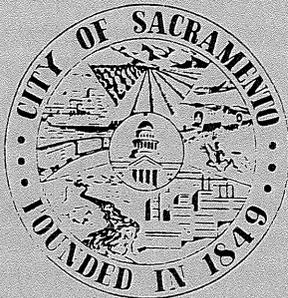


**DRAFT INITIAL STUDY AND NOTIFICATION  
OF THE USE OF THE RAILYARDS SPECIFIC  
PLAN/RICHARDS BOULEVARD AREA PLAN EIR  
AND SEIR FOR THE**

**Continental Plaza Phase III and Phase IV**

Prepared for:

City of Sacramento



Prepared by:

EIP Associates

March 1996



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## 1. INTRODUCTION

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This Initial Study evaluates the environmental effects of the Continental Plaza Planned Unit Development (PUD), including Phase III and Phase IV (Proposed Project). Pursuant to the California Environmental Quality Act (Public Resources Code Section 21000)(CEQA) and Section 15153 of the CEQA Guidelines, the City has concluded that the *Railyards Specific Plan/Richards Boulevard Area Plan Environmental Impact Report* (RSP/RBAP EIR) and the *Supplement to the RSP/RBAP EIR* (RSP/RBAP SEIR)(SCH #91042057 for both documents) adequately describe environmental effects of the Proposed Project, which is located in the RBAP area, and is consistent with the type and density of office uses contained in the RBAP. This introduction provides a brief discussion of the Proposed Project, the Richards Boulevard Area Plan, the Proposed Project's relationship to the RBAP and the RSP/RBAP EIR and SEIR, and the process by which the RSP/RBAP EIR and SEIR are being used to evaluate and mitigate the effects of the Proposed Project.

### **Proposed Project**

The Continental Plaza site is located at Richards Boulevard and North 7th Street in the Richards Boulevard area of the Central City. At present, the project site contains one one-story office building (Phase I) and one two-story office building (Phase II) that house the California Department of Health Services (DHS), a parking lot for DHS, and a large warehouse.

The project consists of a Planned Unit Development for the entire 18-acre site (including the existing phases) and applicant proposes construction of three buildings:

- Phase III, a 60,000 square-foot expansion to the existing DHS facility,
- Phase IV, a twelve-story, 810,000 square-foot building fronting Richards Boulevard, and
- a six-story parking garage to serve the entire Continental Plaza complex.

In order to construct Phase IV, the existing warehouse would be demolished. Phase III and the parking garage would be built on a portion of the existing Continental Plaza parking lot, so the parking garage is intended to replace lost parking spaces as well as to serve existing and Phase III and IV employees. In addition, the project would provide minor traffic improvements in the project area. A detailed description of the Proposed Project is provided in Chapter 2.

## **Richards Boulevard Area Plan**

The Proposed Project would be the first commercial project constructed under the Richards Boulevard Area Plan (RBAP). The RBAP, adopted by the City Council in December, 1994, allows for mixed-use development that would eventually transform the majority of the Richards Area from warehousing, heavy commercial and manufacturing facilities to residential, office and highway commercial uses. Existing uses are allowed to continue to operate and expand as long as they are not inconsistent with future surrounding uses. The RBAP was developed and considered in conjunction with the Railyards Specific Plan (RSP), which would facilitate redevelopment of the Southern Pacific Railyards, south of the project site, to a mixed-use development consisting primarily of high-density residential and commercial office uses. A key feature of both the RBAP and the RSP is the extension of 5th, 6th and 7th Streets through the redeveloped Southern Pacific Railyards, so that the Richards Area becomes linked to Downtown Sacramento. In addition, the plans call for the extension of light rail from downtown to Richards Boulevard, and eventually across the American River to the Sacramento Metropolitan Airport. An intermodal transit station is proposed for 7th Street at North B Street. The area surrounding the intermodal station is planned to be developed in high-density commercial office uses in order to facilitate the use of public transit. Under the RBAP, 6.85 million square feet of office space and 4,130 residential units would be developed within the Richards Area, as well as highway commercial/retail, cultural/institutional and hotel uses.

The "Office-Transit" zone extends 350 feet north of the Richards Boulevard centerline, and encompasses the Phase IV site. The area immediately north of the Office-Transit zone, which includes the Phase III site, is designated Industrial/Residential to recognize the dual objectives of maintaining the economic viability of existing operations while facilitating the eventual transition to residential development (See Figure 3-1 in Chapter 3, Project Description).

## **Environmental Analysis of the RBAP**

An Environmental Impact Report for the Railyards Specific Plan and Richards Boulevard Area Plan (RSP/RBAP EIR) was certified by the City Council (City) and the Sacramento Housing and Redevelopment Agency (Redevelopment Agency of the City of Sacramento or RACS) in December, 1993. At the same time that the EIR was certified, the City approved amendments to the City's General Plan and the Central City Community Plan that would allow the land uses proposed in the RSP and RBAP.

A Supplemental Environmental Impact Report (RSP/RBAP SEIR) was prepared in June, 1994, to address several aspects of the RSP and RBAP that were refined during the planning process. They included variations from earlier assumptions regarding the levels of development and the timing of infrastructure improvements during Phase 1 of the development; the alignment of the new 7th Street to avoid the historic Sentry House; the configuration of minor streets in the Railyards Area; the criteria for siting of fire protection facilities in the Railyards Area; and the criteria for siting school facilities in the Railyards Area. In addition, the SEIR evaluated the environmental effects of the lead soil remediation alternatives described in the draft Feasibility Study prepared by Southern Pacific Transportation Company (SPTCo). The RSP/RBAP

Supplemental EIR was certified in December, 1994. The final RSP and final RBAP, along with the Facility Element, zoning ordinance amendments, tentative map and related documents, were also approved by the City and RACS in December, 1994.

The RSP/RBAP EIR and SEIR described the environmental setting of the general project area in Chapter 4 (see Volumes 2 and 3). Where applicable, that setting description is summarized and incorporated by reference in this Initial Study. The RSP/RBAP EIR and SEIR also provided a full analysis of development in the Richards Area under the RBAP, and identified mitigation measures to reduce the impacts of the RBAP. Again, this Initial Study indicates which measures are applicable to the Proposed Project.

The RSP/RBAP EIR analyzed seven alternatives representing a broad range of development configurations and intensities. The SEIR examined three scenarios for office development for the preferred alternative. For the first phase of development under the RBAP, the uses assumed in the EIR and SEIR ranged from 435,000 to 3.2 million square feet of new office space, 40,000 to 150,000 square feet of highway commercial/retail uses, and zero to 1,000 residential units. These alternatives, which include a scenario with half as much office space as the Proposed Project, provide adequate consideration of alternatives to the Proposed Project.

### **Relationship of the Proposed Project to the RBAP and Previous Environmental Analyses**

Phase III is proposed for an area that is designated Industrial/Residential. Although the primary uses planned for the Industrial/Residential area do not include offices, the Proposed Project would be considered consistent with the RBAP land use designations which allow for expansion of previously existing legal uses. Phase IV is located in the Office-Transit zone, so it is consistent with the RBAP use designation.

The Proposed Project is consistent with the development assumptions of the RBAP and the RSP/RBAP SEIR. The RSP/RBAP SEIR analyzed the effects of developing 870,000 square feet of office space in the Richards Area prior to the extension of 7th Street or development of other major infrastructure.

The Proposed Project includes 870,000 square feet of office space, so it is consistent with previous environmental analyses. It should be noted that this is the maximum amount assumed for the first phase of development under the RBAP, so any additional office development proposed prior to the extension of 7th Street and completion of related infrastructure would require supplemental environmental review to determine the extent to which the RSP/RBAP EIR and SEIR were adequate to analyze potential impacts.

Assumptions about the number of employees in the Richards Area, and the demand for public services and utilities during the first phase of the RBAP were based on the projected office use. As the square footage provides the basis for projecting the number of employees and the demand for services and utilities, these aspects of the Proposed Project are also consistent with the assumptions of the RSP/RBAP EIR and SEIR.

## **Environmental Review of the Proposed Project**

Because the Proposed Project is consistent with the RBAP and the environmental analysis of the RBAP, the City has determined that it is appropriate to use the previously certified RSP/RBAP EIR and SEIR as the environmental analysis for this project, as allowed by CEQA Guidelines Section 15153 (a), which states, "The lead agency may employ a single EIR to describe more than one project, if such projects are essentially the same in terms of environmental impact."

As explained in detail in Chapter 3 of this Initial Study Environmental Impacts Checklist, the environmental impacts of the Proposed Project are essentially the same as those evaluated in the RSP/RBAP EIR and SEIR for the first phase of development in the Richards Area. With implementation of mitigation measures identified in the RSP/RBAP EIR and SEIR, no new impacts would result from the Proposed Project.

Thus, this Initial Study should be viewed in conjunction with the RSP/RBAP EIR and SEIR, which are hereby incorporated by reference. Where appropriate, mitigation measures from the RSP/RBAP EIR and/or SEIR that would reduce the impacts of the Proposed Project are identified in Chapter 3. Not all mitigation measures from the previous EIR and SEIR are applicable to the Proposed Project. Only those portions of mitigation measures that are directly applicable to the Proposed Project are cited, so the numbering of measures sometimes appears to be out of sequence (i.e., Mitigation Measures 4.1-1(a) and (c) may be applied without Mitigation Measure 4.1-1(b)). Also, the topics of the Initial Study appear in a different order from the RSP/RBAP EIR and SEIR, so, for example, Mitigation Measure 4.1-2 may proceed Mitigation Measure 4.1-1 in the Initial Study. The identified mitigation measures, whether from the RSP/RBAP EIR or the SEIR, must be adopted as part of the Proposed Project.

## **Schedule**

This Initial Study will be publicly circulated for a 45-day period of public review and comments ending on April 22, 1996. It is anticipated that hearings on the project and EIR will be held before the Planning Commission and City Council in June and July of this year. Written comments will be accepted until 5:00 P.M., April 22, 1996. Written comments may be sent to:

David Mohlenbrok  
Environmental Services Division  
City of Sacramento  
1231 I Street, Suite 301  
Sacramento, California 95814

The RSP/RBAP EIR and SEIR are available for review during normal business hours at the Environmental Services Division, City of Sacramento, 1231 I Street, Room 300.

## **Conclusion**

The Initial Study concludes that the probable environmental effects of the Proposed Project would be similar to, if not the same as, those evaluated in the *Railyards Specific Plan/Richards Boulevard Area Plan Environmental Impact Report*, and the *Railyards Specific Plan/Richards*

*Boulevard Area Plan Supplemental Environmental Impact Report.* The Initial Study concludes that there would not be any new significant adverse effects in this case because the mitigation measures described herein have been added to the Proposed Project as described in the Initial Study. Those impacts that could remain significant after mitigation, or for which feasible mitigation is not available, were identified in the RSP/RBAP EIR and SEIR, and found to be acceptable given the benefits of the RSP and RBAP (see the *Joint Findings of Fact and Statement of Overriding Considerations*, November 23, 1993, and December 13, 1994). Therefore, the RSP/RBAP EIR and SEIR provide adequate documentation of the environmental effects of the Proposed Project.



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## **2. PROJECT DESCRIPTION**

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### **Project Location**

The Proposed Project is located in the Richards Boulevard planning area of the Central City area at the northeast corner of Richards Boulevard and North 7th Street in the City of Sacramento (See Figures 2-1 and 2-2). The Richards Boulevard planning area (Richards Area) is generally bounded by the American River, the Sacramento River, the Southern Pacific Railroad, and Sutter's Landing Park. Nearby uses consist primarily of warehousing and light industry, with residential development (the Dos Rios and Basler-Dreher neighborhoods) and the Dos Rios Elementary School in the eastern portion of the plan area (See Figure 2-3). The 18-acre project site is bounded by Richards Boulevard to the south, North 7th Street to the west, the proposed Vine Street extension to the north, and the California Lottery office complex to the east. The northern portion of the project site is designated Industrial/Residential, which allows continuation and expansion of existing light industry while designating sufficient land for long-term housing development. The southern portion of the project site is designated Office-Transit. The project site and adjacent areas are zoned M-2(SPD). The Assessor Parcel Numbers are 001-0020-016 and 001-0020-047.

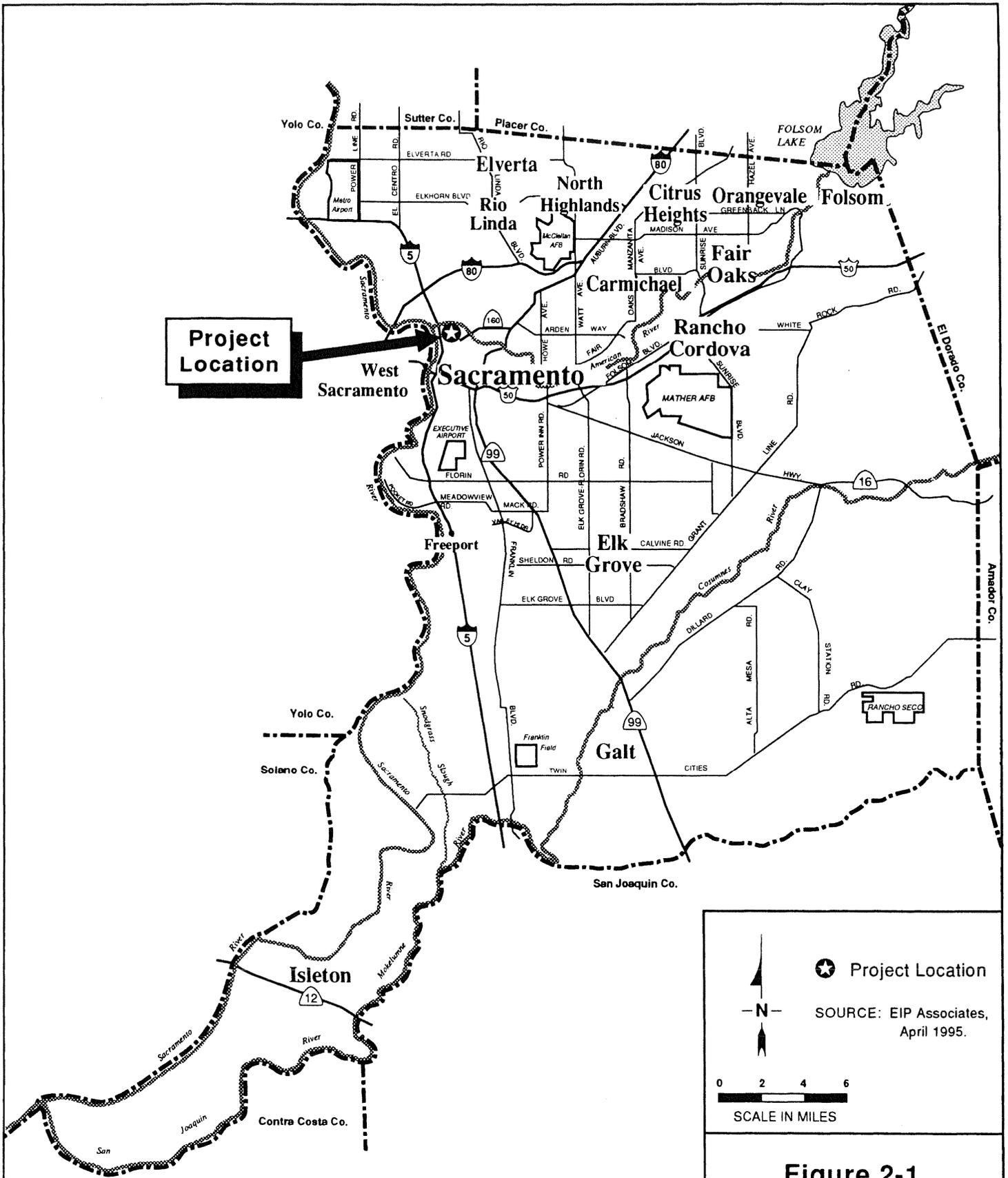
At present, the northern portion of the project site is occupied by a 159,316 square-foot, single-story office building (Continental Plaza Phase I) and a 67,500 square-foot office building (Continental Plaza Phase II), both leased to the State Department of Health Services, and a 920-space parking lot. A warehouse occupies the southern portion of the site (See Figure 2-4).

### **Project Characteristics**

The Proposed Project is a planned unit development (PUD) for the 18-acre Continental Plaza site. The PUD would consist of the existing two office buildings, (Phases I and II) and construction of two new office buildings (Continental Plaza Phase III and Phase IV). In addition, Phase IV of the Proposed Project would include construction of a parking structure and remodeling of the Phase I building to create a day care center. A site plan is shown in Figure 2-5. Floorplans, elevations and landscape plans are shown in Figures 2-6 through 2-13.

The Proposed Project includes 870,000 square feet of new office space, so it is consistent with previous environmental analyses conducted for Phase 1 of the Richards Boulevard Area Plan (RBAP). It should be noted that this is the maximum amount assumed for the first phase of development under the RSP/RBAP SEIR, so any additional office development proposed prior to the extension of 7th Street and completion of related infrastructure would require supplemental environmental review to determine the extent to which the RSP/RBAP EIR and SEIR were adequate to address potential impacts.



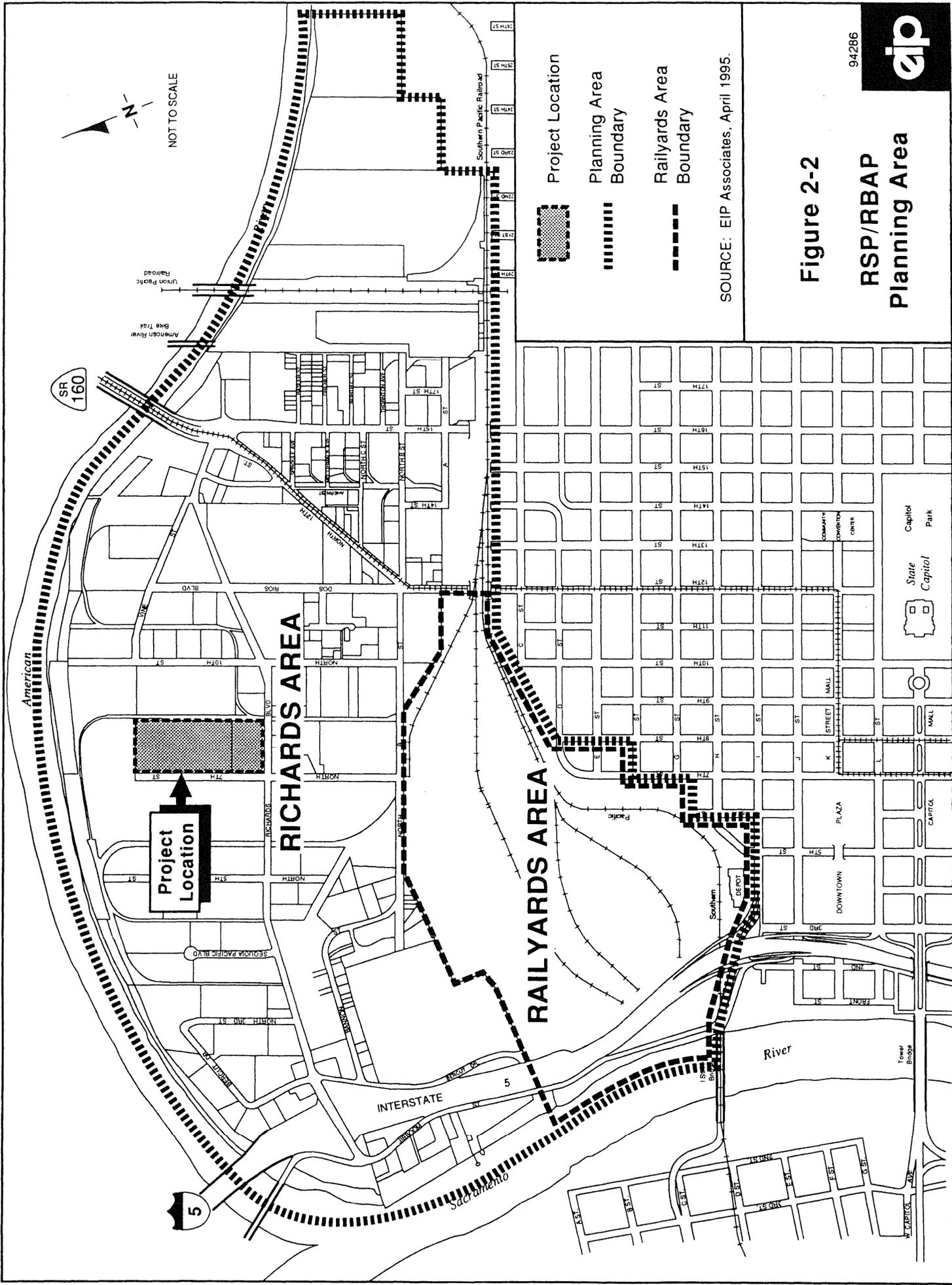


**Figure 2-1**  
**Project**  
**Vicinity Map**

94286







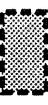
**Figure 2-2**

**RSP/RBAP  
Planning Area**

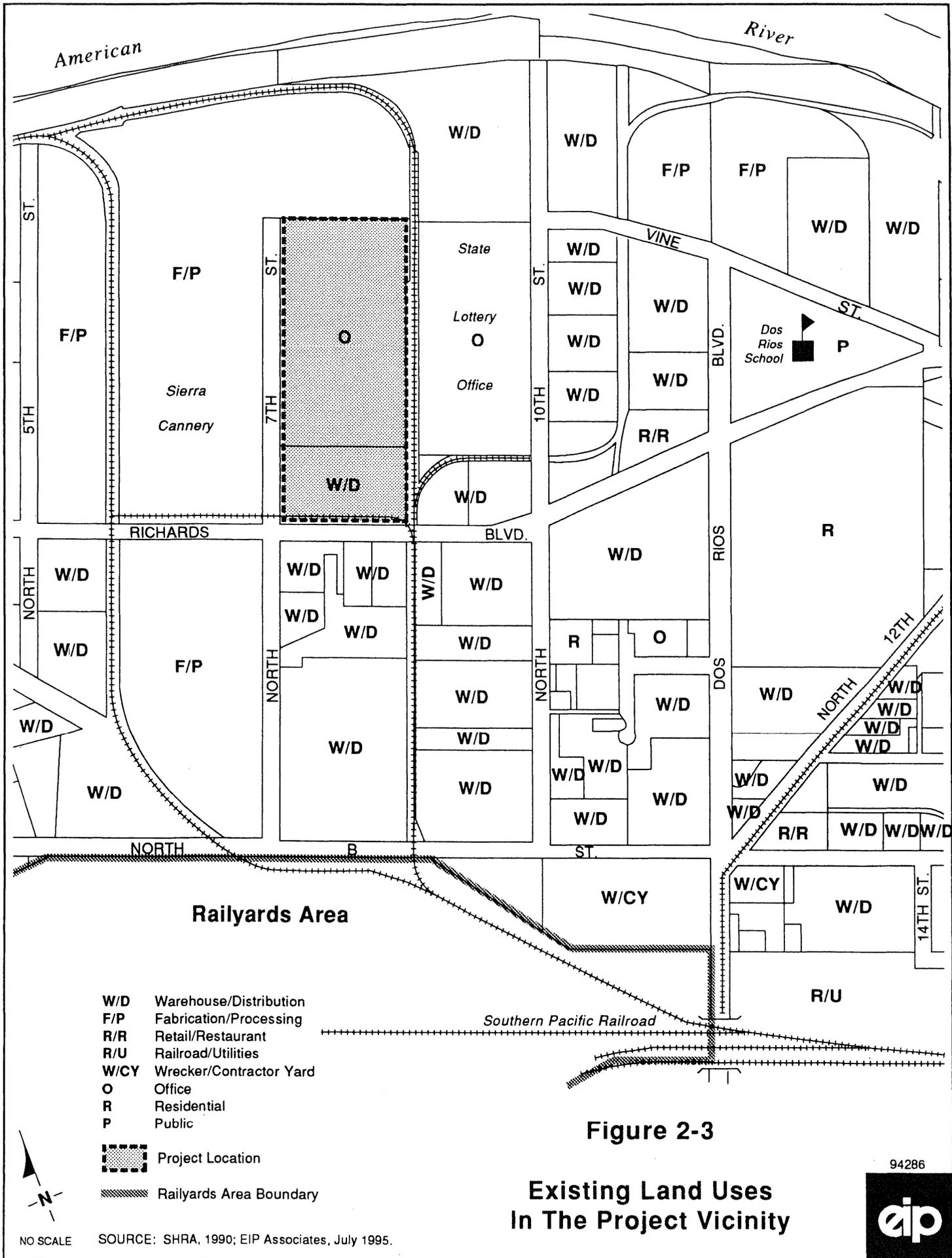
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SOURCE: EIP Associates, April 1995.

