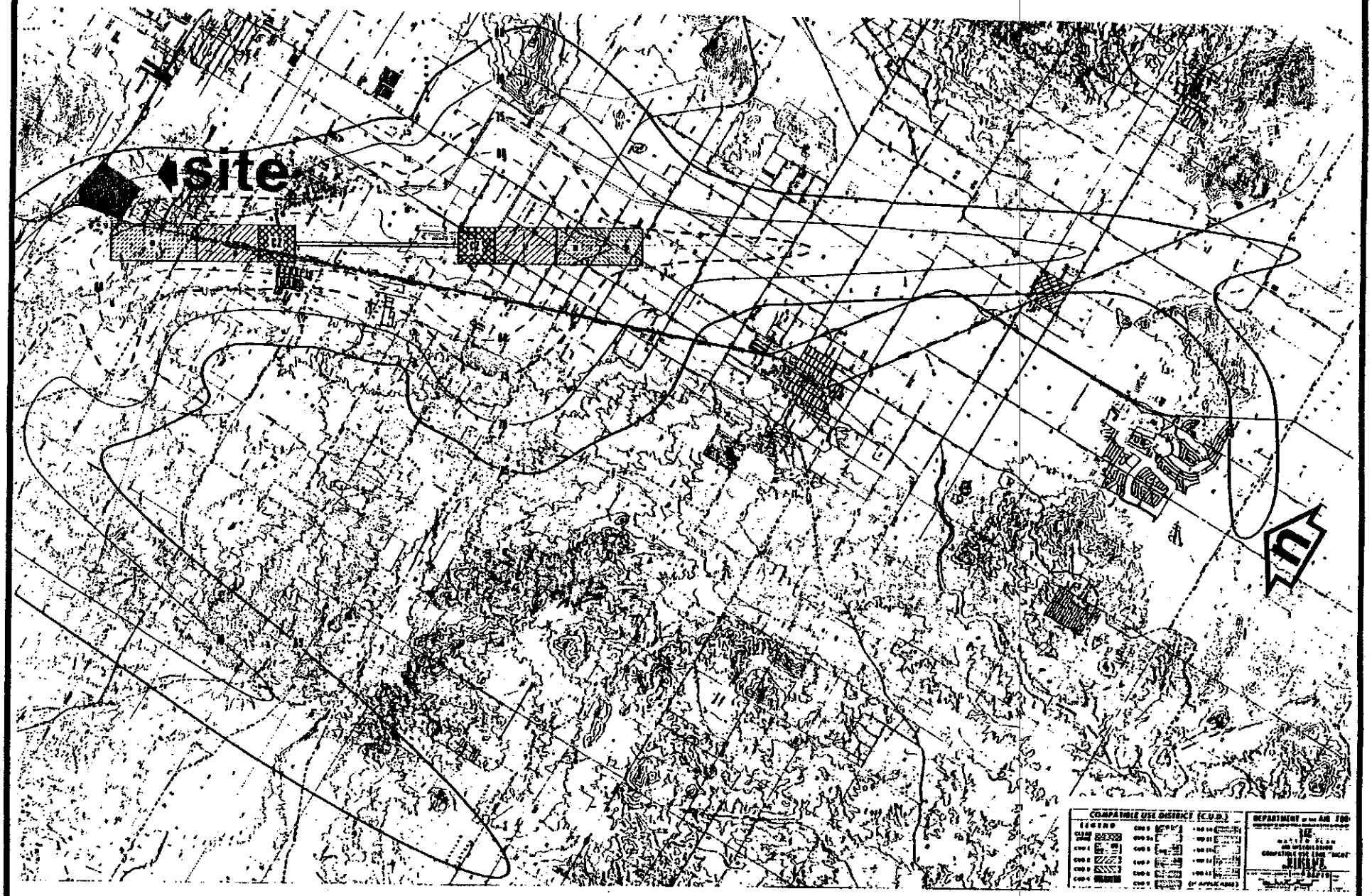
As shown in Figure 16, the project site is located adjacent to Accident Potential Zone II and not inside it, but the project site is within the 10 nautical mile radius of the nearest runway.

Noise

The project area falls between the 65-70-75-80 L_{dn} noise contour lines generated from base air operations (see Figure 16). The uses of commercial/retail trade, personal, and business services categories are compatible without restrictions up to 70 L_{dn}. However, they are generally incompatible above 80 L_{dn}.

Compatible Use Districts

The AICUZ Study provides Compatible Use Districts (CUD) identifying areas which adequately reflect the combined effects of noise, flight tracks, altitudes, and accident potential. The Compatible Use District Zones (CUD 1-13) are illustrated in Figure 16.



ultrasystems	Source: AICUZ STUDY	Title: COMPATIBLE USE DISTRICT	16

There are thirteen basic CUDs in the AICUZ criteria. Seven of them are applicable to the March AFB AICUZ and are listed below.

CUD 2	APZI and L_{dn} 75-80
CUD 6	L_{dn} 80-85
CUD 7	L_{dn} 75-80
CUD 8	APZ II and L_{dn} 80-85
CUD 9	APZ II and L_{dn} 75-80
CUD 12	L_{dn} 70-75
CUD 13	L_{dn} 65-70

Because the project is located adjacent to the APZ II and not inside it, and if the sound attenuation is incorporated into the various commercial/retail and industrial buildings, it appears that the development is compatible with March AFB operations.*

3.18.2 Impacts

The project would result in the conversion of the agricultural and open space to commercial/retail and industrial buildings.

The project would result in the encroachment of urban uses in the 10 nautical mile radius of March AFB which could potentially: 1) impair airfield operations and 2) impact the safety, health (noise), and general welfare of project employees and patrons.

The uses are within Compatible Use District 13 which is consistent with the recommendations contained in the AICUZ study, although noise attenuation may be required for noise sensitive uses.

* Ronald J. Rakowsky, Major USAF.

Cumulative Effects

Development of this project, along with other development adjacent to the base, would contribute to encroachment of urban uses within the March Air Force Base Environs.

3.18.3 Mitigation Measures

The land use development policies and land use controls contained in the March Air Force Base AICUZ study would mitigate impacts upon the base resulting from the proposed development and would mitigate noise and safety impacts upon the project from aircraft operations.

3.18.4 Unavoidable Significant Environmental Effects

The proposed project would result in the encroachment of urban land uses into the March Air Force Base environs, resulting in potential incompatible land uses and exposure of project employees of patrons to noise and safety hazards.

3.19 Fiscal Analysis

3.19.1 Setting

This analysis examines the applicable revenue and cost impacts to the County of Riverside from the development of "The Springs" retail-industrial center. The quantitative figures used in this analysis were obtained from the County of Riverside 1981-82 Proposed Budget, and representatives of various County of Riverside departments.

In preparing this analysis, a three phase development period occurring between 1986 and 1992 has been assumed.* To account for inflationary factors occurring between 1982 (Project Planning) and 1992 (Planned Project Total Buildout), annual recurring revenues and costs will be proportionally escalated by 10 percent compounded per year.

The primary sources of costs and revenues analyzed are those which occur on an annual recurring basis. Annual recurring costs and revenues are considered appropriate for analysis since they represent the long-term fiscal commitment made by the County to the project, and the corresponding fiscal benefits returnable to the County.

Approval of the proposed Specific Plan for "The Springs" retail-industrial center would permit the development of a regional shopping center (90 acres), a regionally oriented retail center (25 acres), a highway commercial center including a hotel (28 acres), professional office complex (18 acres), corporate office with restaurant facilities (15 acres), a highway/community oriented retail center (15 acres), a professional office complex including a health club (15 acres), and a light industrial center (105 acres).

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* "The Springs" Commercial-Industrial Complex Specific Plan.

3.19.2 Impacts

The major sources of revenue anticipated to be impacted by the proposed project are:

- Property Tax
- Sales Tax
- Franchise Tax
- Transient Occupancy Tax

Property Tax

Property tax is based on one percent of the assessed value of land and improvements thereon (Proposition 13 Property Tax Limitation). The County of Riverside receives approximately 29 percent* of the property tax collected, with the remainder distributed to schools and special districts.

The estimated value of the proposed project in 1982 dollars, by development phase is displayed in Table 20.

TABLE 20
PROPOSED PROJECT ESTIMATED VALUE, 1982 DOLLARS

TYPE OF DEVELOPMENT			
1. Regional Shopping Center	$82,000,000	$15,950,000	$12,550,000
2. Regional Oriented Retail	4,500,000	5,250,000	3,625,000
3a. Highway Commercial	6,000,000	1,500,000	140,000
3b. Hotel	0	6,000,000	1,000,000
4. Professional Office	5,000,000	8,000,000	3,000,000
5. Corporate Office-Restaurant	3,400,000	7,200,000	5,600,000
6. Highway/Community Oriented Retail	1,800,000	7,000,000	1,600,000
7. Professional Office/Health Club	2,000,000	3,000,000	8,500,000
8. Light Industrial	7,500,000	22,500,000	15,750,000

* County-wide average

The estimated assessed value of development in each phase has been escalated by 10 percent per year to account for inflationary factors occurring between planning stages and the implementation of each phase. In addition, the assessed market value will be escalated by two percent per year, which is the maximum permitted by the provisions of State Proposition 13.

Sales Tax

The retail-commercial entities proposed for inclusion in "The Springs" commercial-industrial center will generate taxable sales, from which, the County of Riverside will receive sales tax revenue. Table 21 displays the square footage of each entity anticipated to generate sales tax revenue, and an estimated sales per square foot.

The taxable sales estimates have been escalated by a compounded ten percent per year to account for anticipated inflation occurring during the planning and development periods of the proposed project.

The State levies a six cent sales tax per sales dollar, with the County of Riverside receiving one cent of each six cents of sales tax collected by the State. Therefore, only that one cent of sales tax revenue returned to the County of Riverside is to be accounted for in estimating fiscal impacts in the County of Riverside.

Franchise Tax

The franchise tax revenue returned to the County of Riverside is based on a two percent tax on the gross receipt of the County accounts for the Southern California Edison Company and the Southern California Gas Company. The cost of electricity and natural gas has been escalated by ten percent per year to account for inflationary factors.

TABLE 21

ESTIMATED SALES PER SQUARE FOOT OF

COMMERCIAL-RETAIL ENTITIES

	PHASE I (1986)	PHASE II (1989)	PHASE III (1992)
Regional Shopping Center			
Department Stores	450,000 SQ.FT./ $150.00/SQ.FT.	150,000 SQ.FT./ $200.00/SQ.FT.	50,000 SQ.FT./ $266.00/SQ.FT.
Mall Shops	350,000 SQ.FT./ $136.00/SQ.FT.	120,000 SQ.FT./ $182.00/SQ.FT.	80,000 SQ.FT./ $242.00/SQ.FT.
Regional Oriented Retail	50,000 SQ.FT./ $150.00/SQ.FT.	125,000 SQ.FT./ $182.00/SQ.FT.	92,500 SQ.FT./ $242.00/SQ.FT.
Highway Commercial	50,000 SQ.FT./ $136.00/SQ.FT.	62,500 SQ.FT./ $182.00/SQ.FT.	9,500 SQ.FT./ $242.00/SQ.FT.
Hotel		200 Rooms/$129 per night/70% occupancy	100 Rooms/$172 per night/70% occupancy
Restaurant	5,000 SQ.FT./ $205.00/SQ.FT.		
Highway/Community Oriented Retail	10,000 SQ.FT./ $136.00/SQ.FT.	100,000 SQ.FT./ $182.00/SQ.FT.	20,000 SQ.FT./ $242.00/SQ.FT.

Electricity

The estimated cost of electricity in 1982 dollars for commercial and industrial entities is $.062/KWH. To account for inflationary factors occurring between 1982 and the anticipated project completion in 1992, this cost will be escalated by a compounded 10 percent per year. Table 18 in Section 3.13.1 displays the estimated consumption of electricity, by phase, resulting from implementation of the proposed project.

Natural Gas

The estimated cost of natural gas in 1982 dollars for commercial and industrial entities is $.35 per therm (100 therms = 1 cubic foot). To account for inflationary factors occurring between 1982 and the anticipated project completion in 1992, this cost will be escalated by a compounded 10 percent per year. Table 19 in Section 3.13.2 displays the estimated consumption of natural gas, by phase, resulting from implementation of the proposed project.

Transient Occupancy Tax

The County of Riverside levies an eight percent hotel bed tax on the total revenue received by the hotel from the nightly rental of lodging. It is anticipated that 200 rooms will be constructed in Phase II (1989) and 100 rooms in Phase III (1989). In addition, the hotel is estimated to have a constant 70 percent occupancy rate. The estimated cost of lodging at the proposed hotel, in 1982 dollars, will average $65 per night. This estimated nightly lodging rate will be escalated by 10 percent per year to account for anticipated inflation.

Public Service Cost Impacts

The major sources of public service costs anticipated to be impacted by "The Springs" commercial-industrial complex are:

Public Protection

A. County Sheriff
B. Fire Protection

Public Ways and Facilities

A. Roads

Public service costs were limited to the above mentioned public services because they are the only municipal fiscal expenditures which appear to be directly attributable to commercial and industrial land uses; other municipal expenditures for various public services tend to be population dependant by nature and therefore are not equitably distributable to commercial and industrial entities.

Public Protection

A. County Sheriff

The commercial and industrial entities proposed for inclusion in "The Springs" are anticipated to require services from the County Sheriff. Based on an estimate that the proposed project will require the services of two full-time officers,* the annual personnel and equipment expenditures are $200,000.** This fiscal requirement will be escalated by a compounded 10 percent per year to account for anticipated inflationary factors occurring between 1986 and 1992.

B. Fire Protection

The commercial and industrial entities proposed for inclusion in "The Springs" are anticipated to require services from the County Fire Department. Based on an estimated requirement of 4-5 fire personnel, the annual personnel and maintenance expenditures associated with the proposed project is $200,000.*** This fiscal requirement will be escalated by a compounded 10 percent per year to account for anticipated inflationary factors occurring between 1986 and 1992.

Public Ways and facilities

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* Ultrasystems estimate.
** Ibid.
*** Pfieffer, Ted, Riverside County Fire Department, telephone conversation with Ultrasystems, January 20, 1982.

A. Roads

The proposed project is estimated to include a total of 4.25 miles of roads, which the County will assume the responsibility of maintenance. These roads will be established in the first year of project phasing, 1986, to facilitate development throughout the project site.

According to the County of Riverside Road Department* the maintenance cost is $3,500 (1982 dollars) per mile of road per year. This cost will be escalated by a compounded 10 percent per year to account for inflationary factors anticipated to occur between 1982 and the estimated project completion in 1992.

Summary

As displayed in Table 22, the proposed project is estimated to have a positive fiscal impact for the County of Riverside governmental financing structure. Upon project completion, the revenue/cost ratio is estimated to be +9.16. This ratio indicates that for each $1.00 in County expenditures associated with the project, $9.16 in revenues can be anticipated. Considering the magnitude of revenue producing commercial development included in the proposed project, and government expenditure limitation mandated by State Proposition 4, the proposed project would appear to result in a positive fiscal impact for the County in the future.

3.19.3 Mitigation Measures

Due to the proposed project's estimated positive fiscal impact on the County of Riverside governmental financing structure, no mitigation measures are deemed necessary.

* Paul Stout, Riverside County Road Department, 1981.

3.19.4 Unavoidable Adverse Impacts

No unavoidable adverse impacts have been identified, or are anticipated.

TABLE 22

ESTIMATED ANNUAL RECURRING REVENUES AND COSTS
RESULTING FROM THE PROPOSED
"THE SPRINGS" COMMERCIAL-RETAIL COMPLEX

	PHASE I (1986)	PHASE II (1989)	PHASE III (1992)
REVENUES			
Property Tax	$ 511,992	$ 431,758/ 975,089*	$ 249,123/ 1,283,896
Sales Tax	1,317,850	1,107,569/ 2,861,628	931,786/ 4,092,556
Franchise Tax:			
Electricity	78,962	120,372/ 224,497	102,363/ 382,985
Natural Gas	4,170	9,538/ 15,071	11,787/ 31,881
Transient Occupancy Tax	0	527,352	351,568/ 1,054,704
TOTAL	$1,912,974	$4,603,637	$6,846,022
COSTS			
Public Protection			
County Sheriff	$ 200,000	$ 266,200	$ 354,312
Fire Protection	200,000	266,200	354,312
Public Ways and Facilities			
Roads	21,781	28,994	38,586
TOTAL	421,781	561,394	474,210
REVENUE-COST	+1,491,193	+4,042,243	+6,098,812
REVENUE/COST	+4.54	+8.20	+9.16

* The bottom figure represents the cumulative total.

3.20 Market Analysis

Introduction

This section is an abstraction of the Market Support Analysis for "The Springs Proposed Regional Shopping Center", prepared for T&S Development, Inc. by Coldwell Banker, Real Estate Consultation Services, October, 1981. Copies of the complete market study are available at the County of Riverside Planning Department.

Retail Market Analysis

Market Overview

There are currently two concentrations of comparison shopping opportunities in the Riverside-San Bernardino area: (1) Central City Mall and Inland Center in San Bernardino; and (2) Riverside Plaza and Tyler Mall in Riverside.

Together, these centers comprise nearly 3.1 million square feet of gross leasable area for comparison shopping. Of that total, more than 2.1 million square feet are represented by major department stores. The same department stores are represented in both San Bernardino and Riverside, namely: Broadway, May Co., Harris', Penneys, Ward's, and Sears (including the freestanding store in Riverside). In addition, smaller outlets of Harris', Penneys and Sears are found in Hemet.

A. Market Area Definition

The market area for the proposed retail project is defined on the basis of two major principles: (1) convenience; and (2) competitive alternatives. Generally speaking, customers will utilize most frequently and most intensely those retail facilities which serve a

specific need, and which are located most conveniently to their place of residence. Therefore, the market area can be described in geographic terms and related to traffic patterns, driving time, and the location of alternative shopping facilities.

Driving Times

Those areas which are accessible within a 10-, 20-, and 30-minute drive from the site, are the areas from which a regional shopping center on the site will principally draw customers.

Competition

Competition is defined in this analysis as any retail facility incorporating conventional department store space. These projects represent a potential influence on the market support attainable for the proposed regional shopping center.

Further, competition is viewed as exerting either: (1) an external influence; or (2) an internal influence on the proposed shopping center development. A competitor or a competitive project exerting an external influence impinges on the market penetration achieved by the proposed development, that is, at the outlying fringe on the defined market area. A competitor exerting an internal influence diffuses department sales within the market area, thus influencing the market support for the proposed project. It is within this context that competition is identified and evaluated.

External Competition - External competition for the Riverside/San Bernardino market area comes primarily from Orange County and, secondarily from eastern Los Angeles County. The most formidable sources of external competition appear to be South Coast Plaza and Fashion Island in Orange County. Presumably, many people living in Riverside while working in Orange County tend to shop near their place of work. This tendency also would be reinforced by the fashion shopping opportunities available in Orange County and unavailable in the Riverside/San Bernardino area (outside of Palm Springs).

Internal Competition - As described previously, the principal internal competition to the proposed regional center consists of Central City Mall, Inland Center, Riverside Plaza and Tyler Mall.

Central City Mall is the most significant retail project in this area, totaling 1,000,000 square feet of gross leasable area. The project is anchored by three department stores: Penneys, Wards, and Harris', a local chain. Central City Mall is the most recent major development in the area, having been remodeled in 1972. Although the project does not have a high degree of visibility from the highway (I-15E), it is heavily trafficked benefitting from a skybridge linking the project to the San Bernardino civic center complex.

Inland Center, developed by Sears and opened in 1966, is the second largest project in the area with 840,750 square feet of gross leasable area. In addition to Sears, the project is anchored by Broadway and May Co. The center

offers somewhat higher quality merchandise than that found in Central City Mall and has freeway exposure from I-15E; yet, it does not appear as active as its nearby competitor.

Riverside Plaza is the oldest and smallest of the competitive regional centers, opening in 1956 with nearly 450,000 square feet of gross leasable area. Its anchor tenants include two department stores, Harris' and Wards, and a supermarket, Von's. As an open mall, this project is at a competitive disadvantage to each of the other enclosed regional shopping centers in the area.

Tyler Mall opened in 1970 with 796,500 square feet of gross leasable area anchored by Broadway, May Co., and Penneys. This project is the most direct competitor with the proposed regional center.

Proposed Projects - Various regional shopping centers have been proposed in or near the Riverside/San Bernardino area, including: Rancho Cucamonga (Hahn); Weir Canyon (Taubman); Corona (Daon); and Woodcrest (private investors). Of these, only Hahn's Rancho Cucamonga site (along I-15) appears imminent, 1985. No commitments are known to have been made on any of the proposed projects.

B. MARKET AREA DELINEATION

Three distinct market areas have been identified: the primary* secondary, and tertiary areas. These areas are distinguished by their distance to the proposed center, plus the strength of retail facilities within and among the individual areas. This is simply to recognize that shopping patterns will be influenced directly by travel distance, and must be accounted for through a "sales leakage" technique. Depending on the market area in question, appropriate leakage rates will be applied.

* The primary area is divided into two parts to account for shared portions of the area.

Sales leakage is defined as a portion of market area sales diffused to: (1) outlying retail markets (e.g., Orange County); and (2) other department store outlets within the market area and including catalog stores.

Primary Market Area

The primary market area covers an area within 15-20 minutes driving time from the site, including Canyon Crest, University, Victoria County Club, Moreno Valley and Perris Valley.

The 1980 population of the primary market is estimated to be 85,847 (based on the 1980 census). This reflects a compounded annual population increase of 3.12 percent over 1970 (63,138).

It is projected that the population in this area will continue to grow at approximately this rate through 1985 when it should approach 100,000 persons. This area, particularly the Moreno Valley, is expected to be one of the primary residential growth areas in the Riverside-San Bernardino area through the 1980's.

The 1980 average household income in the primary market area was $22,230, slightly above the average ($20,158) for the entire market area of The Springs. This higher average household income is attributable to the Victoria Country Club and Canyon Crest neighborhoods where average household incomes were $39,756 and $34,000, respectively.

Primary Market Area (North Riverside City)

This area is distinguished from the remainder of the primary area because, as a market area for the proposed regional center, it is shared more heavily with Tyler Mall and Inland Center. The area includes essentially the City of Riverside north of Arlington Avenue.

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* The primary area is divided into two parts to account for shared portions of the area.

The population of the area has been very stable through the 1970's, increasing slightly from 76,292 persons to 76,527 persons. It is projected that this area will experience somewhat greater growth through 1985 as its population should approach 80,000.

This area was comparatively less wealthy than the primary market area in 1980 with an average household income of $21,316. Only two census tracts (308 and 312) with nearly 4,300 households had average household incomes between $25,000 and $30,000.

Secondary Market Area

The secondary market area covers those areas of Riverside County beyond the primary market area from which the proposed regional shopping center would be the nearest significant comparison shopping opportunity. These areas include: Sun City, Elsinore, Rancho California, Temecula, Hemet, San Jacinto, Beaumont and Banning.

The 1980 population of this area was 159,266. This area was one of the fastest growing during the 1970's increasing at an annual compounded rate of 6.24 percent (from 86,909).

It is projected that this area will continue to experience rapid growth (though slower than the previous decade) at 4.79 percent per year, reaching just over 200,000 in 1985.

Average household incomes in the secondary market area in 1980 were the lowest within The Springs entire market area at $16,233. No census tract in this area had an average household income exceeding $25,000.

Tertiary Market Area

The tertiary market area covers the remainder of western Riverside County and portions of San Bernardino County including Redlands, San Bernardino, Colton, Rialto, and Fontana.

The 1980 population of this area was nearly 500,000. Increasing at an annual rate of 1.8 percent, the population of this area is expected to reach 544,000 in 1985.

The 1980 average household income in the tertiary market area was $21,220. Including most of the urbanized areas of Riverside and San Bernardino, this area's average household income was comparable to that found in the primary market area covering northern Riverside City. The communities of Norco, Corona, Redlands, Highlands, Fontana and Bloomington areas have average household incomes between $25,000 and $35,000.

Market Area Summary

The Springs' entire market area (primary, secondary and tertiary) had a 1980 population of 819,400 which is projected to increase to 924,900 in 1985 at an annual growth rate of 2.45 percent. The major growth area in the region is projected to be to the south and east of Riverside. This area is anticipated to grow at a rate in excess of 3.0 percent per year.

Average household income in the entire market area was $20,158 in 1980. This translates into a total 1980 household income of $6,204 million.

C. MARKET AREA GAFO SALES POTENTIAL

One measure of the retail depth of a defined market area is by analysis of GAFO sales potential. GAFO sales include: general merchan-

dise (G); apparel (A); furniture and furnishings (F); and other merchandise (O) such as jewelry, sporting goods, stationery, luggage and cameras which are normally sold in regional shopping centers.

Per capita expenditure patterns for GAFO sales may be estimated from 1980 California statistics (developed by the California State Board of Equalization). It is believed a statewide pattern provides a sufficient sample size to reflect a normalized expenditure pattern. Shown in the text table below are statewide per capita GAFO expenditures for calendar year 1980:

California GAFO Taxable Retail Sales
1980

	Taxable Retail Sales (1980)	
	Total ($000s)	Per Capita
General Merchandise	$12,193,935	$ 513
Apparel	4,678,297	197
Furniture/Furnishings	4,188,225	176
Other Merchandise	9,177,864	386
TOTAL	$30,238,321	$1,272

Source: California State Board of Equalization.

The total gross expenditure potential for GAFO sales in the defined market area in 1984 is estimated to be $1,566 million. As shown in the following text calculations, market area GAFO sales potential equals projected population multiplied by forecasted 1985 per capita GAFO expenditures. Per capita GAFO expenditures were projected based on 90 percent of the statewide per capita expenditures, reflecting the comparatively lower per capita personal income in the Riverside-San Bernardino area, together with an inflationary factor of eight percent per year.

GAFO Sales Potential From The Springs' Market Area, 1985

Market Area	Projected 1985 Population	x	Per Capita GAFO Expenditure (1985)	=	Gross GAFO Sales Potential (1985)
Primary	99,704		$1,682		$ 167,702,128
Primary (North Riverside City)	79,858		1,682		134,321,156
Secondary	201,205		1,682		338,426,810
Tertiary	544,165		1,682		915,285,530
TOTAL	924,932		$1,682		$1,555,735,624

D. DEPARTMENT STORE DEMAND

Two approaches are used in this analysis to forecast department store demand. The first identifies the market support for additional department store space in the Riverside-San Bernardino area, regardless of the specific site, and estimates the fair share of the market that might be captured by three additional department stores having a combined gross leasable area of 450,000 square feet. The second approach projects the amount of department store space which would be supportable at the site considering its competitive position relative to the other existing regional shopping centers in the area.

Net Additional Supportable Department Store Space in Market Area

The market support for department store space in the market area are based on the following assumptions:

- The population in the market area is estimated at 839,053 in 1981, increasing at a compounded annual growth rate of 2.47 percent.

- Per capita expenditure for conventional department store space is estimated at $294 in 1981 and inflated at eight percent per year through 1985. The estimated per capita expenditures for conventional department stores reflects statewide general merchandise per capita expenditures, less discount store expenditures, adjusted for comparatively lower Riverside-San Bernardino per capita personal incomes.

- Sales leakage from the Riverside-San Bernardino market area to Orange County and elsewhere is assumed at 10 percent.

- Existing square footage of competitive department store space is 2,114,050 square feet.

- Sales per square foot is assumed to be $100 in 1981 inflated at eight percent per year through 1985. This is the threshold sales efficiency for opening new department stores in the market area.

- Fair share demand is allocated to an assumed 450,000 square feet of net additional department store space as a proportion of total department store space in the market area.

There appears to be excess demand in the market area supporting net additional department store space of 333,300 square feet in 1985. However, if an additional 450,000 square feet were to open in 1985 its fair share of the market would be sufficient to support 429,500 square feet at an efficiency of $136 per square foot.

Supportable Department Store Space at the Site

The first step in identifying the demand for department store space at the site involves the estimation of total department store sales potential within each of the defined market areas (primary, secondary and tertiary). Under each market area (primary, secondary, and tertiary), total population has been multiplied by per capita annual expenditures, yielding the total annual expenditures for that specific market area.