-  Project Location
-  Planning Area Boundary
-  Railyards Area Boundary





- W/D Warehouse/Distribution
- F/P Fabrication/Processing
- R/R Retail/Restaurant
- R/U Railroad/Utilities
- W/CY Wrecker/Contractor Yard
- O Office
- R Residential
- P Public

-  Project Location
-  Railyards Area Boundary

**Figure 2-3**

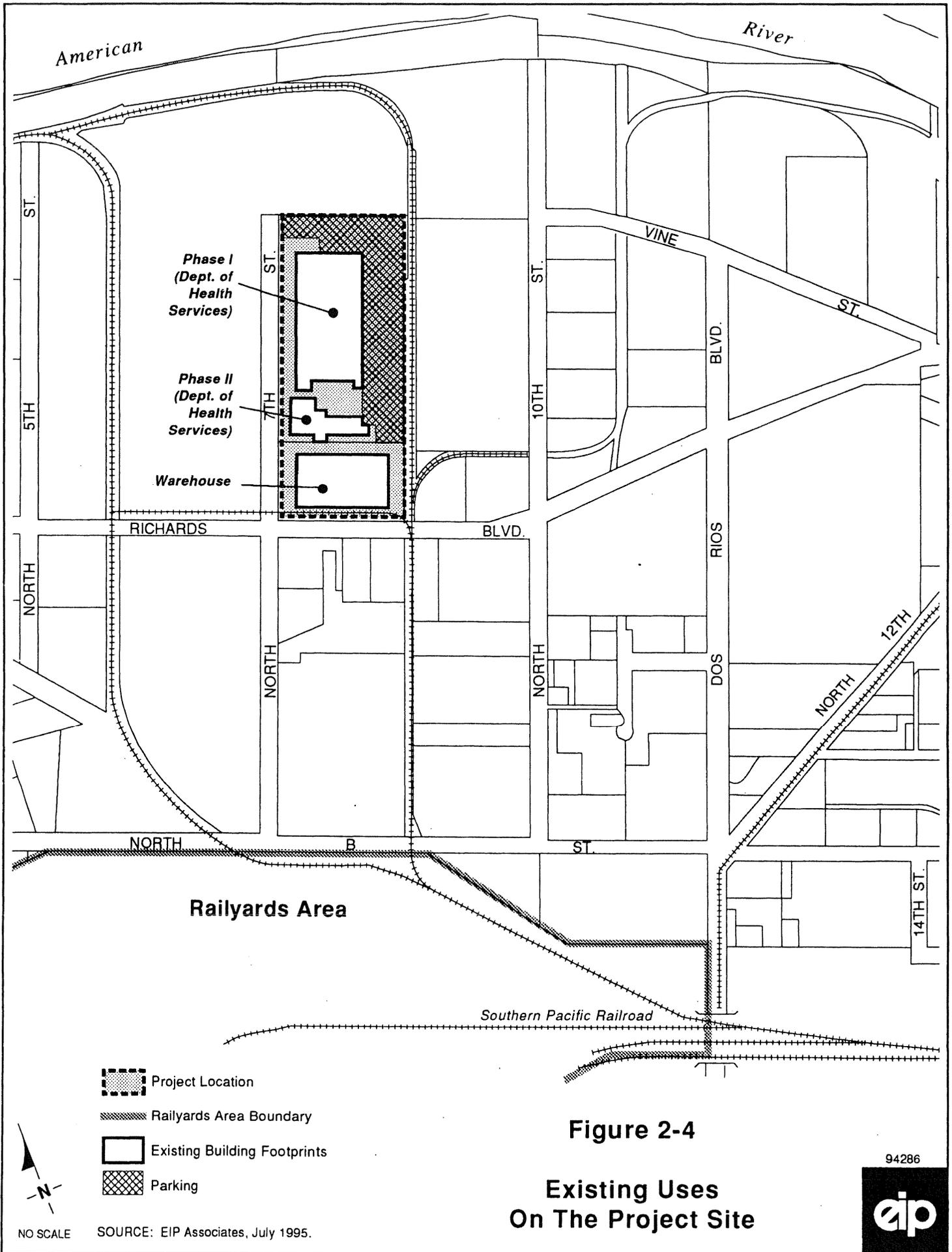
**Existing Land Uses  
In The Project Vicinity**

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NO SCALE SOURCE: SHRA, 1990; EIP Associates, July 1995.



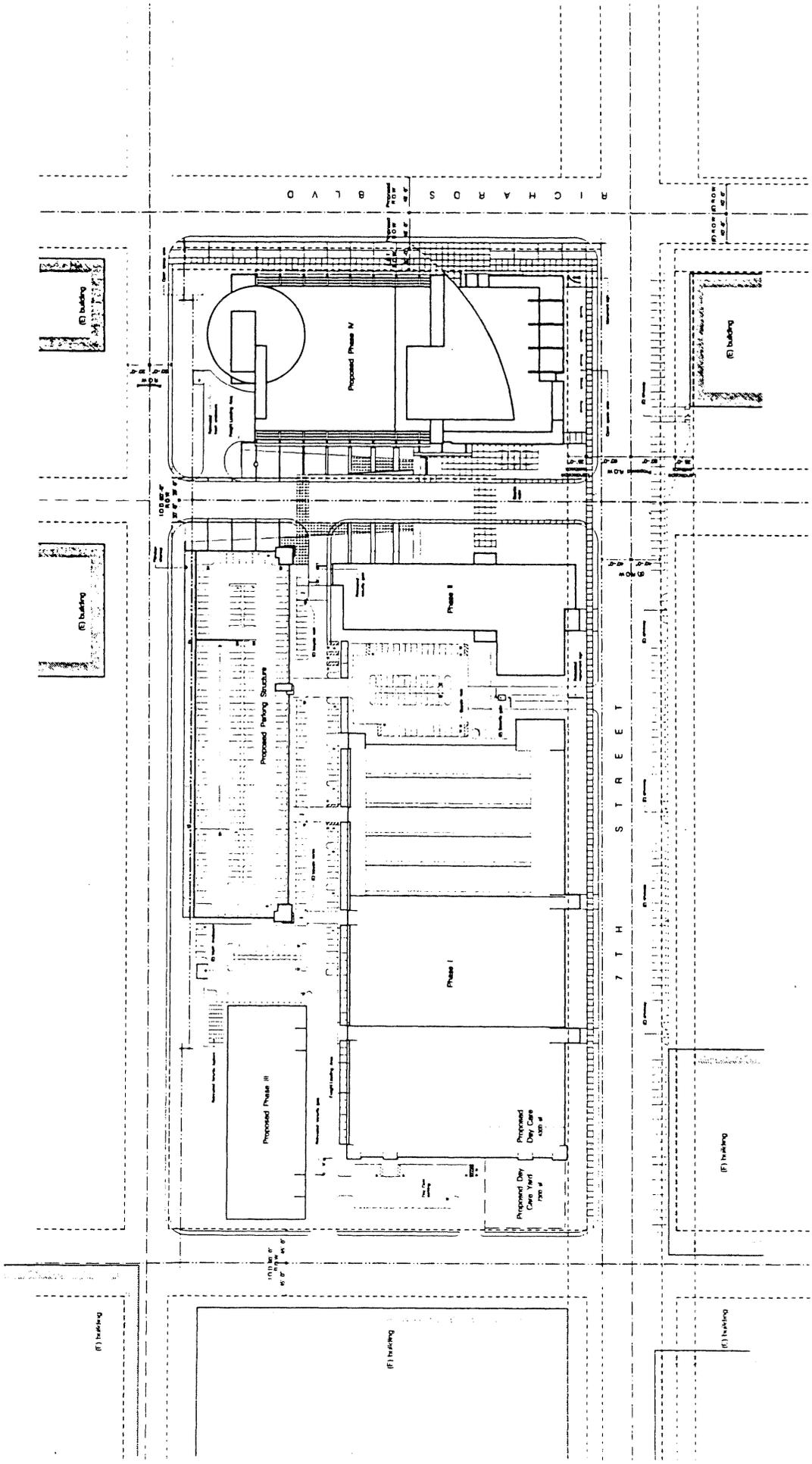


**Figure 2-4**  
**Existing Uses**  
**On The Project Site**

94286







SITE PLAN

(WITH FUTURE RIGHTS-OF-WAY)

GROVE INVESTMENT COMPANY  
SACRAMENTO, CALIFORNIA



FIGURE 2-5



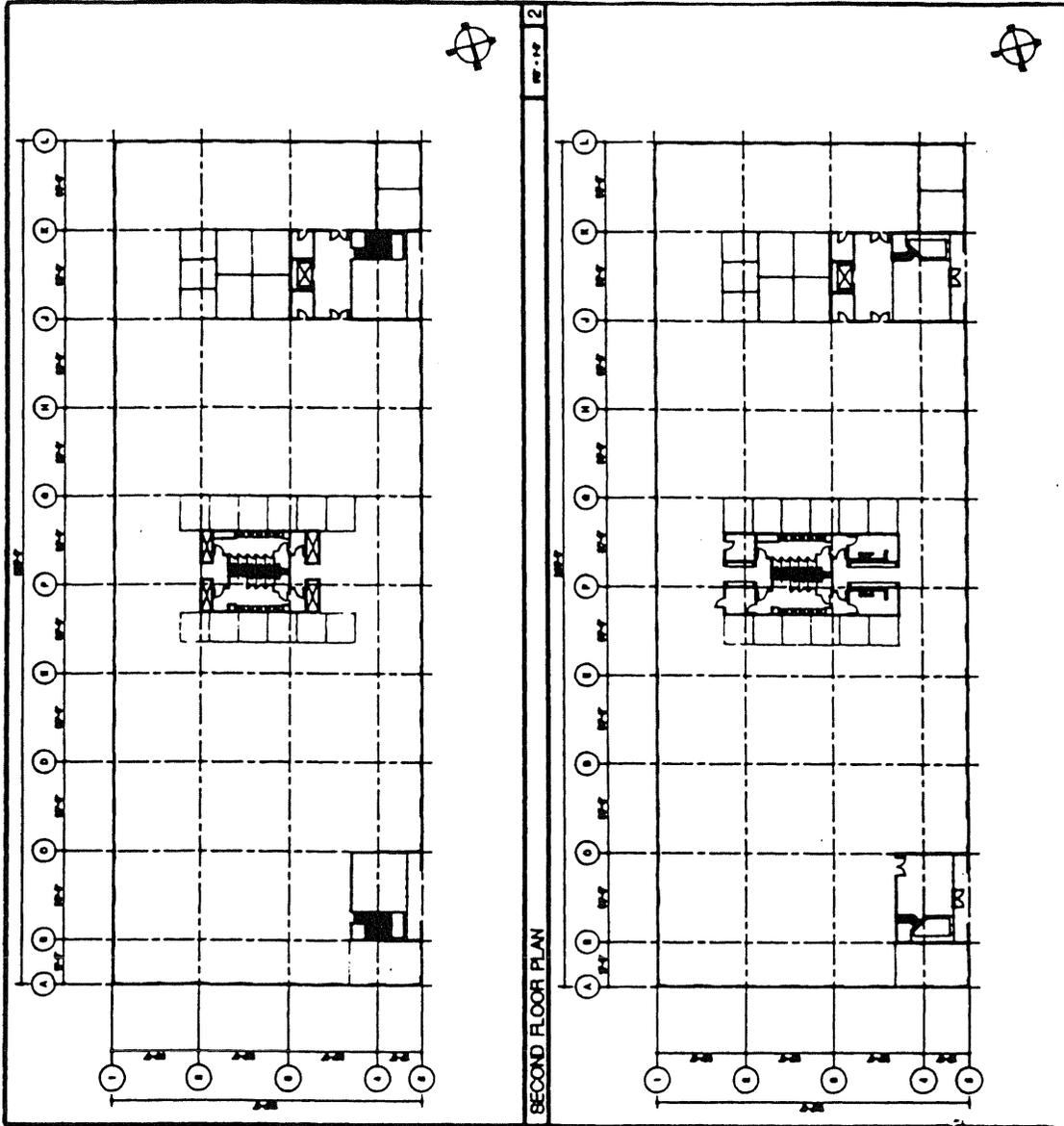
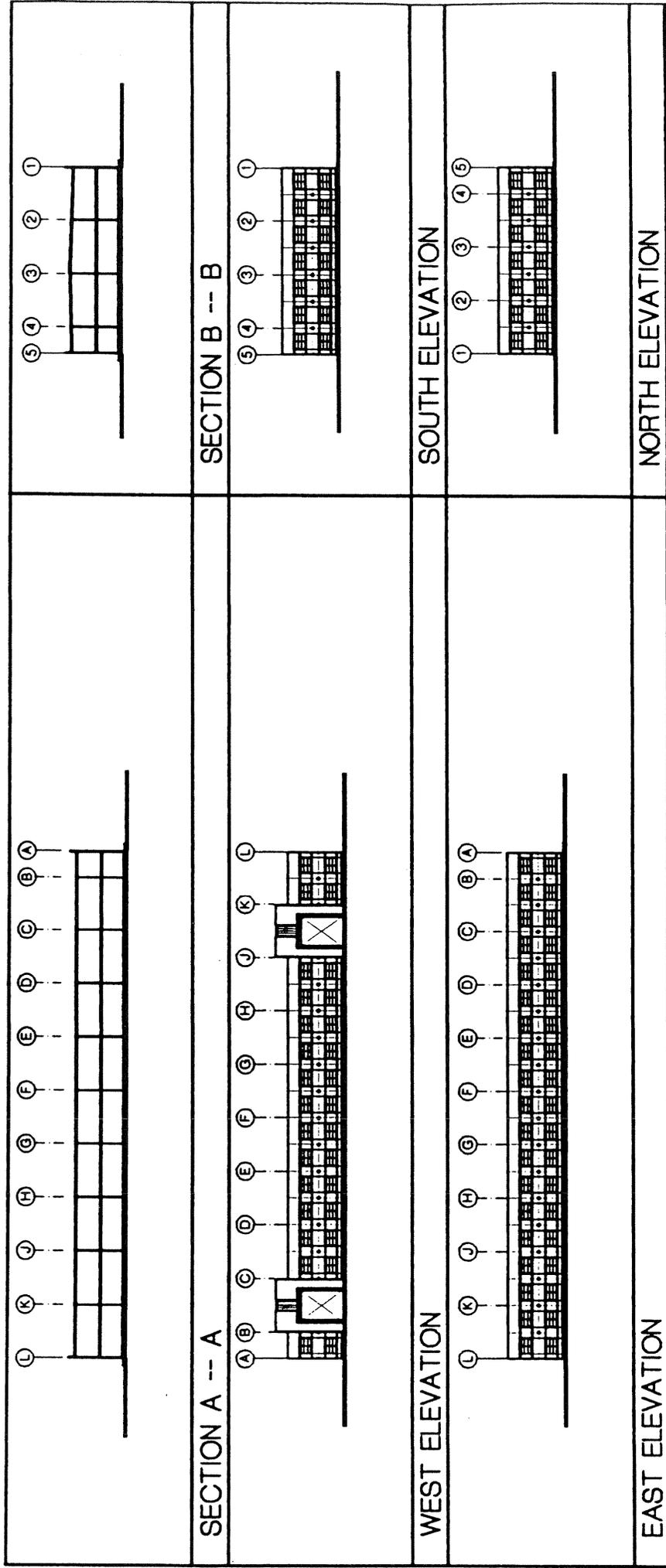


FIGURE 2-6  
 PHASE III FLOOR PLANS

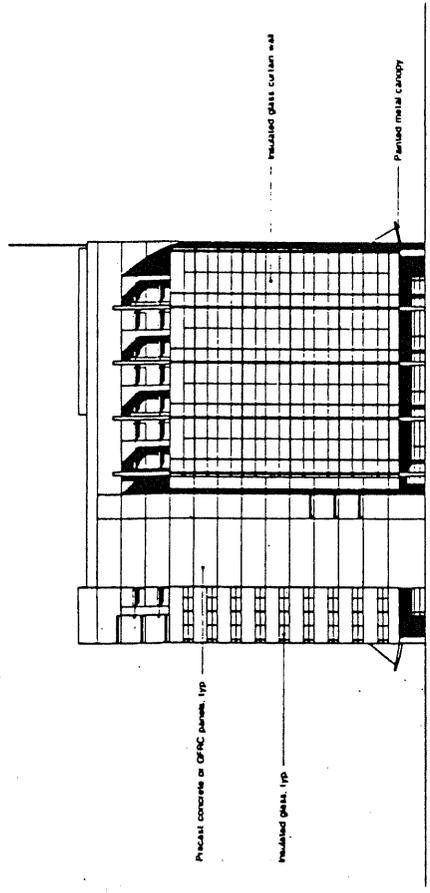




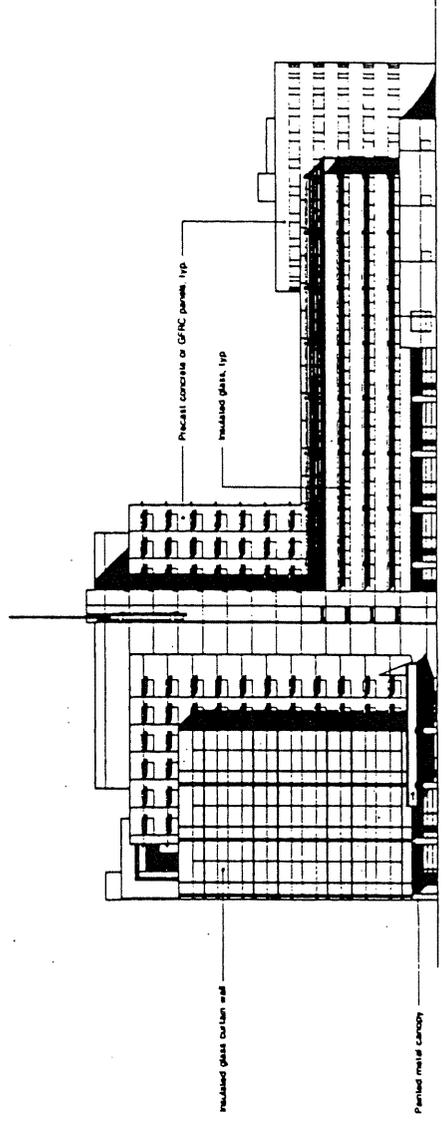
PHASE III ELEVATIONS

FIGURE 2-7





WEST ELEVATION



SOUTH ELEVATION

FIGURE 2-8

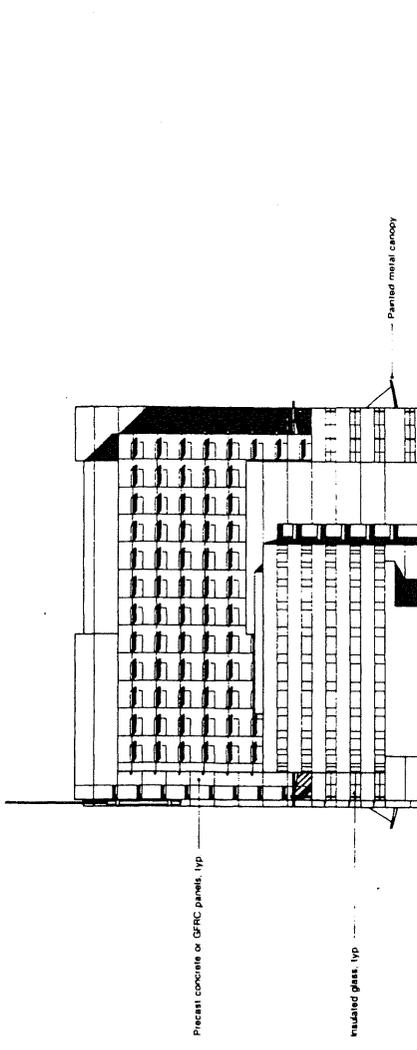
GROVE INVESTMENT COMPANY

SACRAMENTO, CALIFORNIA

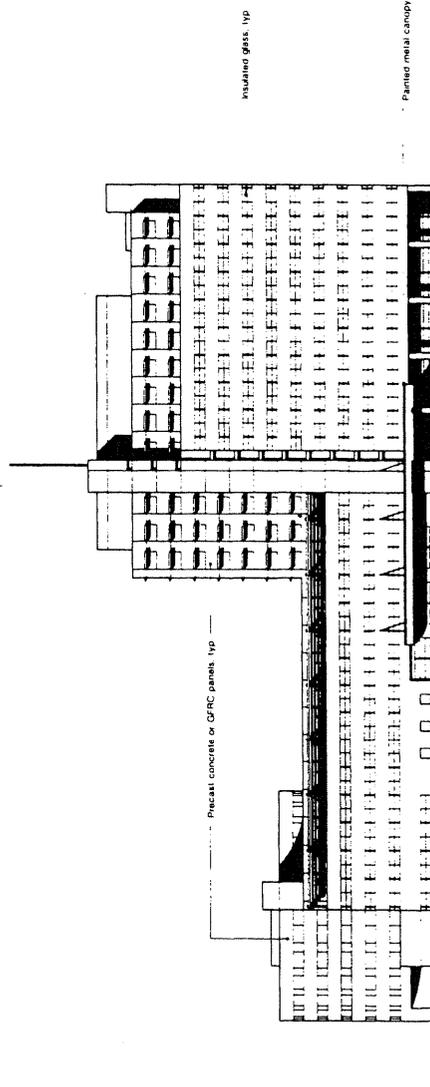
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LPA





EAST ELEVATION



NORTH ELEVATION

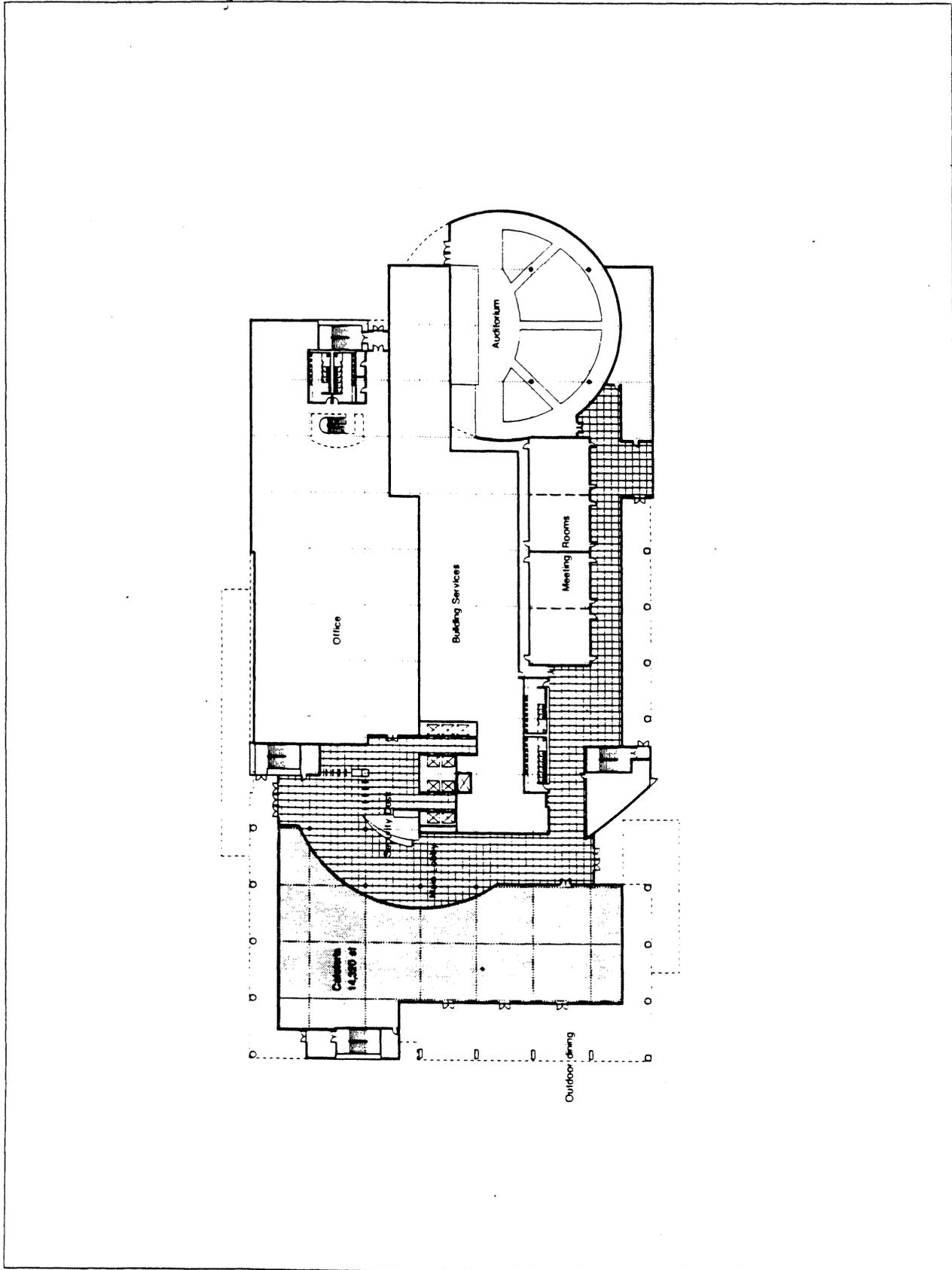
FIGURE 2-9

GROVE INVESTMENT COMPANY  
SACRAMENTO, CALIFORNIA

27 JAN 95 410306 02







**FIGURE 2-10**

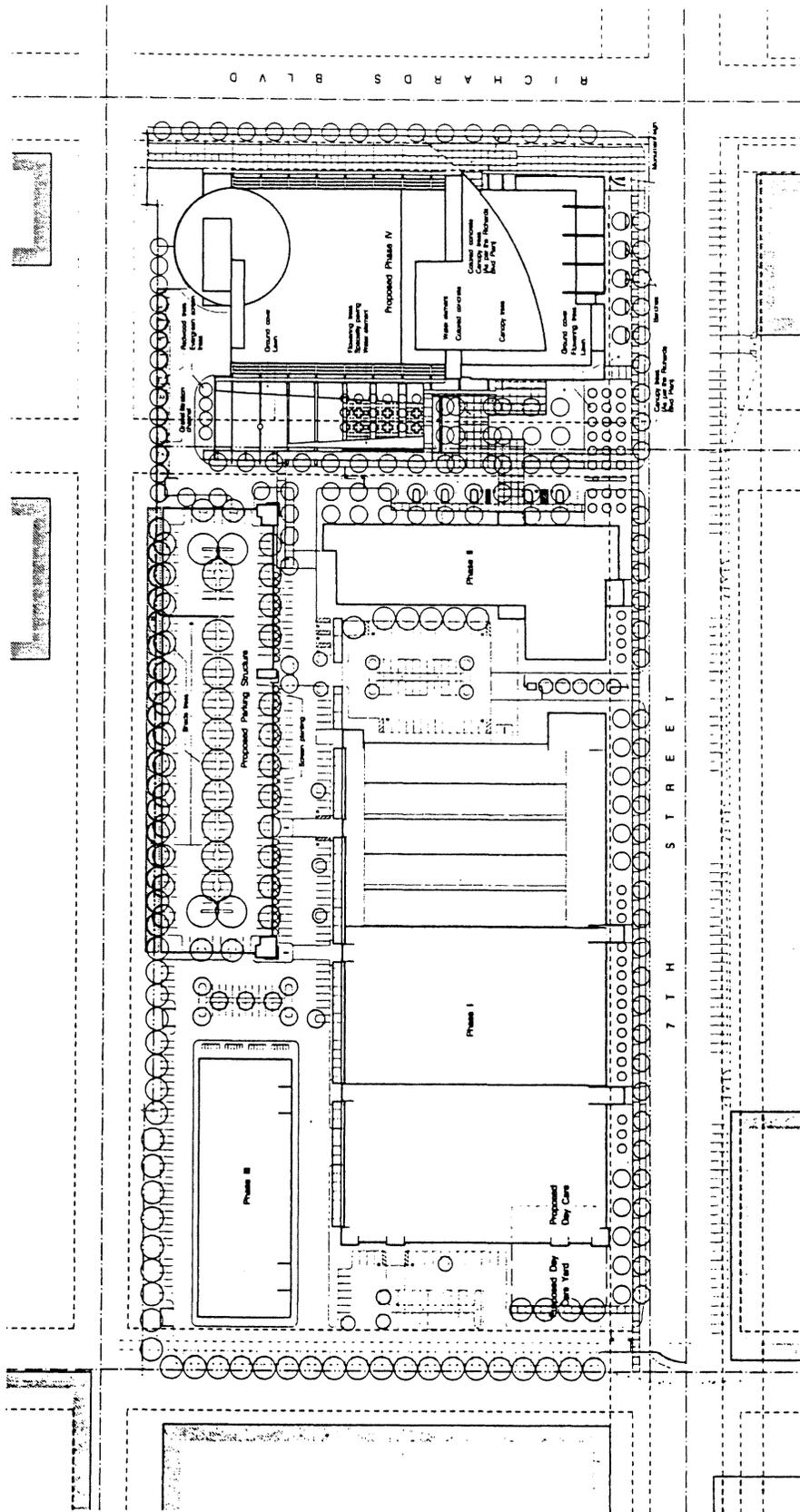
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*Continental Plaza Phase IV*

.....  
**LPA**  
 .....

*Ground level plan*



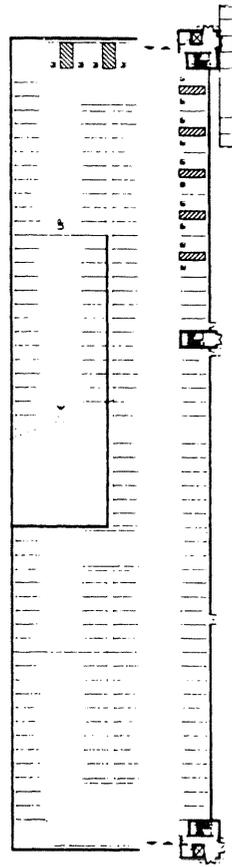
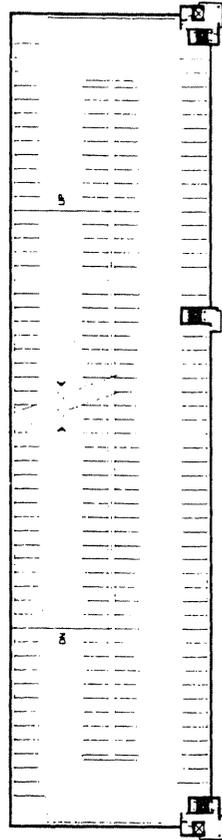
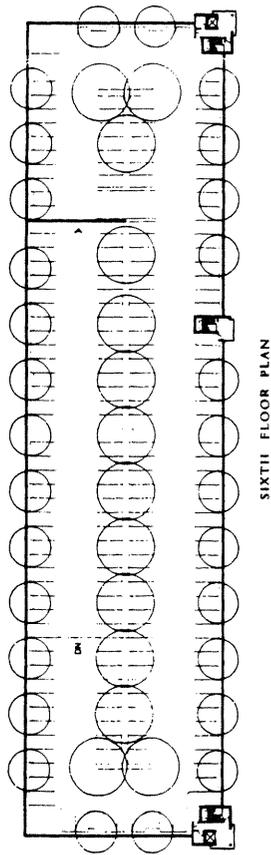


0 10 20 30 40 50  
 LANDSCAPE PLAN

GROVE INVESTMENT COMPANY  
 SACRAMENTO, CALIFORNIA  
 LPA

FIGURE 2-11





PARKING GARAGE - FLOOR PLANS

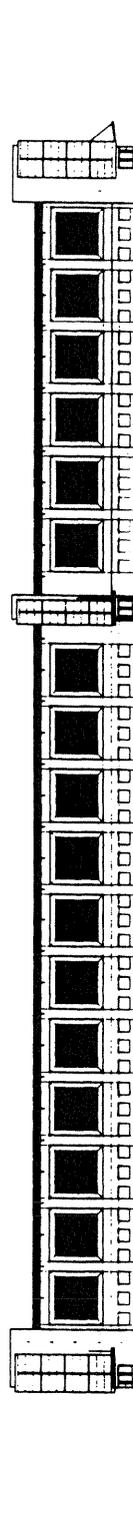


GROVE INVESTMENT COMPANY  
SACRAMENTO, CALIFORNIA

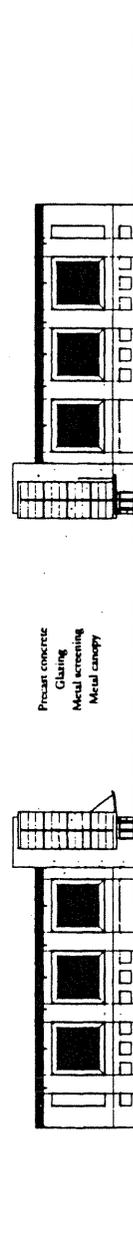


FIGURE 2-12





WEST ELEVATION  
 (East elevation similar without stair/elevator towers)



SOUTH ELEVATION

Precast concrete  
 Glazing  
 Metal screening  
 Metal canopy

NORTH ELEVATION

PARKING GARAGE - ELEVATIONS  
 Not to Scale

FIGURE 2-13

GROVE INVESTMENT COMPANY  
 SACRAMENTO, CALIFORNIA

FIGURE 21  
 LPA



### **Phase III Expansion**

Under the Proposed Project, a two-story, 59,850 square-foot office building would be constructed in the northeastern corner of the project site. The building is intended to provide space for approximately 250 employees. The building would require the removal of approximately 196 to 206 of the existing 920 onsite parking spaces, leaving 704 to 714 spaces. Access to this portion of the site would be provided via a driveway at the northern property line. The driveway and adjacent parking would be located within one half (45 feet) of the future right-of-way (ROW) known as Vine Street in the RBAP. Floor plans and elevations for Phase III are presented in Figures 2-6 and 2-7.

### **Phase IV Office Building and Parking Structure**

The Proposed Project includes construction of a 810,000 square-foot office building on the southern portion of the project site, fronting Richards Boulevard. The western portion of this building would be 12 stories tall; the eastern portion would be five stories tall. Outdoor terraces are planned for the five-story portion of the building. Elevations of the building are shown in Figures 2-8 and 2-9. One of two access points to the site would be provided via a driveway to the north of the Phase IV building site, between Phase IV and Phase II. A portion of the driveway and adjacent landscaped open space area would be located within the future 60-foot ROW known as New Street in the RBAP. Access to the public lobby of the building would be from the south side, near the corner of 7th Street and Richards Boulevard, or from a pedestrian walkway on the north side of the building. A large outdoor plaza is planned for the north side of the building; although, a portion of the plaza would be eliminated when a roadway is constructed along the north portion of the Phase IV site. The floor plan for the first floor of the Phase IV office building and the landscape plan are shown in Figure 2-10 and 2-11.

Approximately 2,430 employees could be housed in the Phase IV building.

The Phase IV building is planned to be designed as a "Life-Safety" building that meets or exceeds Uniform Building Standards. It is anticipated that building plans will include a smoke detection system, a fire alarm and communication system, a smoke-control system, standby power, light and emergency systems, and a helistop, which would be used only in emergencies.

Because of its proximity to Richards Boulevard traffic, the Phase IV building would be designed and constructed with noise attenuation features to reduce interior noise levels to 45  $L_{dn}$  or lower.

In order to construct Phase IV, the existing warehouse would be demolished and the railspur along Richards Boulevard would be removed.

### **Parking Structure**

To provide parking for the Phase IV building, a six-story parking structure would be built to the east of the existing DHS buildings and north of the Phase IV site. The structure would contain approximately 1,238 spaces. There would be approximately 230 surface spaces remaining in the existing lot, for a total of approximately 1,468 spaces. An additional 95 surface parking spaces

would be provided along the driveway access in the location of or in proximity to the Irrevocable Offers of Dedication (IODs). These spaces would be eliminated when the street is constructed (north of Phase IV). The parking garage floor plans and elevations are shown in Figures 2-12 and 2-13.

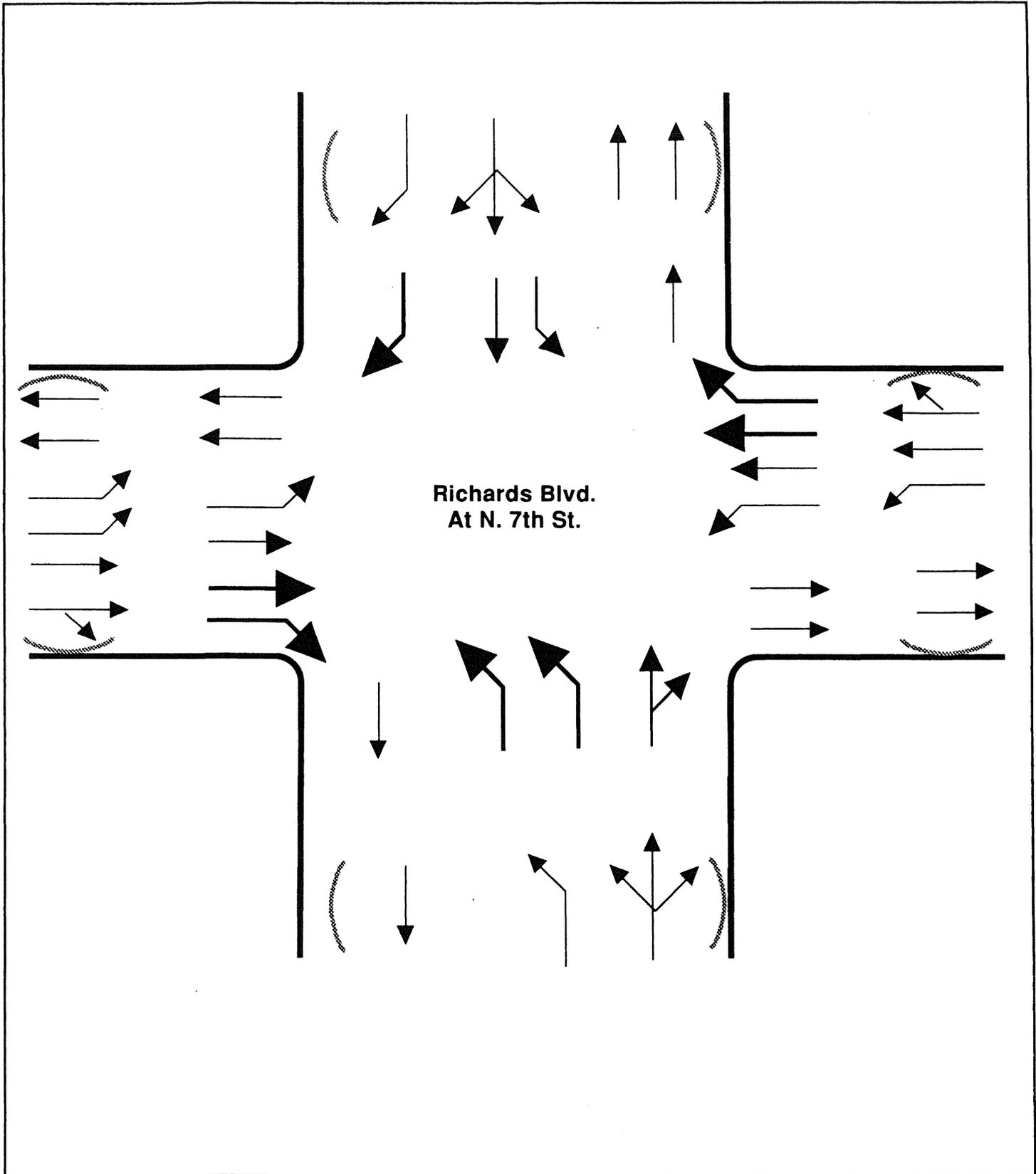
During Phase IV development, the northwest corner of the Phase I building would be remodeled to incorporate a day care center, which would consist of an approximately 4,300-square-foot indoor facility and a 7,300-square-foot outdoor play area. State standards for day care require a minimum of 35 square feet of indoor area and 75 square feet of outdoor area per student. Based on these ratios, the square footage of the outdoor play area would allow adequate space to accommodate 97 children (the indoor space could accommodate 123 children).

### **Off-Site Improvements**

The RSP/RBAP EIR and SEIR identified a number of roadway and intersection improvements to reduce the effects of increased traffic in the Planning Area. A traffic study was prepared by DKS Associates to determine whether any modifications to the approved mitigations would be necessary to offset the location and density of the Proposed Project. While the study found that no road widenings beyond those identified for the RSP/RBAP would be required, the Proposed Project would necessitate some reconfiguration of intersections. Three local improvements were identified:

- Installing a signal at Richards Boulevard and Fifth Street (which has been approved and funded through the Richards Boulevard Assessment District),
- Altering the lane geometry at Richards Boulevard and North Seventh Street as shown in Figure 2-14, with a single westbound left-turn lane, double eastbound left-turn lanes, right turns from the southbound North Seventh Street approach, and left turns allowed from both northbound approach lanes (a slightly different mitigation measure was approved as part of the RSP/RBAP SEIR; as under the RSP/RBAP, Richards Boulevard would be widened to six lanes), and
- Altering the lane geometry proposed at Richards Boulevard and I-5 as shown in Figure 2-15 with three eastbound through lanes, a single eastbound turn lane, a double westbound left-turn lane and a single westbound through lane (a slightly different mitigation measure was approved as part of the RSP/RBAP SEIR; the number of lanes would be increased to seven on Richards Boulevard, per the RSP/RBAP).

Consistent with the RSP/RBAP Mitigation Monitoring Plan, the project applicant would provide its "fair-share funding" toward these three improvements, and the other improvements adopted in conjunction with the RSP and RBAP.



**Figure 2-15**  
**SP Railyards Supplemental EIR Lane Geometry -- Continental Plaza**  
**"Existing Plus Project" Analysis Lane Geometry (In Parentheses) --**  
**Richards Boulevard At North 7th Street**

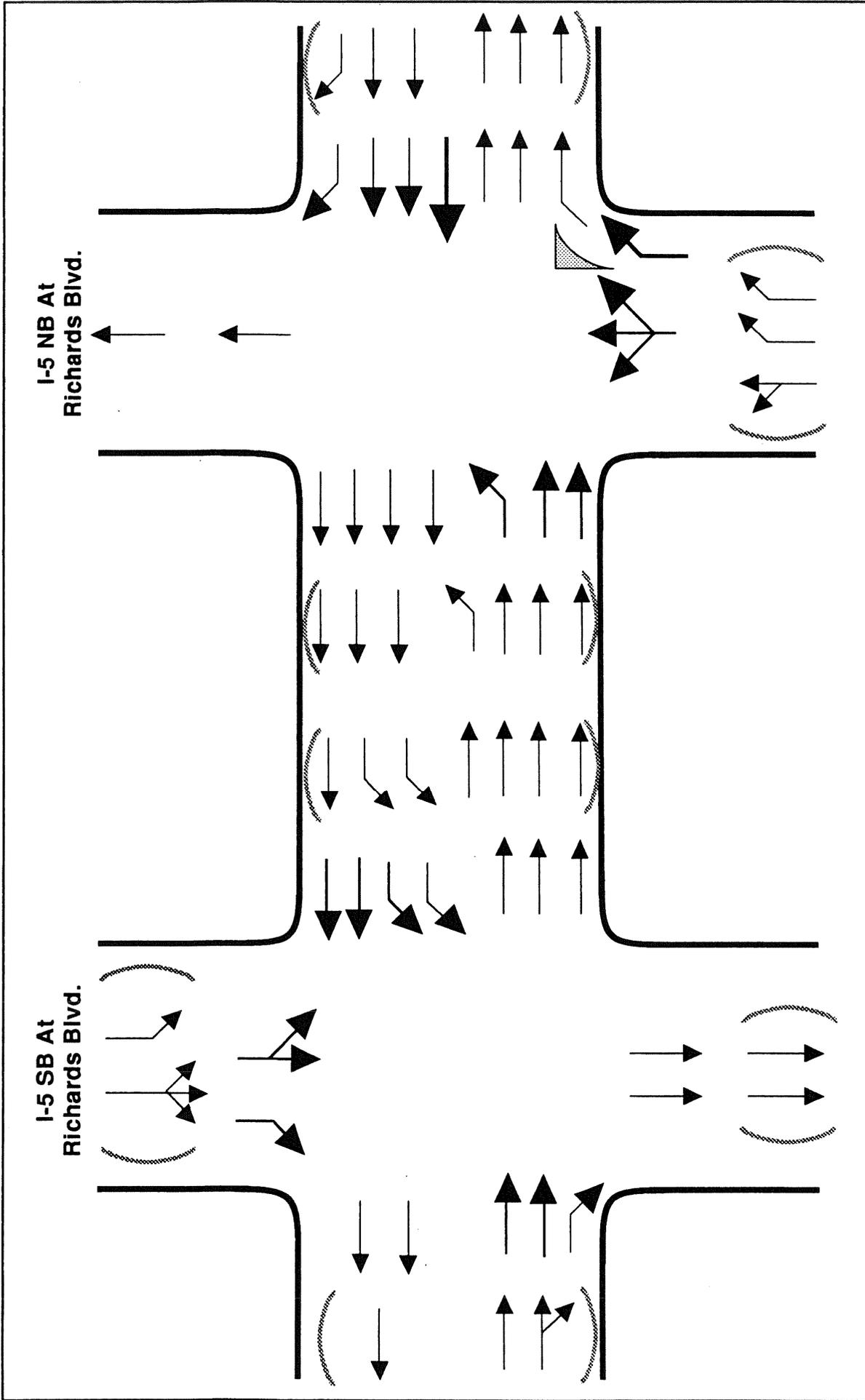
No Scale-  
Conceptual

SOURCE: DKS Associates, January 1996.

94286







-N-  
No Scale-  
Conceptual SOURCE: DKS Associates, January 1996.

Figure 2-14  
SP Railyards Supplemental EIR Lane Geometry -- Continental Plaza "Existing Plus Project"  
Analysis Lane Geometry (In Parentheses) -- I-5 At Richards Boulevard



The Proposed Project contains PUD Guidelines, which are intended to supplement existing City ordinances. The Guidelines would take precedence when more restrictive than City ordinances, or when inconsistencies arise between the provisions of the Guidelines and the provisions of such ordinances.

The PUD Guidelines would allow for the following uses:

- Overall building square footage (net of structured parking) in the Continental Plaza PUD not to exceed 1,100,000 square feet.
- A minimum of 15,000 square feet of food service and ground floor retail provided on-site as part of the Phase IV development.
- Childcare uses within the Continental Plaza PUD as a part of the Phase IV development when ancillary to the office use.
- Parking at a minimum ratio of one space per 748 gross square feet of development (net of structured parking) provided on-site, in conjunction with a Transportation Management Plan.

In addition, the PUD Guidelines contain standards that address office intensity, building height, setbacks, parking, open space, site design, architectural treatment and materials, energy conservation, temporary structures enclosures, on-site drainage, walkways, courtyards, hazardous materials, landscaping, exterior lighting and sign criteria. For the most part the provisions of the Guidelines are identical to those found in the Zoning Ordinance for the Richards Area.

### **Objectives of the Project**

The objectives of the Proposed Project are to:

- allow for the expansion of an existing Department of Health Services facility to accommodate additional requirements of this State agency or other State agencies;
- accommodate the State's plans for consolidation of state-occupied office space;
- house office users seeking the efficiency, flexibility, and cost-effectiveness of large floorplate designs;
- contribute to and enhance the operational efficiency and functional qualities of the existing Continental Plaza Phase I and II facilities;
- provide a signature building to anchor the 7th Street corridor to the north and establish a design standard for the "lower cost support office space" designated in the RBAP for the project area;

- contribute to financing of the first phase of infrastructure for the RSP and RBAP (including the widening of the I-5/Richards Boulevard undercrossing, the 7th Street extension and the Intermodal Terminal);
- provide a logical extension of downtown employment activity, commerce and trade; and,
- reinforce the use of major transit improvements planned for the area.

### **Project Schedule and Process**

Timing of final project design, construction and occupancy will depend upon and be scheduled to accommodate the State's needs for office expansion and consolidation. Upon commencement of construction, the Proposed Project will take approximately one year to complete with occupancy expected immediately thereafter.

### **Lead and Responsible Agencies**

The City of Sacramento is the lead agency for the preparation of the Continental Plaza Expansion environmental analysis. In conformance with Sections 15050 and 15367 of State CEQA Guidelines, the City of Sacramento has been designated the "lead agency" which is defined as the "public agency which has the principal responsibility for carrying out or disapproving a project".