Per capita expenditures for conventional department store space is estimated at $294 in 1981 and inflated at eight percent per year through 1985, as in the preceding analysis of net additional supportable department store space in the market area.

Total annual expenditures for each defined market area is in turn multiplied by a net leakage percentage, a technique used to account for department store sales expended in (1) other geographical areas, (2) other department or specialty retail stores within the market area, or (#) catalog stores. The leakage percent applied to each market area is a function of distance from the site and other intervening comparison shopping opportunities.

Having accounted for leakage, each market area yields a net annual expenditure potential for conventional department store space. In turn, the net annual expenditures from each defined market area are combined to yield total market support of $61 to $73 million in 1985. Assuming a sales efficiency of $136 per square foot (in 1985), 447,000 - 535,500 square feet of department store space could be supported at the site by 1985. That would be sufficient support for three department stores (based on 150,000 square feet per store).

E. MALL SHOP DEMAND

As was stated at the outset of this section, the demand for mall shop space in any regional shopping center tends to be directly related to the demand for anchor tenant space on the site. To evaluate this relationship, a survey was conducted of other regional shopping centers either in the Riverside/San Bernardino area or having opened in Southern California from 1975.

There are four regional centers in the Riverside-San Bernardino area as well as six newer regional centers in Southern California. Mall shop space in the competitive - and older - centers ranges from 42 percent to 63 percent, averaging 46 percent. In contrast, mall shops in the more modern centers range from 59 percent to 100 percent, averaging 79 percent.

The observed trend for the higher ratios of mall shop to anchor tenant space in modern regional centers is used to estimate the supportable mall shop space in the proposed project. Based on an initial phase of development consisting of 450,000 square feet of department store space, supportable mall shop space is estimated at 350,000 square feet of gross leasable area (78 percent).

F. FASHION DEPARTMENT STORES

No fashion department stores, such as Bullock's, Robinson's, Neiman-Marcus, or Nordstrom's, are located within the market area of The Springs. Moreover, the nearest fashion department stores are Bullock's at West Covina Fashion Plaza and Santa Ana Fashion Square, and Bullock's Wilshire, Robinson's, and Saks Fifth Avenue in Palm Springs.

The Springs site is the most centrally situated, easily accessible potential regional shopping center location in the Riverside-San Bernardino area. The site is on the periphery of existing

urbanization, in the path of future residential growth to the east and south, near one of the highest income areas of the region (Victoria Country Club and Canyon Crest), and accessible to most other higher income areas from Lake Arrowhead to Rancho California and from Upland to the San Jacinto Mountains. No other site in the region apart from Box Springs would appear as advantageous for a potential fashion department store location in the milieu of a regional shopping center.

As noted previously, the market area population is projected to increase by 100,000 by 1985, from 819,400 in 1980 to 924,900 in 1985. Most of this growth will occur largely to the east and south of the site while the major concentration of population will remain along the I-15E/State Route 91 corridor. However, people living in the new developments in the Moreno and Perris Valleys, as well as in Hemet and San Jacinto, will be compelled to funnel past the site enroute to Riverside or San Bernardino.

As discussed previously, the average household income for the entire market is $20,158 (in 1980); in the primary market area it is $22,230. Census tracts having the highest average household incomes are nearest the site and include Victoria Country Club (1980 average household income nearly $40,000) and Canyon Crest (1980 average household income $34,000). Approximately 44,350 households are in census tracts where the average household income exceeds $25,000. Of these, at least 25,000 households are believed to have household incomes exceeding $25,000.

4.0 ALTERNATIVES

4.1 No Project

The "no project" alternative would leave the project site in its existing condition as privately-owned dry farmed agricultural and open space land. This alternative could provide for continued open space/agricultural uses of the site with no major development. By leaving the project site in its current state as agricultural land, the site would be reserved for future land use options or alternative agricultural uses. The "no project" alternative would eliminate any adverse environmental effects associated with land development and no mitigation measures would be required.

Most of the subject site has been dry farmed or used for grazing in the past. Farming has not been considered to be viable in recent years due to the rapidly increasing costs, marginal soil quality characterized by a hardpan layer immediately beneath the surface, and encroaching urbanization. This trend is expected to continue.

4.2 Alternative Location

Implementation of this project concept at another location would generally result in similar adverse impacts due to the magnitude of development, and related increase in traffic and demand for public services and utilities.

However, an alternative location could result in reduced impacts upon agricultural land, open space, safety, aesthetics, biota, noise, land use compatibility and the provision of public services. Development of the project at another location would make the proposed site available for alternative land use options more in keeping with the residential zoning on the site. Implementation of the project at a different location within or in close proximity to an urbanized area

would reserve the proposed project site for rural use until urban infill occurs.

In order for an alternative site location to be considered viable, it must provide improvements for the proposed project in the following areas: land use, noise, police protection, fire protection, traffic and circulation, safety, and wastewater. Due to the size of the project, some of these disciplines would be impacted regardless of where the project is located, such as land use, police protection, fire protection, wastewater, and traffic and circulation. Therefore, an alternative site location would have to at least show improvements in the areas of land use, safety, noise and wastewater. Safety and noise impacts could be improved or mitigated by finding a site more removed from March Air Force Base. Locating a similar project away from March Air Force Base would result in reduced exterior noise levels due to aircraft. An alternative site would have to provide improved wastewater treatment facilities that are either existing or that could be provided at a cost less than the facilities proposed for the project. A site that would provide all of these benefits may be difficult to find in the general project area.

In addition, a condition of locating a heavy urban land use, such as the proposed regional shopping center, is that it must be within one-quarter mile of a major circulation route. The proposed site is adjacent to two major circulation routes.

An alternative location has not been considered for implementation of this project. Relocation of the project would not be economically feasible in view of the applicant's investment in the proposed project.

4.3 Development According to the Existing Zoning*

The project site is currently zoned R-1, R-2, R-3, and C-P-S. Development of the site according to existing zoning could result in

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* It should be noted that this alternative may not be considered feasible since the General Plan does not designate the site for residential purposes.

approximately 364 single-family units in the R-1 Zone, 174 multiple-family units in the R-2 Zone, and approximately 2,000 multiple-family units in the R-3 Zone. In addition, the two C-P-S zones on site would be developed with highway and community oriented retail uses. Variations in lot sizes and provision of internal roadways would reduce the lot yield.

This alternative would reduce several impacts that would be associated with the proposed project. The land use impact would be less because the land use intensity would be lower. This in turn would reduce the impact on traffic, air quality, land use compatability, wastewater, noise, safety, public services and utilities, and energy consumption. A large lot development would also maintain the rural character of the Moreno Valley. Many of the impacts of the proposed development would be mitigated by developing the site with residential uses. However, with the amount of residential projects being planned in the project area another project such as the one being proposed would be required to meet the needs of the future residential community. However, development of the site according to the existing zoning designation may not be economically feasible to the applicant.

The project site falls between the 65-70-75-80 L_{dn} noise contour lines generated from March Air Force Base air operations. Noise levels above 65 L_{dn} are generally considered incompatible for residential areas. In addition, the site is located adjacent to the area designated as Accident Potential Zone II (APZ II), which would place residential uses very close to a hazard zone of March Air Force Base.

4.4 Development According to Existing General Plan

The Moreno Valley General Plan Land Use Map designates the site for light and medium industrial uses. Development of the 311-acre site according to the existing General Plan could result in impacts very

similar to those of the proposed project. The proposed project is planning to develop approximately 50 percent of the site with light industrial uses. The proposed light industrial use is in accord with the existing General Plan, so those impacts associated with this portion of the project would not change. Assuming the proposed commercial uses were replaced with medium industrial uses it is expected that the overall effects of the project would be about the same, with one exception, peak hour traffic would most likely be heavier if the site were developed with only industrial uses.

If the entire site were to be developed entirely with industrial uses, it would probably necessitate locating a regional shopping center in an area very close to the proposed project site because the need for such a use exists in the area. In addition, the revenues from the commercial portion of the project would not be realized.

5.0 THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The project site is currently utilized for agricultural purposes which serve as visual open space in the area. The proposed zone change would commit the land to long-term urban usage. The continued agricultural use of the site is not considered economically feasible by the applicant. Over the long-term, a continued decline in an active agricultural use of the site would not enhance or maintain the productivity of the site.

The proposed zone change would provide a 115-acre regional shopping center with accessory uses, 43 acres of highway and community commercial uses, and 153-acres of light industrial uses. Each of the uses would provide employment opportunities and satisfy market demand. Although the project would increase the productivity of the site, long-term effects associated with urban development would result. The project would reduce open space and introduce urban uses into a predominantly rural area. The project would contribute to increase energy consumption, increase demand for public services, a reduction in wildlife, and exposure of project employees and patrons to aircraft noise and hazards.

The proposed project, in conjunction with other projects in the area, would have cumulative long-term urban effects. The rural character of the area would be changed to urban use for the long-term and the impacts associated with urban development would be long-term effects.

6.0 ANY SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES WHICH WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED

The proposed project would result in an intensification of land uses within a predominantly rural area. Irreversible environmental changes which could be expected from implementation of the project involve physical changes to the site, construction of structures and improvements, and the commitment of energy services.

Implementation of the project would result in a permanent commitment to provide additional energy sources, particularly natural gas and electricity to the project. The fossil fuels consumed during construction and those consumed during the project's life are irreplaceable. There would be a permanent loss of natural resources for building material used to construct and finish the structures.

Agricultural use of the site would be discontinued by the project. The project would result in increased vehicular traffic and congestion. There would be an increase in air pollution as a result of the emissions from vehicles, power generation equipment, and grading activities. The increased traffic and urban activities would also result in increased noise levels. There would also be a permanent commitment to provide community services such as water, sewage, police and fire services, as well as other public services. The existing vegetation and wildlife would be removed and the visual character of the site would be permanently altered due to the grading and landform alterations required to develop the project. The grading and landform alterations would be an irreversible change to the topography on the site.

7.0 THE GROWTH-INDUCING IMPACT OF THE PROPOSED ACTION

The project would have a direct growth-inducing impact by developing a regional shopping center with accessory retail uses (115 acres), highway and community commercial centers, (43 acres), and light industrial (153 acres). The project is expected to generate employment opportunities for approximately 6,627 persons. It is not possible at this time to determine what percentage of these jobs would be filled by local area residents, however, it can be assumed that some positions would be filled by persons residing outside of of the local area. The new employment opportunities would result in an increased demand for housing in the area. It would appear this demand could be satisfied by proposed residential projects and the 7.9 percent vacancy rate in the area. The proposed commercial/retail uses would satisfy a large segment of the demand generated for commercial/retail services and goods by future residents. However, the project may generate demands upon existing commercial/retail facilities outside of the local area, particularly within the City of Riverside. The project would also increase traffic, noise, air pollution, and increase demand on public services and utilities, many of which are currently at capacity.

The project would result in a growth-inducing impact upon the existing traffic and circulation network through generation of an additional 72,140 total average daily trips and construction of new roadways. The improvement of Day Street and Eucalyptus Avenue may induce future development in the project area. Increased traffic could contribute to an overall need for additional regional roadway improvements and possibly new road construction.

Many of the public services and utilities that presently serve the project area are either approaching or are at their capacity. The cumulative impacts of this project and other projects, both in the county and the City of Riverside, would significantly impact many of these public services and utilities. In addition, the cumulative impact

on traffic, noise, air quality, etc., would also be significant. This project, in conjunction with other projects in the area would contribute to the urban development of an area that is largely rural.

Urban development of the project site would set a precedent, possibly inducing development of other rural property in the area. Incompatabilities in land use between the project and adjacent vacant properties may ultimately contribute to the development of those adjacent parcels. The project may also contribute to development of other property, particularly south along I-15E, in the area for ancillary commercial and industrial-related services and competitive land uses.

The project would require the extension or new construction of utilities, sewage and water lines. Implementation of a sewage system into a previously unserviced area and construction of new treatment facilities could result in a direct growth-inducing impact. The construction of sewage treatment facilities in the area could allow residents with septic tanks to connect with the treatment plant. This could also encourage new development in the area which is currently limited due to wastewater requirements.

The project would also have a growth impact upon March Air Force Base. The proposed urban activity would encroach into the area of aircraft operations, potentially resulting in incompatible uses. The pressures created by the introduction of heavy urban development in the area of the base may induce changes in base operations and facilities. Employees of the project would be exposed to aircraft noise levels greater than 65 dB.

8.0 ORGANIZATIONS AND PERSONS CONSULTED

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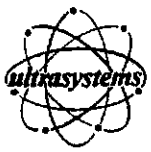
Major Ronald Rakowsky
Staff Judge Advocate
March Air Force Base

9.0 PREPARATION STAFF

This draft Environmental Impact Report was prepared by:

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Don M. DeMars	Vice President
Gene Anderson	Project Manager



APPENDIX A

PLANTS IDENTIFIED ON-SITE

APPENDIX A

PLANTS IDENTIFIED ON-SITE

COMMON NAME	SCIENTIFIC NAME	OCCURRENCE
Anacardiaceae-Sumac Family		
Peruvian Pepper Tree (E)	Schinus molle	R
Asteraceae-Sunflower Family		
Dandelion (E)	Taraxacum officinale	C
Pineapple Weed (E)	Matricaria matricarioides	C
Cudweed (N)	Gnaphyllum spp.	C
Mulefat (N)	Baccharus glutinosa	R
Brassicaceae-Mustard Family		
Field Mustard (E)	Brassica rapa	C
Black Mustard (E)	Brassica nigra	C
Wild Radish (E)	Raphinus sativus	C
Jointed Charlock	R. raphanistrum	C
Boraginaceae-Borage Family		
Cryptantha (N)	Cryptantha spp.	C
Cactaceae-Cactus Family		
Valley Cholla (N)	Opuntia parryi	R
Chenopodiaceae-Goosefoot Family		
Pigweed (E)	Chenopodium album	C
Russian Thistle (E)	Salsola iberia	C
Euphorbiaceae-Spurge Family		
Spurge (N)	Euphorbi polycarpa	C
Fabaceae-Pea Family		
Bird's Foot Trefoil (N)	Melilotus indicus	C
Lupine (N)	Lupinus spp.	C
Sweet Clover (E)	Melilotus indicus	C
Geraniaceae-Geranium Family		
Storksbill (E)	Erodium cicutarium	C

E = Exotic (Introduced)
N = Native
C = Common
R = Rare

COMMON NAME	SCIENTIFIC NAME	OCCURRENCE
Juglandaceae-Walnut Family		
English Walnut (E)	Juglans regina	R
Poaceae-Grass Family		
Foxtail (E)	Bromus rubens	C
Wheat (E)	Triticum aestivum	C
Barley (E)	Hordeum vulgre	C
Crabgrass (E)	Digitaria sanquinalis	C
Wild Oats	Avena fatua	C
Polygonaceae-Buckwheat Family		
California Buckwheat (N)	Eriogonum faciculatum	R
Salicaceae-Willow Family		
Willow (N)	Salix lasiolepis	R

APPENDIX B

WILDLIFE OBSERVED OR EXPECTED ON-SITE

APPENDIX B

WILDLIFE OBSERVED OR EXPECTED ON-SITE

BIRDS	SCIENTIFIC NAME
House Finch (E)	Carpodacus mexicanus
Starling (O)	Sturnus vulgarus
Mourning Dove (O)	Zenaida macroura
Rufous-Crowned Sparrow (O)	Aimophilia ruficeps
American Goldfinch (O)	Carduelis tristis
Red-Tailed Hawk (O)	Buteo jamaicensis
Western Meadowlark (O)	Sturnella neglecta
Lark Sparrow (O)	Chondestes grammacus
Common Raven (O)	Corvus brachyrhynchos
American Kestral (E)	Falco sparverius
MAMMALS	
Audubon Cottontail (E)	Sylvilagus audubonii
Jackrabbit (E)	Lepus californicus
Coyote (E)	Canis latrans
California Ground Squirrel (E)	Spermophilus beecheyi
Valley Pocket Gopher (E)	Thomomys bottae
Western Harvest Mouse (E)	Reithrodontomys megalotis
REPTILES	
Western Fence Lizard (E)	Sceloparus occidentalis
Side-Blotched Lizard (E)	Uta stansburiana
Gopher Snake (E)	Pituophis melanoleucus

O = Observed
E = Expected

APPENDIX C

HYDROLOGY CALCULATIONS

FREQUENCY 100 YEAR HYDROLOGY CALCULATION SHEET

$s = .55$
$\ell = 1.20$

DRAINAGE AREA	Soil & Development *	A Acres *	I In/Hr	C	AQ CFS	ΣQ CFS	SLOPE % *	SECTION	V FPS *	L FT	T MIN	ΣT MIN	REMARKS
A6	D-O	2.9	2.78	.78	6.3	—	48.0	~	5.5	1000	3.0	10.0	
A5	C-O	21.1	2.47	.73	38.1	63	11.2	~	7.5	1380	3.1	13.0	
A4	C-O	24.3	2.24	.71	38.7	44.4	6.8	~	9.9	1860	3.1	16.1	
A3	C-O	44.3	2.00	.69	61.2	85.1	3.1	~	8.0	2120	4.4	19.2	
A2	C-O	87.0	1.91	.68	113.5	144.3	1.3	~	6.0	700	1.9	23.6	
A1	C-O	75.9	1.72	.66	86.2	257.8	0.8	~	5.8	1950	5.6	25.5	A2 = A2a + A2b + A2d + A2c
						344.1						31.1	A1 = A1a + A1b + A1c + A1d + A1e
A1e	C-O	11.4	2.50	.73	20.8	—	3.4	~	4.9	1700	5.8	10.0	
						20.8						15.8	
A1d	C-O	3.5	2.83	.74	7.3	—	3.8	~	3.8	600	2.6	10.0	
						7.3						12.6	
A1c	C-O	8.1	2.60	.73	15.3	—	3.0	~	4.2	1200	4.8	10.0	
						15.3						14.8	
A1b	C-O	7.4	2.62	.73	14.2	—	2.4	~	3.7	1000	4.5	10.0	
						14.2						14.5	
A2d	C-O	4.8	2.79	.74	8.9	—	10.0	~	6.7	1200	2.6	10.0	
A2c	C-O	39.4	2.46	.73	72.9	9.9	7.1	~	6.7	1300	3.2	13.8	
A2b	C-O	19.3	2.34	.72	32.6	80.6	4.2	~	9.5	550	1.7	16.2	
						113.4						17.7	

DATE 9/14/82 SUBJECT BEFORE DEVELOPMENT

CHKD BY DATE SHEET NO. 1 OF 3

JOB NO.

C-2

EXHIBIT "B" No. 1

FREQUENCY 100 YEAR HYDROLOGY CALCULATION SHEET

$S = .55$
$L = 1.20$

DRAINAGE AREA	Soil & Development *	A Acres *	I In/Hr	C	AQ CFS	ΣQ CFS	SLOPE % *	SECTION	V FPS	L FT *	T MIN	ΣT MIN	REMARKS
B4	C-O	6.9	2.62	.73	13.2	—	4.2	~	4.8	1300	4.5	10.0	
B3	C-O	38.5	2.00	.69	53.0	13.2	1.6	~	3.5	1950	9.3	14.5	
B2	C-O	67.0	1.79	.67	80.5	66.2	0.8	~	3.9	1200	5.1	23.8	
B1	C-O	20.0	1.67	.66	22.0	146.7	0.4	~	3.5	850	4.1	28.9	
						168.7						33.0	
C3	C-O	5.0	2.50	.73	9.1	—	2.4	~	3.3	1150	5.8	10.0	
C2	C-O	28.6	2.00	.69	39.4	9.1	1.1	~	2.5	1200	8.0	15.8	
C1	C-O	35.2	1.84	.68	44.0	48.5	1.6	~	4.8	1100	3.8	23.8	
						92.5						27.2	C1 = C1a + C1b
C1b	C-O	8.4	2.67	.74	16.6	—	1.3	~	4.1	1000	1.1	10.0	
						16.6						14.1	
D4	C-O	7.8	2.69	.74	15.5	—	4.0	~	4.8	1100	3.8	10.0	
D3	C-O	23.9	2.33	.72	40.1	15.5	2.9	~	4.8	1200	4.2	13.8	
D2	C-O	29.9	2.06	.70	43.1	55.6	1.5	~	4.8	1300	4.5	18.0	
D1	C-O	9.6	1.93	.69	12.8	98.7	2.1	~	6.8	1150	2.8	22.5	
						111.5						25.3	
E3	C-O	8.5	2.44	.72	14.9	—	3.6	~	4.6	1800	6.5	10.0	
E2	C-O	14.4	2.22	.71	22.7	14.9	2.1	~	4.1	750	3.1	16.5	
E1	C-O	19.0	2.04	.69	26.8	31.6	3.0	~	6.2	1200	3.2	19.6	
						64.4						22.6	

BY ..... DATE ..... SUBJECT BEFORE DEVELOPMENT SHEET NO. 2 OF 3
CHKD. BY ..... DATE ..... JOB NO. .....

C-3

EXHIBIT "B" No. 2

FREQUENCY 100 YEAR

HYDROLOGY CALCULATION SHEET

S = .55
λ = 1.20

DRAINAGE AREA	Soil & DEVELOPMENT	* A ACRES	* I IN/HR	C	ΔQ CFS	ΣQ CFS	* SLOPE %	SECTION	V FPS	L FT	T MIN	ΣT MIN	REMARKS
						—	45.4	~	6.5	1100	2.8	10.0	
F6	D-O	5.6	280	.78	12.2	12.2	23.3	~	6.0	1200	3.3	12.8	
F5	D-O	20.1	2.47	.77	38.3	50.5	8.5	~	11.2	1170	1.8	16.1	
F4	C-O	20.8	2.33	.72	35.0	85.5	4.6	~	9.9	2900	4.9	17.9	
F3	C-O	53.0	2.04	.70	75.8	161.3	2.7	~	9.0	1450	2.7	22.8	
F2	C-O	97.7	1.92	.68	127.7	289.0	2.6	~	10.8	1750	2.7	25.5	F2=F2a+F2b+F2c+F2d
F1	C-O	28.7	1.82	.67	35.0	324.0						28.2	F1= F1a+F1b
						—	54.7	~	6.0	750	2.1	10.0	
F2e	D-O	2.9	2.90	.78	6.6	6.6	43.8	~	6.8	800	2.0	12.1	
F2d	D-O	15.0	2.67	.77	30.8	37.4	10.3	~	11.8	1550	2.2	14.1	
F2c	C-O	30.7	2.46	.73	55.2	92.6	4.8	~	10.2	1530	2.5	16.3	
F2b	C-O	34.0	2.28	.71	54.9	147.5						18.8	
						—	3.4	~	5.6	2550	7.6	10.0	
F1b	C-O	20.6	2.36	.72	34.8	34.8						17.6	
						—	2.4	~	4.3	1170	4.5	10.0	
G1	C-O	13.5	2.62	.73	25.8	25.8						14.5	

BY ..... DATE .....
CHKD. BY ..... DATE .....
SUBJECT BEFORE DEVELOPMENT
SHEET NO. 3 OF 3
JOB NO. .....

C-4

EXHIBIT "B" No. 3

FREQUENCY 100 YR HYDROLOGY CALCULATION SHEET

$S = .55$
$t' = 1.20$

DRAINAGE AREA	Soil & DEVELOPMENT	A ACRES	I IN/HR	C	AQ CFS	ΣQ CFS	SLOPE	SECTION	V FPS	L FT	T MIN	ΣT MIN	REMARKS
A6													
A5													
A4													
A3	C-0												
A2	C-24	87.0	1.91	.74	123.2	144.3	1.3		8.0	1000	2.1	23.6	
A1	C-54	75.9	1.82	.80	110.5	267.5	0.8		9.5	1400	2.5	25.7	
						378.0						28.1	
													(+33.9 cfs)
B4	C-90	6.9	2.65	.89	16.3	—	4.2		5.2	1300	4.1	10.0	
B3	C-90	38.5	1.98	.89	67.8	16.3	1.6		4.0	2400	10.0	14.1	
B2	C-90	67.0	1.90	.88	112.3	84.1	0.8		9.5	1000	1.8	24.1	
B1	C-90	20.0	1.86	.88	32.7	196.4	0.4		9.0	600	1.1	25.9	
						229.1						27.0	
													(+60.4cfs)
C3	C-90	5.0	2.57	.89	11.4	—	2.4		4.0	1200	5.0	10.0	
C2	C-90	28.6	2.15	.89	54.8	11.4	1.1		3.5	1200	5.7	15.0	
C1	C-90	35.2	2.05	.89	64.1	66.2	1.6		9.0	1100	2.1	20.7	
						130.3						22.8	
													(+37.8cfs)
D4	C-90	7.8	2.67	.89	18.5	—	4.0		5.0	1200	4.0	10.0	
D3	C-90	23.9	2.25	.89	47.8	18.5	2.9		4.5	1400	5.2	14.0	
D2	C-90	29.9	2.07	.89	55.0	66.3	1.5		8.5	1600	3.1	19.2	
D1	C-90	9.6	1.98	.89	17.0	121.3	2.1		9.5	1000	1.8	22.3	
						138.3						24.1	
													(+26.8cfs)

BY ... DATE 9-9-80 SUBJECT ALTER DEVELOPMENT JOB NO ... SHEET NO 1 OF 2

CHKD. BY ... DATE ...

C-5

EXHIBIT "B" No. 4

FREQUENCY 100 YR

HYDROLOGY CALCULATION SHEET

$S = .55$
$L = 1.20$

DRAINAGE AREA	Soil & DEVELOPMENT	A ACRES	I IN/HR	C	ΔQ CFS	ΣQ CFS	SLOPE	SECTION	V FPS	L FT	T MIN	ΣT MIN	REMARKS
E3	C-90	8.5	2.48	.89	18.8	—	3.0	⌣	5.0	1800	6.0	10.0	
E2	C-90	14.4	2.25	.89	28.8	18.8	2.0	⌣	4.0	750	3.1	16.0	
E1	C-90	19.0	2.14	.89	36.2	47.6	3.0	⌣	11.0	1200	1.8	19.1	
						83.8						20.9	
													(+194 cfs)
F6													
F5													
F4													
F3													
F2	C-0												
F1	C-90	28.7	1.82	.88	45.8	289.0	2.6	⌄	10.5	1750	2.8	25.5	
						334.8						28.3	
													(+10.8 cfs)
G1	C-90	13.5	2.68	.89	32.2	—	2.4	⌄	5.0	1170	3.9	10.0	
						32.2						13.9	
													(+6.4 cfs)
C16	C-90	8.4	2.70	.89	20.2	—	1.3	⌣	4.5	1000	3.7	10.0	
						20.2						13.7	(+3.6 cfs)
F16	C-90	20.6	2.43	.89	44.7	—	3.4	⌄	6.5	2550	6.5	10.0	
						44.7						16.5	(+9.9 cfs)

DATE 9-8-90 SUBJECT AETER DEVELOPMENT

BY ... DATE ...

CHKD. BY ... DATE ...

SHEET NO. 2 OF 2

JOB NO. ...

C-6

EXHIBIT "B" No. 5

APPENDIX D

R-6 ZONE (RESIDENTIAL INCENTIVE)

APPENDIX D

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R-6 ZONE (RESIDENTIAL INCENTIVE)

SECTION 1. USES PERMITTED

(a) The following uses shall be permitted:
(1) One-family dwellings, including mobile homes.
(2) Two (2) family dwellings and multiple family dwellings.
(3) Planned residential developments.
(4) Accessory buildings, provided there is a main building on the lot.
(5) Home occupations.

(b) The following uses are permitted provided a plot plan has been approved pursuant to the provisions of Section 18.30:
(1) Apartment houses.
(2) Temporary real estate tract offices located within a subdivision, to be used only for and during the original sale of the subdivision.

SECTION 2. BASIC PERFORMANCE STANDARDS

(a) Each development, excluding apartments, must meet one of the following requirements:
(1) The average selling price in the development will be 80% of the home sales price in a market area. The market area and home sales price will be determined by the County; or
(2) 25% of the units are provided at a price affordable to a family earning no greater than 120% of the County median income as determined by the County; or
(3) 15% of the units are provided at a price affordable to a family earning 80% or less of the County's median income as determined by the County.