### **Lead Agency Contact**

#### **City of Sacramento Planning Services Division:**

David Mohlenbrok, Project Manager  
Department of Planning and Development  
Planning Services Division  
1231 I Street, Suite 301  
Sacramento, California 95814  
(916) 264-7620

### **Responsible Agencies**

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

The Water Quality Control Plan, or Basin Plan, prepared by the Regional Water Quality Control Board (RWQCB) has established water quality standards and objectives for the Sacramento River and its tributaries. In cases where the Basin Plan does not contain a standard for a particular pollutant, other criteria are used to establish a standard. Other criteria may be applied from State Water Resources Control Board documents (e.g., the Inland Surface Waters Plan, and the Pollutant Policy Document) or from Federal Environmental Protection Agency (EPA) water quality criteria developed under Section 304(a) of the Federal Clean Water Act. The RWQCB's main objective is to ensure that development does not have a negative impact upon the water quality of major waterways. The RWQCB issues Certificates of Water Quality for projects within

their jurisdiction that directly alter the water quality of major waterways or that have the potential to contribute to the degradation of water quality. The RWQCB is also responsible for issuing National Pollutant Discharge Elimination System (NPDES) Permits. Construction activities over five acres are required to apply for coverage under the State General Construction Activity Storm Water Permit. The project would disturb over five acres, so it would be required to apply for coverage under the State's General Permit.

The City of Sacramento has obtained a Municipal Storm Water NPDES permit from the State Water Resources Control Board under the requirements of the EPA and Section 402 of the Clean Water Act. The goal of this permit is to reduce pollutants found in urban stormwater runoff. The project would be required to comply with applicable requirements contained in the City's Municipal Permit.

Central Valley Regional Water  
Quality Control Board  
3443 Routier Road  
Sacramento, California 95827  
(916) 255-3000

### **Required Discretionary Actions**

The City of Sacramento is required to follow through with discretionary actions for project approval. The actions necessary for project approval include, but are not limited to, the following:

#### **Lead Agency**

#### **Certification of the EIR**

- The applicant is requesting certification of the RSP/RBAP EIR and SEIR as they pertain to the Proposed Project, as delineated in the accompanying Initial Study, pursuant to the California Environmental Quality Act (CEQA), the State CEQA Guidelines, and the City of Sacramento CEQA Guidelines.

#### **Rezone**

- A rezone of 4.75 +/- acres is required for the southern portion of the site (001-0020-017, 018) from Heavy Industrial Special Planning District (M-2-SPD) to Office Building Planned Unit Development/Special Planning District (OB-PUD/SPD) for the 810,000-square-foot office building (P92-309).
- A rezone of 13.23± developed acres from Heavy Industrial Special Planning District (M-2 SPD) to Heavy Industrial Planned Unit Development/Special Planning District (M-2 PUD/SPD)

### Planned Unit Development

- PUD Designation, Schematic Plan and Development Guidelines for 17.98 ± developed acres to be known as Continental Plaza PUD

### Special Permit

- A Special Permit to develop an 810,000± -square-foot office building in the proposed OB-PUD SPD zone.
- Special Permit to develop an approximately 4,300-square-foot child care facility in the M-2 PUD/SPD zone.
- Special Permit to locate 1,136 parking spaces off-site for an 810,000± square foot office building in the proposed OB PUD/SPD zone.
- Special Permit Modification to construct an additional 60,000 square feet of office space (Phase III) to an existing 226,816-square-foot office complex (Phases I and II) (P94-126).

### Mitigation Monitoring Plan

- Revision to the RSP/RBAP EIR and SEIR Mitigation Monitoring Plan to reflect changes to traffic measures, as described on page 2-16.

### **Responsible Agency**

#### Regional Water Quality Control Board

- State General Construction Activity Storm Water Permit

Because the project site is over 5 acres, a State General Construction Activity Storm Water Permit must be obtained.

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### **3. ENVIRONMENTAL IMPACT CHECKLIST AND EXPLANATION OF DETERMINATION**

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#### **I. BACKGROUND**

**Date:** March 8, 1996

**Project Title:** Continental Plaza Phase III and Phase IV

**Lead Agency Name and Address:** City of Sacramento  
Department of Planning And Development  
Planning Services Division  
1231 I Street, Suite 300  
Sacramento, California 95814

**Contact Person and Phone Number:** David Mohlenbrok, Project Manager  
(916) 264-7620

**Project Location:** City of Sacramento, Sacramento County, California

**Project Sponsor's Name and Address:** Bruce E. Nott  
3184-J Airway Avenue  
Costa Mesa, California 92624

**General Plan Designation:** Heavy Commercial, Office

**Zoning:** M-2 (SPD)

**Description of Project:** See Chapter 2, Project Description

**Surrounding Land Uses and Setting:** See Item 1, Land Use and Planning below, and Chapter 2, Project Description

**Other Public Agencies Whose Approval is Required:** Central Valley Regional Water  
Quality Control Board  
3443 Routier Road  
Sacramento, California 95827  
(916) 255-3000

**II. DETERMINATION**

On the basis of this initial evaluation, the lead agency finds:

a) I find the Proposed Project COULD NOT have a significant effect on the environment, and  
a NEGATIVE DECLARATION will be prepared ..... [ ]

b) I find that although the Proposed Project could have a significant effect on the environment, there  
will not be a significant effect in this case, because the mitigation measures described on an  
attached sheet have been added to the project, and  
a NEGATIVE DECLARATION will be prepared. .... [ ]

c) I find the Proposed Project MAY have a significant effect on the environment, and  
an ENVIRONMENTAL IMPACT REPORT is required. .... [  ]

This requirement will be met by the Railyards Specific Plan/Richards Boulevard Area Plan EIR  
and SEIR (SCH #91042057).

d) I find that the Proposed Project MAY have a significant effect(s) on the environment, but at least  
one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal  
standards, and 2) has been addressed by mitigation measures based on the earlier analysis as  
described on attached sheets, if the effect is a "potentially significant impact" or "potentially  
significant unless mitigated."

An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the  
effects that remain to be addressed ..... [ ]



David Mohlenbrok  
Project Manager  
Department of Planning and Development

**III. ENVIRONMENTAL IMPACTS CHECKLIST**

The following checklist provides a list of questions concerning a comprehensive array of environmental issue areas potentially affected by the Proposed Project. Explanations of all answers, as well as recommended mitigation measures follow each topic "checklist" (Note that RSP/RBAP EIR measures may appear out of order or incomplete, because only those components that apply directly to the Proposed Project are presented). Information on "existing settings" is provided, as needed for impact assessment.

For this checklist, the following designations are used:

**Potentially Significant Impact:** An impact that could be significant, but that was not identified in the RSP/RBAP EIR, or for which RSP/RBAP mitigation measures are not sufficient.

**New Less-Than-Significant Impact:** Any impact that is expected to occur with implementation of the project, but at a less-than-significant level because it would not violate existing standards.

**Impact for which RSP/RBAP EIR/SEIR is Sufficient:** Impacts that would be reduced to a less-than-significant level by mitigation measures contained in the RSP/RBAP EIR or SEIR. The required RSP/RBAP EIR or SEIR measures are presented. Overridden impacts are also included in this category. These are impacts that were determined to be significant and unmitigable in the RSP/RBAP EIR or the SEIR, but for which the City Council found that there were overriding considerations that justified the potential occurrence of the impacts.

**No Impact:** The Proposed Project would not have any impact at all (for example, there is no agricultural land on the project site, so loss of farmland would not be an impact).

Issues	Potentially Significant Impact	New Less-Than-Significant Impact	Impact for which RSP/RBAP EIR/SEIR is Sufficient	No Impact
<b>1. LAND USE AND PLANNING.</b>				
<i>Would the proposal:</i>				
a. Conflict with general plan designation or zoning?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Conflict with applicable environmental plans or policies adopted by agencies with jurisdiction over the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Be incompatible with existing land use in the vicinity?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3. Environmental Impact Checklist

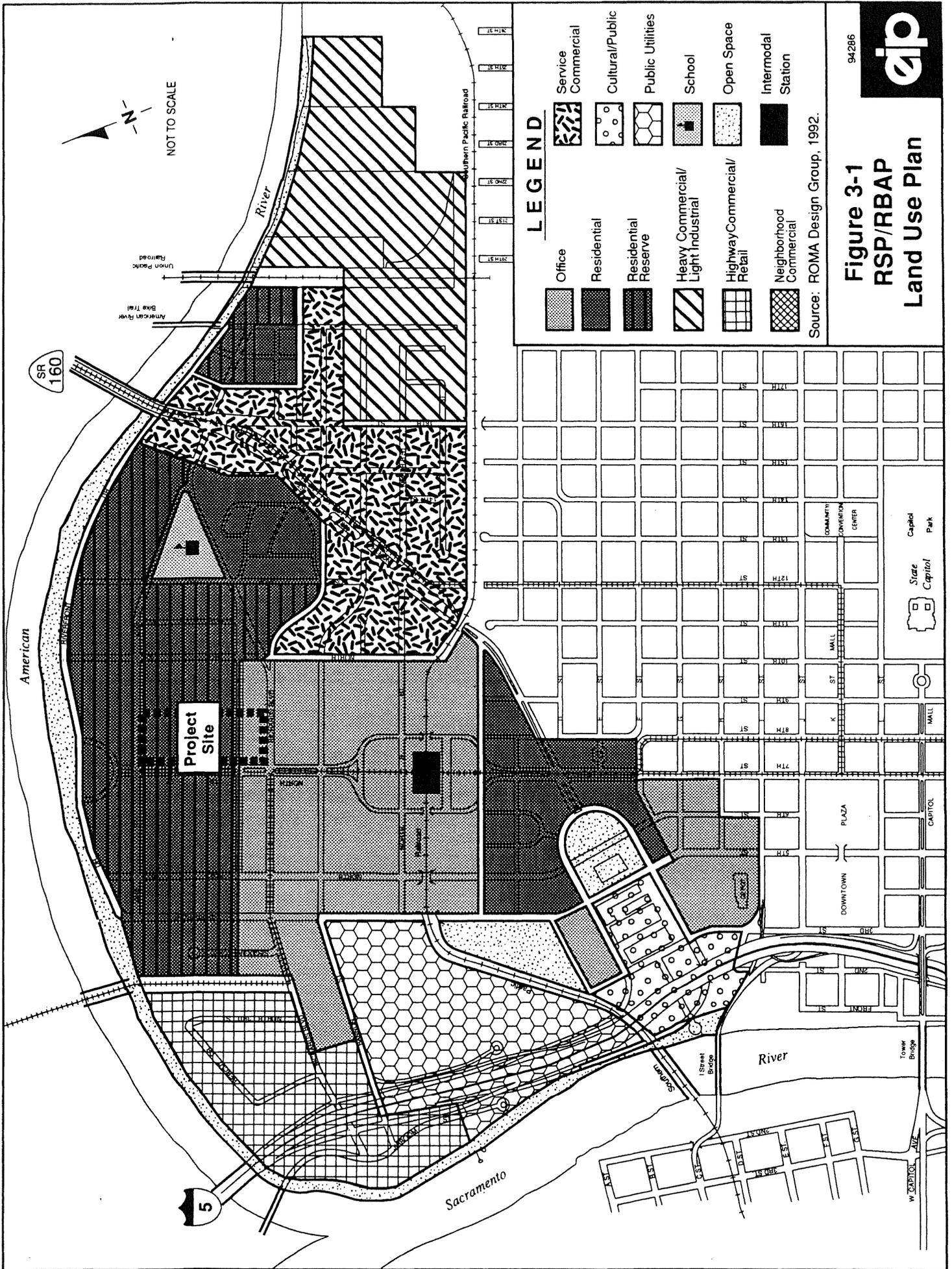
- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| d. Affect agricultural resources or operations (e.g., impacts to soils or farmlands, or impacts from incompatible land uses)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e. Disrupt or divide the physical arrangement of an established community (including a low-income or minority community)?     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**Explanation**

Land use and planning issues are discussed in Section 4.1 (Land Use) and Chapter 10 (Summary of Text Changes) of the RSP/RBAP EIR.

- a) The project site is within two land use designations--Industrial/Residential and Office-Transit (See Figure 3-1). The City has adopted the designation Industrial/Residential to provide for ongoing operation and expansion of the existing industrial/commercial uses while allowing for eventual transition to a residential neighborhood. Phase IV, the 810,000-square-foot office building, is in the area designated Office-Transit, so it is consistent with the RBAP designation. Both areas are in the M-2 (heavy commercial/industrial) zone, with a special planning district overlay.

Phase III, the 60,000-square-foot building, and the parking garage are in the Industrial/Residential area. Phase III of the Proposed Project is consistent with the General Plan designation of Special Planning District, which provides for the orderly transition of land uses through redevelopment, or changes to infrastructure, access, services, or market conditions. The Central City Community Plan designates the site as Industrial/Residential, which is intended to maintain the viability of new and existing industrial uses and employment opportunities while allowing for future residential opportunities. In general, the Industrial/Residential designation restricts office use, such as that proposed for Phase III. However, the Zoning Ordinance, in order to ensure the continued viability of existing uses, allows an existing use that was lawfully in existence and operational on July 1, 1994, to be continued, altered, modified or expanded on the parcel or parcel(s) on which it was located, as long as the expansion meets certain development and design standards. The Special Use Permit for the Department of Health Services (DHS) Phase I and Phase II facility will be amended to include Phase III. Furthermore, the Proposed Project includes changing the zone to M-2 PUD/SPD which will supersede the existing zoning. Therefore, this is considered a less-than-significant impact.





The Proposed Project includes rezoning the Phase IV site from M-2 (SPD) to Office Building (OB-PUD/SPD) consistent with the Richards Boulevard Area Plan. Therefore, this is a less-than-significant impact.

- b) The Proposed Project is in compliance with environmental documentation prepared for the Richards Boulevard Area Plan (RSP/RBAP EIR and SEIR), which evaluated the effects of 870,000 square feet of office space in the Richards Area prior to infrastructure improvements called for in the RBAP and RSP, such as the extension of 7th Street to Richards Boulevard. The mitigation measures found in the RSP/RBAP EIR and SEIR that are applicable to the Proposed Project are identified throughout the Initial Study.

Under the Richards Boulevard Area Plan (RBAP), adopted in December 1994, a large portion of the area north of Richards Boulevard is intended to become residential in the future. The RBAP allows for the continued use and expansion of existing commercial and industrial facilities, and contains policies to allow for the eventual transition to residential uses in a manner that maintains the economic viability of current facilities until they are relocated or replaced, while protecting future residents from potential hazards or nuisances due to past or existing industrial operations. The RBAP also provides for the intensification of commercial and office uses in the area south of the first block north of Richards Boulevard (the Office-Transit zone).

The RBAP contains a variety of policies intended to guide development in the Industrial/Residential, Office-Transit and other areas of the Richards Area. Many of these policies have been incorporated into the Richards Boulevard Special Planning District section of the City Zoning Ordinance.

As discussed above, although uses in the Phase III portion of the Proposed Project are neither industrial nor residential, they are acceptable because they represent an expansion of an existing legal use. This expansion is unlikely to interfere with the purpose of the Industrial/Residential designation (to facilitate the eventual transition to residential uses without harming existing operations), because the expansion will occur within the existing DHS complex, on a parking lot.

Although the Phase IV portion of the Proposed Project is consistent with the land use designation of the RBAP, it conflicts with several provisions of the RBAP Zoning Ordinance standards and RBAP guidelines that apply to the Office-Transit zone. However, the Zoning Ordinance encourages larger sites to be developed as Planned Unit Developments (PUDs) in order to provide greater flexibility of the standards and design to meet the goals and policies of the RBAP. Therefore, the Proposed Project includes a request for a PUD designation and PUD Guidelines which are consistent with the intent of several RBAP Policies, including retention of existing viable uses, promotion of transit and alternate modes of transportation and provision of an orderly transition of land uses.

- c) Phase III would be adjacent to the existing DHS facility to the west, the Tri Valley Growers warehouse to the north, the State Lottery office complex to the east and the Phase IV facility to the south (See Figure 2-3). Phase IV would be adjacent to office uses to the north, warehousing to the east, Richards Boulevard to the south and industrial uses to the west. For the most part, these uses are not considered incompatible with office uses. The use of hazardous materials at surrounding manufacturers could present a hazard to employees in the area.

The RBAP allows for the expansion of existing operations in the Richards Area, so it is possible that industrial activities could be brought into closer proximity to the project site, which would increase the use of hazardous materials near office workers. The RSP/RBAP EIR included Mitigation Measure 4.13-13(a) to protect residential and mixed uses (including office) from expanded industrial operations. This measure, which would apply to any new proposed heavy commercial or industrial land use that abuts residential and mixed use areas, schools, and open space areas, requires that such uses meet various standards, including installation of a six-foot-high solid wall along all property lines that abut another property, and disclosure of the amount and types of chemicals and compounds that would typically be used onsite. Mitigation Measure 4.13-13(b) requires that the City review available data to determine if a proposed operation would create an unreasonable risk to adjoining properties.

It should be noted that the office uses proposed for Phase III and Phase IV are likely to be compatible with future planned residential and office development in the project vicinity.

- d) There are no agricultural operations on or near the project site, so the Proposed Project would have no impact on agriculture.
- e) There is no residential community on or adjacent to the project site, so the Proposed Project will not disrupt or divide an existing community. Therefore, no impact would occur.

### **Summary**

The Proposed Project would not result in any significant land use impacts other than those that have been analyzed in the RSP/RBAP EIR.

Issues	Potentially Significant Impact/New Mitigation Required	New Less-Than-Significant Impact	Impact for which RSP/RBAP EIR/SEIR is Sufficient	No Impact
<b>2. POPULATION AND HOUSING.</b>				
<i>Would the proposal:</i>				
a. Cumulatively exceed official regional or local population projections?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Induce substantial growth in an area either directly or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Displace existing housing, especially affordable housing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation**

Population, Housing and Employment are analyzed in Section 4.7 of the RSP/RBAP DEIR.

- a) The Proposed Project would not include any residential uses, so it would not directly add to regional or local population projections. The Proposed Project could indirectly increase the City's population by attracting people to new employment opportunities in the Richards Area, but not beyond the levels analyzed in the RSP/RBAP EIR (See Item (b), below).
- b) The Proposed Project is consistent with the project analyzed in the RSP/RBAP EIR, which recognized that the RSP and RBAP would result in substantial population and employment growth in the Central City.

The growth-inducing effects of the RSP and the RBAP are analyzed in Section 5.1 of the RSP/RBAP DEIR. While the amount of growth in the Sacramento region was expected to be the same with or without the RSP and RBAP, the plans would result in a substantial redistribution of projected employment centers. Downtown Sacramento and the Highway 50 corridor would become the dominant forces in the capture of the regional office market. The Proposed Project is consistent with the growth assumptions of the RSP/RBAP EIR. While the Proposed Project would contribute incrementally to the growth anticipated under the RSP and the RBAP, it would not cause an increase in the total levels analyzed, or change the projected distribution of that growth at buildout. Therefore, this is a less-than-significant impact.

- c) There is no housing in or adjacent to the project site, so the Proposed Project would not displace any existing housing. Therefore, this is considered a less-than-significant impact:

**Summary**

The Proposed Project would not result in any population or housing impacts that have not been analyzed in the RSP/RBAP EIR.

Issues	Potentially Significant Impact/New Mitigation Required	New Less-Than-Significant Impact	Impact for which RSP/RBAP EIR/SEIR is Sufficient	No Impact
--------	--	----------------------------------	--	-----------

**3. GEOLOGIC PROBLEMS.** *Would the proposal result in or expose people to potential impacts involving:*

- |  |                          |                          |                                     |                                     |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Fault rupture?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b) Seismic ground shaking?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Seismic ground failure including liquefaction?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| d) Seiche, tsunami, or volcanic hazard?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| e) Landslides or mudflows?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| f) Erosion, changes in topography or unstable soil conditions from excavation, grading, or fill? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| g) Subsidence of the land?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| h) Expansive soils?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| i) Unique geologic or physical features?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**Explanation**

Geologic problems are addressed in Section 4.11 (Geology and Soils) of the RSP/RBAP EIR.

- a) As stated on page 4.11-2 of the RSP/RBAP DEIR, no known active faults occur in or adjacent to the City of Sacramento. Therefore, the project site is not located within an

Alquist-Priolo Special Study Zone, and would not be exposed to risks associated with fault rupture. The closest known active fault is located approximately 19 miles northwest of the Sacramento area (See Figure 4.11-1 on page 4.11-3 of the RSP/RBAP DEIR). The closest branch of the San Andreas fault system is the Green Valley (45 miles southwest). The San Andreas fault is located approximately 80 miles to the southwest. Other major active faults within 100 miles of the Sacramento area include the Hayward and Calaveras faults, both located approximately 66 miles to the southwest; the Healdsburg-Rogers Creek fault (56 miles to the west); the Bear Mountain fault (22 miles to the east); and the New Melones fault (40 miles east). The Stockton and Greenville faults are located approximately 47 and 43 miles to the south, respectively. It should also be noted that the inactive Midland fault is located about 22 miles west of Sacramento.

b,c,  
g)

Sacramento is located in an area designated as subject to low to moderate groundshaking during an earthquake event, representing a probable maximum earthquake intensity of VII on the Modified Mercalli Scale. As stated on page 4.11-2 of the RSP/RBAP DEIR:

According to the *Preliminary Map of Maximum Expectable Earthquake Intensity in California*, prepared by the California Department of Mines and Geology (See Figure 4.11-2 [of the RSP/RBAP EIR]), Sacramento is located near the border between the "low" and "moderate" severity zones, representing a probable maximum earthquake intensity of VII on the Modified Mercalli Scale (See Table 4.11-2 [of the RSP/RBAP EIR]). In Sacramento, the greatest intensity earthquake effects would come from the Dunnigan Hills fault, Midland fault, and the Foothill Fault System. Earthquakes on these faults could generate ground accelerations up to 0.2 g (0.2 times the acceleration of gravity) within the Sacramento area. This corresponds to a probable maximum intensity of VIII on the Modified Mercalli Scale.

Ground accelerations of this magnitude could cause damage to structures and infrastructure, exposing people in the Sacramento area to the associated hazards. Secondary effects associated with groundshaking include liquefaction (loss of soil strength), settlement (compaction of soil and alluvium), and lateral spreading (movement of soil toward a stream bank, fill, or sides of levees). In addition, as stated on page 4.11-21 of the RSP/RBAP DEIR, implementation of the Proposed Project, in combination with cumulative development in Downtown Sacramento, would increase the number of people working and living in the Sacramento area who would be exposed to hazards associated with seismic activity. The RSP/RBAP EIR identified the following mitigation measures to reduce impacts from seismically-induced groundshaking to a less-than-significant level:

- 4.11-1 *New structures, the restoration of existing structures, and the development of project infrastructure shall be designed and built in conformance with the Uniform Building Code (with California amendments) standards for Seismic Zone 3.*
- 4.11-2(a) *Prior to construction, site-specific geotechnical evaluations shall be performed by an appropriately licensed professional engineer qualified to assess seismic conditions including probability associated with liquefaction, settlement, and lateral spreading using a maximum probable and credible earthquake. The evaluation shall identify specific geotechnical recommendations for development foundation design to mitigate for seismically induced hazards, as well as recommendations for adequate building design including excavation and fill requirements for any identified soil constraints.*

### 3. Environmental Impact Checklist

*The evaluation for project sites adjoining the levee will also include an analysis of levee stability under static and seismic conditions in coordination with the US Army Corps of Engineers for project sites adjoining the levee.*

- 4.11-2(b) *Design of foundations and drainage facilities shall conform with Title 24 of the California Code of Regulations, the Uniform Building Code and recommendations contained in the site-specific geotechnical evaluations prepared by an appropriately licensed and qualified engineer/geologist as specified in Mitigation Measure 4.11-2(a).*

In addition, the RSP/RBAP EIR identified the following mitigation measure, which would reduce project-specific contributions to seismic hazards cumulative impacts to a less-than-significant level:

- 4.11-7 *The City of Sacramento shall continue to require development to comply with General Plan Goals and Policies for Seismic Safety, including Policies 1 through 3, or the equivalent.*

Compliance with RSP/RBAP EIR Mitigation Measures 4.11-1, 4.11-2(a) and (b), and 4.11-7 would ensure that the Proposed Project would not result in any impacts due to seismically-induced groundshaking other than those previously identified in the RSP/RBAP EIR. No further mitigation is required.