(b) Rental units built under Section 2(a) must rent equal to or less than HUD's fair market rents.

(c) At the time of recordation of the final subdivision map, projects proposed under Section 2(a)(2) or (3) will record Covenants, Conditions and Restrictions, approved by the County, which provide methods for ensuring that the units are purchased only by families within the appropriate income category for a period of 5 years from the issuance of occupancy permits.

(d) The proposed density of the development must be greater than four units per gross acre and this may include density transfers.

(e) During the first 60 days that the affordable units are offered for sale, any advertising must be through Riverside County media.

(f) Apartment buildings must contain at least four dwelling units. The County will prohibit the conversion to condominiums or cooperatives any units built under this zone unless overriding findings are made. The prohibition will be for a period of five years and will begin upon the issuance of occupancy permits.

SECTION 3. DEVELOPMENT STANDARDS

The following standards of development shall apply in this zone:

(a) The allowable density of the project will be determined by the physical and service constraints of the property.

(b) The minimum lot area for single family developments shall be 3600 square feet. If row type housing is proposed, minimum lot areas may be reduced to 3200 square feet.

(c) Lots shall have a minimum frontage of 30 feet. The minimum frontage may be reduced on knuckles or cul-de-sacs or if row type housing is proposed.

(d) A minimum of 30% of each lot's net area in a development shall be designed for private open space. Side yard setbacks shall not be less than 5 feet, although zero side yard setbacks may be permitted depending on the design of the project. Front yard setbacks for garages shall not be less than 20 feet.

(e) Apartment buildings will have a minimum of 20% of the net lot area in usable open space. Minimum front and rear yard setbacks shall be 10 feet. Additional setbacks, including side yards, may be required depending on the height of the structure and adjacent land uses.

(f) Buildings shall not exceed 50 feet in height.

(g) One off street parking space will be required per dwelling unit, notwithstanding the apartment building parking standards. Additional off street parking may be required depending on the design of the project and/or if reduced street standards are permitted.

(h) The County will review the adequacy of any open space and/or recreational facilities proposed in a development.

SECTION 4. SPECIAL PROVISIONS

(a) An application for this zone must be filed with either a tract map or plot plan as required by the nature of the application. In addition, the application shall include floor plans and elevations for each proposed unit type. All such information shall be subject to a public hearing with the change of zone application.

(b) Streets providing circulation within a development may be designed for 36', or 32' on cul-de-sacs, of improvements. Other street design standards, dedications and improvements shall be required by County Ordinances 460 and 461 with deviations from these standards permitted with the approval of the Road Commissioner.

(c) Additional information may be required at the discretion of the Planning Director.

(d) If the land division or Section 18.30 Plot Plan approved in conjunction with this zone expires, the County shall initiate a change of zone to a zone deemed appropriate for the site.

(e) If after five years from the recordation of the land division, construction of dwelling units has not begun, the County may initiate reversion to acreage proceedings pursuant to local ordinances and the Subdivision Map Act. During the proceedings the County may initiate a change of zone to a zone deemed appropriate for the site.

(f) Prior to the recordation of the final subdivision map, the applicant shall submit to the Planning Department Covenants, Conditions and Restrictions which identify those conditions placed on the approved tentative map that establish affordability criteria, including but not limited to structure size, type and sales price. The Covenants, Conditions and Restrictions will clearly prohibit the sale of individual lots without the approved dwelling unit, but such prohibition will not preclude the sale of the entire project or a recorded phase of the project. The approved Covenants, Conditions and Restrictions shall be recorded at the same time that the subdivision map is recorded.

787-2255
Nate Rohlfer

REQUIRED FOR R-6 ZONE APPLICATION:

1. Completed tract map or parcel map application, as appropriate.
2. Completed zone change application.
3. Completed Environmental Assessment.
4. Identification of location of all basic services (water, sewer, all utilities and roads) in relationship to site.
5. Expected selling prices of units, and pricing option selected. If pricing option (a) is selected, the relevant market area and average home sales price therein should be stated and documented.
6. Statement of direct or indirect benefits obtained or expected through the use of governmental funds.
7. Clear identification of the following:
   a. Type of development proposed
   b. Density per gross acre
   c. Average lot size and minimum lot size
   d. Average front footage and minimum front footage
   e. Average percent of usable open space per lot, and minimum percent of usable open space
   f. Maximum height of highest building in the development
   g. Total number of dwelling units
   h. Total number of parking spaces
   i. Street widths
8. Floor plans, elevations, and renderings for each type of unit proposed for construction.
9. Pre application conference with Assistant Planning Director and Planning staff.



Appendix E

List of Cumulative Projects

Cumulative Projects - Riverside County

Tract	No. of Lots	Acres	Status
10004	60	15	Approved
10006	33	10	Recorded
10043	31	9.09	Approved
10056	107	38	Recorded
10074	28	8	Recorded
10101	41	10	Recorded
10102	42	10	Recorded
10136	83	20	Recorded
10145	92	25	Recorded
10153	160	40	Recorded
10161	36	9	Recorded
10163	21	15	Recorded
10189	37	10	Recorded
10190	39	10	Recorded
10191	38	10	Approved
10192	39	10	Approved
10234	50	40	Approved
10271	25	12	Approved
10347	78	20	Approved
10359	73	20	Recorded
10360	76	20	Recorded
10361	79	20	Approved
10362	56	15	Approved
10370	39	13	Recorded
10383	38	10	Approved
10399	8	4.7	Approved
10410	14	34	Approved
10440	4	2.5	Approved
10451	120	30	Approved
10452	76	20	Recorded
10487	16	14	Approved
10499	15	77	Approved
10533	42	10	Recorded
10536	58	13.4	Recorded
10561	63	38	Approved
10578	30	30	Approved
10593	41	10	Approved
10600	38	9	Recorded
10619	60	37	Approved
10623	33	10	Recorded
10624	20	4.77	Approved
10626	75	79	Recorded
10651	41	10	Approved
10655	121	28.4	Recorded
10655	121	28	Recorded
10658	50	11	Recorded

Cumulative Projects - Riverside County

Tract	No. of Lots	Acres	Status
10688	80	20	Recorded
10753		25	Approved
10895	127	38	Recorded
10987	20	4.85	Approved
11045	18	23	Approved
11082	50	13.9	Recorded
11094	18	18	Approved
11121	35	10	Approved
11122	37	10	Approved
11123	33	10	Approved
11130	96	30	Approved
11153	49	61	Recorded
11154	89	56	Approved
11159	39	10	Approved
11175	43	10	Approved
11187	148	38	Recorded
11206	88	22	Approved
11221	99	30	Approved
11233	36	10	Approved
11234	35	10	Recorded
11261	77	19	Approved
11266	41	10	Approved
11271	78	52	Approved
11294	43	10.9	Recorded
11313	87	98	Approved
11373	148	37.9	Approved
11391	6	6	Approved
11410	39	10	Recorded
11457	31	20	Approved
11458	16	10	Approved
11463	15	9	Approved
11467	21	4.7	Recorded
11511	17	47	Approved
11512	81	20	Recorded
11513	82	20	Recorded
11526	32	9	Approved
11537	12	12	Approved
11576	282	70	Approved
11687	12	29	Approved
11752	78	19	Approved
11762	32	40	Approved
11763	56	85	Approved
11765	144	32.5	Approved
11809	276	80	Approved

Cumulative Projects - Riverside County

Tract	No. of Lots	Acres	Status
11840	35	10	Approved
11841	68	37	Approved
11848	377	104	Approved
11874	17	4	Approved
11902	999	236	Approved
11905	37	10	Approved
11958	110	130	Approved
12008	18	20	Approved
12020	11	64	Approved
12039	80	20	Approved
12055	17	4.7	Approved
12230	80	20	Approved
12240	38	10	Approved
12267	80	39.5	Approved
12268	347	112	Recorded
12296	39	10	Approved
12297	38	10	Recorded
12305	396	219	Approved
12327	157	40	Approved
12361	134	38.6	Approved
12457	12	3.6	Approved
12459	26	38	Approved
12485	28	18	Approved
12497	278	78	Approved
12515	8	2.3	Approved
12530	19	5.0	Approved
12550	16	18	Approved
12608	77	19	Approved
12649	40	24	Approved
12658	19	4.2	Approved
12678	9	21	Approved
12681	257	201	Approved
12682	311	82.6	Approved
12748	110	26	Approved
12773	160	40	Approved
12804	34	42	Recorded
12808	29	10	Approved
12829	21	25	Approved
12878	40	9.4	Approved
12902	692	195	Approved
12928	40	10	Approved
13041	35	28	Approved
13052	18	20	Approved
13055	22	40.84	Proposed

Cumulative Projects - Riverside County

Tract	No. of Lots	Acres	Status
13161	120	30	Approved
13350	29	18	Approved
13372	34	17	Approved
13391	19	20	Approved
13394	103	28	Approved
13396	66	75	Approved
13437	49	33	Approved
13543	27	28	Approved
13547	50	33	Approved
13548	149	38	Approved
13549	36	36.72	Approved
13552	17	10	Approved
13555	42	10	Approved
13576	668	203	Approved
13585	81	20	Approved
13625	12	65	Approved
13685	42	867	Approved
13689	43	10	Approved
13704	49	20	Approved
13704	49	20	Approved
13705	32	20	Approved
13706	403	103	Recorded
13709	73	20	Approved
13976	15	3.6	Approved
13978	33	9.1	Approved
14002	154	36	Approved
14010	14	8.3	Approved
14038	20	5.2	Approved
14044	37	54	Approved
14061	46	26	Approved
14116	170	444	Approved
14157	18	6	Approved
14186	133	92	Approved
14302	62	15	Approved
14307	18	5	Approved
14377	63	88	Approved
14387	142	26	Approved
14506	241	56	Approved
14606	7	12	Approved
14679	27	6.7	Approved
14714	17	18	Recorded
14821	57	14.5	Approved
14846	429	159	Proposed
14850	115	30	Approved

Cumulative Projects - Riverside County

Tract	No. of Lots	Acres	Status
14856	36	8.7	Approved
14884	21	22	Approved
14966	38	10	Approved
15085	233	482	Approved
15242	32	48	Approved
15254	42	10	Approved
15320	42	10	Approved
15337	35	35	Approved
15380	6	35	Approved
15385	15	37	Approved
15387	533	182	Approved
15407	39	9.3	Approved
15408	29	6.8	Approved
15433	145	39	Approved
15435	31	40	Approved
15441	100	71	Approved
15555	54	32	Approved
15583	38	10	Approved
15690	40	40	Approved
15743	32	8.9	Approved
15854	44	28	Approved
15979	40	10	Approved
15980	75	20	Approved
16100	38	10	Approved
16124	74	28	Process
16704	19	20	Approved
16764	20	28	Approved
16767	154	39	Approved
16768	202	50	Approved
16770	149	40	Approved
16801	35	9.1	Approved
16802	39	9.3	Proposed
16806	22	19.8	Approved
16816	80	20	Approved
16969	37	10	Approved
16982	42	10	Approved
17004	37	10	Approved
17005	75	20	Approved
17033	39	10	Approved
17176	137	79	Proposed
17226	42	10	Approved
17291	200	191	Approved
17321	48	79	Approved
17334	57	34	Approved
17375	38	9.39	Approved

Cumulative Projects - Riverside County

Tract	No. of Lots	Acres	Status
17387	37	10	Approved
17445	10	10	Proposed
17457	40	9.39	Approved
17481	21	25	Approved
17544	45	26.5	Approved
17731	47	37	Approved
17815	38	9	Process
17816	52	61	Approved
17837	31	80	Process
17855	16	40	Process
17867	207	30	Process
17989	35	46	Process

Cumulative Projects - City of Riverside

TRACT MAPS	ACRES	NO. UNITS	STATUS
10388	59	211	Proposed
9162	9.26	10	Approved
9871	7.6	13	Recorded
9160	9.6	17	Approved
9376	28.8	97	Proposed
10376	8.7	30	Proposed
10377	9.6	28	Proposed
10122	9.6	17	Proposed
10371	12.8	53	Approved
9849	12.3	19	Approved
11216	24	38	Approved
9835	10	30	Proposed
9648	9.35	8	Approved
10931	10.7	11	Approved
10870	130	163	Proposed
10005	45.46	63	Approved
15474	80	37	Approved
11272	35.6	89	Approved
9419	23	63	Recorded
9275	10.5	31	Recorded
17852	24	2	Proposed
14652	16	8	Recorded
9640	11.4	13	Approved
9427	29	31	Approved
10249	7	12	Approved
16250	158.6	78	Approved
10264	2	4	Approved
9566	6.4	18	Recorded
9764	5	16	Approved
17200	.96	20,000 sq. ft.	Approved
15909	10.7	178	Recorded

Cumulative Projects - City of Riverside

PARCEL MAPS	ACRES	NO. UNITS	STATUS
16008	19.16	4	Approved
9064	6.3	2	Approved
16592	11.26	2	Approved
9824	4.1	4	Recorded
8766	5	4	Approved
10713	10	4	Approved
9786	10	4	Recorded
10687	5.8	2	Approved
10572	12.5	4	Approved
10571	10.7	4	Approved
10592	7	4	Approved
10892	10	7	Approved
9296	1.20	2	Recorded
10012	35.5	4	Approved
10084	10.5	4	Approved
10343	1.9	2	Approved
9710	3.7	4	Recorded
10425	3.6	4	Recorded
9925	7.6	2	Recorded
9405	5.7	4	Approved
10744	10.76	4	Approved
13691	12.8	2	Approved
15089	13.83	5 (Community Shopping Center)	Proposed
17289	2.32	2	Approved
9445	.77	4	Approved

Cumulative Projects - City of Riverside

TRACT MAPS	ACRES	NO. UNITS	STATUS
9699	11.5	106	Recorded
10099	28.2	230	Recorded
9565	38.9	62	Recorded
14540	87	36	Approved
14541	107	36	Proposed
17157	16.5	3	Approved
9923	.7	12	Recorded
7924	13.5	24	Recorded
9790	10.8	13	Approved
9218	8.18	13	Recorded
8337	29.8	34	Recorded

Cumulative Projects - City of Riverside

ZONE CHANGE	ACRES	CHANGED TO	STATUS
R2-789	9.8	Shopping Center	Approved
R12-789	2.3	4,000 Carpet Store	Approved
R52-801	.3	Water Course Zone	Approved
R51-801	1.11	Water Course Zone	Approved
R52-78	35.7	R-1-80,R-1-100	Approved
R92-790	1.7	1 Residential Unit	Approved
PRD9-767	11	175 units	Approved
R37-78	2 parcels	R-1-80	Approved
PRD11-77	4	39 units	Approved
PRD1-79	10.7	178 units	Approved
R36-790	.96	2 story, 19,000,S.F. office building	
R2-801	.3	2 story office, 13,500 site	Approved
R105-77	2	RC	Approved
R-90-78	6	C-3	Approved
R-90-78	1.65	M-1	Approved
	GENERAL PLAN AMENDMENT		
GPA22-801	178 acres	178 D.U.	Proposed

Cumulative Projects - Sun City area

Developer	No. of Lots or square footage	Acres
Rancho Pacific	1,034 d.u.	
Carlsberg	550 d.u.	
Hawkins Robinson	450 d.u.	
Other approved lots	500 d.u.	
Specific Plan 140	1,152 d.u.	
Lusk Homes	7,854 d.u.	1,857
Industrial Lusk Homes	2,822,688	162
Commercial Lusk Homes	1,115,136	64

Appendix F
Edgemont Community Service District
Project Report

1. INTRODUCTION

The primary purpose of this study is to provide sufficient information for the technical and economic evaluation of the feasibility of constructing treatment and disposal facilities for Edgemont Community Services District. This report has been prepared in compliance with the "Facilities Planning and Project Report Guidelines" for agencies seeking Clean Water Grants, (January 1975) under the California Clean Water Act of 1977.

Authorization

This report was prepared pursuant to a contract dated February 28, 1980 between Edgemont Community Services District (ECSD) and Albert A. Webb Associates, Consulting Engineers.

Background

Location

Edgemont Community Services District is a small services district located in an unincorporated area of western Riverside County that lies east of the City of Riverside. Figure 1-1 shows the location of the study area with respect to neighboring communities and major transportation routes. The District is located in a rural setting and includes the unincorporated area of Edgemont (Figure 1-2). ECSD covers approximately 2.35 square miles and is bisected by Route 15E.

Historical Background

The unincorporated community of Edgemont, lying approximately five miles southeasterly of the City of Riverside in Riverside County, California, and bordering on the northwest boundary of March Air Force Base (a Strategic Air Command installation of the United States Air Force),

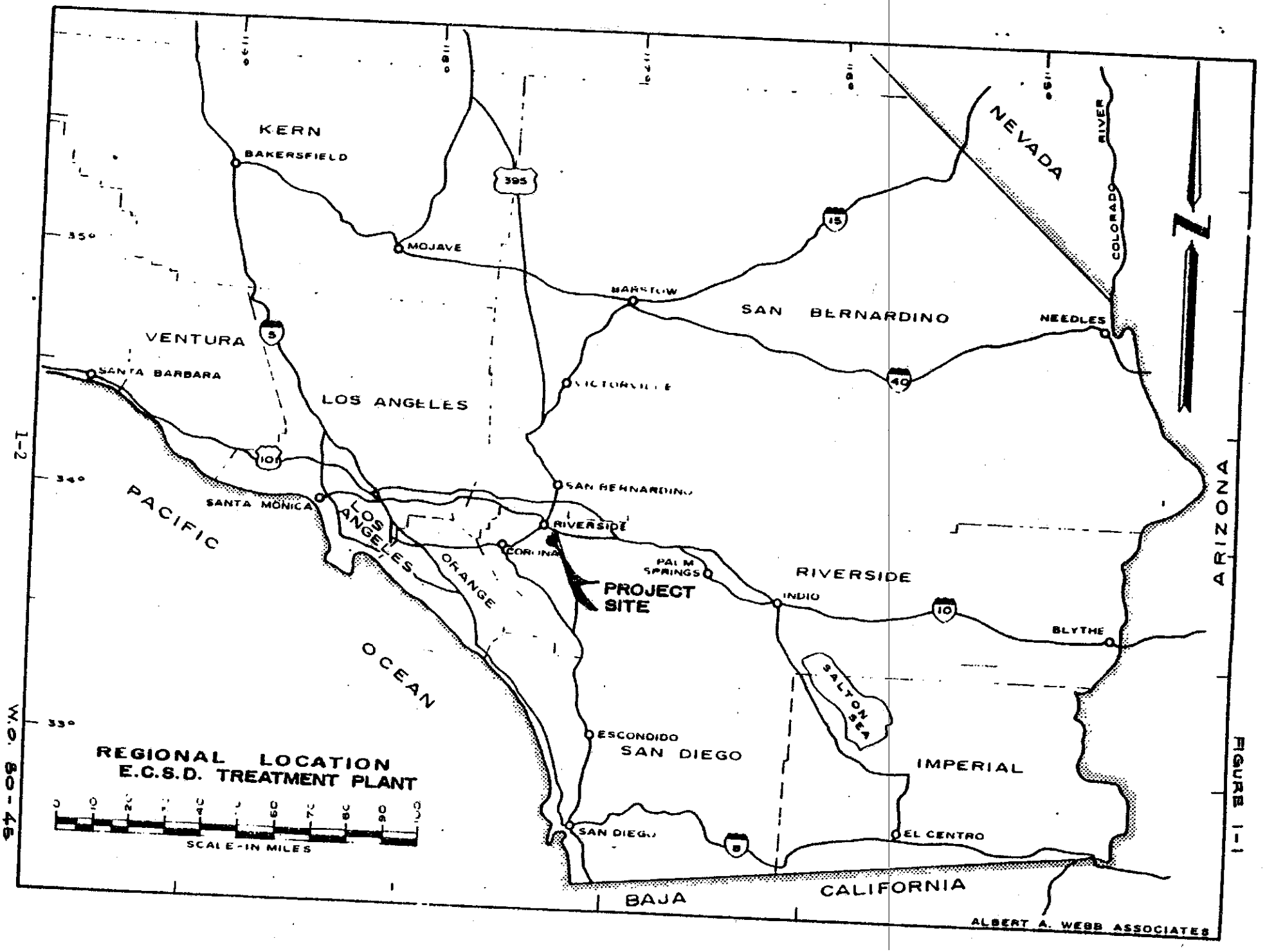


FIGURE 1-1

W.O. 80-45

1-2

F-3

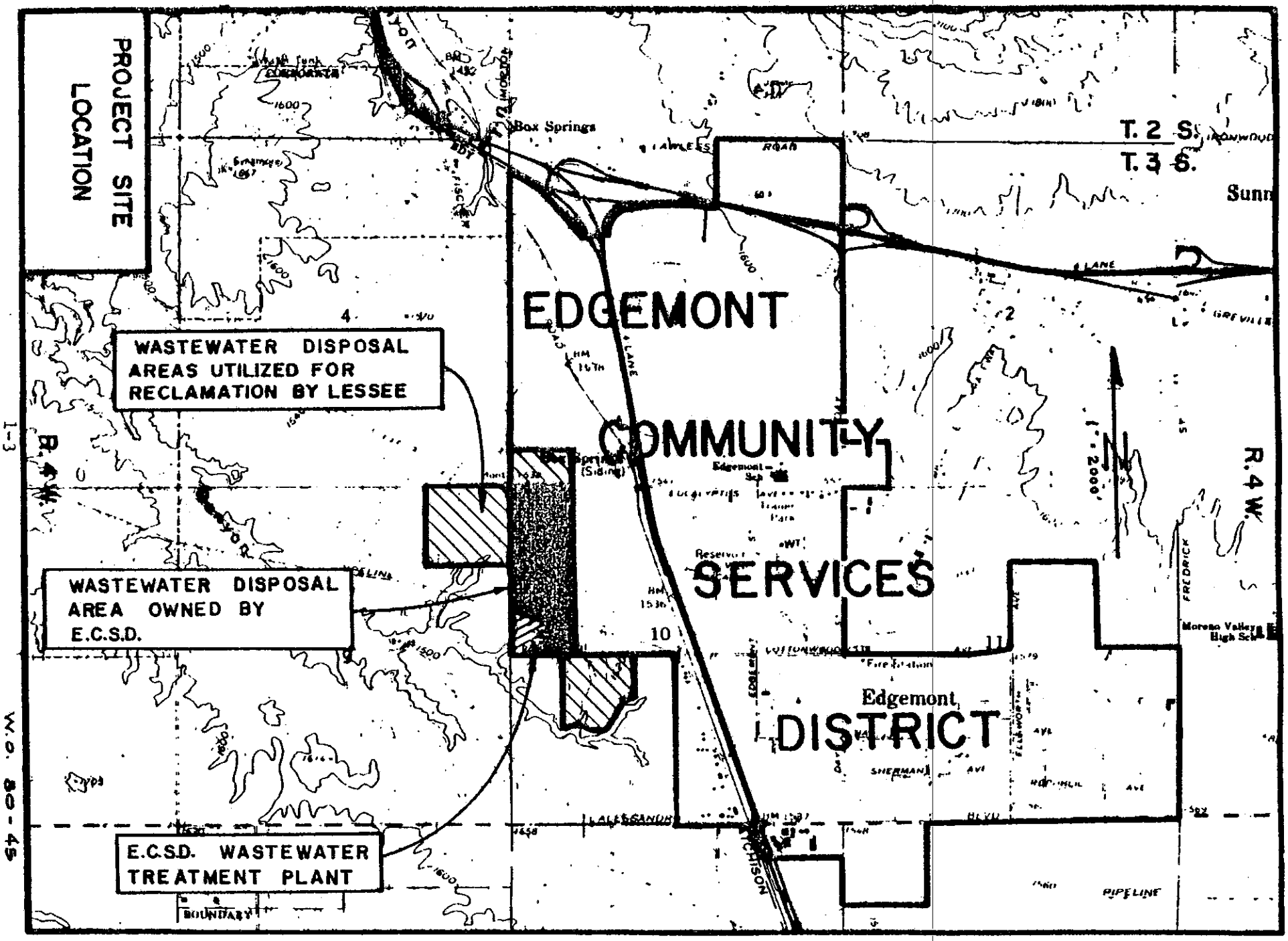


FIGURE 1-2

W.O. 80-45

1-3

F-4

organized a special district known as the Edgemont Community Services District, on March 25, 1957. The purpose was to determine the feasibility of constructing a sewage collection system and treatment plant to serve the needs of the rapidly growing community. The firms of Albert A. Webb Associates and John T. Robinson Associates were employed by the District to prepare a preliminary report containing estimates of cost for the construction of adequate facilities to care for the collection and treatment of sewage from the area. The existing plant was designed and commenced operation in 1958.

Governmental Organizations

The study area is located within Riverside County, and the Board of Supervisors has overall governing authority. The District is adjacent to the City of Riverside and Western Municipal Water District on the west and Eastern Municipal Water District on the south and east.

The water quality control program is administered regionally by the local State Water Resources Control Board (SWRCB). The California Regional Water Quality Control Boards (CRWQCB) are responsible for formulating and adopting "water quality control plans, for the region, which establish such water quality objectives as in its judgment will insure reasonable protection of beneficial uses and the prevention of nuisance". The Edgemont Community Services District is under the jurisdiction of the CRWQCB Santa Ana Region.

Wastewater Management

Edgemont Community Services District's Wastewater Treatment Plant utilizes the activated sludge process. The existing plant was designed in 1958 for a 0.57 MGD capacity flow. The present average daily

flow is 0.29 MGD (August and September 1979). The treatment plant equipment consists of a comminutor, primary clarifier, aeration tank, chlorination chamber, polishing lagoon and booster pump. The sludge is digested anaerobically and pumped to drying beds. The wastewater effluent is entirely disposed of by sprinkler irrigation.

Previous Reports

A number of previous reports including the Santa Ana Basin Plan along with others (Appendix A) have been thoroughly reviewed in the preparation of this report.

Purpose and Scope of Study

The basic purpose of this report is to develop and evaluate alternative solutions to Edgemont Community Services District's water quality problems. The water quality problems are as follows.

The wastewater treatment effluent is conveyed to a retention pond (25.6 acre-feet), which under the present flow rate has a retention capacity of 30 days. From the retention pond, the effluent is utilized for irrigation over lands either owned by the District or leased by a Mr. John Bruno.

Under the terms of the lease, Mr. Bruno agreed to lease 50 acres from ECSD in order "to take and use all of the effluent water and to maintain and service the sprinkling system". The initial lease started June 1, 1971 for a term of 4 years and was renewed in 1975 and 1977 to extend to May 31, 1981. Mr. Bruno also uses the reclaimed water for crop irrigation over approximately 140 acres.

Section A.4 of Waste Discharge Order No. 76-6 (Appendix B) states: "There shall be no discharge to property not owned or controlled by the

discharger". Currently, Mr. Bruno utilizes a portion of the reclaimed water for irrigation on District property and property he owns or leases*. During the rainy season, reclaimed irrigation water runs off the irrigated lands into Sycamore Canyon in violation of the Waste Discharge Order No. 76-6.

A second problem concerns land availability for disposal purposes. The existing wastewater treatment plant disposed of 100.4 MG of wastewater effluent in 1979 over an area of approximately 190 acres, for an annual application rate of approximately 1.6 acre-feet per acre. Development within the general area is overtaking the District reclamation areas. The present reclamation area and the vicinity surrounding that area are zoned for light manufacturing and limited industry, M-1 and M-4 respectively. Due to expansion of the industrial complex along Box Springs Boulevard, past reclamation areas are being developed into commercial or industrial sites. If the trend continues, wastewater disposal will be limited to the District's 50 acre disposal site, for an annual application rate of 6 acre-feet per acre (at the present rate of flow). This, in turn, would cause secondary treated effluent to runoff into Sycamore Canyon Creek.

A further problem area involves the wastewater treatment plant, which requires updating since it is reaching the end of its economic life. The plant has experienced a number of system breakdowns including the accelator aeration unit and the digester.

An evaluation of the design criteria shows the plant has a capacity of 200,000 to 280,000 gpd (Appendix C). Due to the mechanical failures, the total capacity of the wastewater treatment plant is

*California Regional Water Quality Control Board, Santa Ana Region Order No. 80-121 "Water Reclamation Requirement for John Bruno".

approximately 0.275 MGD. Under present sewage flow projections (Table 1-1), present plant capacity is being exceeded.

Additionally, there exists a problem with the mineral quality of the wastewater effluent. Since the California Regional Water Quality Control Board adopted Order No. 76-6 on February 27, 1976, Edgemont Community Services District has not been in complete compliance with discharge requirements (Table 1-2). The effluent samples have been within the allowable concentrations for all constituents a majority of the time, based on incremental Provision 1.b. However, based on Provision 1.a, Sodium and Sulfate constituents exceeded allowable concentrations in all samples.

The area serviced by ECSD is supplied with water from three water purveyors, Box Springs Mutual Water Company, Eastern Municipal Water District, and Western Municipal Water District. The use of Colorado River water in the area generally precludes ECSD from meeting Order No. 76-6 unless the water supply is improved or the wastewater is exported from the area.

To conform with present and future CRWQCB objectives, the ECSD will have to alter the quality of the effluent from the wastewater treatment plant and find alternative areas for disposal. Furthermore, to meet present and future flow and waste conditions, the treatment plant will require updating of the existing facilities.

Evaluation of alternatives is based on compatibility with long-range local and regional planning goals, compliance with applicable regulations, cost effectiveness, reliability, ease of maintenance and operation,

TABLE 1-1

EDGEMONT COMMUNITY SERVICES DISTRICT
SEWERED POPULATION AND WASTEWATER PROJECTIONS*

Year	1978	1980	1985	1990	1995	2000
Sewered Population	4,500	5,500	6,100	7,100	7,100	7,100
Sewage Flow in gallons per capita per day	60	65	72	80	90	100
Average Sewage Flow (MGD)	.27	.36	.44	.57	.64	.71

*Reference Final Areawide Waste Treatment Management Plan-208, Appendix E, p. E-5, Southern California Association of Governments, April 1979.

TABLE 1-2

EDGEMONT COMMUNITY SERVICES DISTRICT
WASTEWATER TREATMENT PLANT
MINERAL ANALYSIS DATA

	T.D.R.	Sodium	Sulfate	Chloride	T.H.	Boron	Fluoride
Wastewater Discharge Requirements*							
Provision 1.a	830	130	140	135	320	0.5	1.0
Provision 1.b	845	148	250	156	298	-	-
Mineral Analysis of Effluent (July 1980)	560	111	176	112	196	0.3	0.3

*Waste Discharge Order No. 76-6. Discharge requirements 1.2 (concentration provision) or 1.6 (increment provision), which results in the minimum concentration shall predominate.

innovative and alternative technologies and environmental impact. The planning period for the study is 20 years.

In order to accomplish the objective of this report, the scope of the study included the following:

(1) Review and evaluation of existing applicable reports and planning documents;

(2) Review of environmental characteristics;

(3) Review of demographic conditions and trends;

(4) Estimation of existing wastewater flows, wasteloads, and wastewater characteristics;

(5) Projection of future study area demography and wasteloads and characteristics;

(6) Development of alternative plans for wastewater collection, transport, treatment and disposal;

(7) Evaluation of the viable alternatives;

(8) Preparation of an environmental impact report; and

(9) Development of a financial program for the project.

Planning Objectives and Goals

The planning objective of this study is to develop an economically acceptable plan to comply with the California Regional Water Quality Control Board's Discharge Requirements for the Edgemont Community Services District's water reclamation facility.

2. SUMMARY AND RECOMMENDATIONS

Existing and Projected Service Area Characteristics

The existing project service area consists of approximately 2.35 square miles and encompasses the community of Edgemont (Figure 1-2). The majority of the area consists of residential (42.5 percent) and agricultural (34.7 percent) land use. Additionally, there is a small amount of light industry (11.8 percent), and commercial land (4.2 percent. The major change in land use that is expected to occur will be the expansion of the industrial areas at the expense of the agricultural areas. Residential land use is expected to increase; however, it is anticipated that this increase will occur as an infilling of vacant land within the existing residential areas rather than the residential area expanding.

Existing and Projected Water and Wastewater Characteristics

The water used within the ECSD is supplied by three water agencies: the Box Springs Mutual Water Company, the Western Municipal Water District, and the EAstern Municipal Water District. The water consists of Colorado River water, State Project water, and local groundwater.

The majority of the water supply to meet future requirements is expected to be State Water Project Water. EMWD which supplies almost 48 percent of the District's water supply is anticipated to switch from Colorado River water to State Project water in 1982. By

1982 it can be expected that at least 67 percent of the water supplied to the District will be State Water Project water with the remainder coming from local groundwater supplies.

Existing wastewater characteristics for the effluent being discharged by the District's existing wastewater treatment facility is discussed in Chapter 4. It is anticipated that as a better quality water supply is provided, the effluent quality will improve significantly.

Analysis of Existing Wastewater Facilities

The District's wastewater treatment plant utilizes an activated sludge process and consists of an influent flow meter and inlet booster pumps within the control pump room, followed by a primary clarification unit and aero-accelator with final effluent being chlorinated and discharged to an aerated retention pond, with effluent being used for sprinkler irrigation. The treatment plant utilizes an aerobic digester which discharges to sludge drying beds. The plant had a total design capacity of 0.57 MGD. However, recent mechanical difficulties and design criteria now rates the plant between 0.200 and 0.280 MGD. The present average daily flow to the plant is 0.290 MGD.

The treatment plant has experienced odor problems in the past several years which, a majority of the time, has been caused by septic conditions occurring in the storage pond. In 1979 the District installed three floating aerators in the storage pond. Since that date no odors have been reported with regard to the pond or when irrigation occurs.

Waste Discharge and Treatment Requirements

The California Regional Water Quality Control Board - Santa Ana Region has established water quality objectives for inland surface waters and groundwaters in the Riverside Basin. This is presented in the "Water Quality Control Plan Report, Santa Ana River Basin". According to the plan, the Regional Board will consider the following factors when setting Waste Discharge Requirements:

- A specific enumeration of the beneficial uses potentially to be affected by the waste discharge;
- Impact of the discharge on existing beneficial uses;
- Receiving water quality; and
- The water quality objectives.

Furthermore, the current waste discharge requirements for the Edgemont Community Services District Wastewater Treatment Facility are specified in the California Regional Water Quality Control Board - Santa Ana Region, Order No. 76-6.

Water reclamation requirements are established by the Regional Board for areas receiving reclaimed water. Potential uses of reclaimed water in the study area include streamflow augmentation and agricultural irrigation.

Project Alternative Development and Evaluation

Six alternative plans were developed and analyzed in the report (Table 2-1). In the screening process, Alternatives 2, 3, 5, and 6 were eliminated. Alternatives 1 and 4 were considered the most viable projects.

The 1965 study's results were based on the 10th busiest hours of the year, a much more rigorous standard than the 30th busiest hour traditionally used in highway planning and design. But it was determined that as the shopping center industry has matured, customers have become cognizant of peak shopping times, seek to avoid the busiest times, and distribute their shopping trips over a greater number of off-peak days and hours. This suggested that the 10th highest hour previously used is no longer appropriate. In fact, design of center access roads is now typically based on average weekday and weekend traffic volumes, and it was therefore felt that a design hour for parking standards should be selected consistent with access design standards.

The Regional Shopping Center will be constructed with the full parking area based upon 4 parking stalls per 1,000 square feet of GLA at full build-out (5,200 stalls). During phase I a parking ratio of 6.4 will be achieved. During phase II, a parking ratio of 5.2 will be achieved. Therefore during each phase of development, parking will be provided within the limits established by the ULI standards.

The regionally oriented retail element will encompass a buildable area of 272,500 sq. ft. Therefore the ULI study ratio of 4 parking stalls per 1,000 sq. ft. of GLA at full build-out will provide 950 parking stalls.

*Shopping Centers Today, June 1981
E.M. Whitlock, senior executive vp of Wilbur Smith & Associates, the New Haven, Conn., traffic consulting firm which conducted the study for ULI.

TABLE 2-1

EDGEMONT COMMUNITY SERVICES DISTRICT
SUMMARY OF ALTERNATIVES

Alternative Designation	Conveyance System To Treatment Plant	Treatment and Sludge Facilities	Effluent Disposal System	Improved Water Supply Quality
1	Conveyance to the City of Riverside's collection system via a pipeline in Box Springs Road	City of Riverside	City of Riverside	Yes
2	Conveyance to the City of Riverside's collection system via a pipeline down Sycamore Canyon	City of Riverside	City of Riverside	Yes
3	Pipeline from existing ECSD treatment plant to EMWD's Sunnymead Treatment Plant	Eastern Municipal Water District	Eastern Municipal Water District	Yes
4	Existing ECSD collection system	Reconstruct ECSD Treatment Plant and add a tertiary treatment	Direct discharge of treated effluent into Sycamore Canyon	Yes
5	Existing ECSD collection system	Rehabilitate and expand existing ECSD primary and secondary treatment plant	Existing spray irrigation methods	Yes
6	Existing ECSD collection system	Existing ECSD primary and secondary treatment plant	Existing spray irrigation methods	Yes

Summary Comparison of Viable Project Alternatives

Table 2-2 summarizes the comparison of the viable alternatives 1 and 4.

Apparent Best Alternative Project

The most viable alternative is Alternative 4 which is to reconstruct the existing water reclamation facility and dispose the tertiary treated effluent into an existing water course. Alternative 4's major assets are that it is the most cost-effective alternative and it is one of the most environmentally sound methods of providing wastewater treatment for the project area. The proposed project consists of constructing new treatment facilities on the existing plant site. A flow diagram for the proposed facilities is shown in Figure 2-1.

The proposed treatment plant serves the same area as the existing. The system terminates with a 15-inch diameter interceptor that leads into the control building. The primary components of the proposed plant will consist of a grit chamber, an oxidation ditch, two parallel clarifiers, a recirculation pump station, a tertiary backwash filter, a chlorine contact chamber, and a sludge thickener.

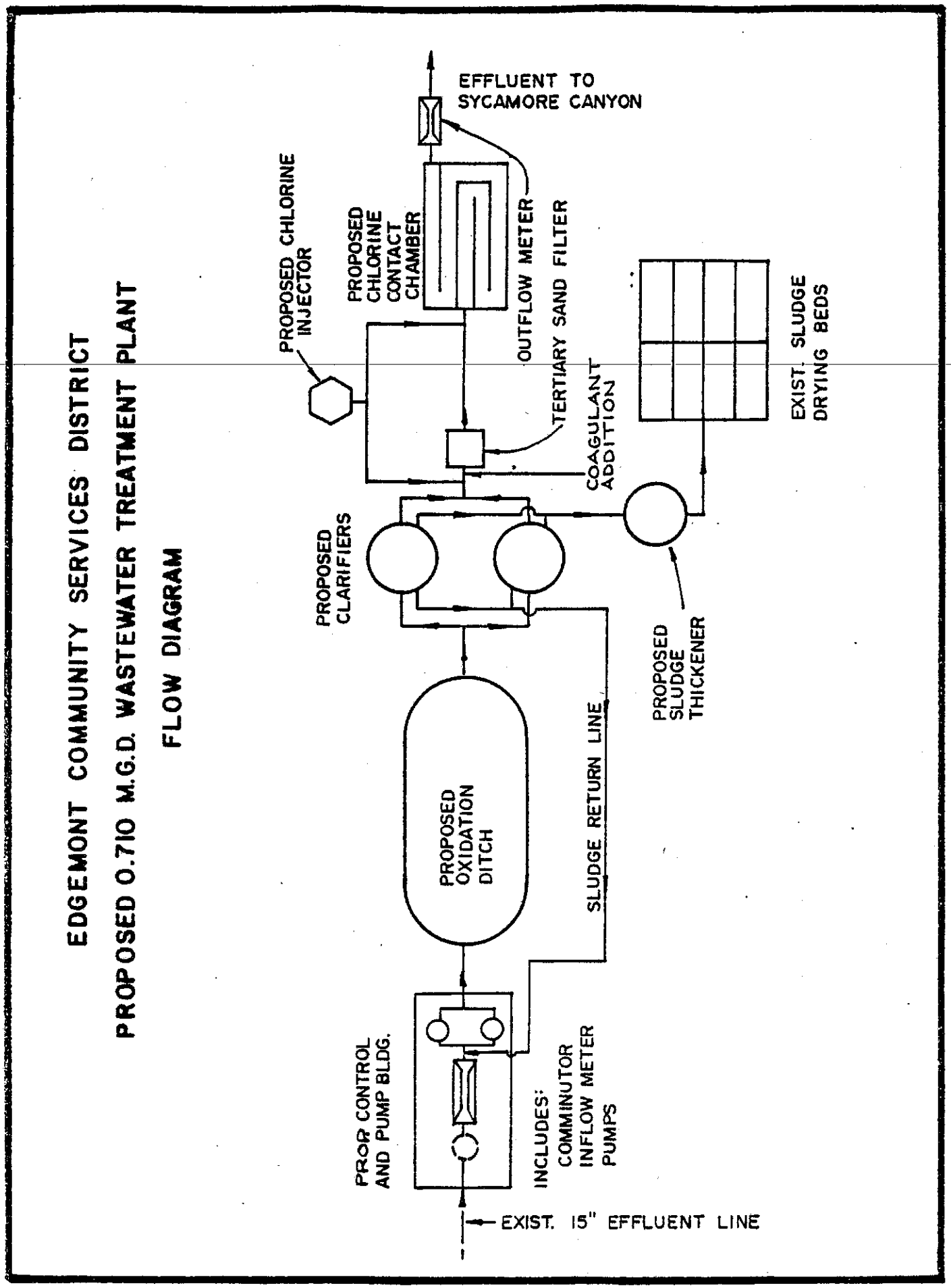
The reclamation facilities will be designed to meet the Waste Discharge Requirements as established by the California Regional Water Quality Control Board - Santa Ana Region. It was presumed that the proposed discharge requirements will be similar to the Discharge Ordinance (Order No. 76-6) as established for the existing plant with regard to mineral requirements.

TABLE 2-2

EDGEMONT COMMUNITY SERVICES DISTRICT
SUMMARY COMPARISON OF MOST VIABLE ALTERNATIVES

Factor	Alternative 1	Alternative 4
Cost Effective Analysis		
a. Monetary Cost Analysis		Best
b. Environmental Impact Analysis		Best
c. Social Impact Analysis		Best
Additional Considerations		
a. Analysis of Scarce Resources	Equal	Equal
b. Flexibility and Reliability	Equal	Equal
c. Ability to Implement		Best
d. Compatibility with Local Planning	Equal	Equal
e. Bypass Analysis	Equal	Equal
f. Flood Protection	Equal	Equal
g. Land Use Analysis	Equal	Equal
h. Public Acceptability	Best	

FIGURE 2-1


EDGEMONT COMMUNITY SERVICES DISTRICT
PROPOSED 0.710 M.G.D. WASTEWATER TREATMENT PLANT
FLOW DIAGRAM
EFFLUENT TO SYCAMORE CANYON
PROPOSED CHLORINE INJECTOR
PROPOSED CHLORINE CONTACT CHAMBER
OUTFLOW METER
TERTIARY SAND FILTER
COAGULANT ADDITION
EXIST. SLUDGE DRYING BEDS
PROPOSED CLARIFIERS
PROPOSED SLUDGE THICKENER
PROPOSED OXIDATION DITCH
SLUDGE RETURN LINE
PROP CONTROL AND PUMP BLDG.
INCLUDES: COMMINUTOR INFLOW METER PUMPS
EXIST. 15" EFFLUENT LINE

Estimated Costs

Table 2-3 shows the construction and project cost of the apparent best project. Construction costs are based on an Engineering-News Record Los Angeles Construction Cost Index of 4073. Further costs details are presented in Appendix F.

Implementation Schedule

A number of actions take place during the time period encompassing Step 1 to Step 3 of the proposed project. These actions follow in sequence and should be allotted specific completion dates. Table 2-4 is an implementation schedule which states the order of activities and their expected completion dates.

Operation and Maintenance

It is anticipated that the current manpower now being used by ECSD will be adequate to operate the proposed facilities. It is estimated that the current operation and maintenance costs will need to be increased from the current (1980) O & M costs of $71,930 to $125,709 in the year 2000. These costs do not consider the effects due to inflation.

TABLE 2-3

EDGEMONT COMMUNITY SERVICES DISTRICT
APPARENT BEST ALTERNATIVE PROJECT
COST SUMMARY

Item	Alternative 4
Capital Cost	$ 751,699
Direct Cost*	917,629
Total Construction Cost**	$1,669,328
Indirect Cost***	608,486
	$2,277,814
Land for Flowage Easement	140,000
	$2,417,814
Escalation (20 percent)	483,562
	$2,901,376
No Financing	
Total Project Cost (rounded to nearest $10,000)	$2,900,000

*Direct cost includes mobilization, clear and grub and site preparation, site electrical, control and instrumentation, yard piping, raw waste pumping, lab and maintenance, administration building, profit and overhead.

**Based on ENR-LA Construction Cost Index of 4073

***Indirect cost includes miscellaneous non construction cost, administration, legal, 201 Planning, AIE design fee, inspection, contingencies, and technical cost.

TABLE 2-4

EDGEMONT COMMUNITY SERVICES DISTRICT
IMPLEMENTATION SCHEDULE

Action	Date
Step I Project Report, EIR, and Financial Report Submitted	October 1980
Hold EIR Hearing	February 1981
Submit Final Report to State, Step II Application	February 1981
State and EPA Review - Concept Approval - Initiate Step II	August 1981
Complete Plans and Specifications and Submit to State Water Resources Control Board for Review	January 1982
State Water Resources Control Board Certification	March 1982
Advertise for Bids	March 1982
Accept Bids	April 1982
Bid Opening and Award Contract	April 1982
Start Construction	May 1982
Complete Construction and Start up Operations	January 1983

APPENDIX G
ALTERNATIVE ALIGNMENTS BY CALTRANS

RECEIVED JUL 1 3

STATE OF CALIFORNIA—BUSINESS AND TRANSPORTATION AGENCY EDMUND G. BROWN JR., Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 8, P. O. BOX 231
SAN BERNARDINO, CALIFORNIA 92403

July 9, 1981

08-Riv-15E-34.7/R38.3
0.5 Mi N of Van Buren
Blvd to Jct Rte 60

Mr. John S. Curts
Project Manager
T & S Development, Inc.
5225 Canyon Crest Drive
Bldg. 100, Suite 150
Riverside, CA 92507

Dear Mr. Curts:

Thank you for the brochure of The Springs. These are the first drawings I've seen for this proposed development.

Attached are copies of the four alternate freeway alignments and typical sections now under study for the above-referenced projects.

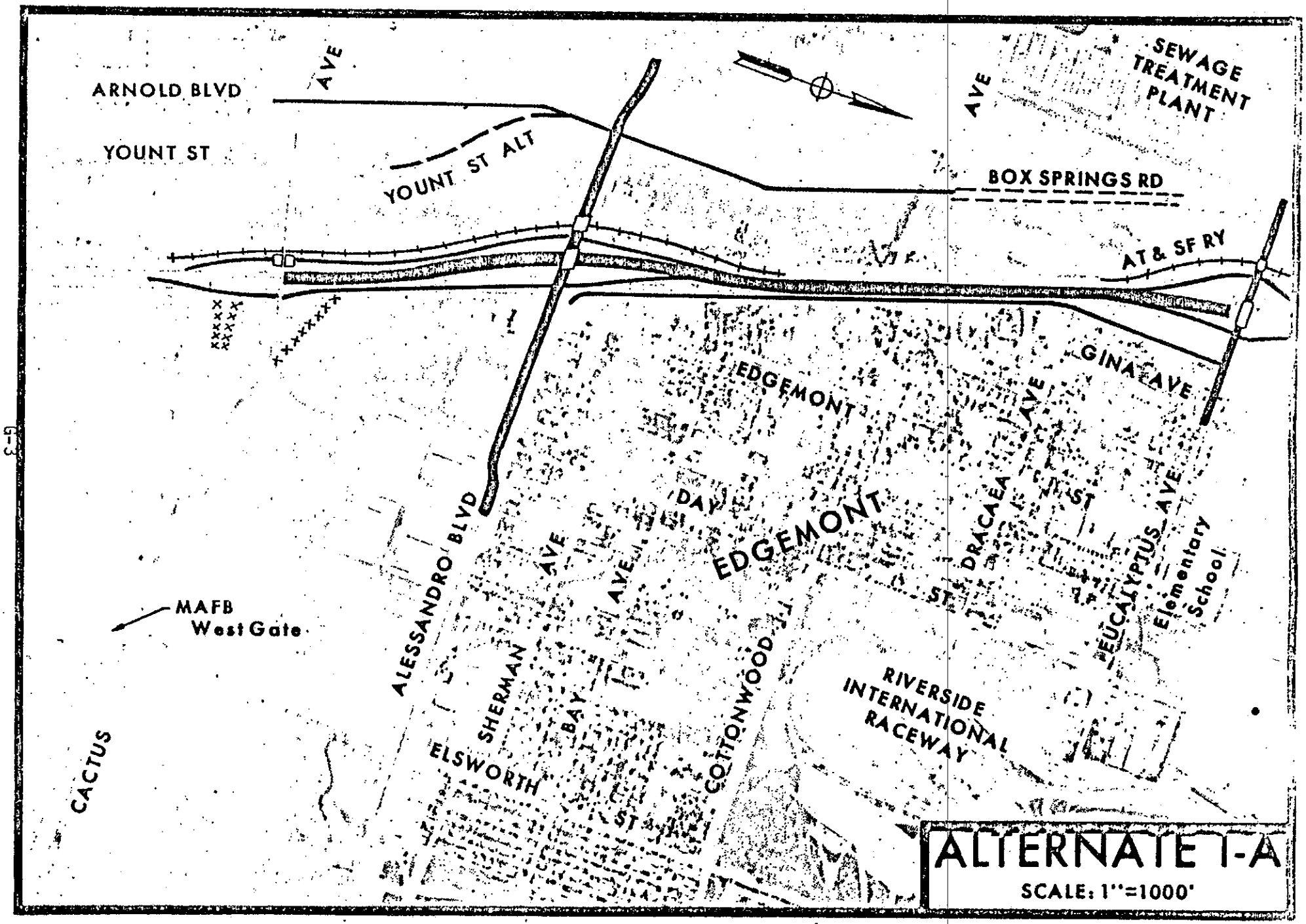
Please call me at (714) 383-4539 or Mr. W. N. Bailey at (714) 383-4072 for any further information.