- d) The project site is not located in an area subject to seiche, tsunami, or volcanic hazard.
- e) The project site is located in an area of relatively flat topography and would not be subject to landslides or mudflows.
- f) As identified in Figure 4.11-3 on page 4.11-11 of the RSP/RBAP DEIR, the project site is underlain by soils classified as Columbia-Urban Land Complex, 0 to 2 percent slopes. Characteristics of material under impervious surfaces at the project site are similar to those exhibited by the Columbia soil classification. As stated on page 4.11-12 of the RSP/RBAP DEIR, Columbia soil is very deep and somewhat poorly drained; permeability is moderately rapid above the clayey substratum, and slow in the clayey substratum, which occurs at a depth of 40 to 60 inches; available water capacity is moderate; runoff is slow to very slow; and the hazard of water erosion is none to slight. The shrink-swell potential is low to moderate, depending on depth. Where the unit is used for urban development, the main limitations are the depth to a seasonal high water table, slow permeability in the clayey substratum, and sloughing hazards, which limit shallow excavations.

The Proposed Project would require excavation and/or grading during construction. Grading and construction activities could result in increased rates of erosion. As described above, the soil under the site is characterized as having none to slight erosion hazard and minimal runoff; therefore, construction-related erosion would be negligible. In addition, the RSP/RBAP EIR did not identify any such impacts relating to soil erosion. However, water quality impacts can occur from even minimal erosion during construction activities; these impacts are discussed under Item 4c.

As stated on page 4.11-19 of the RSP/RBAP DEIR, below-grade construction activities of 10 feet or greater could encounter the shallow groundwater table underlying the Planning Area. This groundwater table could be as shallow as five feet below the surface. Excavations for foundations, deep basements, elevator pits or other deep below-grade structures could require dewatering activities to maintain adequate construction conditions. (Exposure of construction workers to contaminated groundwater, either through direct contact or inhalation of vapors, is evaluated in Item 9, Hazards).

The RSP/RBAP EIR identified the following mitigation measures to reduce the potential impacts associated with unstable soil conditions during dewatering to a less-than-significant level:

- 4.11-5(a) *If below-grade construction is proposed, site-specific geotechnical investigation will be undertaken prior to the start of excavation to determine the depth to the groundwater for the affected site, and the need for subsurface drainage and the potential for caving of excavation walls. This investigation and subsequent analysis shall be made by an appropriately licensed and qualified engineer or geologist.*
- 4.11-5(b) *If dewatering of a construction site is required, subdrains, reinforced concrete retaining walls and/or waterproofing methods shall be used as necessary to eliminate the effects of subsurface groundwater conditions. The subdrain plan shall form part of the final plans for the project, and would be prepared with the recommendations of an appropriately licensed and qualified engineer or geologist.*
- 4.11-5(c) *Dewatering shall comply with applicable requirements established by the Central Valley Regional Water Quality Control Board and any applicable local permit requirements, and shall be coordinated with the City's Flood Control and Sewers Division.*
- 4.11-5(d) *Moisture barriers around foundations shall be used where applicable to prevent moisture changes from adversely affecting soils beneath a structure.*
- 4.11-5(e) *Where required due to high groundwater, excavations shall be shored as required by the Office of Safety and Health Administration (OSHA) to preclude slope failures during the construction period. Shoring shall use standard stabilizing methods, such as tiebacks, as necessary to retain excavation areas.*

Compliance with RSP/RBAP EIR Mitigation Measures 4.11-5(a) through (e) would ensure that the Proposed Project would not result in any impacts relating to adverse below-grade soil conditions other than those previously identified in the RSP/RBAP EIR. No further mitigation is required.

- h) Although general subsurface soil characteristics are known, as stated on page 4.11-19 of the RSP/RBAP DEIR, without site-specific geotechnical analysis to accurately characterize underlying soils, the extent of hazards associated with expansive soils cannot be fully determined. The RSP/RBAP EIR identified the following mitigation measures related to expansive soils to reduce impacts to a less-than-significant level:

- 4.11-4 *Implement Mitigation Measures 4.11-2(a) and 4.11-2(b).*

Mitigation Measures 4.11-2(a) and (b) are presented under Item 3b, above. Compliance with RSP/RBAP EIR Mitigation Measure 4.11-4 would ensure that the project would not result in any impacts relating to expansive soils other than those previously identified in the RSP/RBAP EIR. No further mitigation is required.

- i) As stated on page 4.11-1 of the RSP/RBAP DEIR, approximately 3,000 feet of fluvial-deposited sediments eroded from the mountains to the north and east underlie the project site. As stated on page 4.11-9 of the RSP/RBAP DEIR:

The uppermost soil layers underlying the [Richards Area] are very heterogeneous. In general, they consist of 10 to 20 feet of loose to medium dense sand and silty sand fill, underlain by medium stiff silt and clays, loose to medium dense sand, five to 30 feet thick, and dense gravel, zero to 20 feet thick. It can be assumed that the underlying soils nearest the rivers would contain more sand, and that areas further from the rivers would contain predominately silts and clays.

The project site is flat and developed, and no unique geologic and/or physical features or structures exist at the site. The existing American River stream embankment north of the project site would not be disturbed as part of this project, therefore, there would be no impact on any unique geological features.

### **Summary**

The Proposed Project would not result in any new significant geology, seismicity, or soils impacts that have not already been analyzed in the RSP/RBAP EIR, and RSP/RBAP EIR Mitigation Measures 4.11-1, 4.11-2(a) and (b), 4.11-4, 4.11-5(a) through (e), and 4.11-7 will be implemented as part of the Proposed Project.

Issues	Potentially Significant Impact/New Mitigation Required	New Less-Than-Significant Impact	Impact for which RSP/RBAP EIR/SEIR is Sufficient	No Impact
<b>4. WATER.</b> <i>Would the proposal result in:</i>				
a) Changes in absorption rates, drainage patterns, or the rate and amount of surface runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of people or property to water-related hazards such as flooding?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Discharge into surface waters or other alteration of surface water quality (e.g., temperature, dissolved oxygen or turbidity)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Changes in the amount of surface water in any water body?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Changes in currents, or the course or direction of water movements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations or through substantial loss of groundwater recharge capability?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Altered direction or rate of flow of groundwater?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h) Impacts to groundwater quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i) Substantial reduction in the amount of groundwater otherwise available for public water supplies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation**

Water issues are addressed in Section 4.12 (Hydrology and Water Quality) and Chapter 10 (Summary of Changes) of the RSP/RBAP EIR. Stormwater drainage is addressed in Section 4.17 of the RSP/RBAP EIR and Section 4.1.6 of the RSP/RBAP SEIR.

- a) Surface runoff from a developed site is primarily the result of stormwater. Improper landscape irrigation can contribute as well. The amount and rate of surface runoff from a developed site is related to the area covered by impervious surfaces such as buildings, parking lots, and roadways. As stated on page 4.17-14 of the RSP/RBAP DEIR, impervious surface in the Richards Area is estimated to range from 82 to 88 percent.

Under the Proposed Project, the amount of impervious surface for Phase III development would remain the same because the building would replace a portion of an existing paved parking area. However, Phase IV development would result in a decrease in impervious surface in that area from 98 percent to 78.2 percent.<sup>1</sup> The impervious surface would be reduced because some existing paved areas would be reduced in size to accommodate structures that occupy less square footage than the existing building, and additional landscaping would replace some existing paved surfaces. Although implementation of the Proposed Project would result in a reduction in the amount and rate of surface runoff over the present condition, the following mitigation measures are applicable to the Proposed Project and would ensure that operation of it would not contribute to an increase in the rate or amount of surface runoff:

- 4.12-4(a) *Prior to development of any part of the Planning Area, a comprehensive runoff control plan shall be prepared by a registered civil engineer or registered professional hydrologist to protect water resources from impacts due to urban and landscape runoff generated by the project. The plan shall be prepared in coordination with the Central Valley Regional Water Quality Control Board, and the City of Sacramento to assure compliance with applicable NPDES permit requirements for new developments. The plan shall include a combination of the following Best Management Practice (BMPs), or equally effective measures:*
- (iii) *Peak flow reduction and infiltration practices, such as grass swales, infiltration trenches and grass filter strips, and detention and retention basins, shall be incorporated.*
  - (iv) *Landscape areas including borders and medians shall use low water-using plants wherever feasible.*
  - (vi) *Plants of similar water use shall be grouped to reduce overirrigation of low-water-using plants.*
  - (vii) *Mulch shall be used in all non-lawn landscaped areas to a minimum depth of two (2) inches. Mulch applied on top of the soil will improve the water-holding capacity and reduce runoff.*

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<sup>1</sup> Cleve Livingston, Robbins & Livingston, written communication, August 23, 1995.

### 3. Environmental Impact Checklist

- (viii) *Existing trees and shrubs shall be preserved and protected where feasible, because established plants are often adapted to low-water-using conditions.*
- (ix) *Efficient irrigation systems shall be installed to minimize runoff and evaporation and maximize the water that will reach the plant roots such as drip irrigation, soil moisture sensors, and automatic irrigation systems.*
- (xii) *Where feasible, landscape areas shall be limited to 4:1 slopes to reduce runoff, unless such slopes form landscape berms which are required to mitigate aesthetic and noise impacts.*
- (xiii) *The use of plastic or other impervious materials to control weed growth in landscaped areas shall not be permitted.*

4.12-4(b) *Comply with joint City and County storm water NPDES permit requirements for the City's municipal storm water conveyance system.*

Compliance with RSP/RBAP EIR Mitigation Measures 4.12-4(a)(iii), (iv), (vi) through (ix), (xii) and (xiii), and 4.12-4(b) would ensure that the Proposed Project would result in no impacts associated with surface runoff rate or amount other than those previously identified in the RSP/RBAP EIR. No further mitigation is required.

- b) As stated on page 4.12-6 of the RSP/RBAP DEIR, the Richards Area is primarily classified as being located within an A99 Zone and is subject to inundation by a 100-year flood event from the American River (See Figure 4.12-3 on page 4.12-7). As further stated on page 4.12-28 of the RSP/RBAP DEIR, the levee system surrounding the Planning Area currently provides for approximately 63-year protection. Until 100-year protection is achieved, the entire Richards Area, including the Proposed Project site, could be subject to inundation during a 100-year event with 10 to 15 feet of water. Such an event would not only damage property, but would pose a risk to people living and working in the affected areas. The RSP/RBAP EIR identified the following mitigation measures to reduce impacts associated with flooding to a less-than-significant level:

4.12-2(a) *Development in the Planning Area shall comply with City ordinances and zoning codes regulating residential and non-residential development in the A99 Zone (City of Sacramento Ordinance 90-005) 100-year flood plain.*

4.12-2(b) *If project development is not completed prior to removal of A99 designation and 100-year protection has not been achieved, development of the proposed Planning Area shall comply with all applicable FEMA regulations.*

Compliance with RSP/RBAP EIR Mitigation Measures 4.12-2(a) and 4.12-2(b) would ensure that the Proposed Project would not result in any flood-related impacts other than those previously identified in the RSP/RBAP EIR. No further mitigation is required.

#### c) **Construction**

Construction of the Proposed Project would include grading, excavation, and other earth-moving activities. These activities would expose soils to erosion from wind and storm

events, resulting in increased siltation and sedimentation loads that could enter the storm drain system and potentially contribute to a degradation of receiving water quality. The RSP/RBAP EIR identified the following mitigation measure to reduce construction-related erosion impacts on surface water quality to a less-than-significant level:

- 4.12-3 *A comprehensive erosion control plan shall be prepared by a registered civil engineer or a registered professional hydrologist prior to submittal of the final map to protect water resources from impacts due to siltation and sedimentation generated by project construction in the Planning Area. The plan shall be prepared in coordination with the Central Valley Regional Water Quality Control Board, and the City of Sacramento to assure compliance with applicable NPDES permit requirements for construction activities. The plan shall include a combination of the following Best Management Practices (BMPs), or equally effective measures or any other measures required by local codes and ordinances:*
- (a) If feasible, project construction periods should be limited to the dry months of the year (May through October).*
  - (b) If project construction does occur during the rainy season (November through April), sediment traps, barriers, covers or other methods shall be used to reduce erosion.*
  - (c) Slopes, both cut and fill, shall not be steeper than those recommended by the detailed geotechnical report for the Planning Area (See Mitigation Measure 4.11-1(a)).*
  - (d) Sediment basins, sediment traps, or similar sediment control Best Management Practices (BMPs) shall be installed before extensive ground alteration operations begin.*
  - (e) Temporary mulching, seeding, or other suitable stabilization measures shall be used to protect exposed areas during construction activities.*
  - (f) Excavated materials shall not be deposited or stored where the material could be washed away by storm water runoff.*

Other potential sources for surface water quality degradation during construction activities are the use of heavy equipment and storage of building materials (e.g., paints, solvents, cement). Construction equipment spills could include heavy metals, oil, grease, and other petroleum hydrocarbons. The following Best Management Practices (BMPs), or equally effective measures, will be used to control release of potential pollutants during construction activities.

- (a) Develop and implement a program to safely store and handle cement materials, paints and solvents, fuels and lubricating oils, pesticides, and herbicides, and other hazardous materials.
- (b) Develop and implement a hazardous materials spill prevention, control, and cleanup program.

- (c) Or develop and implement other measures as determined by the Utilities Department.

The above measures or other measures as determined by the Utilities Department would ensure that potential water quality impacts associated with project construction would be less than significant.

### **Operation**

Although there would be a reduction in the amount of impervious surface at the project site, runoff could contain urban contaminants that could affect existing surface and groundwater quality. Runoff from streets adjacent to the project site and from parking lots within the project site could contain oil, grease, and heavy metals. Runoff from landscaped areas could contain pesticides, herbicides, or fertilizers. Depending on the concentrations of the contaminants and ambient receiving water quality (e.g., storm drain system or groundwater), contaminant concentrations could potentially exceed water quality criteria. In addition to RSP/RBAP EIR mitigation measures identified in Item 4a, implementation of the following mitigation measure would reduce potential receiving water quality impacts during occupancy of the Proposed Project to a less-than-significant level:

4.12-4(a) *Prior to development of any part of the Planning Area, a comprehensive runoff control plan shall be prepared by a registered civil engineer or registered professional hydrologist to protect water resources from impacts due to urban and landscape runoff generated by the project. The plan shall be prepared in coordination with the Central Valley Regional Water Quality Control Board, and the City of Sacramento to assure compliance with applicable NPDES permit requirements for new developments. The plan shall include a combination of the following Best Management Practice (BMP's), or equally effective measures:*

- (i) *Oil and grease separators shall be used to control roadway and parking lot contaminants.*
- (ii) *Streets and parking lots shall be cleaned and swept on a regular basis.*
- (x) *Seasonal, climatical, and dosage fertilizer application restrictions shall be followed, as recommended by manufacturer.*
- (xi) *Slow release fertilizers shall be used.*

Compliance with RSP/RBAP EIR Mitigation Measures 4.12-3 and 4.12-4(a)(i), (ii), (x), and (xi) would ensure that the Proposed Project would not result in surface water quality impacts other than those previously identified in the RSP/RBAP EIR. No further mitigation is required.

- d,e) As stated on page 4.12-4 of the RSP/RBAP DEIR, the Sacramento and American River system experiences variation in water level during different parts of the year and during different parts of the month. Two factors affecting the water level are the amount of

runoff entering the system from the rivers' watersheds and the amount of water being released from dams upriver. The system is also subject to tidal action from the Sacramento-San Joaquin Delta. As further stated on page 4.12-4 of the RSP/RBAP DEIR, no natural water features exist in the Richards Area. (The American River channel did flow through the area before it was diverted to its present location by the U. S. Army Corps of Engineers (USCOE) at the turn of the century.) Neither construction nor operation of the Proposed Project involves processes that would directly withdraw water from or add to the American or Sacramento Rivers or require the alteration of river channels. Runoff from the project does flow into the American River. Because the Proposed Project would decrease the amount of impervious surface (see Item 4a page 3-15), however, the post project flows would be less than the project flows, resulting in a slight decrease in the amount of water discharging from the site into the rivers. Therefore, implementation of the Proposed Project would not directly affect the amount of surface water, currents, or course or direction of water movements.

However, as discussed in Item 12d (see pages 3-75 and 3-76), approximately 60,000 gallons per day of wastewater from the Proposed Project would be discharged to the City's sanitary sewer system for treatment at the Sacramento Regional Wastewater Treatment Plant (SRWWTP), which discharges treated wastewater into the Sacramento River. Therefore, implementation of the Proposed Project would indirectly and incrementally contribute to increased discharge from the SRWWTP, resulting in increased amounts of water in the Sacramento River. This amount would be negligible, less than one-tenth of one percent, compared to existing flows. Therefore, this is considered a less-than-significant impact.

f,i) **Groundwater Supply**

As stated on page 4.15-1 of the RSP/RBAP DEIR, the City of Sacramento's available surface water supply from the Sacramento and American Rivers is 311,800 acre-feet of water per year (AFY). This equates to an average daily flow of approximately 89 million gallons per day (mgd). As further stated on page 4.15-1 of the RSP/RBAP DEIR, the City's current annual water rights are estimated to be adequate to meet increased demands in the time frame covered in the 1988 Sacramento General Plan Update, which extends to 2006. Although the City has some groundwater sources, primarily in the northern portion of the City, the Richards Area is served by existing surface water supplies, which are treated at the Sacramento River Water Treatment Plant. Because occupancy of the Proposed Project involves administrative-type activities only, there would be no process-type operations that would require injection or reinjection of water into the ground. Therefore, the Proposed Project would not result in the direct withdrawal or addition of groundwater or any substantial reductions in the amount of groundwater otherwise available for public water supplies, and no further mitigation is required.

**Groundwater Recharge Capacity**

As described in Item 4a, implementation of the Proposed Project would result in a reduction in impervious surface at the project site. As stated on page 4.12-27 of the

RSP/RBAP DEIR, large areas within the RSP/RBAP Planning Area are already covered with impervious surfaces. Since groundwater recharge in the Planning Area appears to be tied more to levels in the Sacramento and American Rivers than to percolation through the soil profile, the RSP/RBAP EIR considered impacts associated with potential loss of groundwater recharge capacity to be less than significant. Although impervious surface would remain at the project site, this amount would be negligible compared to the amount of developed surface in the Richards Area and would not result in any impacts other than those previously identified in the RSP/RBAP EIR. No further mitigation is required.

- g,h) As described in Item 9d, dewatering performed during construction of the Proposed Project could alter the extent or direction of the existing contaminated groundwater plume, which could adversely affect non-contaminated shallow groundwater in the project area. As further described in Item 9d, compliance with RSP/RBAP EIR Mitigation Measures 4.13-4(b) and (c) and 4.13-8(a) would ensure that construction dewatering activities would not adversely affect groundwater quality in the project area. As described in Item 4c, implementation of the Proposed Project would require compliance with RSP/RBAP EIR Mitigation Measure 4.12-3 to minimize adverse water quality impacts associated with siltation and sedimentation, which could result from erosion and stormwater runoff during project construction. As discussed in Item 4c, other potential sources for groundwater quality degradation during construction activities are the use of heavy equipment and storage of building materials (e.g., paints, solvents, cement). Construction equipment spills could include heavy metals, oil, grease, and other petroleum hydrocarbons. Depending on the amount of spilled material and depth to groundwater, groundwater could be contaminated.

As described in Item 9d, some dewatering could be necessary for building construction. Dewatering could remove small amounts of groundwater from the uppermost water-bearing zone in the Richards Area and possibly alter groundwater flow direction or rate. As stated on page 4.12-25 of the RSP/RBAP DEIR, fresh groundwater (i.e., suitable for domestic purposes) is present to a depth of 800 feet in the Sacramento area; therefore, removal of limited amounts of water during construction would not be expected to significantly affect groundwater characteristics at depth. As noted in Item 4f, operation of the Proposed Project would not directly withdraw water from groundwater sources used for domestic purposes. Therefore, the Proposed Project would be unlikely to significantly alter the direction or rate of flow of groundwater.

As stated on page 4.16-1 of the RSP/RBAP DEIR, the Richards Area is served by the City's sanitary sewer system. Upon building occupancy, wastewater would be collected and delivered to the City's Combined Sewer System for treatment at the Sacramento Regional Wastewater Treatment Plant. Therefore, no impacts on groundwater quality as a result of project occupancy are anticipated.

Compliance with RSP/RBAP EIR Mitigation Measures 4.12-3, 4.13-4(b) and (c) and 4.13-8(a) (see Item 9, Hazards) would ensure that the Proposed Project would not result in any groundwater flow rate, direction, or quality impacts other than those previously identified in the RSP/RBAP EIR. No further mitigation is required.

**Summary**

The Proposed Project would not result in any water impacts that have not already been analyzed in the RSP/RBAP EIR and SEIR, and RSP/RBAP EIR and SEIR Mitigation Measures 4.12-2(a) and (b), 4.12-3, 4.12-4(a)(i) through (iv) and (vi) through (xiii), 4.12-4(b), 4.13-4(b) and (c) and 4.13-8(a) will be implemented as part of the Proposed Project.

Issues	Potentially Significant Impact/New Mitigation Required	New Less-Than-Significant Impact	Impact for which RSP/RBAP EIR/SEIR is Sufficient	No Impact
5. <b>AIR QUALITY.</b> <i>Would the proposal:</i>				
a) Violate any air quality standard or contribute to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure sensitive receptors to pollutants?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Alter air movement, moisture, or temperature, or cause any change in climate?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create objectionable odors?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Explanation**

Air quality issues are discussed in Section 4.9 (Air Quality) and Chapter 10 (Summary of Changes) of the RSP/RBAP EIR and Section 4.1.2 of the RSP/RBAP SEIR.

**a,b) Construction**

Implementation of the Proposed Project would include clearing, excavation, grading, and hauling to prepare the site for construction. Dust would be generated as soils are moved, and construction equipment and support vehicles would generate criteria air pollutants including carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>), reactive organic compounds (ROCs), and ozone precursors. Residents, workers, and visitors in the project area would potentially be exposed to these emissions.

As stated on page 4.9-27 of the RSP/RBAP DEIR, construction dust would affect local and regional air quality at various times during development of the Planning Area. The dry, windy climate of the area during the summer months, combined with the fine, silty soils of the region, create a high potential for dust generation. The emission of particulate matter from construction is often considered a temporary source that has local effects but not regional effects. The RSP/RBAP DEIR also noted that because of the large size and long buildout period for the Planning Area, construction is likely to affect regional air quality as well. Implementation of the Proposed Project would incrementally contribute to dust-related air quality impacts.

The primary sources of construction-related ROG and NO<sub>x</sub> emissions are gasoline and diesel-powered heavy-duty mobile construction equipment, such as scrapers and motor graders. The RSP/RBAP DEIR (page 4.9-29) concluded that decreased air quality as a result of construction-related activities constitutes a significant short-term impact. Implementation of the Proposed Project would incrementally contribute to vehicular emissions-related air quality impacts.

The RSP/RBAP EIR identified the following mitigation measures to reduce air quality impacts associated with construction-generated dust and emissions to a less-than-significant level:

- 4.9-5 *To ensure that construction mitigation is used, final approval shall not be given to any development within the Planning Area until the developer submits a construction dust mitigation plan satisfactory to the City. This plan should specify the methods of control that will be used to control dust and particulate matter, demonstrate the availability of needed equipment and personnel, and identify a responsible individual who, if needed, can authorize the implementation of additional measures.*

*The construction dust mitigation plan should, at a minimum, include the following:*

- *Suspend earthmoving or other dust-producing activities during periods of high winds when dust control measures are unable to prevent visible dust plumes of a significant size.*
- *Provide equipment and staffing for watering of all exposed or disturbed soil surfaces at least twice daily, including weekends and holidays. An appropriate dust palliative or suppressant, added to water before application, should be used.*
- *Water or cover stockpiles of debris, soil, sand or other materials that can be blown by the wind.*
- *Sweep the active construction area and adjacent streets of all mud and debris, since this material can be pulverized and later re-suspended by vehicle traffic.*
- *Limit the speed of all construction vehicles to 15 miles per hour while on-site.*
- *All materials transported by truck will be covered or wetted down.*
- *All inactive portions of the site will be watered with an appropriate dust suppressant, covered or seeded.*
- *Trucks shall maintain freeboard (i.e., the distance between the top of the load and the top of the truck bed sides).*
- *Truck wheel washers shall be installed before the roadway entrance at construction sites.*
- *Tarps shall be used on trucks carrying dirt.*
- *Dust hoods shall be used on drilling and blasting equipment.*

4.9-6 *To the extent feasible, the following measures are required during construction:*

- *Use low emission fuels for pile drivers, such as methanol or low-sulfur fuels.*
- *Use construction equipment that has catalytic converters (for gasoline powered equipment).*
- *Prevent trucks from idling for more than two minutes.*
- *Discontinue operations during second stage smog alerts.*

Compliance with RSP/RBAP EIR Measures 4.9-5 and 4.9-6 would ensure that the Proposed Project would not result in any construction-related air quality impacts other than those previously identified in the RSP/RBAP EIR. No further mitigation is required.