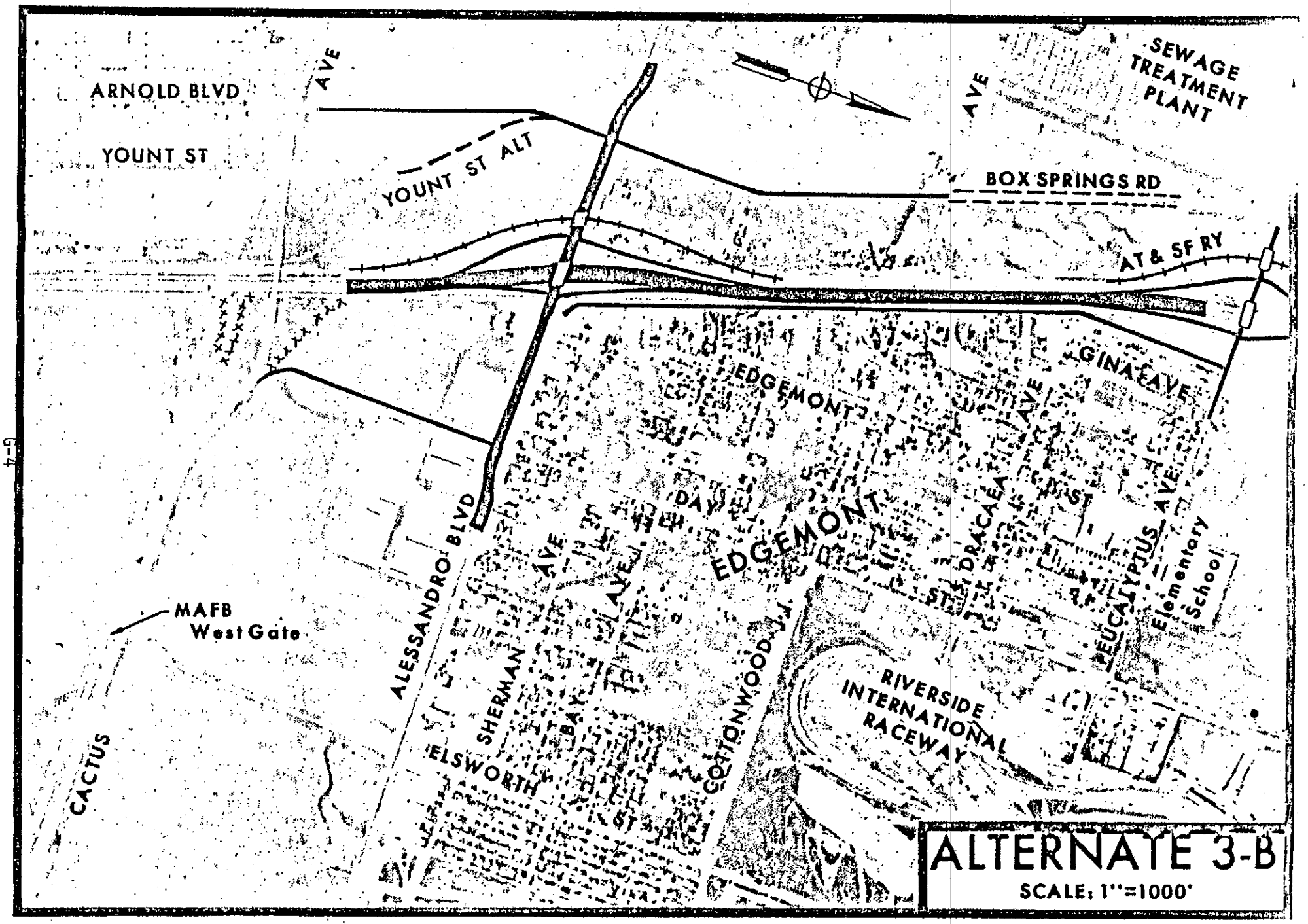
Very truly yours,

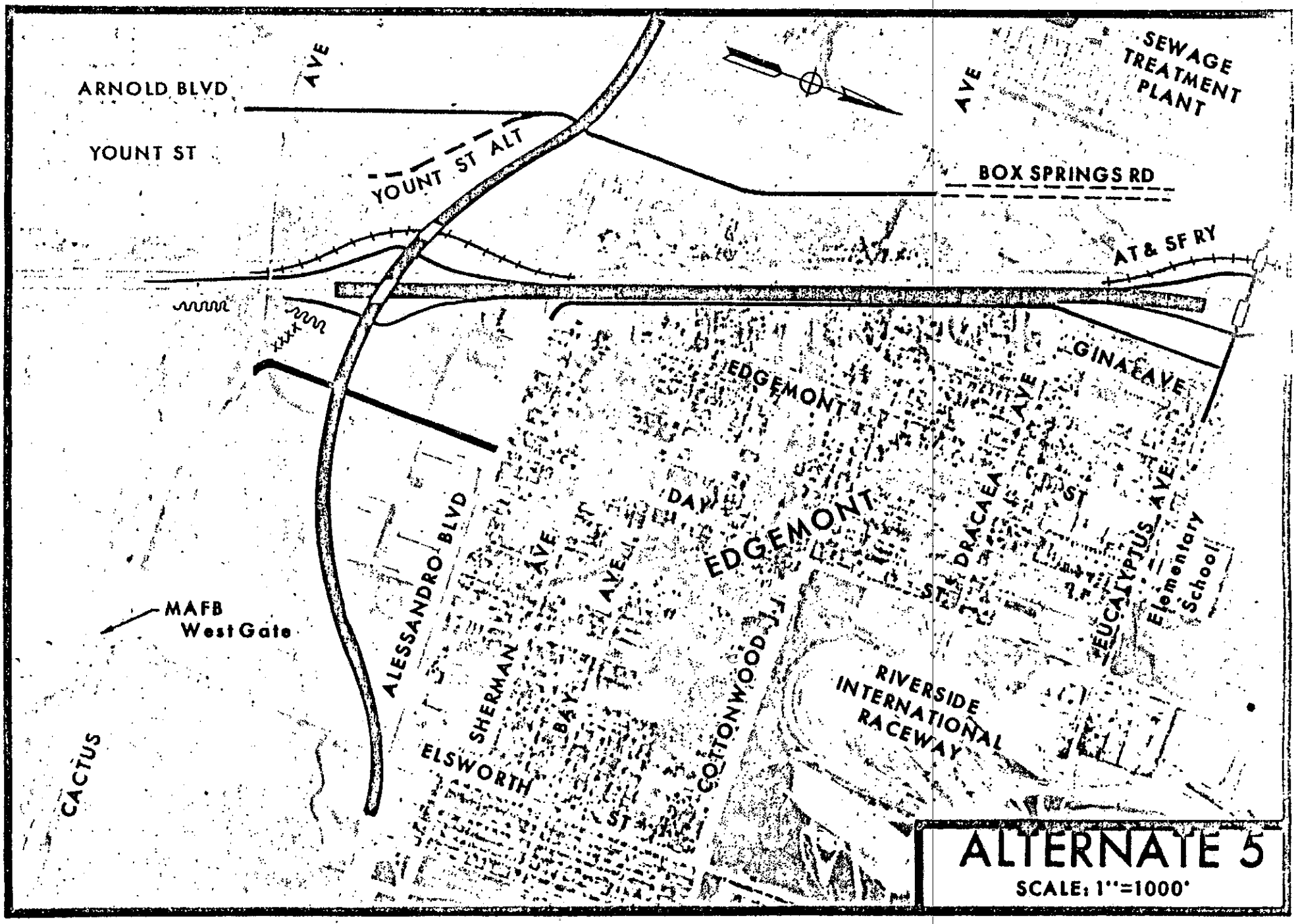
J. R. Saucier

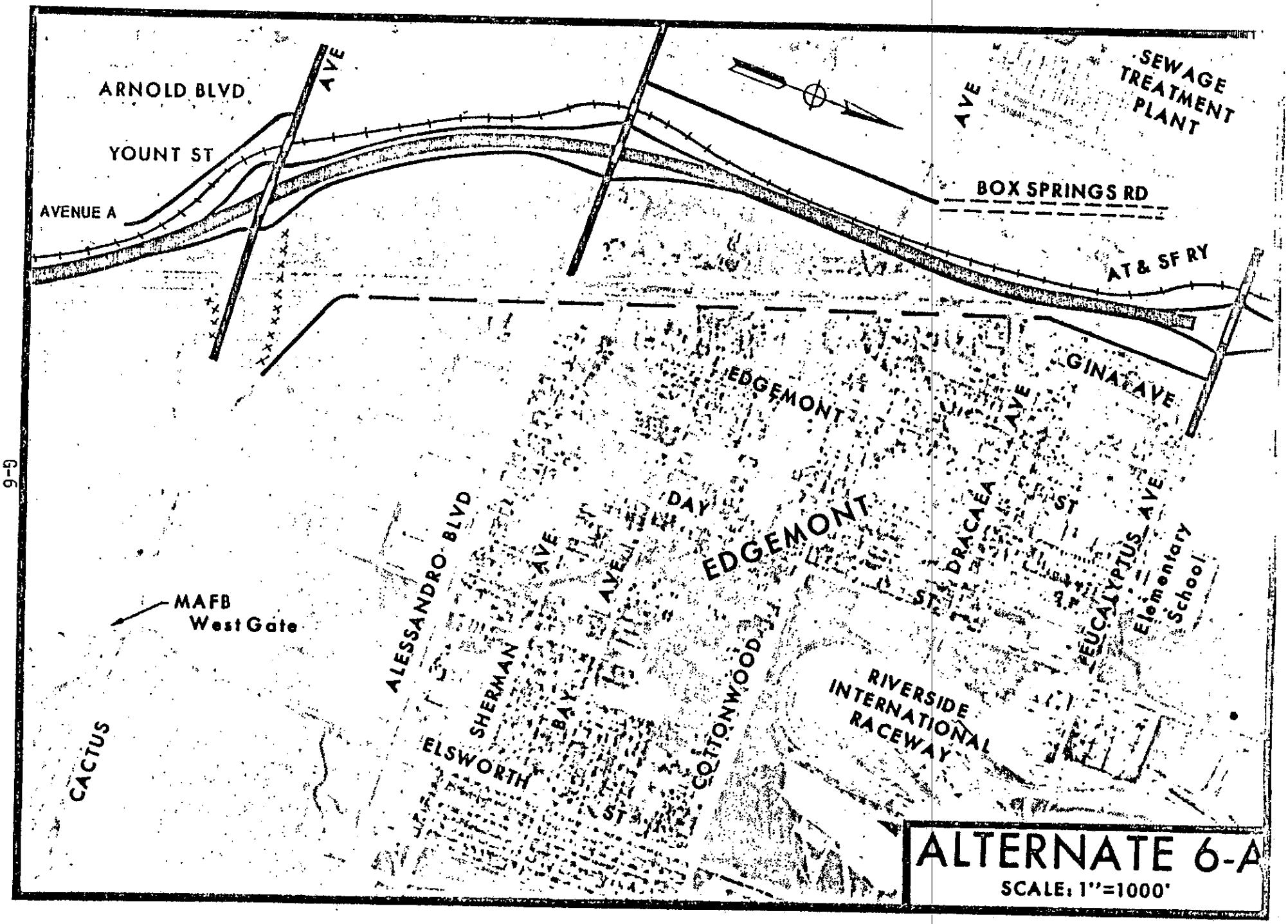
J. R. SAUCIER
Engineering Services Engineer

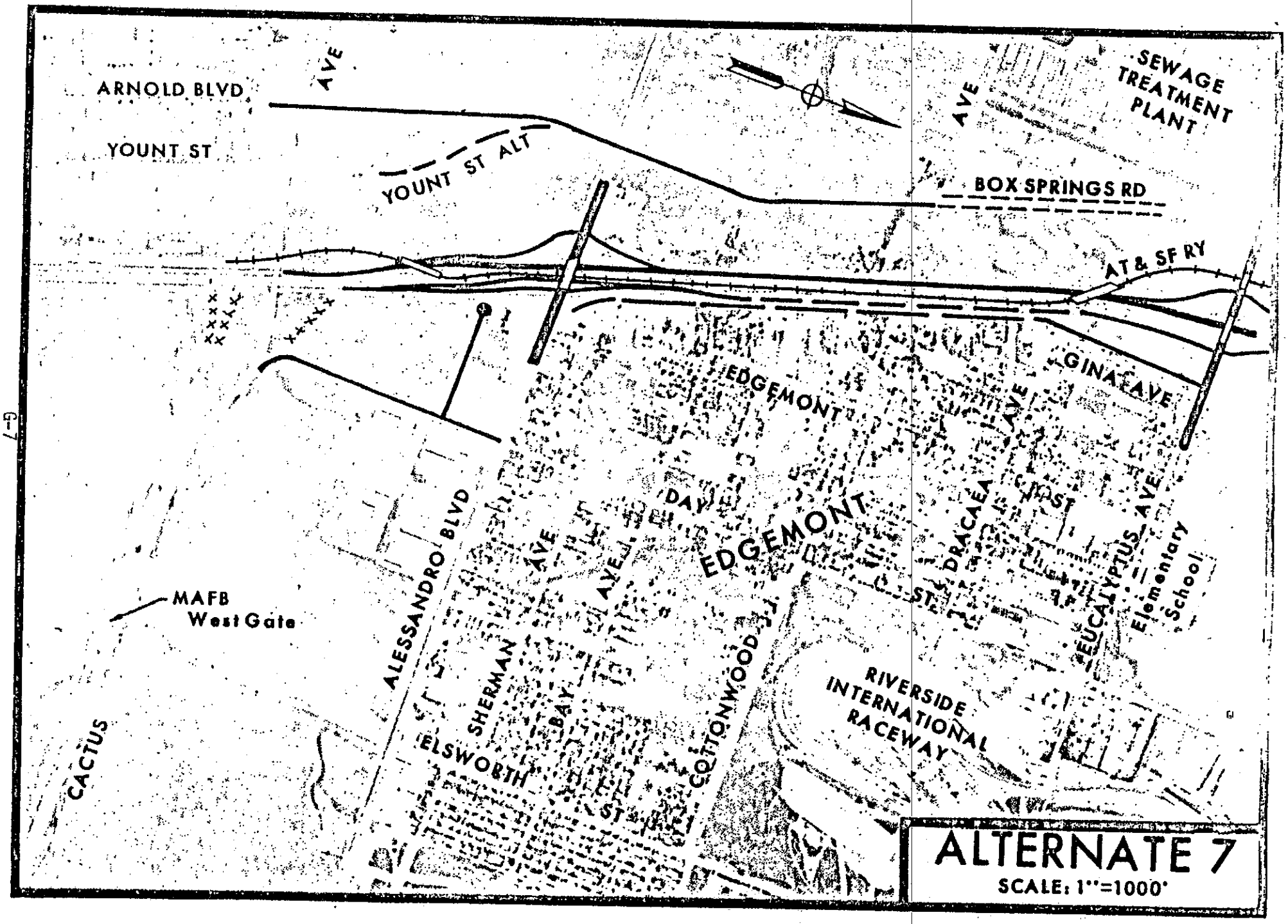
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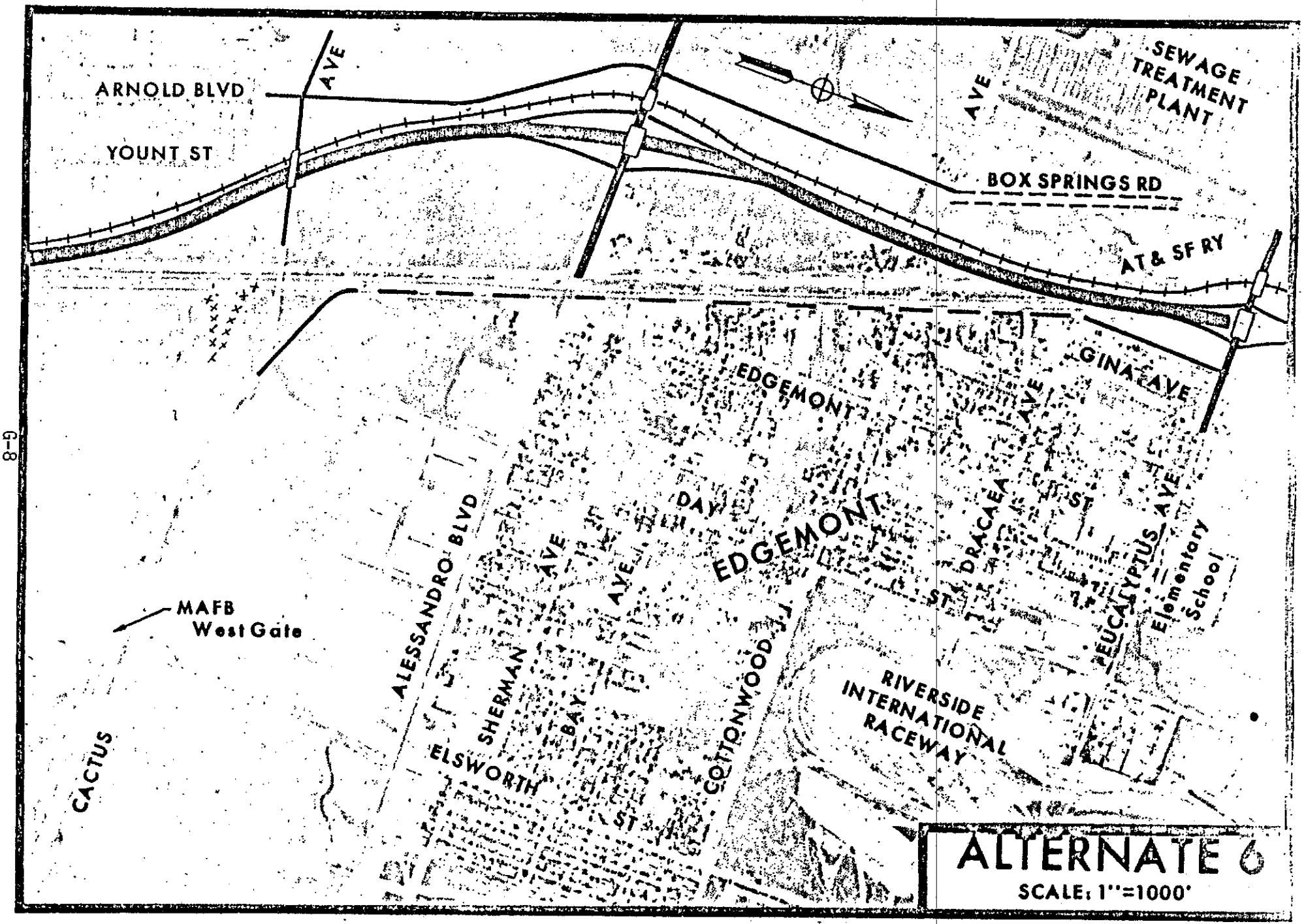

ARNOLD BLVD
YOUNT ST
YOUNT ST ALT
BOX SPRINGS RD
SEWAGE TREATMENT PLANT
AT & SF RY
GINA AVE
EDGEMONT
EDGEMONT
DRACAEA AVE
EUCALYPTUS AVE
Elementary School
ALESSANDRO BLVD
SHERMAN AVE
BAY AVE
COTTONWOOD
ELSWORTH ST
MAFB West Gate
CACTUS
RIVERSIDE INTERNATIONAL RACEWAY
ALTERNATE 1-A
SCALE: 1"=1000'

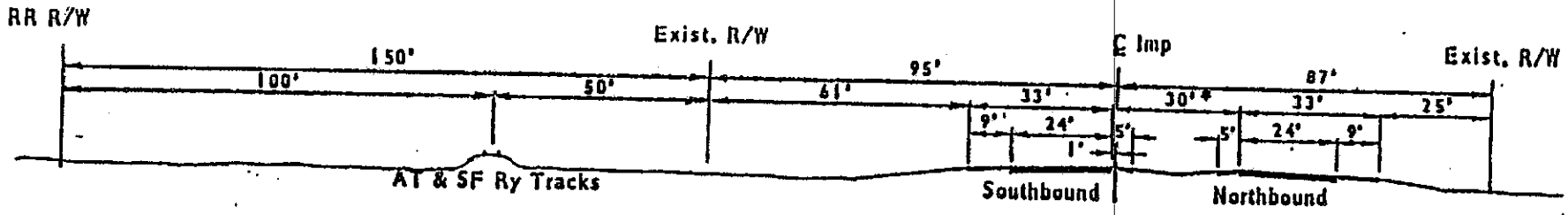

ARNOLD BLVD
YOUNT ST
YOUNT ST ALT
BOX SPRINGS RD
AT & SF RY
SEWAGE TREATMENT PLANT
EDGEMONT
GINA AVE
DRACAEA AVE
EUCALYPTUS AVE
Elementary School
MAFB West Gate
ALESSANDRO BLVD
SHERMAN AVE
BAY ST
ELSWORTH ST
COTTONWOOD
RIVERSIDE INTERNATIONAL RACEWAY
CACTUS
ALTERNATE 3-B
SCALE: 1"=1000'


ARNOLD BLVD
YOUNT ST
YOUNT ST ALT
BOX SPRINGS RD
SEWAGE TREATMENT PLANT
AT & SF RY
EDGEMONT
GINA AVE
DRACAEA AVE
EUCALYPTUS AVE
Elementary School
DAY ST
EDGEMONT
ALESSANDRO BLVD
SHERMAN AVE
BAY AVE
COTTONWOOD
ELSWORTH ST
MAFB
West Gate
CACTUS
RIVERSIDE INTERNATIONAL RACEWAY
ALTERNATE 5
SCALE: 1"=1000'


ARNOLD BLVD
YOUNT ST
AVENUE A
AVE
SEWAGE TREATMENT PLANT
AVE
BOX SPRINGS RD
AT & SF RY
GINA AVE
EDGEMONT
DRACAEA AVE
ST
EUCALYPTUS AVE
Elementary School
DAY
EDGEMONT
ALESSANDRO BLVD
SHERMAN AVE
BAY AVE
COTTONWOOD
ST
ELSWORTH
ST
MAFB
West Gate
CACTUS
RIVERSIDE INTERNATIONAL RACEWAY
ALTERNATE 6-A
SCALE: 1"=1000'


ARNOLD BLVD
YOUNT ST
YOUNT ST ALT
AVE
AVE
SEWAGE TREATMENT PLANT
BOX SPRINGS RD
AT & SF RY
GINA AVE
EDGEMONT
DRACAEA AVE
EUCALYPTUS AVE
Elementary School
DAY
EDGEMONT
ST
ALESSANDRO BLVD
SHERMAN AVE
AVE
MAFB
West Gate
CACTUS
ELSWORTH
BAY
ST
COTTONWOOD
RIVERSIDE INTERNATIONAL RACEWAY
ALTERNATE 7
SCALE: 1"=1000'

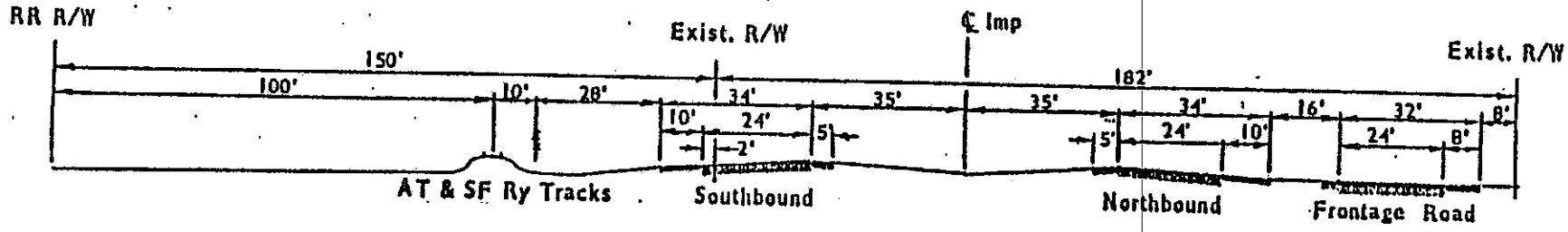

ARNOLD BLVD
YOUNT ST
AVE
SEWAGE TREATMENT PLANT
AVE
BOX SPRINGS RD
AT & SF RY
GINA AVE
EDGEMONT
AVE
DAY
EDGEMONT
DRACAEA
ST
EUCALYPTUS AVE
Elementary School
ST
ALESSANDRO BLVD
SHERMAN AVE
BAY AVE
COTTONWOOD
MAFB
West Gate
CACTUS
ELSWORTH
ST
RIVERSIDE INTERNATIONAL RACEWAY
ALTERNATE 6
SCALE: 1"=1000'



EXISTING CROSS SECTION

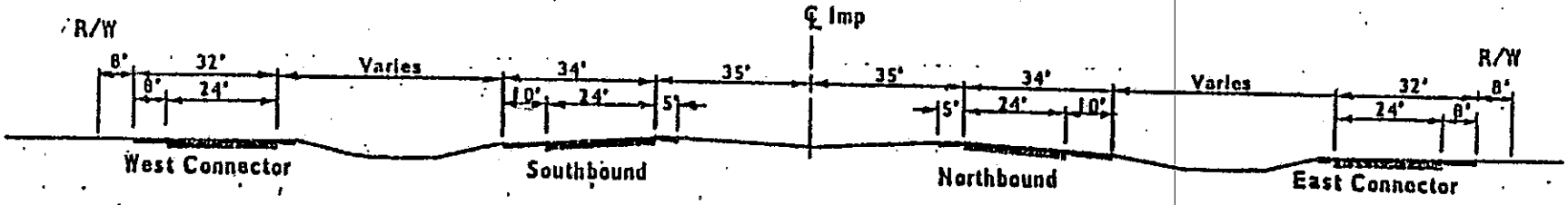
NORTH OF ALESSANDRO

* 68' south of Alessandro Blvd



PROPOSED TYPICAL SECTION

ALONG EXISTING ROADWAY



PROPOSED SPLIT DIAMOND CROSS SECTION

TYPICAL FREEWAY CROSS SECTIONS

TRAFFIC PROJECTION		
Years	1980	2000
ADT	28,000	53,000
DHV	2,800	5,300
Trucks	10%	10%

COST COMPARISON	
ALT NO.	COST(Mill)
1A	13.5
3B	13.0
5	13.0
6	16.5
7	17.0
6A	17.5



APPENDIX H
MARKET SUPPORT ANALYSIS

MARKET SUPPORT ANALYSIS
FOR THE SPRINGS
PROPOSED REGIONAL SHOPPING CENTER
RIVERSIDE, CALIFORNIA

Prepared For:
T & S Development, Inc.

October, 1981

COLDWELL BANKER

MARKET SUPPORT ANALYSIS
FOR THE SPRINGS
PROPOSED REGIONAL SHOPPING CENTER
RIVERSIDE, CALIFORNIA

Prepared For:
T & S Development, Inc.

Project No. 1608

COLDWELL BANKER
Real Estate Consultation Services
533 Fremont Avenue
Los Angeles, California 90071

October, 1981

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Section I
INTRODUCTION

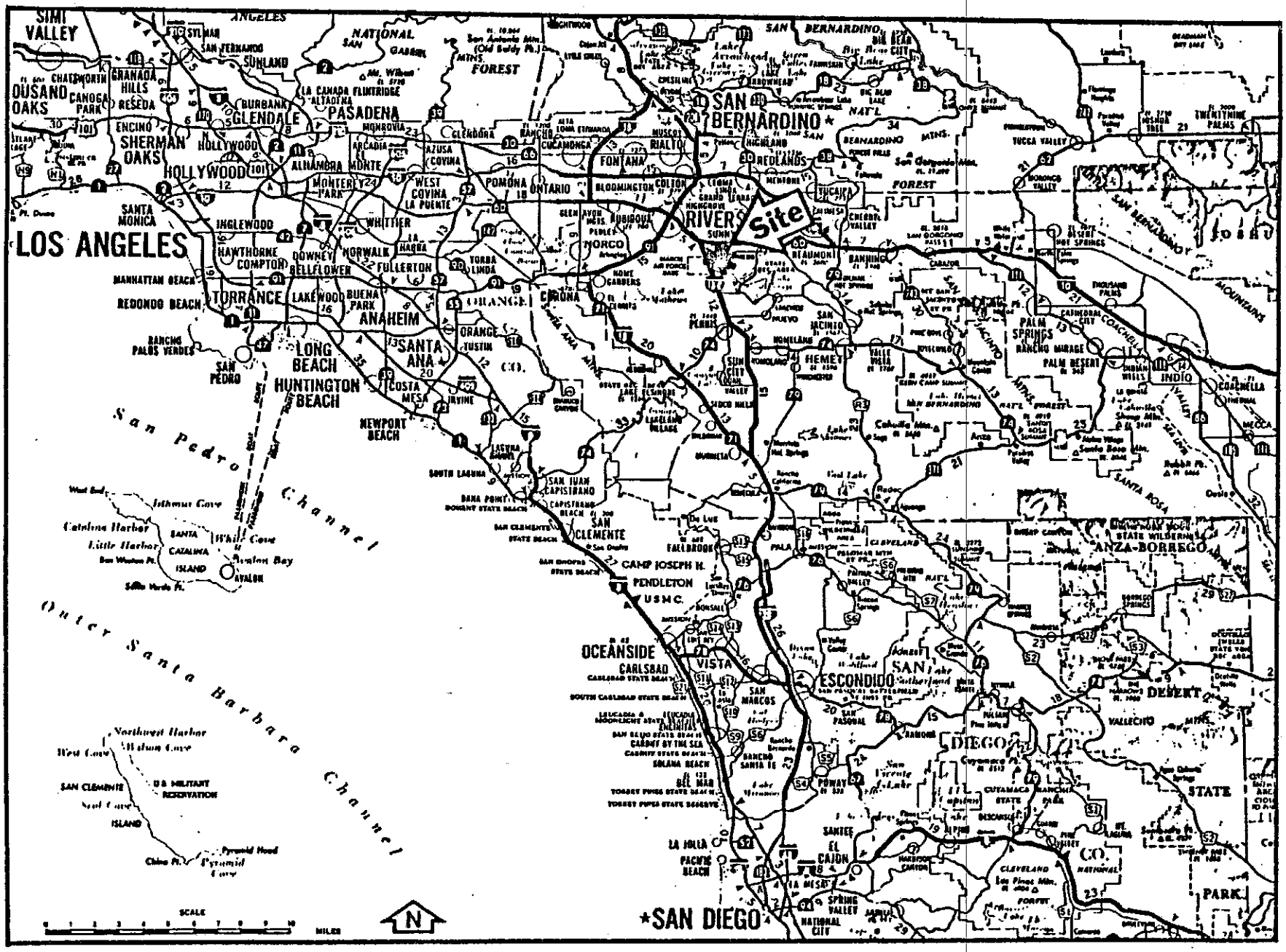
T & S Development, Inc. has retained Coldwell Banker Real Estate Consultation Services to evaluate the market support for a regional shopping center at the junction of I-15E and S.R. 60 just east of the city of Riverside, California, as shown in Exhibit I-1. An overview of the proposed regional center is presented in Exhibit I-2.

The objectives of this study are twofold: (1) to evaluate the potential market support for a regional shopping center at the subject site; and (2) to identify more specific market support for fashion department stores in the Riverside-San Bernardino area. The following report examines the extent of this market support and recommends the appropriate size and timing of development for the proposed regional shopping center. The appendix provides an economic overview of the region.

STAFF INVOLVEMENT

This study was conducted under the supervision of Sol L. Rabin, Ph.D., Senior Vice President and General Manager of Real Estate Consultation Services. This analysis was prepared by Stanley R. Yon, Real Estate Analyst and reviewed by Earl Rubin, Vice President.

Exhibit I-1
REGIONAL LOCATION OF
THE SPRINGS PROPOSED
REGIONAL SHOPPING CENTER



Section II
SUMMARY AND CONCLUSIONS

1. The market area for The Springs regional shopping center proposed to be located at the intersection of I-15E and S.R. 60 east of the city of Riverside extends across a large regional area within the Inland Empire (San Bernardino-Riverside SMSA). The population within this market area was 819,400 in 1980 and is projected to reach 924,900 by 1985, implying an annual growth rate of nearly 2.5 percent. This area currently is the fastest growing region in California, according to First Interstate Bank.

2. The site of The Springs is well-situated within the Inland Empire: it is at the western entrance to the Moreno Valley which is expected to be the premier residential growth area in central Riverside County through the 1980's; and it is at the junction of I-15E and S.R. 60, primary routes linking the Los Angeles region to San Diego and Phoenix, respectively.

3. Competitive regional shopping centers within The Springs' market area include Tyler Mall and Riverside Plaza in Riverside and Inland Center and Central City Mall in San Bernardino. Together, these represent 3.1 million square feet of gross leasable area including 2.1 million square feet of anchor tenant space.

4. Major department stores in the four competitive centers include: May Co., Broadway, Penney, Sears, Wards, and Harris'. Each department is represented in both Riverside and San Bernardino, including Sears' free-standing store in Riverside.

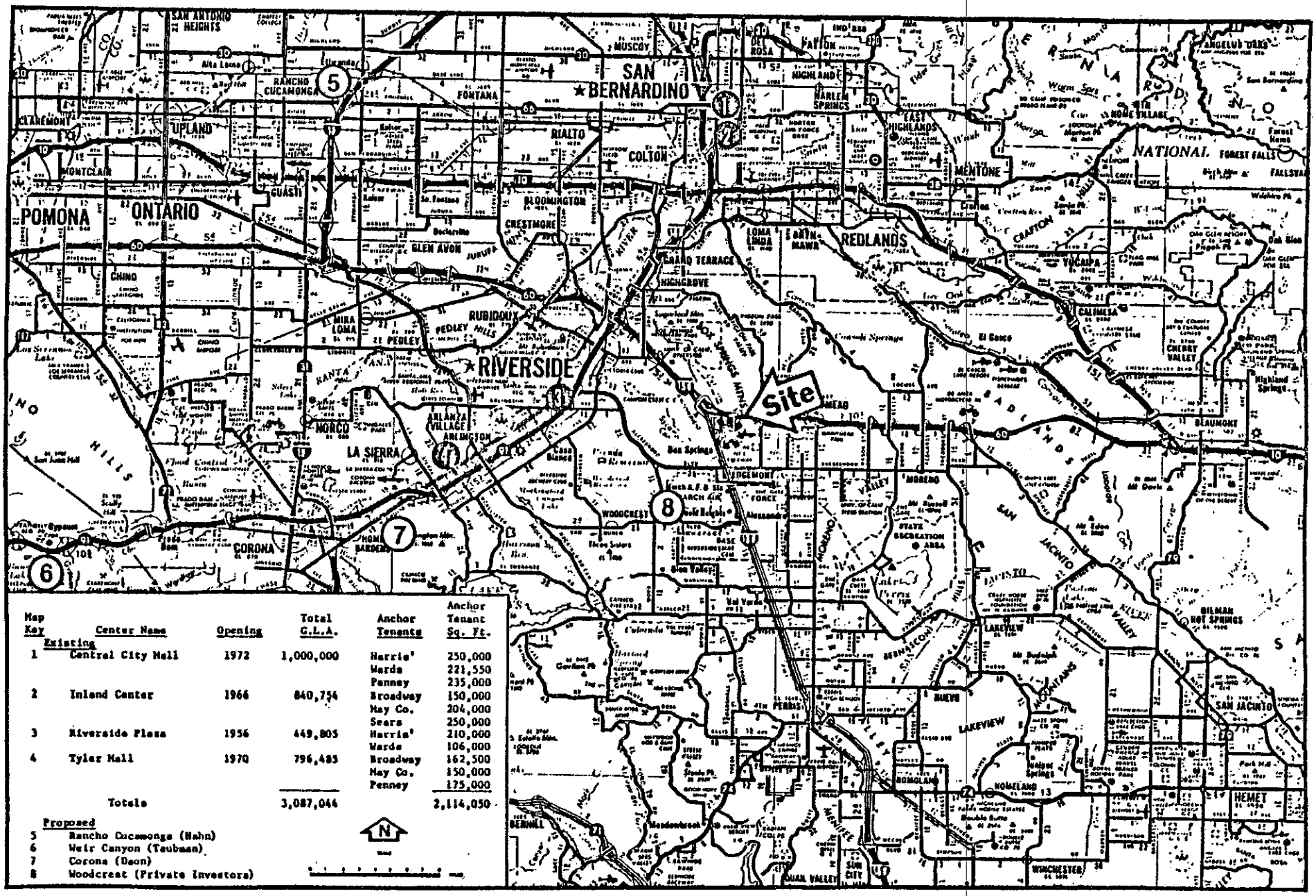
5. Other sites proposed for regional shopping center development include: Rancho Cucamonga (Hahn), Weir Canyon (Taubman), Corona (Daon), and Woodcrest (private investors). Of these, the most probable to be developed is Hahn's in Rancho Cucamonga with an estimated opening date in 1985. As yet, no major anchor tenants are known to have committed to any site.

6. The primary market area of The Springs includes neighborhoods having the highest household incomes in Central Riverside County (i.e., Victoria County Club and Canyon Crest) as well as areas of Moreno Valley comprising of affordable housing.

7. No fashion department stores, such as Bullock's, Robinson's, Neiman-Marcus or Nordstrom's, are located within the market area of The Springs. The nearest fashion department stores are Bullock's at West Covina Fashion Plaza and Santa Ana Fashion Square and Bullock's Wilshire, Robinson's and Saks Fifth Avenue in Palm Springs.

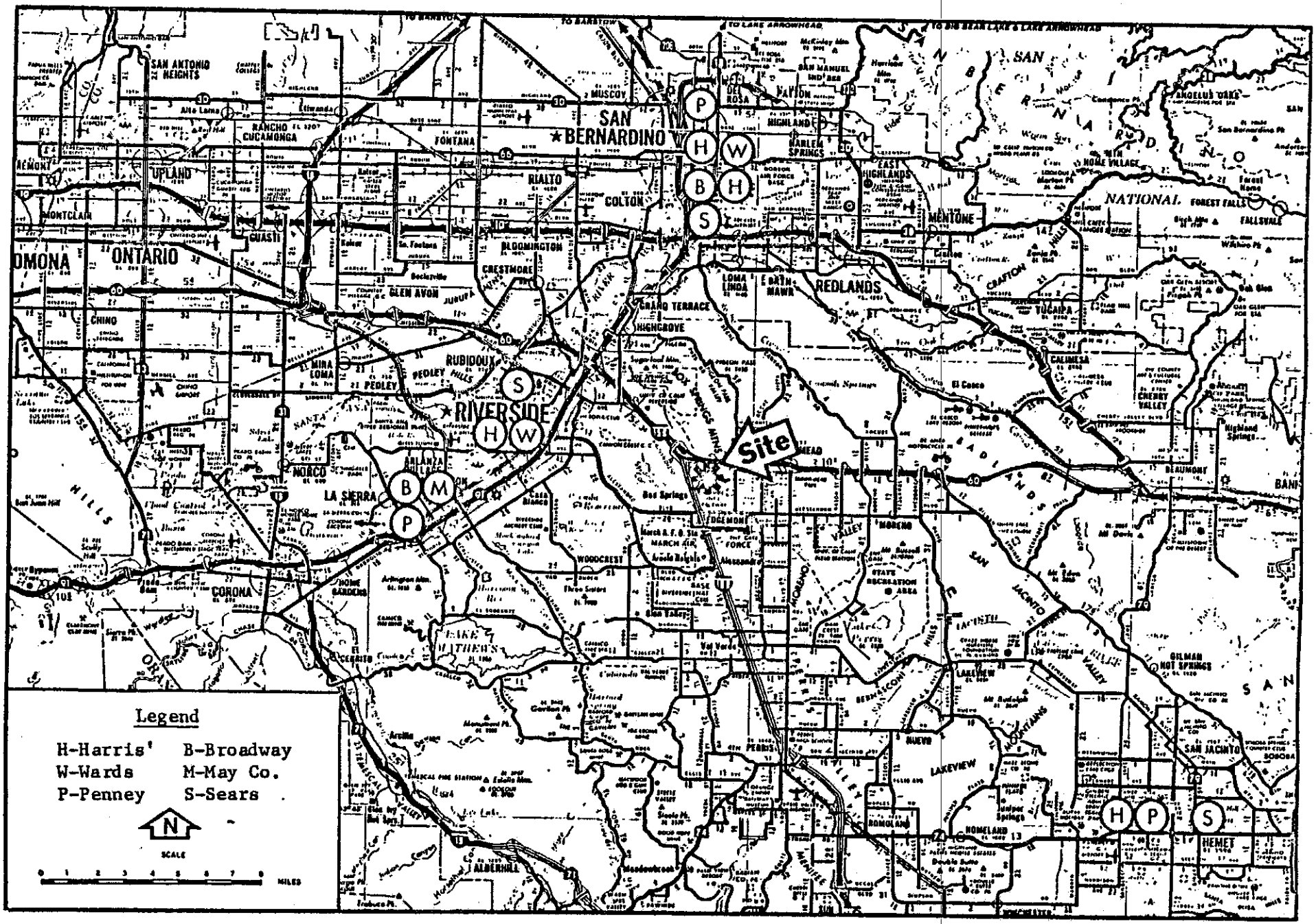
8. Fashion shoppers from San Bernardino and Riverside must travel to Palm Springs or Orange County to find a selection of high-end merchandise.

Exhibit III-1
EXISTING AND PROPOSED
REGIONAL SHOPPING CENTERS



Map Key	Center Name	Opening	Total G.L.A.	Anchor Tenants	Anchor Tenant Sq. Ft.
	Existing				
1	Central City Mall	1972	1,000,000	Harris'	250,000
				Wards	221,550
				Penney	235,000
2	Inland Center	1966	840,754	Broadway	150,000
				May Co.	204,000
				Sears	250,000
3	Riverside Plaza	1956	449,805	Harris'	210,000
				Wards	106,000
4	Tyler Mall	1970	796,485	Broadway	162,500
				May Co.	150,000
				Penney	175,000
	Totals		3,087,044		2,114,050
	Proposed				
5	Rancho Cucamonga (Hahn)				
6	Weir Canyon (Taubman)				
7	Corona (Dson)				
8	Woodcrest (Private Investors)				

Exhibit III-2
EXISTING DEPARTMENT STORES
IN THE SPRINGS MARKET AREA



9. Several higher income residential areas, where average household income exceed $25,000 are found in or near The Springs' market area including: Victoria Country Club and Canyon Crest, in Riverside; Jurupa, Norco, Corona, portions of Redlands, East Highlands, East Chino, Crestmore, Alta Loma, and Upland. The total number of households in these areas exceeds 25,000.

10. The 1985 gross GAFO (general merchandise, apparel, furniture/furnishings and other specialty) sales potential in The Springs' market area is projected at $1,556 million, of which $288 million is expected to be spent in the area's department stores.

11. Allowing for leakage to competing department stores in its market area, The Springs' anchor tenants can expect to capture sales amounting to $61 to $73 million in 1985, approximately 21 to 25 percent of total department store sales in the market area. This capture rate exceeds The Springs' 19 percent fair share (based on 450,000 square feet of anchor tenant space) reflecting the site's premier locate in relation to residential growth areas in Riverside County.

12. The market support for the proposed regional shopping center suggests a center size of 800,000 square feet of gross leasable area by 1985.

13. The market support for anchor tenant space in the proposed center is determined at 450,000 square feet. This implies a development with three department stores, each totaling 150,000 square feet of gross leasable area. The support for anchor tenant space is sufficiently strong to warrant reserving a fourth pad to accommodate a future department store as the market area continues to grow.

14. Mall shop space has been allocated according to determined demand for anchor tenant square footage. Market support for mall shop space is determined at 350,000 square feet of gross leasable area, or 78 percent of recommended anchor space.

Section III
RETAIL MARKET ANALYSIS

This section presents an analysis of the market support for department store and mall shop space at the site proposed for The Springs regional shopping center in Riverside County, California. The supply/demand condition for anchor tenant support is a pivotal consideration in determining the feasibility of the project, both in terms of the on-site department store demand, and in terms of the corresponding proportion of mall shop space.

MARKET OVERVIEW

There are currently two concentrations of comparison shopping opportunities in the Riverside-San Bernardino area: (1) Central City Mall and Inland Center in San Bernardino; and (2) Riverside Plaza and Tyler Mall in Riverside. The geographic relationship between these existing regional centers and the project site is illustrated in Exhibit III-1.

Together, these centers comprise nearly 3.1 million square feet of gross leasable area for comparison shopping. Of that total, more than 2.1 million square feet are represented by major department stores. As shown in Exhibit III-2, precisely the same department stores are represented in both San Bernardino and Riverside, namely: Broadway, May Co., Harris', Penney, Ward's, and Sears (including the free-standing store in Riverside). In addition, smaller outlets of Harris', Penney and Sears are found in Hemet.

MARKET AREA DEFINITION

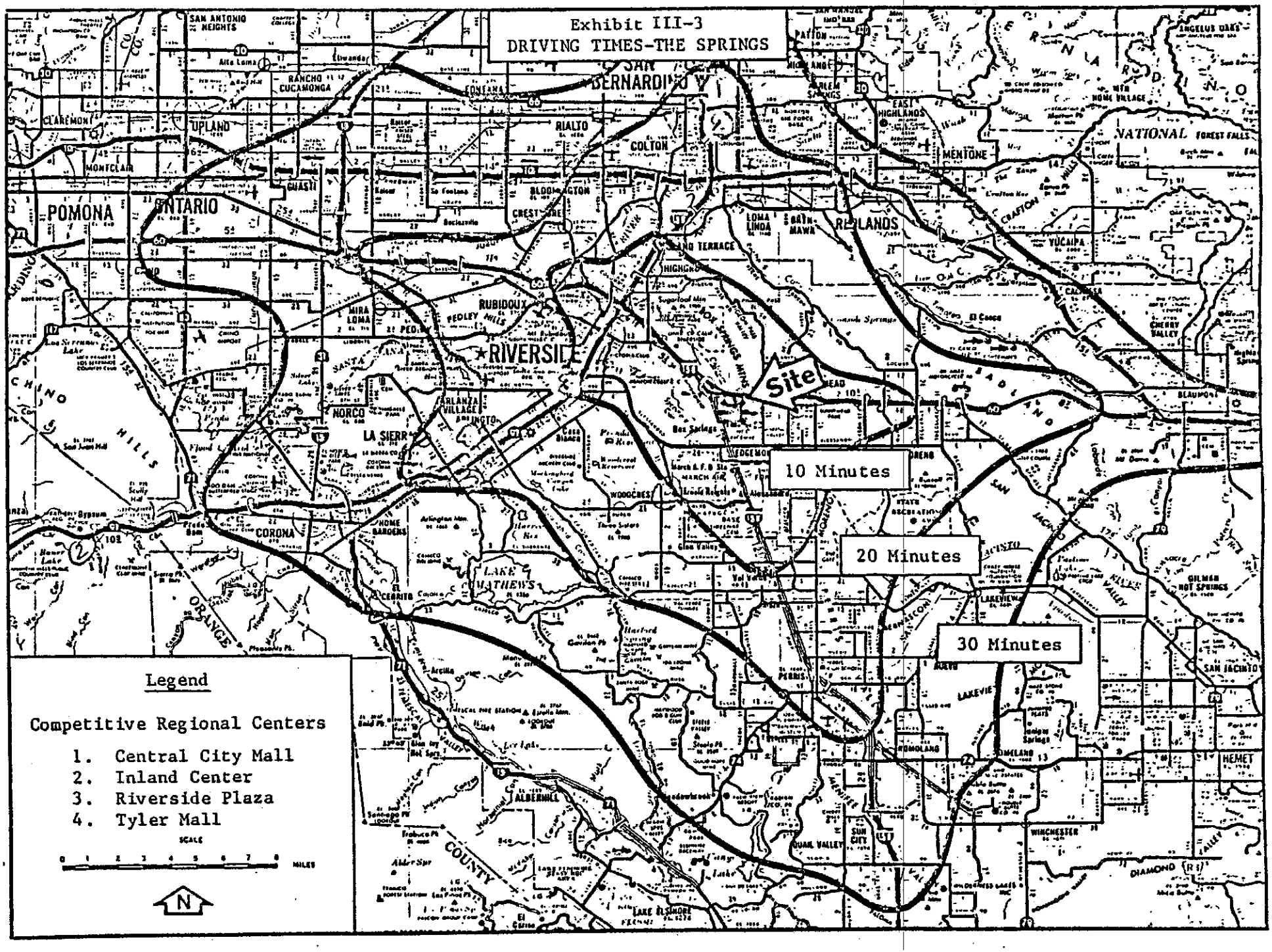
The market area for the proposed retail project is defined on the basis of two major principles: (1) convenience; and (2) competitive alternatives. Generally speaking, customers will utilize most frequently and most intensely those retail facilities which serve a specific need, and which are located most conveniently to their place of residence. Therefore, the market area can be described in geographic terms and related to traffic patterns, driving time, and the location of alternative shopping facilities.

Driving Times

Exhibit III-3 identifies those areas which are accessible within a 10-, 20-, and 30-minute drive from the site. This is the area from which a regional shopping center on the site would principally draw customers.

Competition

Competition is defined in this analysis as any retail facility incorporating conventional department store space. These projects represent a potential influence on the market support attainable for the proposed regional shopping center.


Exhibit III-3
DRIVING TIMES-THE SPRINGS
Site
10 Minutes
20 Minutes
30 Minutes
Legend
Competitive Regional Centers
1. Central City Mall
2. Inland Center
3. Riverside Plaza
4. Tyler Mall
SCALE
MILES
N
SAN BERNARDINO
RIVERSIDE
POMONA
ONTARIO
UPLAND
RIALTO
COLTON
REDLANDS
MENTONE
NORCO
CORONA
LA SIERRA
MORENO VALLEY
PERRIS
HEMET
SAN JACINTO
LAKE MATHEWS
LAKE ELSINORE

Further, competition is viewed as exerting either: (1) an external influence; or (2) an internal influence on the proposed shopping center development. A competitor or a competitive project exerting an external influence impinges on the market penetration achieved by the proposed development, that is, at the outlying fringe on the defined market area. A competitor exerting an internal influence diffuses department sales within the market area, thus influencing the market support for the proposed project. It is within this context that competition is identified and evaluated.

External Competition — External competition for the Riverside/San Bernardino market area comes primarily from Orange County and, secondarily from eastern Los Angeles County. The most formidable sources of external competition appear to be South Coast Plaza and Fashion Island in Orange County. Presumably, many people living in Riverside while working in Orange County tend to shop near their place of work. This tendency also would be reinforced by the fashion shopping opportunities available in Orange County and unavailable in the Riverside/San Bernardino area (outside of Palm Springs).

Internal Competition — As described previously, the principal internal competition to the proposed regional center consists of Central City Mall, Inland Center, Riverside Plaza and Tyler Mall.

Central City Mall is the most significant retail project in this area, totaling 1,000,000 square feet of gross leasable area. The project is anchored by three department stores: Penney, Wards and Harris', a local chain. Central City Mall is the most recent major development in the area, having been remodeled in 1972. Although the project does not have a high degree of visibility from the highway (I-15E), it is heavily trafficked benefitting from a skybridge linking the project to the San Bernardino civic center complex.

Inland Center, developed by Sears and opened in 1966, is the second largest project in the area with 840,750 square feet of gross leasable area. In addition to Sears, the project is anchored by Broadway and May Co. The center offers somewhat higher quality merchandise than that found in Central City Mall and has freeway exposure from I-15E; yet, it does not appear as active as its nearby competitor.

Riverside Plaza is the oldest and smallest of the competitive regional centers, opening in 1956 with nearly 450,000 square feet of gross leasable area. Its anchor tenants include two department stores, Harris' and Wards, and a supermarket, Von's. As an open mall this project is at a competitive disadvantage to each of the other enclosed regional shopping centers in the area.

Tyler Mall opened in 1970 with 796,500 square feet of gross leasable area anchored by Broadway, May Co., and Penney. This project is the most direct competitor with the proposed regional center.

Proposed Projects — Various regional shopping centers have been proposed in or near the Riverside/San Bernardino area, including: Rancho

Cucamonga (Hahn); Weir Canyon (Taubman); Corona (Daon); and Woodcrest (private investors). Of these, only Hahn's Rancho Cucamonga site (along I-15) appears imminent, 1985. No commitments are known to have been made on any of the propsed projects.

MARKET AREA DELINEATION

Presented in Exhibit III-4 are the market area delineations for The Springs proposed regional shopping center. Three distinct market areas have been identified: the primary*, secondary, and tertiary areas. These areas are distinguished by their distance to the proposed center, plus the strength of retail facilities within and among the individual areas. This is simply to recognize that shopping patterns will be influenced directly by travel distance, and must be accounted for through a "sales leakage" technique. Depending on the market area in question, appropriate leakage rates will be applied. Sales leakage is defined as a portion of market area sales diffused to: (1) outlying retail markets (e.g., Orange County); and (2) other department store outlets within the market area and including catalog stores.

Primary Market Area

The primary market area, as depicted in Exhibit III-4, covers an area within 15-20 minutes driving time from the site including Canyon Crest, University, Victoria Country Club, Moreno Valley and Perris Valley.

The 1980 population of the primary market is estimated to be 85,847 (based on the 1980 census), as displayed in Exhibit III-5. This reflects a compounded annual population increase of 3.12 percent over 1970 (63,138). Exhibit III-6 depicts the population concentrations and growth areas in Riverside County by census division.

It is projected that population in this area will continue to grow at approximately this rate through 1985 when it should approach 100,000 persons. This area, particularly the Moreno Valley, is expected to be one of the primary residential growth areas in the Riverside-San Bernardino area through the 1980's.

Exhibit III-8 shows that the 1980 average household income in the primary market area was $22,230, slightly above the average ($20,158) for the entire market area of The Springs. This higher average household income in attributable to the Victoria Country Club and Canyon Crest neighborhoods where average household incomes were $39,756 and $34,000, respectively, as shown in Exhibit III-9 and III-11.

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* The primary area is divided into two parts to account for shared portions of the area.

Exhibit III-4
THE SPRINGS MARKET AREA DELINEATIONS

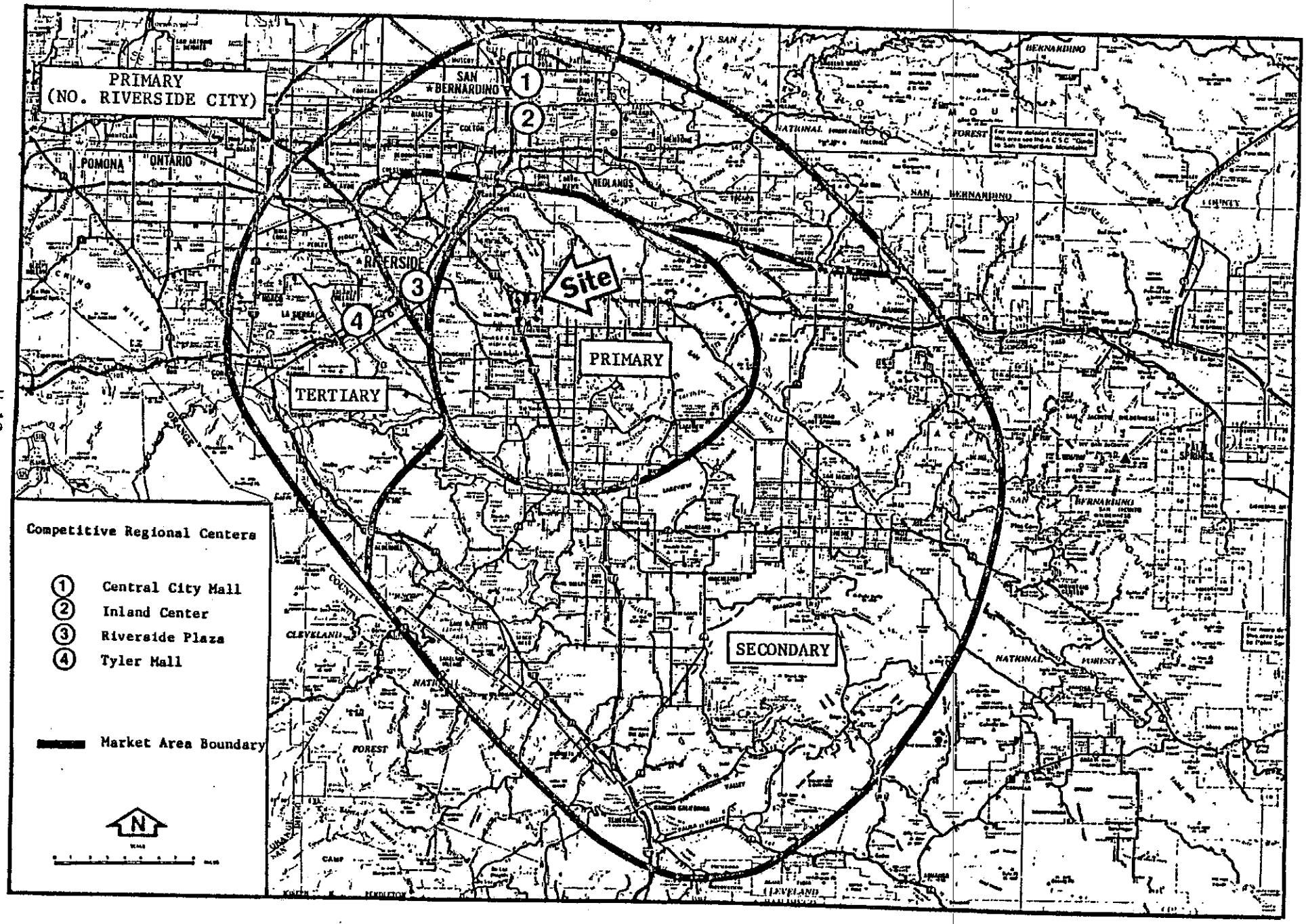


Exhibit III-5
MARKET AREA POPULATION
1970, 1980, 1985 Projected

Market Area	Population			Average Annual Growth Rate (%)	
	1970	1980	1985 prj.	1970-1980	1980-1985
Primary	63,138	85,847	99,704	3.12	3.4
Primary (North Riverside City)	76,292	76,527	79,858	0.03	0.86
Secondary	86,909	159,266	201,205	6.24	4.79
Tertiary	443,443	497,728	544,165	1.09	1.80
TOTAL	669,782	819,368	924,932	2.04	2.45

Sources: U. S. Bureau of the Census;
Coldwell Banker Census Data Bank;
National Planning Data Corporation;
Coldwell Banker Real Estate Consultation Services

Exhibit III-6
POPULATION CONCENTRATIONS AND GROWTH AREAS
RIVERSIDE COUNTY

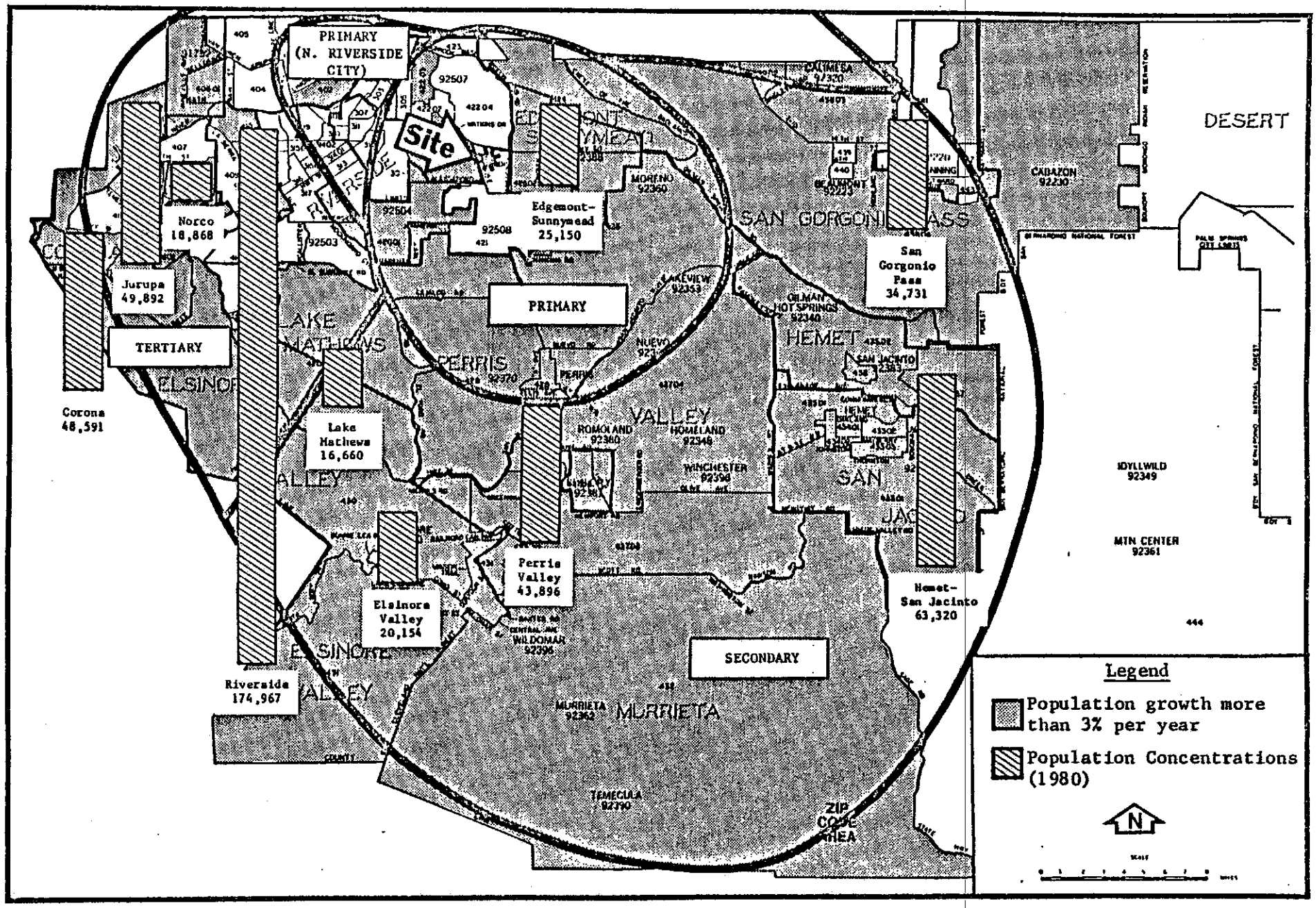


Exhibit III-8
MARKET AREA HOUSEHOLD INCOME, 1980

Market Area	Households	Household Income (1980) Average	Total
Primary	30,257	$22,230	$ 672,618,000
Primary (North Riverside City)	29,621	$21,316	$ 631,405,000
Secondary	72,226	$16,233	$1,172,471,000
Tertiary	175,661	$21,220	$3,727,448,000
TOTAL	307,765	$20,158	$6,203,942,000