### **Stationary Sources**

The Proposed Project does not include any stationary sources of air pollutants that would require permitting.

### **Mobile Sources**

The RSP/RBAP EIR found that traffic generated by the RSP and RBAP would contribute to carbon monoxide (CO) problems in downtown Sacramento (page 4.9-19). Federal and State CO standards were expected to be violated at several study intersections.

Implementation of the Proposed Project would also result in CO concentrations in excess of state and federal standards. The Caltrans computer model CALINE4, traffic data provided by DKS Associates and emissions factors from the Caltrans model CTEMFAC were used to determine CO concentrations near four intersections adjacent and near the Proposed Project. Table 3-1 presents the results of the computer modeling. All four analyzed intersections exceed the State 8-hour 9.0 ppm CO standard and one of the four would exceed the State 1-hour 20.0 standard.

The RSP/RBAP EIR identified the following mitigation measures to reduce CO impacts, but recognized that the impacts would remain significant and unavoidable:

4.9-1(a) *Implement Phase 2 of the Circulation Element of the Facility Element, as depicted in Figure 3-12 [of the RSP/RBAP DEIR].*

4.9-1(b) *The Planning Area shall be developed under a stringent vehicle-trip reduction requirement applicable to all proposed land uses. The availability of transit, proximity to downtown Sacramento, potential for mixed land uses and other aspects of the sites provide a high potential for non-auto travel modes.*

<b>PREDICTED EXISTING PLUS PROJECT CARBON MONOXIDE CONCENTRATIONS (IN PPM)</b>		
<b>Location</b>	<b>Averaging Time</b>	<b>Existing + Project</b>
Richards/ North bound I-5 Ramps	1-hour	<b>20.8</b>
	8-hour	<b>13.4</b>
Richards/ North 5th Street	1-hour	14.6
	8-hour	<b>9.1</b>
Richards/ North 7th Street	1-hour	18.7
	8-hour	<b>12.0</b>
Sunbeam/ North 12th Street	1-hour	19.9
	8-hour	<b>12.8</b>
Ambient	1-hour	11.5
	8-hour	6.9
California Standards	1-hour	20.0
	8-hour	9.0

NOTE: **Bold** values are in excess of the California Standard. SOURCE: EIP Associates, 1995.

The RSP/RBAP DEIR (page 4.9-25) stated that development in the Planning Area would substantially increase regional emissions of Reactive Organic Gases (ROGs), Oxides of Nitrogen (NO<sub>x</sub>), and PM<sub>10</sub>. The most significant of these emissions would be ROGs and NO<sub>x</sub>, which are precursors of ozone, the major regional air quality problem in Sacramento. The RSP/RBAP EIR found that increases in these emissions are a significant and unavoidable impact. ROG and NO<sub>x</sub> emissions associated with operation of the Proposed Project would incrementally contribute to, but would not exceed, this significant and unavoidable impact. This impact has been fully addressed in the RSP/RBAP EIR and in the Findings and Overriding Considerations adopted by the City of Sacramento in connection with its approval of the RSP and RBAP.

The RSP/RBAP EIR identified the following mitigation measures, which are applicable to the Proposed Project, to reduce impacts associated with vehicular emissions of regional pollutants. However, the RSP/RBAP EIR found that these measures would not reduce regional air quality impacts to a less-than-significant level:

4.9-4(a) *Implement Mitigation Measure 4.9-1(a)*

4.9-4(b) *All development within the Planning Area shall be required to participate in a Transportation Management Association, whose purpose would be the reduction in vehicle trips.*

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- 4.9-4(c) *All employment-generating uses shall be required to develop a Commute Management Plan, adopting programs using parking management/fees, transit incentives and amenities, alternative work schedules, telecommuting or other strategies to reduce employee commuting. The transportation performance standards of the California Clean Air Act would be adopted as minimum targets for trip reduction.*
- 4.9-4(d) *All development proposals within the Planning Area shall be required to use land use mix and densities, provision of transit/bicycle/pedestrian amenities and provision of on-site amenities (day care, restaurants) to reduce the need for vehicle trips.*
- 4.9-4(e) *To the extent feasible, all development proposals within the Planning Area shall be required to include measures that facilitate alternative powered vehicles, including, but not limited to, electric vehicle recharge stations in new parking facilities.*

Compliance with RSP/RBAP EIR Mitigation Measures 4.9-4(a) through (e) would ensure that the Proposed Project would not result in any stationary source or traffic-related air quality impacts other than those previously identified in the RSP/RBAP EIR, and no further mitigation is required.

- c) The RSP/RBAP EIR found that the only climatic factor that would be affected by implementation of the RSP and RBAP would be wind. The effects of buildings on the wind environment are quite site- and project-specific, so the impact discussion in the RSP/RBAP EIR was by necessity qualitative. The RSP/RBAP EIR found that structures greater than 100 feet in height have the potential to generate uncomfortable and/or hazardous wind accelerations at ground level.

The RSP/RBAP EIR identified the following mitigation measures to reduce potentially significant wind impacts of buildings over 150 feet tall to a less-than-significant level:

- 4.5-1(b) *Proposed structures within the Railyards and Richards Areas over 150 feet in height shall be subject to wind tunnel testing to determine ground-level wind impacts. Approval of the building shall be contingent on the modification of the project to reduce or eliminate identified wind impacts according to City Guidelines.*

The comfort of pedestrians varies under different conditions of sun exposure, temperature, clothing, and wind speed. Winds up to four miles per hour (MPH) have no noticeable effect on pedestrian comfort. With winds from four to eight MPH, wind is felt on the face. Winds from 8 to 13 MPH will disturb hair, cause clothing to flap, and extend a light flag mounted on a pole. For winds from 19 to 26 MPH, the force of the wind will be felt on the body. At 26 MPH to 34 MPH wind, umbrellas are used with difficulty, hair is blown straight, there is difficulty in walking steadily, and wind noise is unpleasant. Winds over 34 MPH increase difficulty with balance and gusts can blow people over.

For the Phase IV analysis, separate thresholds of significance were applied to the three wind directions that are of concern in Sacramento: southwest, north-northwest and south-southeast.

Southwest winds are most frequent and strongest on average in the summer when temperatures are warm. Thermal discomfort due to excessive cooling from the wind is unlikely. A mean wind speed of 20 MPH is used as the threshold of significance for winds from this direction. Wind increases that would exceed this threshold or cause the number of locations exceeding this threshold to increase are considered significant.

Discomfort due to north-northwest winds occurs in winter; because it is the coolness of this wind that causes discomfort, a more stringent wind criterion is appropriate. An average wind speed of 15 MPH is used as the threshold of significance for winds from this direction. Wind increases would exceed this threshold or cause the number of locations exceeding this threshold to increase are considered significant.

The third important wind direction in Sacramento is south-southeast. This is the winter storm wind direction. Winds from this direction are highly correlated with clouds and rain. Outdoor comfort is unlikely to be determined by wind, because all outdoor areas would be already uncomfortable. This is the wind direction for extreme winds, however, so a criterion to avoid hazardous wind conditions, rather than uncomfortable wind conditions, is used. The threshold of significance has been set at a one percent frequency of winds above 35 MPH, which is considered a potentially hazardous wind speed.

The existing wind environment within and near the project site meets the criterion for comfort and safety based on predicted mean and peak winds. The effect of the Proposed Project would be to generally increase wind speeds near the base of the building, but predicted mean wind speeds and peak wind speeds would remain below both the comfort and safety criterion.

The Phase IV building would be 176 feet tall, so wind-tunnel tests were performed on a scale model of the project and its surroundings to quantify the effect of the project on the existing wind environment.<sup>2</sup> Pedestrian-level wind speeds were measured at 33 selected points for the existing site and the proposed project to quantify wind impacts. These points consisted of ground-level locations within pedestrian areas outside the project site, either sidewalk or public area locations. Appendix A contains a complete description of wind measurements, wind-tunnel testing methods, and the outcome of the analysis.

For southwest winds, the Proposed Project's effect on pedestrian areas adjacent to or near the project site would be generally to moderately increase mean wind speeds. Mean wind speeds with the Proposed Project would range from 5.9 to 19.6 MPH. All measurement points meet the comfort criterion (mean wind speed less than 20 MPH) for southwest winds; although, one location approaches this criterion with a wind speed of 19.6 MPH.

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<sup>2</sup> Donald Ballanti, Certified Consulting Meteorologist; "Wind Tunnel Analysis for the Proposed Continental Plaza Project, Sacramento, California"; August 1995.

The range of mean wind speeds from north-northwest is 3.3 to 14.8 MPH. All measurement points meet the comfort criterion (mean wind speed less than 15 MPH) for north-northwest winds.

The Proposed Project would have a mixed effect on peak winds from the south-southeast wind direction. Roughly half the measurement locations would experience increased winds while half would experience lowered winds. Peak winds would range from 6.4 to 34.4 MPH. Peak wind speeds are predicted to be below 35 MPH; therefore, the pedestrian safety criterion would be met.

For each wind direction at least one measurement location approaches, but does not exceed the comfort or safety criterion. Since the wind-tunnel testing did not include the effects of vegetation and landscaping, predicted wind speeds are conservative. Within the project site, landscaping can be expected to reduce actual ground level winds by 10% or more. When the effect of landscaping is considered, all measurement locations would meet the comfort and safety criterion with a margin of safety.

No further mitigation is required.

- d) Implementation of the Proposed Project would not result in the generation of permanent or long-term objectionable odors. As described above, there would be short-term increases in pollutants associated with construction activities. Nuisance odors resulting from diesel-powered construction equipment may be noticeable to some individuals, but these would be temporary. In the event soil or groundwater at the project site or adjacent sites must be remediated, treatment or removal activities would be required to comply with applicable Sacramento Metropolitan Air Quality Management District (SMAQMD) requirements; therefore, emissions that could potentially cause odors would not be expected to occur.

Operation of the Proposed Project generally involves administrative activities in an office setting. No process operations that could potentially generate odors would occur. Odors from newly painted surfaces and flooring materials could be noticeable to building occupants during early phases of building operation. However, these odors would diminish with time. Thereafter, odors would be limited to those typically encountered in office buildings and parking structures. Nuisance odors could also occur from vehicular emissions from traffic associated with operation of the Proposed Project and adjacent facilities. As discussed in Item 6a, the Proposed Project would generate additional traffic, primarily due to employees traveling to and from work. Although this represents an increase over existing traffic volumes, implementation of RSP/RBAP EIR mitigation measures described in Item 6a would help reduce the amount of vehicular emissions, thus reducing nuisance odors to levels similar to those encountered normally in urbanized areas.

**Summary**

The Proposed Project would result in no new air-quality impacts other than those previously analyzed in the RSP/RBAP EIR, and RSP/RBAP EIR Mitigation Measures 4.5-1(b), 4.9-1(a) and (b), 4.9-4(a) through (e), 4.9-5, and 4.9-6 will be implemented as part of the Proposed Project.

Issues	Potentially Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for which RSP/RBAP EIR/SEIR is Sufficient	No Impact
<b>6. TRANSPORTATION/CIRCULATION.</b>				
<i>Would the proposal result in:</i>				
a. Increased vehicle trips or traffic congestion?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Hazards to safety from design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Inadequate emergency access or access to nearby uses?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Insufficient parking capacity on-site or off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Hazards or barriers for pedestrians or bicyclists?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Conflicts with adopted policies supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Rail, waterborne or air traffic impacts?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### **Explanation**

Traffic and circulation issues are addressed in Section 4.8 and Chapter 10 (Summary of Changes) of the RSP/RBAP EIR and Section 4.1.1 of the RSP/RBAP SEIR.

- a) DKS Associates prepared a project-specific assessment of the transportation impacts of the proposed Continental Plaza Phases III and IV.

In conjunction with the City of Sacramento Department of Public Works, Transportation Division, the following critical intersections and freeway ramps were identified:

#### **Intersections**

1. Richards Boulevard and I-5 Southbound Ramps - signalized
2. Richards Boulevard and I-5 Northbound Ramps - signalized
3. Richards Boulevard and North 5th Street - unsignalized
4. Richards Boulevard and North 7th Street - signalized
5. North 12th Street, Sunbeam Avenue, and Sproule Avenue - signalized
6. North 16th Street, Sproule Avenue, and Basler Street - signalized
7. North 7th Street and North B Street - unsignalized
8. North 12th Street, North B Street, and Dos Rios Boulevard - signalized
9. North 16th Street and North B Street - signalized

#### **Freeway Ramps**

1. I-5 northbound to Richards Boulevard
2. I-5 southbound to Richards Boulevard
3. Richards Boulevard to I-5 northbound
4. Richards Boulevard to I-5 southbound

### **Existing Transportation System**

#### **Roadway System - Regional Access**

The regional transportation system is described on pages 4.8-1 through 4.8-15 in the RSP/RBAP Draft EIR. Regional automobile access to the site is provided primarily by Interstate Route 5 (I-5) and State Route 160 (SR 160). I-5 is a north-south facility which is located about 0.7 miles west of the site. SR 160 is located about 0.7 miles east of the site. North of Richards Boulevard, SR 160 crosses the American River and continues as a freeway to Business Route 80.

#### **Roadway System - Local Access**

Richards Boulevard provides the primary local access to the site. Richards Boulevard is an east-west roadway which extends from west of I-5 to SR 160. It is generally a two-lane roadway, except in the immediate vicinity of I-5, where it has been widened to

provide additional through lanes and turning lanes. At SR 160, access to and from Richards Boulevard is limited to right turns to and from southbound SR 160.

North 7th Street is a two-lane north-south roadway which extends from the northern edge of the project site to North B Street. North B Street is a two-lane east-west roadway which extends from west of North 7th Street to east of North 16th Street. Site access is provided to and from Downtown Sacramento via North 7th Street and North B Street. Sunbeam Avenue and Sproule Avenue are two-lane roadways which provide access from eastbound Richards Boulevard to northbound SR 160. Existing intersection geometry and traffic control for the critical intersections in the study area are shown on Figure 3-2.

### **Existing Traffic Conditions**

#### **Existing Peak Hour Traffic Volumes**

Traffic volume data was assembled for the A.M. and P.M. peak hours for each of the critical intersections and ramp segments. Peak period traffic counts were conducted on April 18 through 20, 1995. Because of the predominance of industrial uses in the immediate vicinity of the project site, vehicle classification counts were undertaken in conjunction with the traffic counting program to ascertain the percentage of heavy vehicles included in the traffic counts.

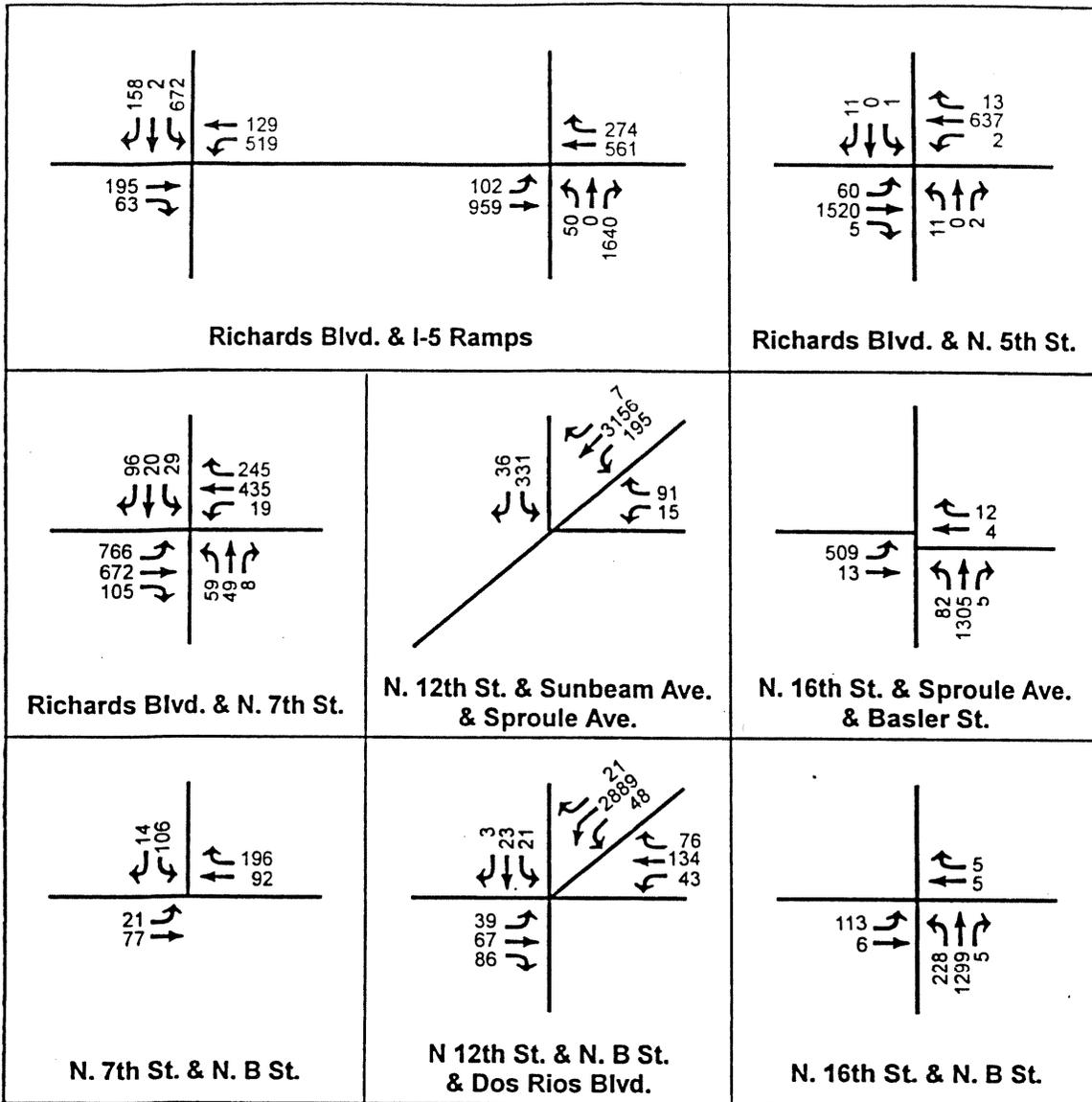
The traffic counts were adjusted upward to reflect the percentage of heavy vehicles in the traffic stream, since the presence of heavy vehicles affects roadway operations. Figures 3-3 and 3-4 illustrate the adjusted A.M. and P.M. peak hour intersection traffic volumes, respectively. Table 3-2 summarizes the adjusted peak hour ramp traffic volumes. Table 3-3 summarizes the vehicle classification data for the A.M. and P.M. peak periods. As shown, about 94 percent of the traffic stream consists of "light" vehicles, such as motorcycles, automobiles, small vans, and pickup trucks. This vehicle classification information is representative of average conditions in the area. During certain seasons, the truck percentages may be greater due to the seasonal nature of the agricultural operations in the area.

<b>Ramp</b>	<b>A.M. Peak Hour</b>	<b>P.M. Peak Hour</b>
I-5 Northbound to Richards Boulevard	1,296	672
I-5 Southbound to Richards Boulevard	662	435
Richards Boulevard to I-5 Northbound	355	948
Richards Boulevard to I-5 Southbound	535	1,076



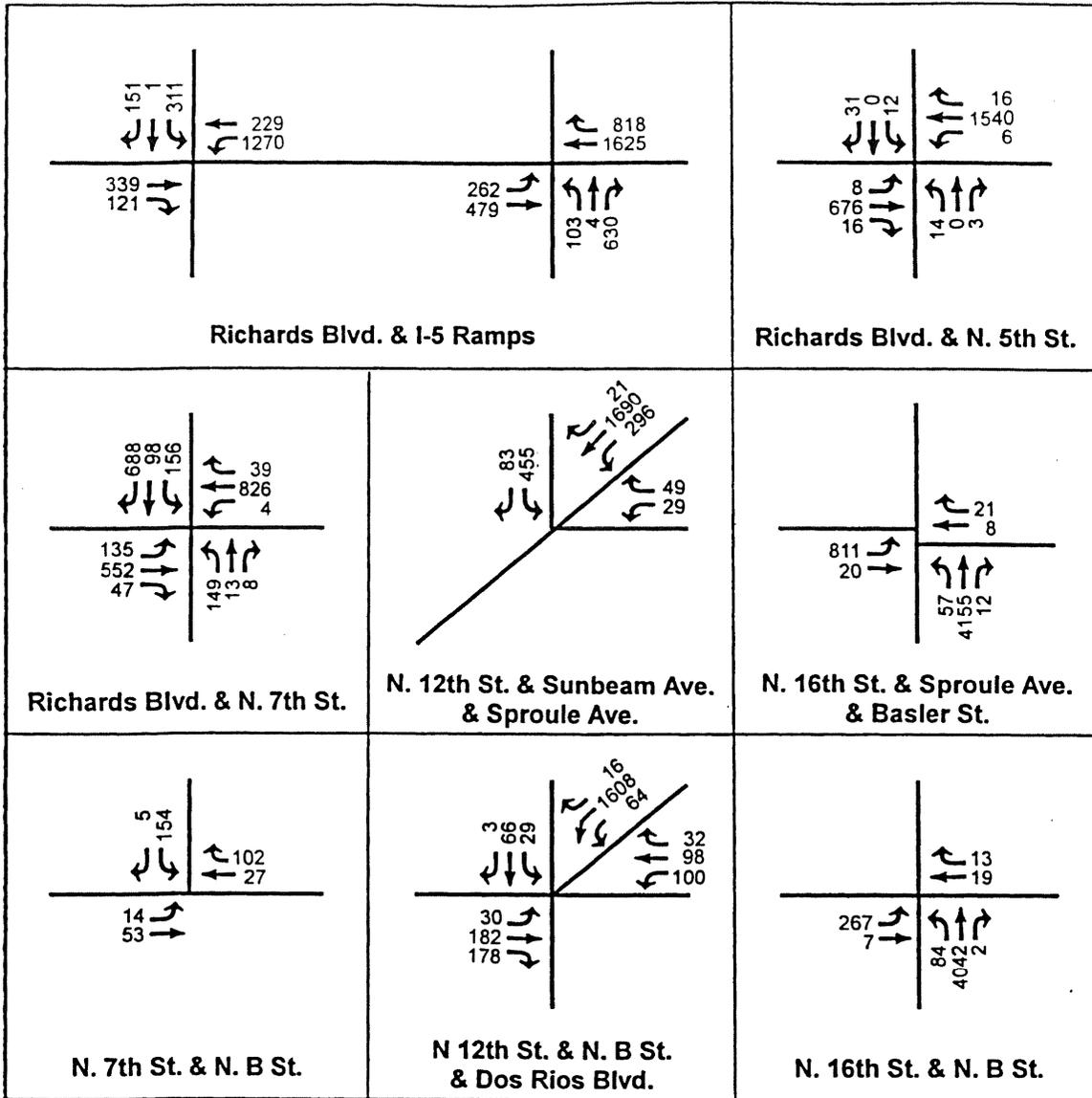






**FIGURE 3-3  
EXISTING PLUS PROJECT AM PEAK  
HOUR TRAFFIC VOLUMES**





**FIGURE 3-4**  
**EXISTING PLUS PROJECT PM PEAK**  
**HOUR TRAFFIC VOLUMES**



<b>Vehicle Type</b>	<b>Percentage</b>
Motorcycles, Scooters	0.1%
Automobiles, Small Vans, Pickups	94.1%
2-axle 6-wheel buses and trucks	3.0%
3-axle buses and trucks	0.8%
Trucks and truck-trailers with more than 3 axles	2.0%

### **Existing Peak Hour Operating Conditions**

Field reconnaissance was undertaken to ascertain the traffic control characteristics of each of the critical intersections and ramps. Lane configuration and traffic control information is illustrated in Figure 3-3, while signal phasing information is included in the existing conditions intersection analysis summaries in Appendix B.

Determination of roadway operating conditions is based upon comparison of known or projected traffic volumes during peak hours to roadway capacity. In an urban setting, roadway capacity is generally governed by intersection characteristics. Roadway operating conditions are described by "levels of service". As discussed on pages 4.8-12 and 4.8-15 of the RSP/RBAP DEIR, level of service is a qualitative measure of the effect of a number of factors, including speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs. Levels of service are designated "A" through "F" from best to worst, which cover the entire range of traffic operations that might occur. Level of Service (LOS) "A" through "E" generally represent traffic volumes at less than roadway capacity, while LOS "F" represents over capacity and/or forced flow conditions.

The City of Sacramento uses a LOS "C" goal for roadway operating conditions. Because of the constraints of existing development in the City, and because of other environmental concerns, this goal cannot always be met. Caltrans considers highway segments and ramp segments in the downtown area to be acceptable if they operate at LOS D or better.

### Signalized Intersection Analysis

Signalized intersection analyses were conducted using the methodology outlined in the Transportation Research Board's Circular 212, *Interim Materials on Highway Capacity* (1980). This methodology is often referred to as the "planning method." This procedure

calculates a volume-to-capacity ratio of critical movements at a signalized intersection, and assigns a level of service designation based upon the ratio.

Two study intersections include light-rail tracks:

- North 12th Street, Sunbeam Avenue, and Sproule Avenue - At this intersection, dual light rail tracks exist just east of the southbound travel lanes on one-way North 12th Street. When a light rail vehicle approaches in either the northbound or southbound direction, all other traffic is stopped at the traffic signal until the train passes.
- North 12th Street, North B Street, and Dos Rios Boulevard - At this intersection, a single northbound light rail track exists just east of the southbound travel lanes on one-way North 12th Street. A single southbound light rail track shares the most easterly North 12th Street travel lane. When a northbound light rail vehicle approaches the intersection, all other traffic is stopped at the traffic signal until the train passes. Southbound trains share the southbound North 12th Street signal phase.

Under all analyses in this study, consideration has been given to the impact of light rail operations on traffic operations. At the North 12th Street, Sunbeam Avenue, and Sproule Avenue intersection, overall intersection capacity was reduced by ten percent to reflect the impact of light rail operations. At the North 12th Street, North B Street, and Dos Rios Boulevard intersection, overall intersection capacity was reduced by five percent to reflect the impact of light rail operations. Additionally, capacity in the lane shared by automobiles and light rail vehicles was reduced by ten percent to account for motorist avoidance of the lane.

#### Unsignalized Intersection Analysis

Stop sign controlled intersections were analyzed using the methodology outlined in the Transportation Research Board's Special Report 209, *Highway Capacity Manual* (1985). This methodology assigns level of service based upon the "reserve capacity" of controlled movements. Reserve capacity is a measurement of the available capacity for a particular movement that is not used by the demand volumes. In this assessment, the movement having the worst level of service is used to define overall intersection level of service.

#### Freeway Ramp Analysis

Freeway ramps were analyzed using the methodology outlined in the Transportation Research Board's Special Report 209, *Highway Capacity Manual* (1985). Specifically, Table 5-5 of the manual provides approximate freeway ramp service flow rates corresponding to each level of service.

### A.M. and P.M. Peak Hour Operating Conditions

Table 3-4 summarizes existing A.M. and P.M. peak hour levels of service at the critical study locations. The following locations do not currently meet the level of service goal:

- Richards Boulevard and I-5 Northbound Ramps - P.M. peak hour

LOS "D" operations exist at this intersection (volume-capacity ratio of 0.87), resulting from heavy westbound through volumes.

- Richards Boulevard and North 5th Street - A.M. and P.M. peak hours

LOS "E" operations exist at this unsignalized intersection (reserve capacity of 69 and 52 vehicles in the A.M. and P.M. peak hours, respectively). Because of heavy volumes along Richards Boulevard, few gaps exist for traffic entering from North 5th Street.

- Richards Boulevard and North 7th Street - P.M. peak hour

LOS "E" operations exist at this intersection (volume-capacity ratio of 0.91), resulting from heavy westbound through volumes.

- North 12th Street, Sunbeam Avenue, and Sproule Avenue - A.M. peak hour

LOS "D" operations exist at this intersection (volume-capacity ratio of 0.87), resulting from heavy southbound through volumes

- North 16th Street, Sproule Avenue, and Basler Street - P.M. peak hour

LOS "E" operations exist at this intersection (volume-capacity ratio of 0.96), resulting from heavy northbound through volumes

### Trip Generation and Mode Choice

The project is proposed to increase the amount of office space on the site by 869,850 square feet, providing a total of 1,096,666 square feet of office space. For analysis purposes, this proposed use was considered to be "generic" office space; that is, no specific tenant was assumed to occupy the buildings. Accordingly, trip generation and mode choice characteristics of the project were analyzed based upon typical conditions. Specific tenants may have characteristics which may be more or less favorable from a transportation impact perspective. Because of the limited transit service to the site, limited ability to attract pedestrian and bicycle trips, and free parking, typical suburban trip generation and mode choice characteristics were utilized. Trip generation was based upon data contained in the Institute of Transportation Engineers' (ITE) *Trip Generation, Fifth Edition* (1991). Table 3-5 summarizes the projected daily a.m. peak hour and p.m. peak hour trip generation of the Proposed Project.

TABLE 3-4				
EXISTING ROADWAY OPERATING CONDITIONS				
	A.M. Peak Hour		P.M. Peak Hour	
Intersection	Volume-Capacity Ratio	Level of Service	Volume-Capacity Ratio	Level of Service
Richards Blvd. & I-5 SB Ramps	0.60	B	0.69	B
Richards Blvd. & I-5 NB Ramps	0.73	C	0.87	D
Richards Blvd. & N. 5th Street	69 <sup>2</sup>	E	52 <sup>2</sup>	E
Richards Blvd. & N. 7th Street	0.63	B	0.91	E
N. 12th Street, Sunbeam Ave., & Sproule Ave.	0.87	D	0.65	B
N. 16th Street, Sproule Ave., & Basler Street	0.41	A	0.96	E
N. 7th Street & N. B St.	484 <sup>2</sup>	A	594 <sup>2</sup>	A
N. 12th Street, N. B St., & Dos Rios Blvd.	0.77	C	0.59	A
N. 16th Street & N. B Street	0.30	A	0.79	C
Ramp	Volume	LOS	Volume	LOS
I-5 NB to Richards Blvd.	1,296	D	672	C
I-5 SB to Richards Blvd.	662	C	435	C
Richards Blvd. to I-5 NB	355	C	948	C
Richards Blvd. to I-5 SB	535	C	1,076	C
1. Level of Service constrained by ramp design speed. 2. Unsignalized Intersection - Reserve Capacity shown.  Shaded cells indicate unacceptable service level				

<b>TABLE 3-5</b>				
<b>PROJECT TRIP GENERATION (VEHICLE TRIPS) TRIPS IN ADDITION TO EXISTING SITE USES</b>				
<b>Daily</b>	<b>A.M. Peak Hour</b>		<b>P.M. Peak Hour</b>	
	<b>Entering</b>	<b>Exiting</b>	<b>Entering</b>	<b>Exiting</b>
5,972	772	95	127	619

### **Trip Distribution**

Distribution of trips generated by the project was determined through use of the SACMET model. The model was used to determine the overall distribution of trip origins and destinations throughout the region. These trips were assigned to the roadway network in accordance with knowledge of the proposed site access, and local travel patterns. Figure 3-2 illustrates the regional trip distribution. About 73 percent of site traffic is projected to be oriented to I-5, and about 25 percent to SR 160. Traffic destined to SR 160 north of the American River from the site follows two paths. Some of the traffic has been routed via Richards Boulevard, Sunbeam Avenue, and Sproule Avenue to North 16th Street. The remainder of this traffic was routed via North 7th Street and North B Street to North 16th Street.

### **Project Traffic**

Table 3-5 summarizes the projected daily A.M. peak hour and P.M. peak hour trip generation of the Proposed Project.

About 73 percent of site traffic is projected to be oriented to I-5, and about 25 percent to SR 160. Traffic destined to SR 160 north of the American River from the site follows two paths. Some of the traffic has been routed via Richards Boulevard, Sunbeam Avenue, and Sproule Avenue to North 16th Street. The remainder of this traffic was routed via North 7th Street and North B Street to North 16th Street.

### **Existing Plus Project Traffic Volumes**

Using the trip generation and distribution projections, traffic associated with the Proposed Project was added to existing peak hour traffic volumes to provide the basis for analysis. Figures 3-4 and 3-5 illustrate the peak hour existing plus project traffic volumes for the A.M. and P.M. peak hours. Table 3-6 summarizes existing plus project traffic volumes at intersections and on the critical freeway ramps.

<b>Ramp</b>	<b>A.M. Peak Hour</b>	<b>P.M. Peak Hour</b>
I-5 Northbound to Richards Boulevard	1,690	737
I-5 Southbound to Richards Boulevard	832	463
Richards Boulevard to I-5 Northbound	376	1,084
Richards Boulevard to I-5 Southbound	584	1,392

### Standards of Significance

#### **Intersection or Street Segment**

In the City of Sacramento, a significant traffic impact (intersection or segment) occurs when:

- the traffic generated by a project degrades peak period *Level of Service* (LOS) from A, B, or C (without project) to D, E, or F (with project), or,
- the LOS (without project) is D, E, or F, and project generated traffic increases the peak period *Volume-to-Capacity Ratio* (V/C, ratio) by 0.02 or more.

#### **Freeway Ramps**

Caltrans considers highway segments and ramp segments in the downtown area to be acceptable if they operate at LOS D or better. Caltrans does not currently apply incremental degradation (increasing V/C ratio or seconds of delay per vehicle) as a threshold of significance. In this assessment, a significant traffic impact (freeway ramp) occurs when:

- the traffic generated by a project degrades peak period *Level of Service* (LOS) from A, B, C or D (without project) to E or F (with project).
- the traffic generated by a project degrades peak period *Level of Service* (LOS) from E (without project) to F (with project).

Impacts are considered avoidable if and when a feasible mitigation measure will improve plus-project operating conditions to levels which would not have resulted in identification of an impact. For instance, if an intersection has a V/C ratio of 0.90 under existing conditions, and project generated traffic were to increase the V/C ratio to 0.93, mitigation

measures would be required to reduce the V/C ratio back to no more than 0.91 (less than an increase of 0.02 over existing conditions).

This method generally ensures that a proposed project will only be responsible to mitigate the traffic impact it creates. In some cases, the LOS or V/C ratio may be improved beyond the "no project" condition, such that the project has more than offset the traffic impact it created. This typically occurs because a necessary improvement, such as an additional lane or new traffic signal, provides additional capacity beyond that necessary to mitigate the impact. Such improvements cannot be "partially" implemented.

### **Project Impacts on Intersections and Associated Mitigation Measures**

Tables 3-7 and 3-8 summarize the peak hour operating conditions for the critical intersections for both existing conditions and the existing plus project scenario, and the SEIR analysis of Phase 1 (Year 2000) mitigated conditions. Each of the intersections is discussed below. As the Supplemental EIR indicates, the principal mitigation measures for the study intersections along Richards Boulevard are "those measures originally assumed as part of the RSP and RBAP and described in the Preliminary Agreement as necessary improvements" and those mitigations to be provided as part of the Richards Boulevard Assessment District improvements, the widening of the I-5/Richards Boulevard undercrossing from 5 to 7 lanes and the widening of Richards Boulevard from 1 to 5 lanes (DSEIR at pages 4.1-7 and 4.1-13).

### **Richards Boulevard and I-5 Ramp Intersections**

Traffic associated with the Proposed Project would travel through the intersections of Richards Boulevard with the I-5 northbound and southbound ramps. Without the improvements identified on page 2-16 of the Project Description, during the A.M. peak hour, the Proposed Project would degrade the volume-to-capacity ratio at the intersection of Richards Boulevard and the I-5 northbound ramps from 0.73 to 0.93. The level of service would degrade from "C" to "E". During the P.M. peak hour, the Proposed Project would degrade the volume-to-capacity ratio at the intersection of Richards Boulevard and the I-5 northbound ramps from 0.87 to 1.01. The level of service would degrade from "D" to "F". During the P.M. peak hour, the Proposed Project would also degrade the volume-to-capacity ratio at the intersection of Richards Boulevard and the I-5 Southbound Ramps from 0.69 to 0.83. The level of service would degrade from "B" to "D".

The Supplemental EIR identified the following mitigation measures for this location.

- S4.1-1(e) Add a second left turn lane in the southbound direction at the intersection of Richards Boulevard/southbound Interstate 5 on/off ramps.*
- S4.1-1(f) Add a third through lane in the westbound direction and an uncontrolled free right turn in the northbound direction at the intersection of Richards Boulevard/northbound Interstate 5 on/off ramps.*

The above measures were based on the assumption that the 870,000 square feet of Phase 1 would office development would be dispersed throughout the Richards Area. Under the Proposed Project, development would occur in one area, so, while the amount of traffic is the same, its distribution would change. Therefore, as stated on page 2-16, the geometry of the intersection has been modified. As under S.4.1-1(e) and S4.1-1(f), Richards Boulevard would be widened to seven lanes at the intersection with I-5. The final configuration would consist of three eastbound through lanes, a single eastbound left-turn lane, a double westbound left-turn lane, and a single westbound through lane (see Figure 2-15) and the Phase 1 - Richards Boulevard/I-5 interchange modifications assumed in the RSP and RBAP would be revised accordingly. The Proposed Project would contribute its fair-share cost toward the Phase 1 reconfiguration of the I-5/Richards Boulevard intersection. With these improvements, the Richards Boulevard and I-5 southbound ramps intersection level of service would improve to "C" during the P.M. peak hour with a volume-to-capacity ratio of 0.77. The Richards Boulevard and I-5 northbound ramps intersection level of service would improve to "C" during the A.M. peak hour with a volume-to-capacity ratio of 0.76, and to "D" during the p.m. peak hour with a volume-to-capacity ratio of 0.83, which is lower than the existing condition, and, consequently, not considered a significant impact.

#### **Richards Boulevard and North Fifth Street**

Traffic associated with the Proposed Project would travel through the intersections of Richards Boulevard with North Fifth Street. The Supplemental EIR stated that significant impacts would occur at this location due to Phase 1 development in the Richards Area (see Tables 3-7 and 3-8), and identified the following mitigation measure, included as improvements in the Richards Boulevard Assessment District, for this location.

*S4.1-1(g) Add two additional through lanes in the eastbound and westbound directions (for a total of 2 in each direction) at the intersection of Richards Boulevard/North 5th Street.*

The above measure was based on the assumption that the 870,000 square feet of Phase 1 office development would be dispersed throughout the Richards Area. Under the Proposed Project, development would occur in one area, so, while the amount of traffic is the same, its distribution would change. Therefore, as stated on page 2-16, the Proposed Project includes the installation of a signal at the Richards Boulevard/North Fifth Street intersection. With this project improvement and implementation of S4.1.-1(g), the level of service would improve to "A" during both A.M. and P.M. peak hours. The volume-to-capacity ratio would be 0.55 during the A.M. peak hour and 0.58 during the P.M. peak hour. The proposed traffic signal would have no environmental effects beyond those described in the RSP/RBAP EIR and SEIR.

#### **Richards Boulevard and North Seventh Street**

Traffic associated with the Proposed Project would travel through the intersections of Richards Boulevard with North Seventh Street. Without the improvements identified on page 2-16, the project would degrade the level of service during the a.m. peak hour at this

**TABLE 3-7  
EXISTING PLUS PROJECT A.M. PEAK HOUR OPERATING CONDITIONS**

Intersection	EIR and SEIR Analysis <sup>1</sup>			Existing			Existing Plus Project		
	Volume-Capacity Ratio	Level of Service	Volume-Capacity Ratio	Level of Service	Volume-Capacity Ratio	Level of Service	Volume-Capacity Ratio	Level of Service	Volume-Capacity Ratio
Richards Blvd. & I-5 SB Ramps	0.79	C	0.60	B	0.75	C			
Richards Blvd. & I-5 NB Ramps	0.41	A	0.73	C	0.76	C			
Richards Blvd. & N. 5th Street	0.58	A	69 <sup>2</sup>	E	.55	A			
Richards Blvd. & N. 7th Street	0.86	D	0.63	B	0.62	B			
N. 12th Street, Sunbeam Ave., & Sproule Ave.	Not evaluated	Not evaluated	0.87	D	0.87	D			
N. 16th Street, Sproule Ave., & Bastler Street	Not evaluated	Not evaluated	0.41	A	0.42	A			
N. 7th Street & N. B Street	Not evaluated	Not evaluated	484 <sup>2</sup>	A	467 <sup>2</sup>	A			
N. 12th Street, N. B Street, & Dos Rios Blvd.	Not evaluated	Not evaluated	0.77	C	0.78	C			
N. 16th Street & N. B Street	Not evaluated	Not evaluated	0.30	A	0.30	A			
16th Street & G Street	0.38	A	Not evaluated	Not evaluated	Not evaluated	Not evaluated			
16th Street & H Street	0.40	A	Not evaluated	Not evaluated	Not evaluated	Not evaluated			
<b>Ramp</b>	<b>Volume</b>	<b>LOS<sup>3</sup></b>	<b>Volume</b>	<b>LOS</b>	<b>Volume</b>	<b>LOS</b>	<b>Volume</b>	<b>LOS</b>	<b>Volume</b>
I-5 NB to Richards Blvd.	Not indicated	C/E	1,296	D	1,690	F			
I-5 SB to Richards Blvd.	Not indicated	F/F	662	C	832	C			
Richards Blvd. to I-5 NB	Not indicated	C/C	355	C	376	C			
Richards Blvd. to I-5 SB	Not indicated	C/E	535	C	584	C			

Notes:  
 Level of Service constrained by ramp design speed.  
 Shaded cell indicates unacceptable service level.  
<sup>1</sup>For Phase 1 (Year 2000) Mitigated condition  
<sup>2</sup>Unsignalized Intersection - Reserve Capacity shown.  
<sup>3</sup>x/x = Freeway LOS/Diverge (Merge) LOS

TABLE 3-8

EXISTING PLUS PROJECT P.M. PEAK HOUR OPERATING CONDITIONS

Intersection	EIR and SEIR Analysis <sup>1</sup>		Existing		Existing Plus Project	
	Volume-Capacity Ratio	Level of Service	Volume-Capacity Ratio	Level of Service	Volume-Capacity Ratio	Level of Service
Richards Blvd. & I-5 SB Ramps	0.74	C	0.69	B	0.77	C
Richards Blvd. & I-5 NB Ramps	0.66	B	0.87	D	0.83	D
Richards Blvd. & N. 5th Street	0.54	A	52 <sup>2</sup>	E	0.58	A
Richards Blvd. & N. 7th Street	0.79	C	0.91	E	0.77	C
N. 12th Street, Sunbeam Ave., & Sproule Ave.	Not evaluated	Not evaluated	0.65	B	0.73	C
N. 16th Street, Sproule Ave., & Basler Street	Not evaluated	Not evaluated	0.96	E	1.00	F
N. 7th Street & N. B Street	Not evaluated	Not evaluated	594 <sup>2</sup>	A	536 <sup>2</sup>	A
N. 12th Street, N. B Street, & Dos Rios Blvd.	Not evaluated	Not evaluated	0.59	A	0.61	B
N. 16th Street & N. B Street	Not evaluated	Not evaluated	0.79	C	0.82	D
16th Street & G Street	0.71	C	Not evaluated	Not evaluated	Not evaluated	Not evaluated
16th Street & H Street	0.87	D	Not evaluated	Not evaluated	Not evaluated	Not evaluated
<b>Ramp</b>	<b>Volume</b>	<b>LOS<sup>3</sup></b>	<b>Volume</b>	<b>LOS</b>	<b>Volume</b>	<b>LOS</b>
I-5 NB to Richards Blvd.	Not indicated	F/E	672	C	737	C
I-5 SB to Richards Blvd.	Not indicated	D/C	435	C	463	C
Richards Blvd. to I-5 NB	Not indicated	F/F	948	C	1,084	C
Richards Blvd. to I-5 SB	Not indicated	C/F	1,076	C	1,392	E

Notes:  
 Level of Service constrained by ramp design speed.  
 Shaded cell indicates unacceptable service level.  
<sup>1</sup>For Phase I (Year 2000) Mitigated condition  
<sup>2</sup>Unsignalized Intersection - Reserve Capacity shown.  
<sup>3</sup>x/x = Freeway LOS/Diverge (Merge) LOS

intersection from "B" to "F", with a change in volume-to-capacity ratio from 0.63 to 1.14. During the P.M. peak hour, the level of service would degrade from "E" to "F", with a change in volume-to-capacity ratio from 0.91 to 1.36. The Supplemental EIR identified the following mitigation measure, included as improvements in the Richards Boulevard Assessment District, for this location.

*S4.1-1(h) Add a second through lane in the eastbound and westbound directions, a second exclusive left turn lane in the northbound direction, and exclusive right turn lane in the northbound and southbound directions at the intersection of Richards Boulevard/North 7th Street.*

The above measure was based on the assumption that the 870,000 square feet of Phase 1 office development be dispersed throughout the Richards Area. Under the Proposed Project, development would occur in one area, so, while the amount of traffic is the same, its distribution would change. Therefore, the geometry of the intersection has been modified, as shown in Figure 2-14 on page 2-17. The widening would include a single westbound left-turn lane and double eastbound left-turn lanes at this intersection. The southbound North Seventh Street approach would allow right turns from both approach lanes, while the northbound North Seventh Street approach would allow left turns from both approach lanes. The widening is part of the Phase 1 improvements assumed in the RSP and RBAP (see Table 2 of the Facility Element of the RSP/RBAP at page 67). It is anticipated that the widening will be undertaken as part of the improvements to be constructed by the Richards Boulevard Assessment District. The Proposed Project would contribute its fair share toward the cost of this improvement. With this modification to S4.1.1-1(h), the level of service during the A.M. peak hour would improve to "B," with a volume-to-capacity ratio of 0.62. During the P.M. peak hour, the level of service would improve to "C", with a volume-to-capacity ratio of 0.77. The proposed reconfiguration would not have any environmental effects beyond those described in the RSP/RBAP EIR and SEIR.

### **North 16th Street Intersections**

The main eastern access to the Richards Area is provided by SR 160 (North 16th Street), a regional highway which connects the downtown to Business 80 near Arden Way. SR 160 is heavily congested during p.m. peak hour. Specifically, Impact 4.8-4 of the RSP/RBAP EIR states:

For Year 2000, regional highways would be affected by any of the Alternatives. (See page 116 of the 1993 Findings; also, note that the Alternatives include the RBAP as adopted by the City).

The RSP/RBAP EIR found that SR 160 north of the Richards Area would operate at service level "F" (see Table 4.8-25 in the RSP/RBAP EIR).

The RSP/RBAP SEIR analyzed two SR 160 intersections to the south of the Richards Area, at G and H Streets, which were anticipated to operate at LOS E and F, respectively, in the p.m. peak hour during Phase 1. The SEIR proposed mitigation (adding through and turn lanes) to improve the service level. Even with mitigation, the SR 160/H Street intersection would operate at LOS D (see Tables 4.1.1-2(b) and 4.1.1-3(b) of the SEIR). Impact S4.1-1 states:

Implementation of the Phase 1 development scenarios would result in unacceptable levels of service at the following intersections, which levels of service are significant and unavoidable impacts...16th Street/H Street...  
(see page VI-1 of the 1994 Findings)

The traffic study conducted for the Proposed Project examined several intersections in addition to those which were analyzed in the RSP/RBAP EIR and SEIR, including the intersection of North 16th Street at Sproule/Basler, and the intersection of North 16th Street at North B Street. The RSP/RBAP SEIR showed that intersections along 16th Street in the vicinity of the RBAP (16th Street at G and H Streets) would be significantly affected by the Phase I level of development (as shown in Table 4.1-1(b) of the SEIR). The traffic study for the Proposed Project showed that two additional intersections would be significantly impacted in a similar manner. Specifically, the traffic study showed that at the intersection of North 16th Street at Sproule/Basler, the Proposed Project would increase the volume-to-capacity ratio from 0.96 to 1.00 during the P.M. peak hours, resulting in a degradation in level of service from "E" to "F". At the intersection of North 16th Street and North B Street, the volume to capacity ratio would increase from 0.79 to 0.82, resulting in a degradation in level of service from "C" to "D".

The RSP/RBAP EIR and SEIR identified an increase in the number of travel and/or turn lanes within the existing right-of-way, through lane reconfiguration and/or modification of parking restrictions, as mitigation measures for reducing the impacts of Phase 1 development. However, traffic at the intersection of 16th Street and H Street in the vicinity of the RBAP would not be reduced to a less-than-significant level (see SEIR, page 4.1-17). The City Council adopted these mitigation measures, and the Mitigation Monitoring Plan provides for their implementation as Phase 1 development occurs. The Council also adopted findings of override for those impacts that remained significant, including the impact of Phase 1 development on certain intersections along 16th Street (see page V-8 of the 1994 Findings).