Source: National Planning Data Corporation;
Coldwell Banker Real Estate Consultation Services

Exhibit III-9
HIGH INCOME AREAS IN
RIVERSIDE COUNTY CENSUS TRACTS

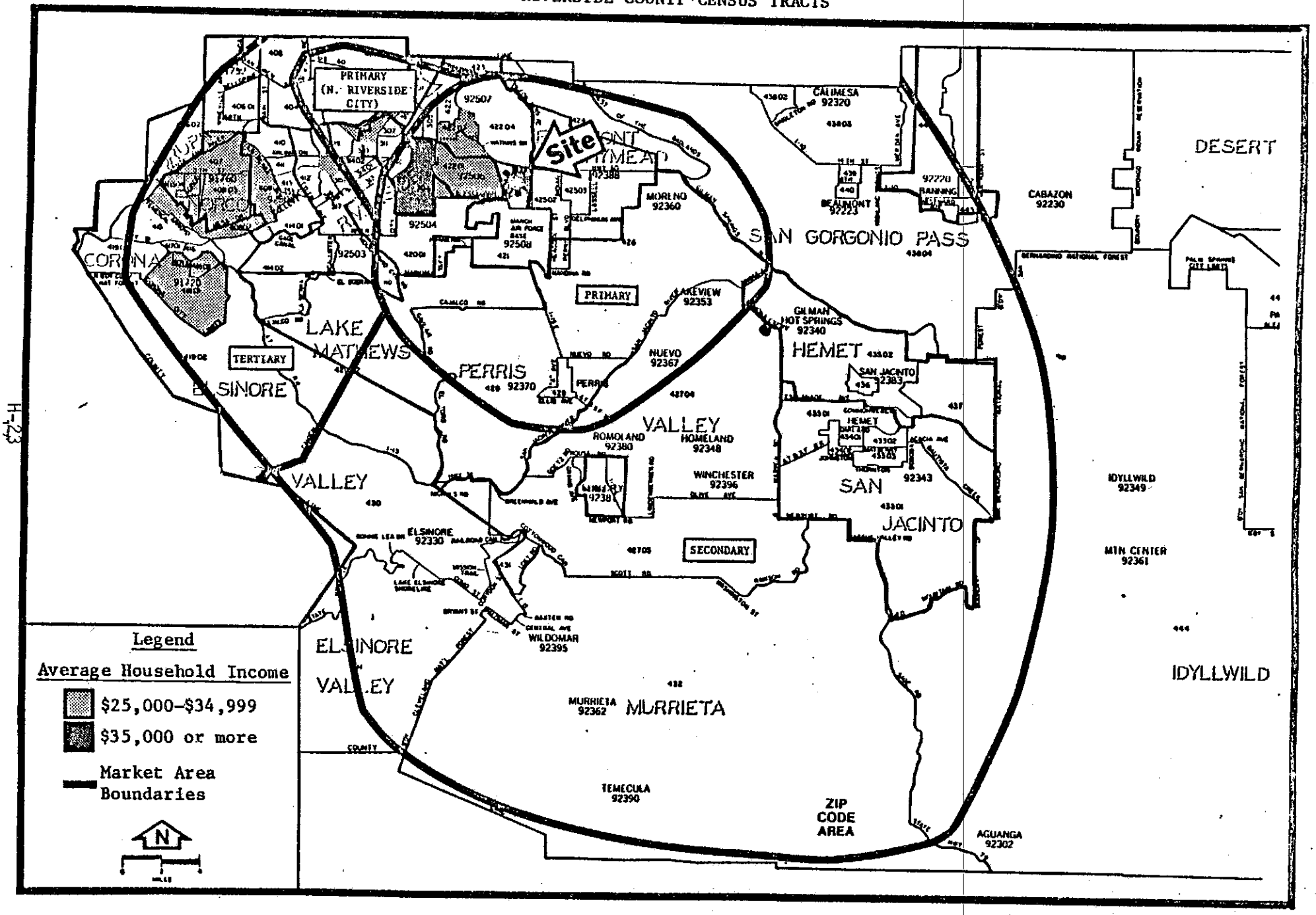


Exhibit III-10
HIGH INCOME AREAS IN
SAN BERNARDINO COUNTY CENSUS TRACTS

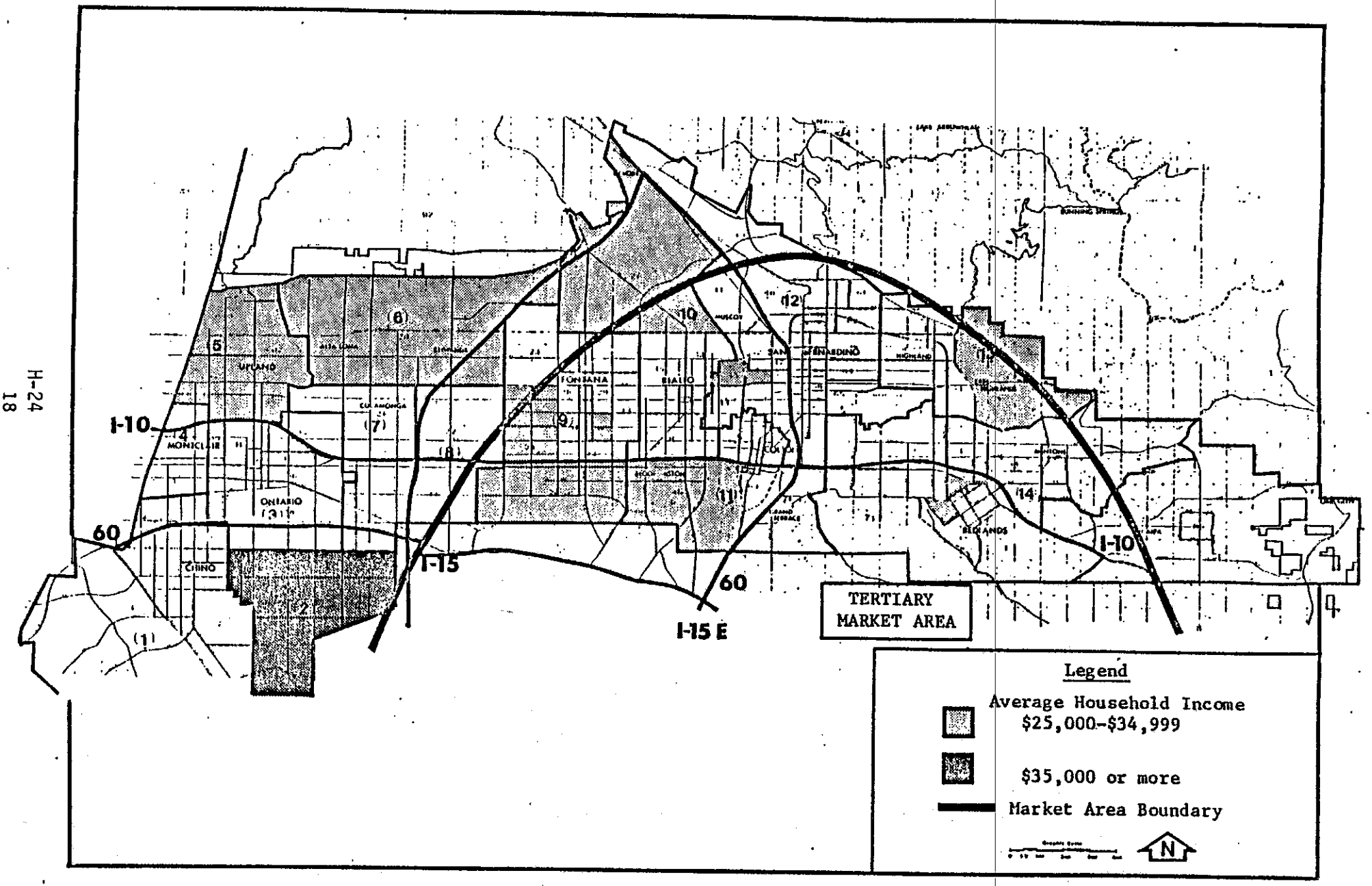


Exhibit III-11
NUMBER OF HOUSEHOLDS AND AVERAGE HOUSEHOLD INCOMES
IN HIGH INCOME CENSUS TRACTS IN THE SPRINGS MARKET AREA 1/
1980

Census Tract	Households	Average Household Income
Primary Area		
306	1,809	$39,756
422.01	3,043	34,000
422.02	268	26,827
	5,120	
Primary Area (North Riverside City)		
312	2,095	29,774
308	2,191	25,941
	4,286	
Secondary Area	N.A.	
Tertiary Area (Riverside County)		
408.01	3,409	32,944
407	2,201	31,677
315.01	1,605	30,496
418	3,485	28,738
417.02	1,269	28,457
408.02	1,683	27,648
409	2,695	26,790
315.02	1,860	25,645
	18,207	
Tertiary Area (San Bernardino County)		
27 (25%)	299	30,576
81	1,803	30,092
43	2,033	29,057
40	2,255	29,014
71	2,974	27,304
79	336	27,206
83	2,475	26,547
25	1,676	26,056
32	2,075	25,452
24 (50%)	896	25,356
	16,822	
TOTAL	44,350	

1/ Census tracts where average household income exceeds $25,000

Primary Market Area (North Riverside City)

This area is distinguished from the remainder of the primary area because, as a market area for the proposed regional center, it is shared more heavily with Tyler Mall and Inland Center. The area includes essentially the City of Riverside north of Arlington Avenue.

The population of the area has been very stable through the 1970's, increasing slightly from 76,292 persons to 76,527 persons. It is projected that this area will experience somewhat greater growth through 1985 as its population should approach 80,000.

This area was comparatively less wealthy than the primary market area in 1980 with an average household income of $21,316. As shown in Exhibits III-10 and III-11, only two census tracts (308 and 312) with nearly 4,300 households had average household incomes between $25,000 and $30,000.

Secondary Market Area

The secondary market area covers those areas of Riverside County beyond the primary market area from which the proposed regional shopping center would be the nearest significant comparision shopping opportunity. These areas include: Sun City, Elsinore, Rancho California, Temecula, Hemet, San Jacinto, Beaumont and Banning.

The 1980 population of this area was 159,266. This area was one of the fastest growing during the 1970's increasing at an annual compounded rate of 6.24 percent (from 86,909).

It is projected that this area will continue to experience rapid growth (though slower than the previous decade) at 4.79 percent per year, reaching just over 200,000 in 1985.

Average household incomes in the secondary market area in 1980 were the lowest within The Springs entire market area at $16,233. No census tract in this area had an average household income exceeding $25,000.

Tertiary Market Area

The tertiary market area as depicted in Exhibit III-4 covers the remainder of western Riverside County and portions of San Bernardino County including Redlands, San Bernardino, Colton, Rialto, and Fontana.

The 1980 population of this area was nearly 500,000 (as displayed in Exhibit III-5). Increasing at an annual rate of 1.8 percent, the population of this area is expected to reach 544,000 in 1985. Exhibits III-6 and III-7 depict the population concentration and growth areas in Riverside and San Bernardino Counties, respectively, by census division.

The 1980 average household income in the tertiary market area was $21,220. Including most of the urbanized areas of Riverside and San Bernardino, this area's average household income was comparable to

that found in the primary market area covering northern Riverside City. Exhibit III-9, III-10 and III-11 indentify Norco, Corona, Redlands, Highlands, Fontana and Bloomington areas as having average household incomes between $25,000 and $35,000.

Market Area Summary

Exhibit III-5 shows that The Springs' entire market area (primary, secondary and tertiary) had a 1980 population of 819,400 which is projected to increase to 924,900 in 1985 at an annual growth rate of 2.45 percent. The major growth area in the region is projected to be to the south and east of Riverside, Exhibits III-6 and III-7. This area is anticipated to grow at a rate in excess of 3.0 percent per year.

Average household income in the entire market area was $20,158 in 1980. As shown in Exhibit III-8, this translates into a total 1980 household income of $6,204 million.

MARKET AREA GAFO SALES POTENTIAL

One measure of the retail depth of a defined market area is by analysis of GAFO sales potential GAFO sales include: general merchandise (G); apparel (A); furniture and furnishings (F); and other merchandise (O) such as jewelry, sporting goods, stationery, luggage and cameras which are normally sold in regional shopping centers.

Per capita expenditure patterns for GAFO sales may be estimated from 1980 California statistics (developed by the California State Board of Equalization). It is believed a statewide pattern provides a sufficient sample size to reflect a normalized expenditure pattern. Shown in the text table below are statewide per capita GAFO expenditures for calendar year 1980:

California GAFO Taxable Retail Sales
1980

	Taxable Retail Sales (1980)	
	Total ($000s)	Per Capita
General Merchandise	$12,193,935	$513
Apparel	4,678,297	197
Furniture/Furnishings	4,188,225	176
Other Merchandise	9,177,864	386
TOTAL	$30,238,321	$1,272

Source: California State Board of Equalization.

The total gross expenditure potential for GAFO sales in the defined market area in 1984 is estimated to be $1,556 million. As shown in the text table below, market area GAFO sales potential equals projected population multiplied by forecasted 1985 per capita GAFO expenditures. Per capita GAFO expenditures were projected based on 90 percent of the statewide per capita expenditures, reflecting the comparatively lower per capita personal income in the Riverside-San Bernardino area*, together with an inflationary factor of eight percent per year.

GAFO Sales Potential From the Springs' Market Area, 1985

Market Area	Projected 1985 Population	x	Per Capita GAFO Expenditure (1985)	=	Gross GAFO Sales Potential (1985)
Primary	99,704		$1,682		$ 167,702,128
Primary (North Riverside City)	79,858		1,682		134,321,156
Secondary	201,205		1,682		338,426,810
Tertiary	544,165		1,682		915,285,530
TOTAL	924,932		$1,682		$1,555,735,624

DEPARTMENT STORE DEMAND

Two approaches are used in this analysis to forecast department store demand. The first identifies the market support for additional department store space in the Riverside-San Bernardino are, regardless of the specific site, and estimates the fair share of the market that might be captured by three additional department stores having a combine gross leasable area of 450,000 square feet. The second approach projects the amount of department store space which would be supportable at the site considering its competitive position relative to the other existing regional shopping centers in the area.

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* First Interstate Bank estimated the 1980 California per capita personal income at $11,077; the Riverside-San Bernardino per capita personal income was $9,097, 82 percent of the statewide average. However, First Interstate Bank forecasts that the area's per capita personal income will aproach the California average as population growth continues. Accordingly, for the purposes of projections to 1985 in this analysis, Riverside-San Bernardino per capita personal income is assumed to be 90 percent of the statewide average, with no variations among the market areas.

Net Additional Supportable Department Store Space in Market Area

Exhibit III-12 presents an analysis estimating the net additional supportable department store space in the Riverside-San Bernardino market area. The market support model is based on the following line assumptions:

Line 1: The population in the market area is estimated at 839,053 in 1981, increasing at a compounded annual growth rate of 2.47 percent.

Line 2: Per capita expenditure for conventional department store space is estimated at $294 in 1981 and inflated at eight percent per year through 1985. The estimated per capita expenditures for conventional department stores reflects statewide general merchanidise per capita expenditures, less discount store expenditures, adjusted for comparatively lower Riverside-San Bernardino per capita personal incomes*.

Line 3A: Sales leakage from the Riverside-San Bernardino market area to Orange County and elsewhere is assumed at 10 percent.

Line 4: Existing square footage of competitive department store space is 2,114,050 square feet**, from Exhibit III-1.

Line 5: Sales per square foot is assumed to be $100 in 1981 inflated at eight percent per year through 1985. This is the threshold sales efficiency for opening new department stores in the market area.

Line 10: Fair share demand is allocated to an assumed 450,000 square feet of net additional department store space as a proportion of total department store space in the market area.

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* Calculated as follows:

$513	per capita 1980 general merchandise expenditures
- $210	per capita 1980 discount store expenditures
$303	per capita 1980 department store expenditures
x 1.08	assumed eight percent inflationary adjustment
$327	per capita 1981 department store expenditures
x 0.90	Riverside-San Bernardino income adjustment factor
$294	per capita 1981 department store expenditure, Riverside-San Bernardino

** The free-standing Sears in Riverside and the comparatively small Sears, Penney and Harris' department stores in Hemet are not included in this total; but are included in the sales leakage factors.

The analysis in Exhibit III-12 shows excess demand in the market area supporting net additional department store space of 333,300 square feet in 1985. However, if an additional 450,000 square feet were to open in 1985 its fair share of the market would be sufficient to support 429,500 square feet at an efficiency of $136 per square foot.

Supportable Department Store Space at the Site

The first step in identifying the demand for department store space at the site involves the estimation of total department store sales potential within each of the defined market areas (primary, secondary and tertiary). Exhibit III-13 presents an analysis in which department store sales are projected for each market area through 1985. Under each market area analysis, total population has been multiplied by per capita annual expenditures, yielding total annual expenditures for that specific market area.

Per capita expenditures for conventional department store space is estimated at $294 in 1981 and inflated at eight percent per year through 1985, as in the preceding analysis of net additional supportable department store space in the market area.

Referring again to Exhibit III-13, total annual expenditures for each defined market area is in turn multiplied by a net leakage percentage, a technique used to account for department store sales expended in (1) other geographical areas, (2) other department or specialty retail stores within the market area, or (3) catalog stores. The leakage percent applied to each market area is a function of distance from the site and other intervening comparison shopping opportunities. Exhibit III-14 associates the assumed leakage percentages with the geographic areas of each market area.

Having accounted for leakage, each market area yields a net annual expenditure potential for conventional department store space. In turn, the net annual expenditures from each defined market area are combined to yield total market support (at the bottom of Exhibit III-13) of $61 to $73 million in 1985. Assuming a sales efficiency of $136 per square foot (in 1985), 447,000 - 535,500 square feet of department store space could be supported at the site by 1985. That would be sufficient support for three department stores (based on 150,000 square feet per store).

MALL SHOP DEMAND

As was stated at the outset of this section, the demand for mall shop space in any regional shopping center tends to be directly related to the demand for anchor tenant space on the site. To evaluate this relationship, a survey was conducted of other regional shopping centers either in the Riverside/ San Bernardino area or having opened in Southern California from 1975.

Exhibit III-15 identifies the four regional centers in the Riverside-San Bernardino area as well as six newer regional centers in Southern

Exhibit III-13
ANALYSIS OF MARKET SUPPORT FOR DEPARTMENT STORE SPACE AT THE SPRINGS

Primary Area	1981	1982	1983	1984	1985
Population	88,517	91,190	93,944	96,781	99,704
Per Capita Annual Expenditures	294	318	343	370	400
Total Annual Expenditures ($000s)	26,024.0	28,954.7	32,215.5	35,843.5	39,880.0
Net Leakage (at 25-35%)	6,506.0- 9,108.4	7,238.7- 10,134.1	8,053.9- 11,275.4	8,960.9- 12,545.2	9,970.0- 13,958.0
Net Annual Expenditures	16,915.6- 19,518.0	18,820.6- 21,716.0	20.940.1- 24,161.6	23,298.3- 26,882.6	25,922.0- 29,910.0

Primary Area (North Riverside City)					
Population	76,986	77,694	78,409	79,130	79,858
Per Capita Annual Expenditures	294	318	343	370	400
Total Annual Expenditures ($000s)	22,633.9	24,669.5	26,888.2	29,306.4	31,942.1
Net Leakage (at 50%)	11,316.9	12,334.7	13,444.1	14,653.2	15,971.0
Net Annual Expenditures	11,317.0	12,334.8	13,444.1	14,653.2	15,971.1

Secondary Area					
Population	166,863	174,856	183,231	192,008	201,205
Per Capita Annual Expenditures	294	318	343	370	400
Total Annual Expenditures ($000s)	49,057.7	55,520.2	62,834.0	71,111.2	80,478.9
Net Leakage (at 80-90%)	39,246.2- 44,152.0	44,416.2- 49,968.2	50,267.2- 56,550.6	56,889.0- 64.000.1	64,383.1- 72,431.0
Net Annual Expenditures	4,905.7- 9,811.5	5,552.0- 11,104.0	6,283.4- 12,566.8	7,111.1- 14,222.2	8,047.9- 16,095.8

Tertiary Area					
Population	506,687	515,807	525,092	534,544	544,165
Per Capita Annual Expenditures	294	318	343	370	400
Total Annual Expenditures ($000s)	148,966.0	163,779.2	180,065.4	197,971.1	217,657.3
Net Leakage (at 95%)	141,517.7	155,590.2	171,062.1	188,072.5	206,774.4
Net Annual Expenditures	7,448.3	8,189.0	9,003.3	9,898.6	10,882.9

Total Market Support					
Population	839,053	859,547	880,676	902,463	924,932
Net Annual Expenditure ($000s)	40,586.6- 48,094.8	44,896.4- 53,343.8	49,670.9- 59,175.8	54,961.2- 65,656.6	60,823.9- 72,859.8
Divided by Estimated Sales Per Sq. Ft.	100.00	108.00	116.64	125.97	136.05
Equals Net Additional Supportable Space (000s)	405.9- 480.9	415.7- 493.9	425.9- 507.3	436.3- 521.2	447.1- 535.5

Source: Coldwell Banker Real Estate Consultation Services.

Exhibit III-14
THE SPRINGS DEPARTMENT STORE SALES
LEAKAGE PERCENTAGES BY MARKET AREA

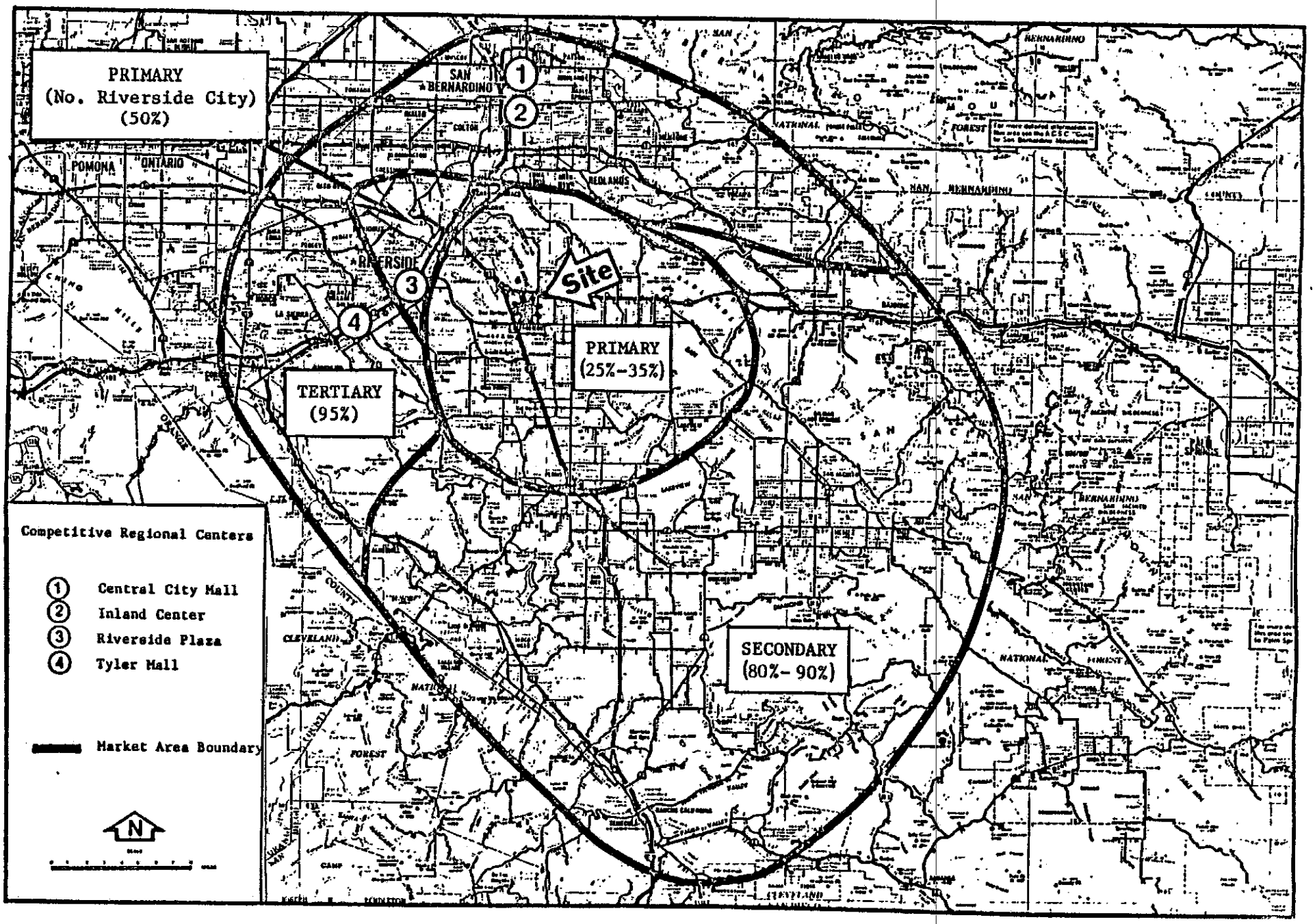


Exhibit III-15
SPATIAL RELATIONSHIP BETWEEN ANCHOR TENANT
AND MALL SHOP SPACE IN REGIONAL CENTERS

Center Name	Opening	Gross Leasable Area (Sq.Ft.) Anchor Tenants (A)	Gross Leasable Area (Sq.Ft.) Mall Shops (B)	Percent Mall Shop Space to Anchor Space (B ÷ A)
Competitive Centers:				
Riverside Plaza	1956	316,000	133,805	42%
Inland Center	1966	604,000	236,754	39%
Tyler Mall	1970	487,500	308,985	63%
Central City Mall	1972	706,550	293,450	42%
TOTAL/AVERAGE		2,144,050	972,994	46%
Newer 1/ Southern California Centers:				
West Covina Fashion Plaza	1975	499,800	500,200	100%
Fox Hills Mall	1975	552,600	327,512	59%
Glendale Galleria	1976	482,400	394,126	82%
Hawthorne Plaza	1977	476,900	326,090	68%
Brea Mall	1977	465,860	329,000	71%
The Oaks	1978	564,851	515,510	91%
TOTAL/AVERAGE		3,042,411	2,392,438	79%

1/ Opening from 1975

Source: Los Angeles Times Shopping Center Directory.

California. Shown in this exhibit is the name of each center, the year the center opened, total anchor tenant square footage, mall shop square footage, and the percent of mall shop to anchor tenant space. The projects in each group have been ordered chronologically according to their opening dates. Mall shop space in the competitive — and older — centers ranges from 42 percent to 63 percent, averaging 46 percent. In contrast, mall shops in the more modern centers range from 59 percent to 100 percent, averaging 79 percent.

The observed trend for the higher ratios of mall shop to anchor tenant space in modern regional centers is used to estimate the supportable mall shop space in the proposed project. Based on an initial phase of development consisting of 450,000 square feet of department store space, supportable mall shop space is estimated at 350,000 square feet of gross leasable area (78 percent).

FASHION DEPARTMENT STORES

As evidenced in Exhibit III-2, no fashion department stores, such as Bullock's, Robinson's Neiman-Marcus or Nordstrom's, are located within the market area of The Springs. Moreover, the nearest fashion department stores, identified in Exhibit III-16, are Bullock's at West Covina Fashion Plaza and Santa Ana Fashion Square and Bullock's Wilshire, Robinson's and Saks Fifth Avenue in Palm Springs.

The Springs site is the most centrally situated, easily accessible potential regional shopping center location in the Riverside-San Bernardino. Exhibit III-17 shows the site to be at the periphery of existing urbanization, in the path of future residential growth to the east and south, near one of the highest income area of the region (Victoria Country Club and Canyon Crest), and accessible to most other higher income areas from Lake Arrowhead to Rancho California and from Upland to the San Jacinto Mountains. No other site in the region apart from Box Springs would appear as advantageous for a potential fashion department store location in the milieu of a regional shopping center.

As noted previously, the market area population is projected to increase by 100,000 by 1985, from 819,400 in 1980 to 924,900 in 1985. Most of this growth will occur largely to the east and south of the site while the major concentration of population will remain along the I-15E/S.R. 91 corridor. However, people living in the new developments in the Moreno and Perris Valleys as well as in Hemet and San Jacinto will be compelled to funnel past the site enroute to Riverside or San Bernardino.

As discussed previously, the average household income for the entire market is $20,158 (in 1980); in the primary market area it is $22,230. Census tracts having the highest average household incomes are nearest the site and include Victoria Country Club (1980 average household income nearly $40,000) and Canyon Crest (1980 average household income $34,000). Approximately 44,350 households are in census tracts where the average household income exceeds $25,000 (detailed in Exhibit III-11). Of these, at least 25,000 households are believed to have household incomes exceeding $25,000.

Exhibit III-16
FASHION DEPARTMENT STORES
NEAREST THE SPRINGS TRADE AREA

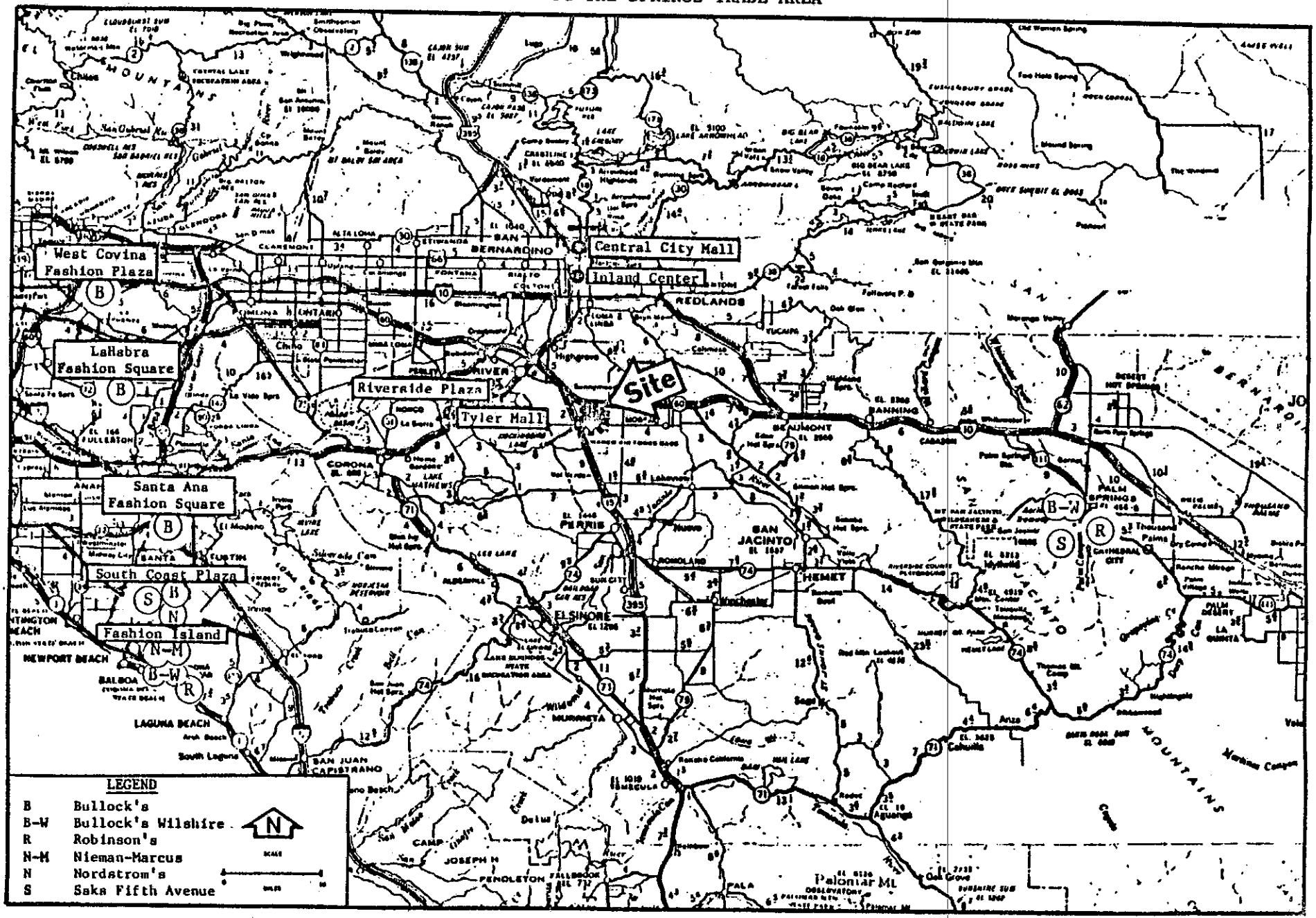
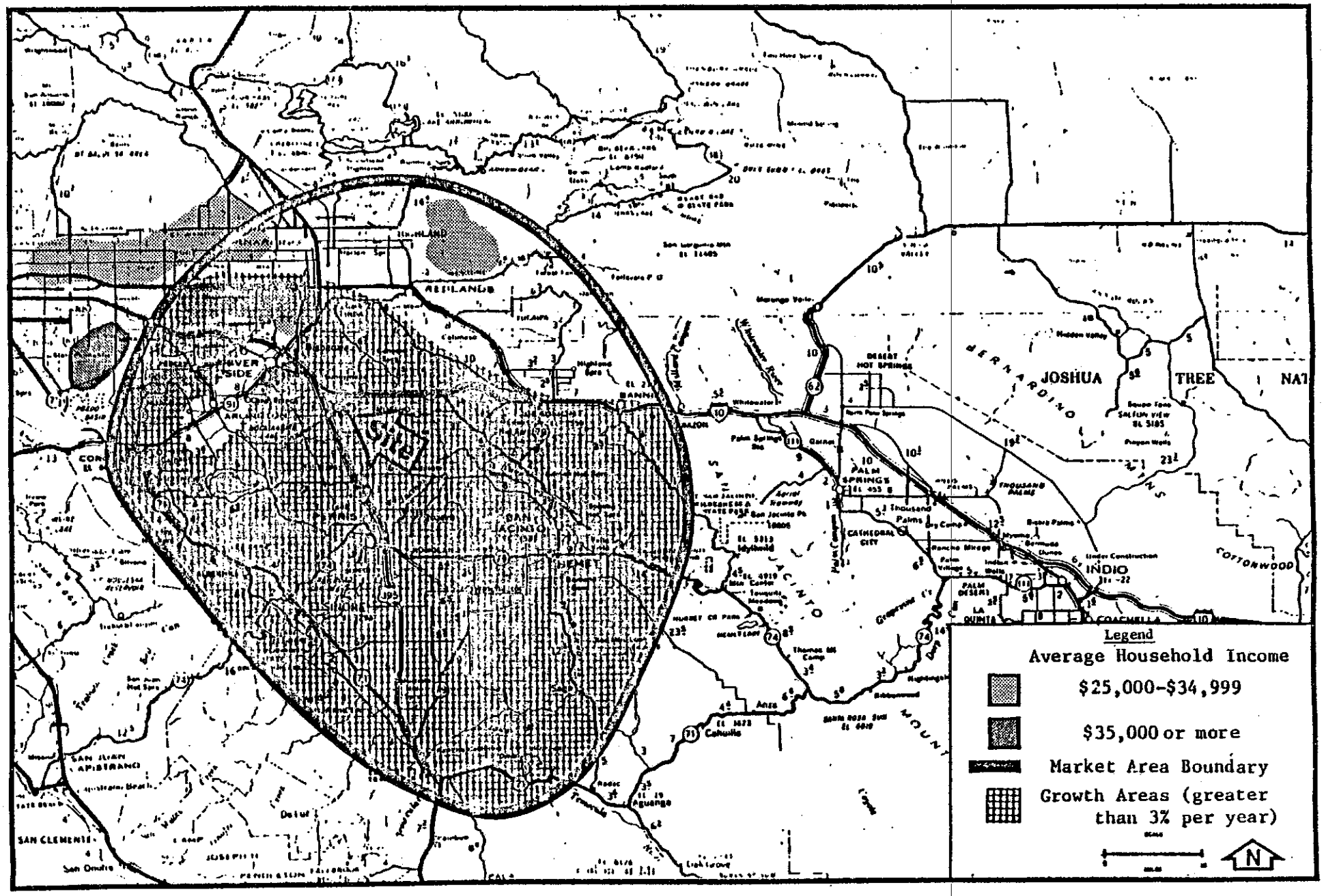


Exhibit III-17
POPULATION GROWTH AND HIGH INCOME AREAS IN
FASHION DEPARTMENT STORE MARKET AREA
FOR THE SPRINGS



Appendix B
ECONOMIC OVERVIEW

SUMMARY

1. The Riverside/San Bernardino/Ontario SMSA has experienced rapid and increasing growth in population, far exceeding the State of California's rate of growth over the past ten years.

2. Over 80 percent of Riverside and San Bernardino County's increase in population has been a result of net in-migration and attributed to low-cost housing, accessibility to Los Angeles and Orange Counties, and a growing number of jobs.

3. The Riverside/San Bernardino/Ontario SMSA is a high-growth employment center. It ranked number twenty in actual annual job gain of all metropolitan areas in the United States from 1975 to 1980, growing by 19,240 jobs per year (5.2 percent). In 1980 there were approximately 434,500 jobs in the bi-county SMSA.

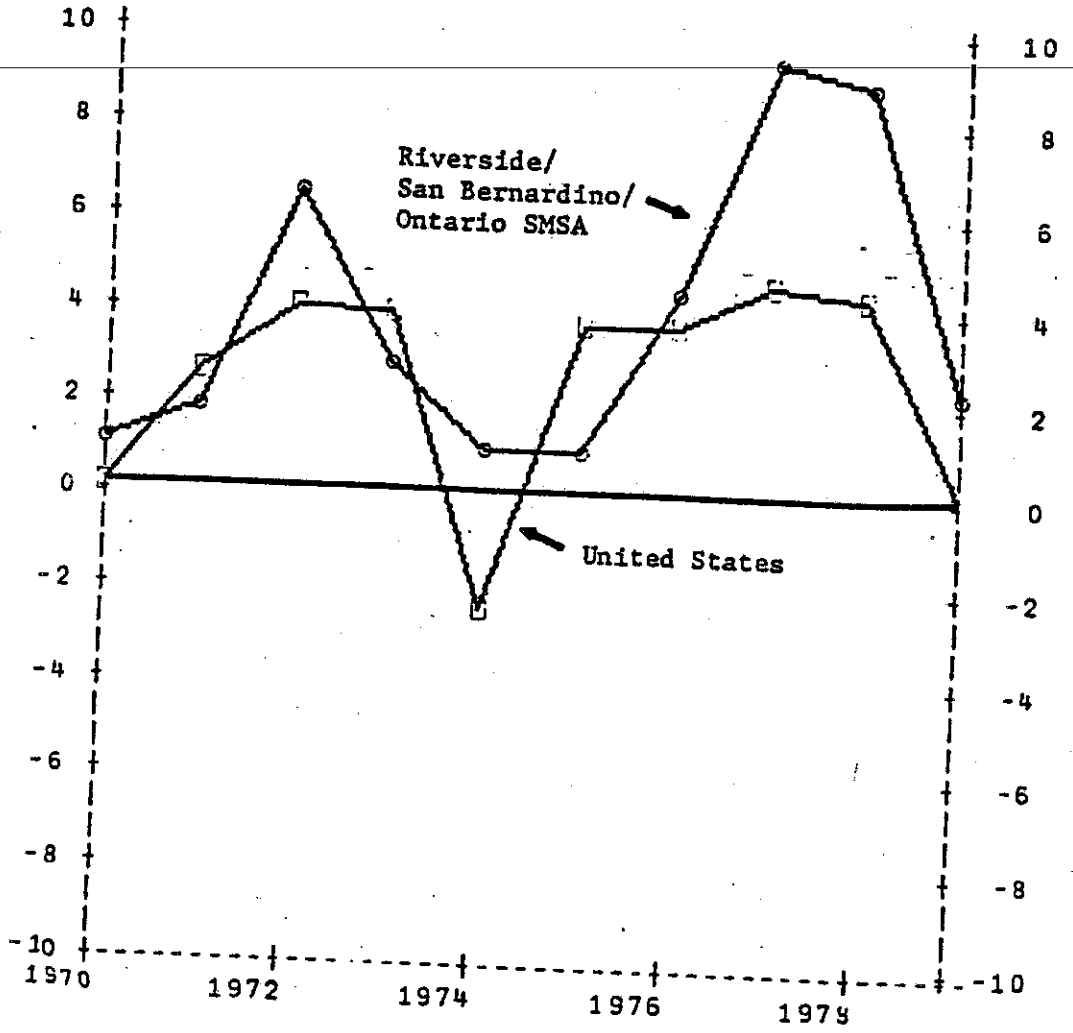
4. Historically, total employment in Riverside and San Bernardino Counties has fluctuated with, although consistently out-performed, the condition of the national economy. The SMSA has shown particularily high growth in the private sector segment of the economy.

5. The Trade and Services sectors experienced the SMSA's largest real employment growth from 1975 to 1980. Employment in Government, although still proportionately high in the area, has declined relative to the economy as a whole.

6. Riverside and San Bernardino Counties experienced a slowdown in employment growth in 1979 and 1980. Although the bi-county economy should continue to out-perform the nation over the next year, it should show only slightly improving employment growth.

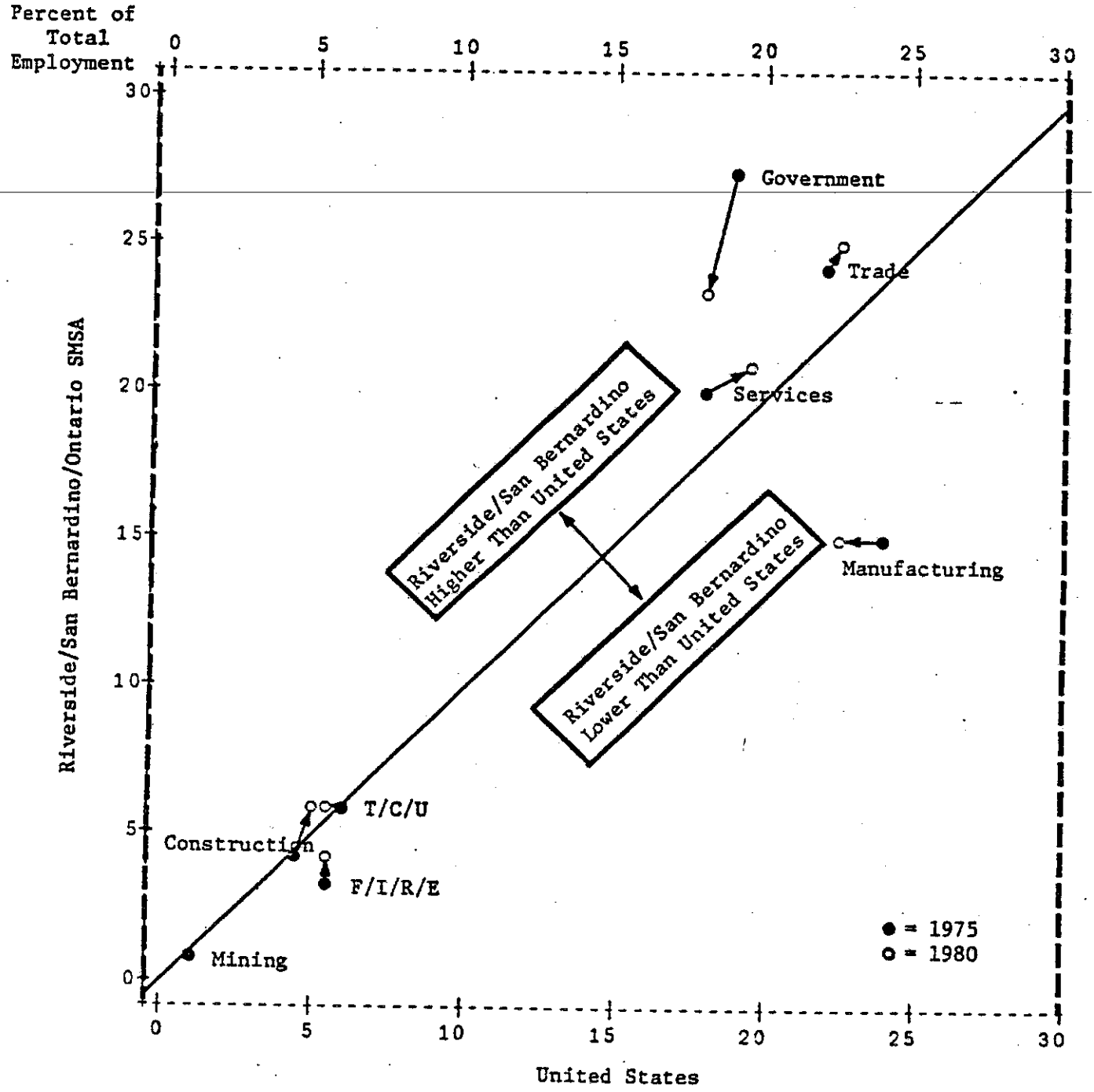
7. Riverside and San Bernardino Counties have excellent transportation facilities combining rail, air, and freeway services.

Appendix B-4
ANNUAL PERCENT CHANGE IN EMPLOYMENT
RIVERSIDE/SAN BERNARDINO/ONTARIO SMSA
AND UNITED STATES
1970-1980



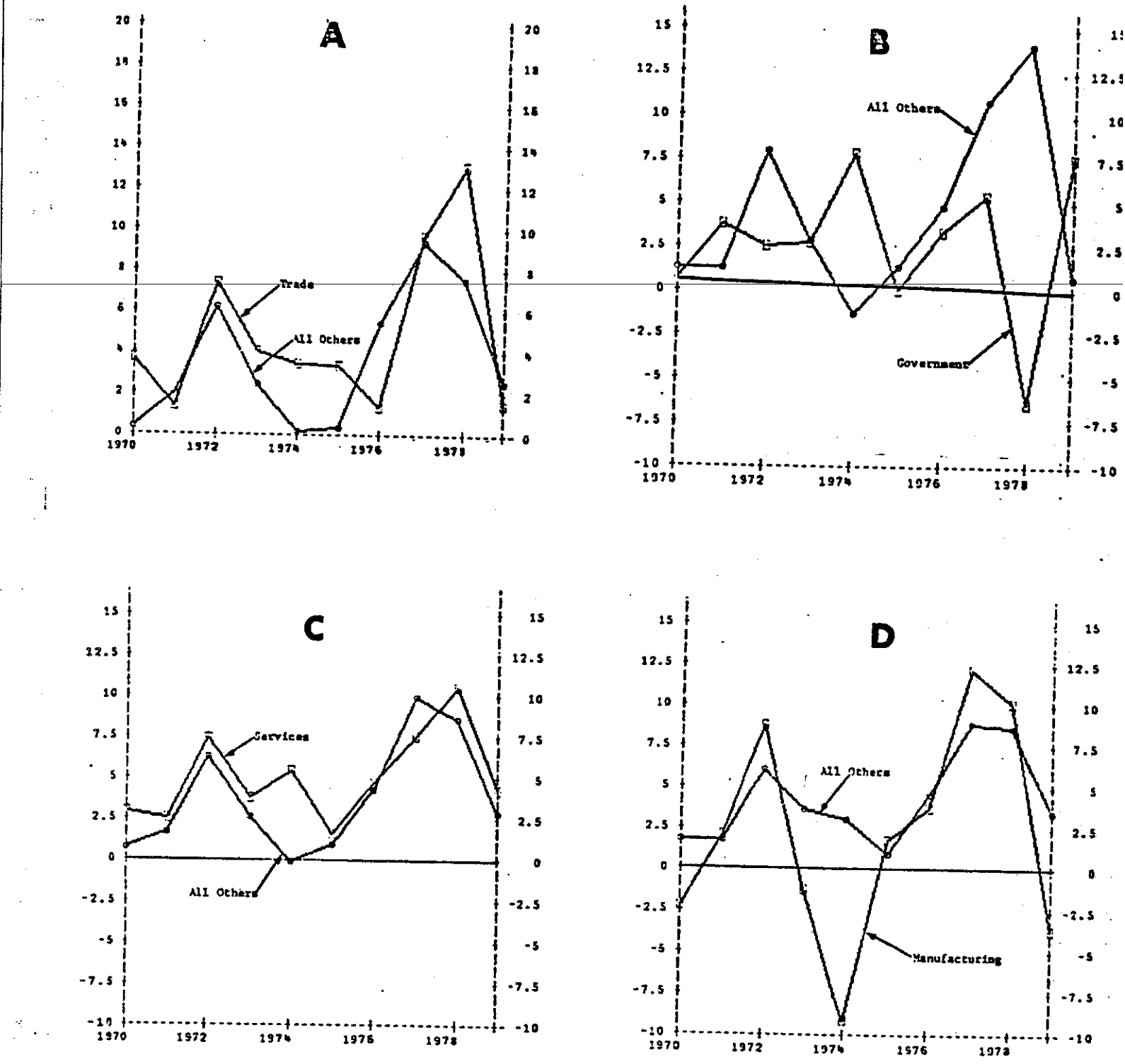
Source: California Employment Development Department;
United States Department of Labor.

Appendix B-5
EMPLOYMENT DISTRIBUTION
RIVERSIDE/SAN BERNARDINO/ONTARIO SMSA
VERSUS UNITED STATES
JUNE, 1975 AND JUNE, 1980



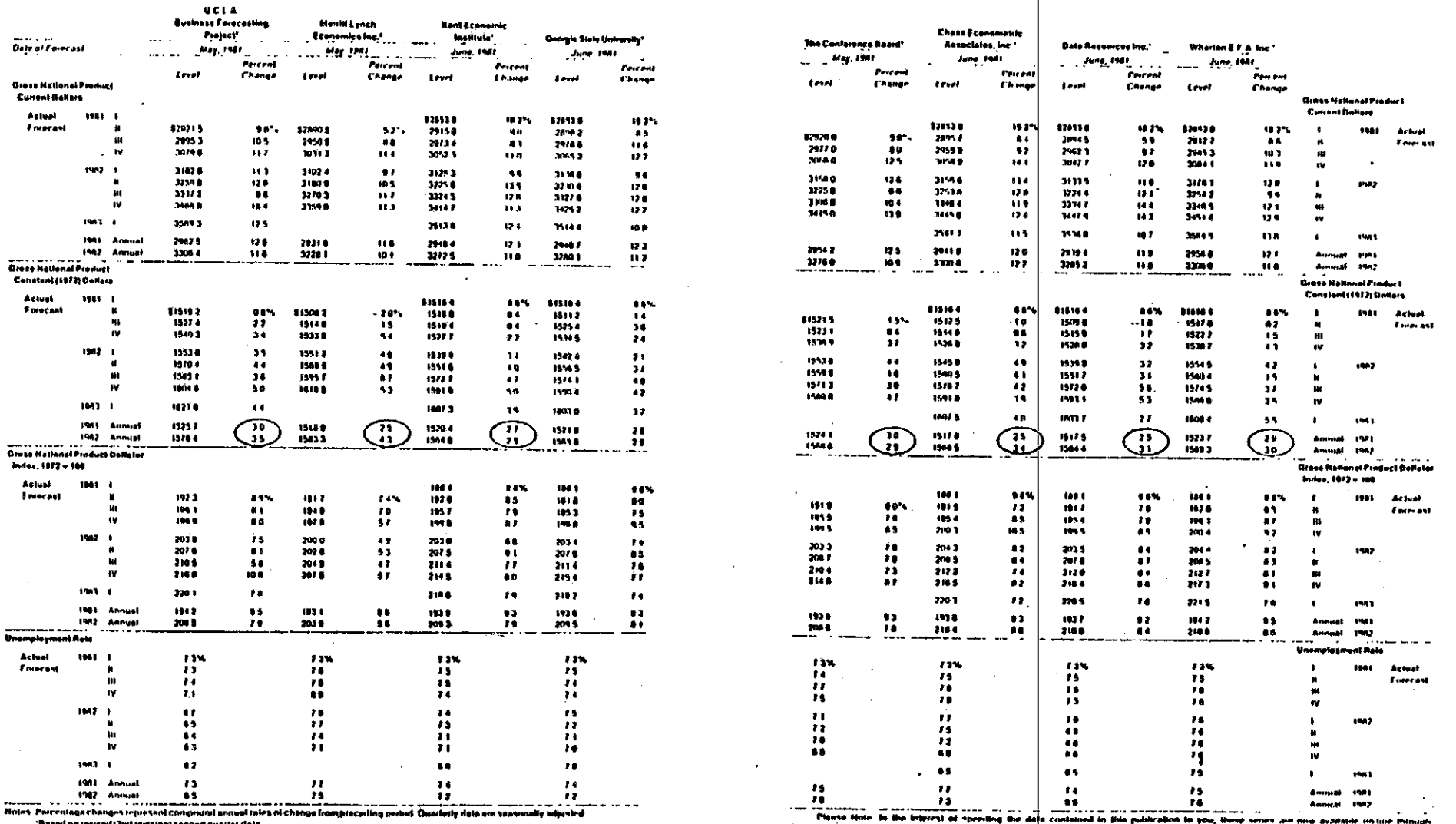
Source: California Employment Development Department;
United States Department of Labor.

Appendix B-6
ANNUAL PERCENT CHANGE IN MAJOR EMPLOYMENT SECTORS
RIVERSIDE/SAN BERNARDINO/ONTARIO SMSA
1970-1980



Source: California Employment Development Department; United States Department of Labor; Coldwell Banker Real Estate Consultation Services.

Appendix B-7
NATIONAL ECONOMIC FORECASTS



Source: Statistical Bulletin, July 19, 1981, The Conference Board.

APPENDIX I

REASONS FOR CONSIDERING THE NUMBER OF PARKING SPACES ADEQUATE

*A study conducted under the auspices of the Urban Land Institute has recommended adequate parking standards for a typical center as follows:

> 4.0 spaces per 1,000 sq. ft. GLA for centers having a GLA of 25,000 to 400,000 sq. ft.
>
> For centers having a GLA of between 400,000 and 600,000 sq. ft., the parking index varies from 4.0 to 5.0 in a straight line, with an average of 4.5 spaces per 1,000 sq. ft. GLA required.
>
> 5.0 spaces per 1,000 sq. ft. GLA for centers having GLA of over 600,000 sq. ft.
>
> 4.0 spaces per 1,000 sq. ft. GLA for centers having GLA of over 1.2 million sq. ft.

The study, updating the 1965 ULI-published standard of 5.5 spaces per 1,000 sq. ft. GLA, drew on questionnaire responses from 506 centers in the U.S. and Canada; detailed parking accumulation counts from 135 centers; annual daily counts from 22 centers, and 15 in-depth studies of typical centers. This makes it the most comprehensive study conducted of center parking.

The reasons for the lower ratios than the 5.5 standard are varied, including a greater tendency by shoppers to avoid centers a peak hours, intensified center competition, an increase in car pooling and mass transit use, and the fact that many customers make fewer trips to centers than they used to. The ratio is lower for small centers because it was found that the trip duration to these centers is generally shorter than to large centers.

The parking space ratios specified in the study will serve patron and employee needs during the 20th busiest hour of the year, and the remainder of the over 3,000 hours a typical center is open annually. During 19 hours of each year, which are distributed over 10 peak shopping days, some patrons won't be able to find a parking space immediately upon entering the center. But although they'll have to look harder for a space, there will be enough spaces.