Similar mitigation measures, if available, would reduce the level of impacts of the Proposed Project on the additional intersections analyzed in the traffic study. However, the mitigation measures adopted for the 16th Street intersections at G and H Streets are not available or feasible for the two additional intersections analyzed in the traffic study for the Proposed Project, given that there is no parking at these intersections that can be modified or eliminated, and given that the properties adjacent to the intersections are fully developed. The impacts at these intersections will, therefore, be significant and unavoidable until implementation of the Phase II improvements occurs.

The circulation improvements planned for Phase 2 are designed to create a new access to SR 160, which would relieve congestion along 16th Street, including at the intersections of North 16th Street and Sproule/Basler Street, and North 16th and North B Streets. The Facility Element of the RSP and RBAP includes improvements that would reconfigure the approach to downtown from SR 160 by creating Gateway Boulevard as a major two-way arterial roadway (see Figure 3-5). This improvement would relieve congestion on 16th Street south of Vine Street because the main access to SR 160 would no longer be 16th Street. Additionally, the Riverfront Drive/SR 160 interchange is planned for construction in Phase 2, which would also improve conditions on SR 160. Nevertheless, SR 160 is projected to operate at service level F conditions by the Year 2010 in the vicinity of the planning area, which "would result in the potential for queues extending from the freeway facilities onto the local downtown street system during the PM peak hour" (DEIR at page 4.8-78).

The following mitigation measure was recommended in the RSP/RBAP EIR to reduce impacts on intersections, freeways and ramps, including SR 160:

*4.8-1(a) Implement a Transportation Management Plan.*

The City found that this measure would reduce impacts on intersections and regional highways, but not to a less-than-significant level, and that no additional feasible measures were available for Phase 1 impacts (see page 116 of the 1993 Findings). As presented in Article VI of the 1993 Findings and Article VII, of the 1994 Findings, the City found that the benefits of the RSP and RBAP outweighed the unavoidable significant impacts for a variety of reasons, including:

- reinforcement of the Central City as the principal employment center in the region by allowing the Central City to capture a greater share of regional growth;
- integration the Railyards and Richards Areas with downtown by removing the existing rail line and extending the downtown grid pattern;
- creation of a new state-of-the-art intermodal passenger terminal;
- extension of the City's light rail system;
- completion of the Central City's circulation system, including new access to I-5 and State Route 160; and,
- locating jobs and housing at the center of the region's transportation system, thereby reducing air quality and energy impacts associated with regional growth.



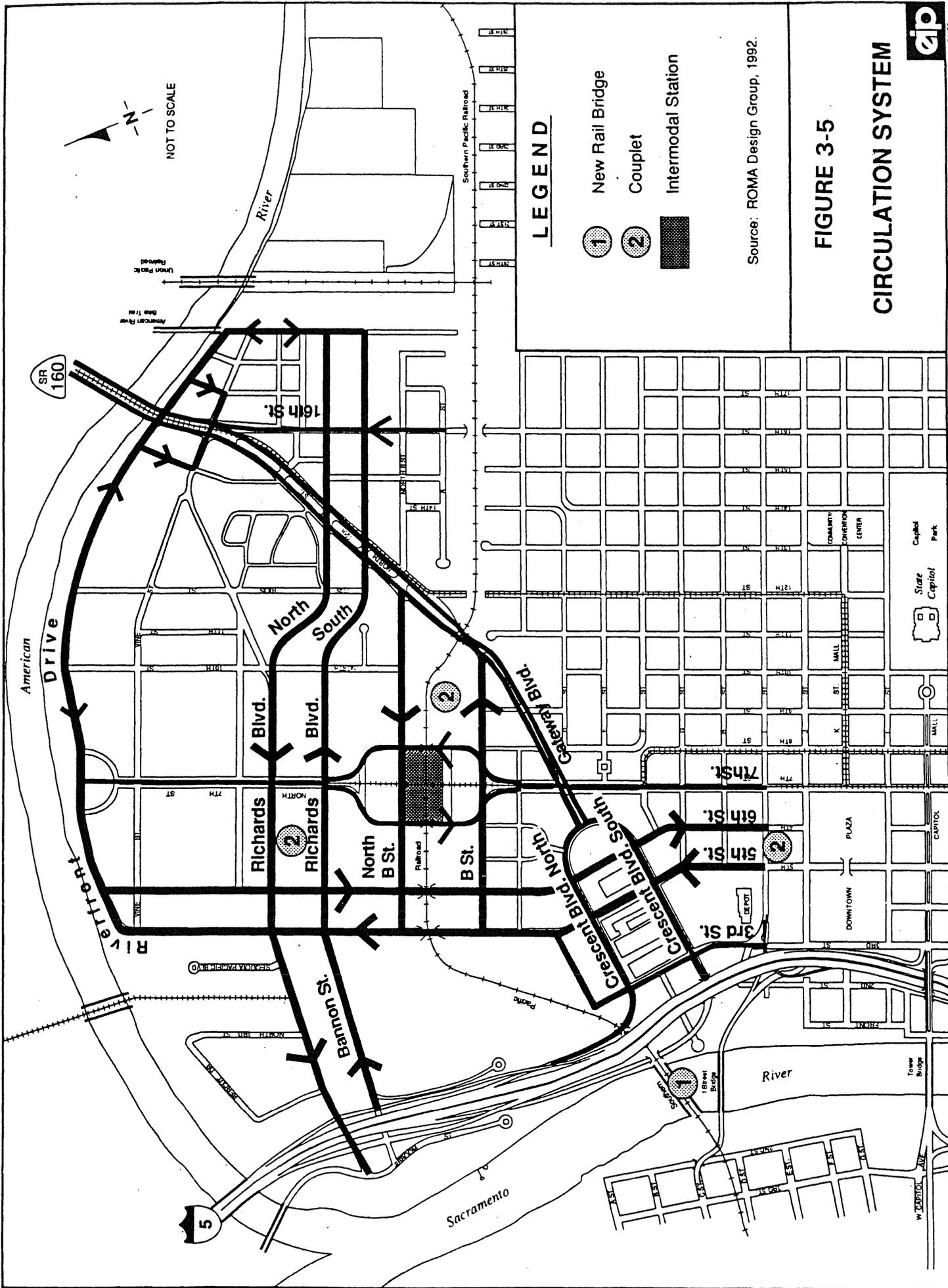


FIGURE 3-5

CIRCULATION SYSTEM

Source: ROMA Design Group, 1992.

LEGEND

- 1 New Rail Bridge
- 2 Couplet
- Intermodal Station



### **I-5 Ramps**

The major western access to the Richards Area is provided by the I-5/Richards Boulevard interchange. The RSP/RBAP EIR and SEIR concluded that these ramps would operate at unacceptable service levels during Phase 1. Specifically, Impact S4.1-2 states:

For the analysis year 2000, freeway sections and some ramps would be affected by implementation of any of the scenarios. (Note that the scenarios include the RBAP as adopted by the City).

The SEIR found that the southbound off ramp would operate at F/F in the a.m. peak hour. The northbound off ramp, northbound on ramp and southbound on ramp were projected to operate at F/E, F/F and C/F, respectively, in the p.m. peak hour.

The traffic study conducted for the Proposed Project confirmed the EIR and SEIR conclusions regarding ramp operation. During the A.M. peak hour, the Proposed Project would degrade the level of service from "D" to "F" on the I-5 northbound ramp to Richards Boulevard.

On the Richards Boulevard Ramp to I-5 Southbound, during the P.M. peak hour, the Proposed Project would degrade the level of service from "C" to "E".

The Facility Element for the RSP and RBAP provides for widening of the two I-5 north ramps and creation of a braided ramp for connection with the planned Crescent Boulevard. These improvements would occur in Phase 2. The temporary degradation of service levels of these ramps could be avoided by widening the northbound ramp to I-5 and the southbound ramp to Richards Boulevard in Phase 1, which would result in acceptable service levels. However, as stated in the RSP/RBAP EIR:

The acceleration of many of the proposed highway improvements into the initial phase of development was deemed to be infeasible economically. In addition, it is unlikely that matching funds could be provided by Caltrans for any of the planned highway improvements prior to Year 2000 given current commitments for funding projects in the State Transportation Improvement Program (STIP). The upcoming 1994 STIP process is scheduled to program funds for new projects at the end of its seven year cycle in Year 2000 and 2001. As economic feasibility is one of several factors that must be taken into account in evaluating the potential application of mitigation measures, the acceleration of freeway improvements is not assumed in the EIR. As such, there are interim impacts that are significant and unavoidable as identified in the Draft EIR due to the infeasibility of implementing additional mitigation measures.

Mitigation Measure 4.8-1(a), which calls for the implementation of a transportation management plan, was adopted by the City to reduce impacts on freeway ramps. As discussed above, the City found that this impact would partially reduce impacts, but they would remain significant and unavoidable (see page VI-3 of the 1994 Findings). The City concluded in the 1993 and 1994 Statements of Overriding Considerations that the benefits

of the RSP/RBAP outweighed the significant and unavoidable impacts (see discussion under **North 16th Street Intersections**, above for a description of the overriding considerations).

As indicated above, impacts on I-5 ramps were fully addressed in the RSP/RBAP EIR and in the Findings and Overriding Considerations adopted by the City of Sacramento in connection with its approval of the RSP and RBAP.

### **Additional Transportation Impacts**

- b) The intersections in the project vicinity are designed to City standards. No incompatible uses have been identified in the project vicinity. For these reasons, traffic hazards are not anticipated, and this is considered a less-than-significant impact.
- c) The Proposed Project would consist of new construction on sites that are presently developed. The Proposed Project would not block access to any nearby uses. Internal and external circulation patterns must meet City standards, including those for emergency access, so this is considered a less-than-significant impact.
- d) The Proposed Project would provide 1,468 parking spaces for the existing DHS facility (Phases I and II) and both Phases III and IV. This would result in a parking ratio of 1 off-street parking space for every 748 gross square feet of space (1:748), rather than the City's requirement of 1:600 for the office-transit zone and 1:400 for the M-2 zone. The Proposed Project includes variances to allow the proposed parking ratios. The RSP/RBAP EIR found that the RSP and RBAP would generate a demand for parking in excess of supply (See pages 4.8-116 and 4.8-117). In order to reduce this impact, the RSP/RBAP EIR identified the following mitigation measure:

4.8-9 *Implement Mitigation Measure 4.8-1(a).*

Mitigation Measure 4.8-1(a) requires implementation of a Transportation Management Plan (TMP). The purpose of the TMP is to reduce the number of employees using single-occupancy vehicles to drive to work. For the Proposed Project, trip reduction measures must reduce project-related parking demand to a ratio of 1 space for every 748 gross square feet of space. The PUD Guidelines indicate that the Continental Plaza PUD will meet this requirement (Section E.1).

- e) The Proposed Project includes pedestrian paths (See Figure 2-5), and the adjacent streets have sidewalks. Richards Boulevard is planned to have Class 2 bicycle paths. The existing and planned pedestrian and bicycle circulation facilities should prevent the occurrence of substantial hazards or barriers.
- f) The PUD Guidelines state that one bicycle parking facility will be provided for every 6,000 gross square feet (gsf) of office space and that the Continental Plaza TMP will encourage carpooling and vanpooling.

- 4.9-1(b) *The Planning Area shall be developed under a stringent vehicle-trip reduction requirement applicable to all proposed land uses. The availability of transit, proximity to downtown Sacramento, potential for mixed land uses and other aspects of the sites provide a high potential for non-auto travel modes.*
- 4.9-4(b) *All development within the Planning Area shall be required to participate in a Transportation Management Association, whose purpose would be the reduction in vehicle trips.*
- 4.9-4(c) *All employment-generating uses shall be required to develop a Commute Management Plan, adopting programs using parking management/fees, transit incentives and amenities, alternative work schedules, telecommuting or other strategies to reduce employee commuting. The transportation performance standards of the California Clean Air Act would be adopted as minimum targets for trip reduction.*
- 4.9-4(e) *To the extent feasible, all development proposals within the Planning Area shall be required to include measures that facilitate alternative powered vehicles, including, but not limited to, electric vehicle recharge stations in new parking facilities.*

Implementation of these measures will ensure that impacts on alternative transportation policies are less than significant.

- g) There is no waterborne or air traffic in the project vicinity. There is a Southern Pacific railroad spur on the southern boundary of the site, which will be removed as part of the Proposed Project. Although it is not used, the spur has never been formally abandoned, so Southern Pacific would have to agree to abandonment, and would likely require the agreement of Sierra Cannery, which also fronts the spur. There is also a railroad spur on the eastern boundary of the project site which crosses 7th Street. The spur does not transect the project site, so project employees would not have to cross it to walk from their parked cars to the offices or the street. The spur does cross Richards Boulevard, so some project-related traffic would cross it. However, because it is controlled by a crossing arm, the railroad spur is not considered a traffic hazard, and the Proposed Project would not interfere with rail operations. Therefore, this is considered a less-than-significant impact.

### **Summary**

With the exception of the intersections of 16th Street/North B and 16th Street/Sproule/Basler, the Proposed Project would not result in any traffic impacts that have not already been analyzed in the RSP/RBAP EIR, and RSP/RBAP EIR Mitigation Measure 4.8-1(a), 4.9-1(b), 4.9-4(b), (c) and (e) and SEIR Mitigation Measures 4.1-1(e) through (h) will be implemented as part of the Proposed Project.

Issues	Potentially Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for which RSP/RBAP EIR/SEIR is Sufficient	No Impact
<b>7. BIOLOGICAL RESOURCES.</b>				
<i>Would the proposal result in impacts to:</i>				
a. Endangered, threatened or rare species or their habitats (including, but not limited to plants, fish, insects, animals, and birds)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Locally designated species (e.g., heritage trees)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Locally designated natural communities (e.g., oak forest, coastal habitat, etc.)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Wetland habitat (e.g., marsh, riparian and vernal pool)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Wildlife dispersal or migration corridors?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation**

Biological resources in the Planning Area are described in Section 4.14 and Chapter 10 of the RSP/RBAP EIR.

a-e) The project site is in a highly developed industrial area. The only plants on the project site are in landscaped areas. There are no special-status plant or animal species on site, and wildlife does not migrate through the site. Therefore, no impact on biological resources is anticipated.

Issues	Potentially Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for which RSP/RBAP EIR/SEIR is Sufficient	No Impact
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**8. ENERGY AND MINERAL RESOURCES.**

*Would the proposal:*

- |   |                          |                          |                                     |                                     |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Conflict with adopted energy conservation plans?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Use non-renewable resources in a wasteful and inefficient manner?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**Explanation**

Energy issues are discussed in Section 4.22 (Electricity and Gas Service) and Chapter 10 (Summary of Changes) in the RSP/RBAP EIR.

- a) As stated on page 4.22-14 of the RSP/RBAP DEIR, development in the Planning Area would increase power demands and increase consumption of electrical energy. The Proposed Project would incrementally contribute to this increase. However, building materials and design for the Proposed Project would be required to comply with heating, ventilation, air conditioning, and lighting requirements as specified in Title 20 (Energy Building Regulations) and Title 24 (Energy Conservation Standards) of the California Code of Regulations. The RSP/RBAP EIR identified the following mitigation measures to reduce impacts associated with energy consumption to a less-than-significant level:

4.22-1(a) *Use energy efficiency/load management measures for residential construction and for commercial/industrial construction:*

1. *Participate in energy efficiency programs offered by the Sacramento Municipal Utility District and Pacific Gas and Electric. (See Appendix L of the RSP/RBAP EIR for SMUD energy efficiency/load management measures.)*
2. *SMUD's New Construction Services division shall be contacted for non-residential projects of 50,000 square feet or more and residential projects of 30 units or more prior to submittal of formal development plans to the City, for the purpose of maximizing energy efficiency measures in the design of the buildings.*

### 3. Environmental Impact Checklist

3. *Maximize improvement over and above California Building Standards (Title 24).*
5. *Encourage builders to make new buildings more energy efficient than currently required.*
6. *Cooperate with electrical and gas infrastructure providers to develop the most efficient energy infrastructure.*

Because the Proposed Project would be required to comply with RSP/RBAP EIR Mitigation Measure 4.22-1, the Proposed Project would be consistent with State energy conservation plans. No further mitigation is required.

- b) Construction of the Proposed Project would require the use of non-renewable or slowly renewable resources such as lumber, sand and gravel, asphalt, petrochemicals, and metals. These materials would be used to the extent necessary to comply with Uniform Building Codes and to conform to all current local zoning laws, local building codes and ordinances, and applicable sections of the California Code of Regulations. Electricity would be the principal source of energy during occupancy of the Proposed Project, which would increase consumption of available electrical energy resources. Additional demands related to building operation, including heating and transport of people and goods would result in increased fossil fuel consumption. This increase in energy use would incrementally contribute to, but would not exceed, the electricity and natural gas impacts identified on Pages 4.22-11 through 4.22-15 of the RSP/RBAP DEIR. Incorporation of required energy conservation programs, combined with implementation of RSP/RBAP EIR Mitigation Measures 4.22-1(a), above, and 4.9-4, which would result in reduced vehicle use (See Item 5a), would ensure that the Proposed Project would minimize adverse impacts on non-renewable or slowly renewable fuel energy resources.
- c) Areas subject to mineral land classification are divided into various Mineral Resource Zone (MRZ) categories that reflect varying degrees of mineral potential. The Proposed Project site lies in an area classified by the State Geologist as MRZ-1.<sup>3</sup> Areas classified as MRZ-1 are not considered to contain significant mineral deposits, or the likelihood for the existence of significant mineral deposit is slight or non-existent. Therefore, implementation of the Proposed Project would not result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State.

#### Summary

The Proposed Project would result in no new energy impacts other than those previously analyzed in the RSP/RBAP EIR. RSP/RBAP Mitigation Measures 4.22-1 and 4.9-4 will be implemented as part of the Proposed Project. No further mitigation is required.

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<sup>3</sup> California Division of Mines and Geology, *Mineral Land Classification: Portland Cement Concrete-Grade Aggregate in the Sacramento-Fairfield Production-Consumption Region*, CDMG Special Report 156, 1985.

Issues	Potentially Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for which RSP/RBAP EIR/SEIR is Sufficient	No Impact
<b>9. HAZARDS.</b> <i>Would the proposal involve:</i>				
a) A risk of accidental explosion or release of hazardous substances (including, but not limited to: oil, pesticides, chemicals or radiation)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Possible interference with an emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) The creation of any health hazard or potential health hazard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Exposure of people to existing sources of potential health hazards?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Increased fire hazard in areas with flammable brush, grass, or trees?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation**

Hazards issues in the Richards Area are addressed in Section 4.13 (Hazardous Materials) and Chapter 10 (Summary of Changes) of the RSP/RBAP EIR.

**a,c) Hazardous Materials Use**

As stated in the Project Description, the Proposed Project consists of construction of two office buildings and a parking structure. Hazardous materials used during construction could include, but would not necessarily be limited to, fuels, paints, solvent, cements, and glues. Hazardous materials use during building occupancy would generally be limited to small quantities of such items as cleaning agents, pesticides, and graphic arts or reprographic materials. Because of their limited use and small amounts, potential risks or release or creation of health hazards would be minimal.

Implementation of the Proposed Project would incrementally contribute to, but would not exceed, the increased use of hazardous materials and associated impacts previously identified in the RSP/RBAP EIR. The RSP/RBAP EIR identified the following mitigation measures, which are applicable to the Proposed Project and would reduce impacts associated with hazardous materials use to a less-than-significant level:

### 3. Environmental Impact Checklist

- 4.13-13(b) *The City shall not approve any project or development permit without first reviewing available data to determine if the Proposed Project or use would create an unreasonable risk to adjoining properties. If sufficient data does not exist to make such a determination, further studies (such as air toxics evaluation) shall be performed to evaluate the risk and develop appropriate mitigation measures.*
- 4.13-13(c) *The City shall require businesses in the Richards Area that use solvents and/or other toxic or hazardous materials to present Hazardous Substance Management Plans for the review and approval of the Hazardous Materials Division of Sacramento County's Environmental Management Department, prior to final building inspection. The plans shall demonstrate that adequate safety precautions have been taken for the storage and handling of hazardous materials and/or wastes, including:*
- *Proper on-site management;*
  - *Proper transportation;*
  - *Properly designed and outfitted disposal facilities;*
  - *Source reduction and recovery;*
  - *Measures to prevent hazardous wastes from entering sanitary sewers;*
  - *Programs to reduce spills of hazardous substances during transport.*
- 4.13-13(d) *The City shall require that all buildings or structures containing hazardous materials in the Richards Area be labeled at all doorways with easy-to-read signs that provide emergency response teams with information on the hazardous contents of the building or structure, and proper containment procedures. Labeling should be based on existing systems (such as the national Fire Protection Association 704 System) and approved by the City Fire Department.*
- 4.13-13(e) *Outdoor storage of materials in the Richards Area shall be minimized. Materials which emit odors, fumes, or otherwise cause a nuisance or hazard to neighboring properties shall not be stored outdoors. Any outdoor storage shall be done in compliance with all applicable federal, state, and local regulations.*

In addition, as stated on page 4.13-78 of the RSP/RBAP DEIR, development of industrial and commercial uses adjacent to the Proposed Project could expose people (primarily employees) to associated risks with hazardous materials used in these businesses. Adjacent development would be required to comply with RSP/RBAP EIR Mitigation Measure 4.13-13(a), which states that the City shall adopt development standards for heavy commercial and industrial land uses in the Richards Area, as well as Mitigation Measures 4.13-13(b) through (d), above. This would ensure that potential impacts on building occupants as a result of hazardous materials used in adjacent industrial or commercial facilities would be reduced to a less-than-significant level.

Compliance with RSP/RBAP EIR Mitigation Measures 4.13-13(b) through (e) would ensure that the Proposed Project would not result in hazardous materials use impacts other than those previously identified in the RSP/RBAP EIR. No further mitigation is required.

### **Hazardous Materials Transportation**

As described above, construction and operation of the Proposed Project would involve the use of increased amounts of hazardous materials that would need to be transported within the Planning Area. In addition, occupancy of the Proposed Project would increase the number of people in the Richards Area. Although the project's contribution would be minimal, as stated on pages 4.13-76 to 4.13-77 of the RSP/RBAP DEIR, development in the Planning Area would increase the amount of hazardous materials transported through the Planning Area, thereby increasing the risk of exposure to transportation-related hazardous materials incidents that could occur on nearby routes, such as Interstate 5 and the Southern Pacific rail lines. The RSP/RBAP EIR Joint Findings of Fact and Statement of Overriding Considerations, November 1994, found that businesses using hazardous materials must comply with the requirements of the City Fire Department and County Hazardous Waste Management Plan when transporting hazardous materials. Compliance with City and County requirements will ensure that hazardous materials transportation impacts are less than significant.

### **Exposure to Hazardous Materials Due to Flood Event**

As described above, occupancy of the Proposed Project would increase the number of people in the Richards Area. As stated on page 4.13-78 of the RSP/RBAP DEIR, the entire Richards Area is located in a flood hazard zone. Until protection from a 100-year flood is achieved, a 100-year flood event could inundate areas designated within A99 zones with up to 10 to 15 feet of water in the entire Richards Area, which could transport contaminated soil in the Planning Area, wash contaminated soil into the surrounding area (depending on flood flow paths), and/or expose contaminants that formerly were below the surface by eroding the top layer of soil. However, as further stated on page 4.13-78 of the RSP/RBAP DEIR, constituent levels in the floodwater itself are not likely to be very high because the levels remaining in the soil would be at or below DTSC action levels, and the floodwater would dilute what levels remain. Although the RSP/RBAP EIR considered health-related impacts associated with contact with the water itself to be less than significant, the RSP/RBAP EIR identified the following mitigation measure to ensure that impacts associated with floodwater transport of potentially contaminated soils are reduced to a less-than-significant level:

- 4.13-12 *In the event of a major flood event in the Planning Area that redistributes significant amounts of soils, responsible regulatory agencies shall require soils testing to determine if hazardous materials have been redistributed to areas where human exposure to soil is possible.*

The responsible regulatory agencies include the City and the State Department of Toxics Substance Control.

Compliance with RSP/RBAP EIR Mitigation Measure 4.13-12 would ensure that occupants of the Proposed Project would not be exposed to hazardous materials redistributed by flood events. No further mitigation is required.

### Physical Safety

As discussed in Chapter 2, Project Description, because of its height, the Phase IV building must be designed as a "Life Safety" building that meets or exceeds Uniform Building Code standards. Building plans include a smoke detection system, fire alarm and communication system, smoke control system, standby power, light, and emergency systems, special stairs, shafts, and elevators, and a helistop. It should be noted that the helistop would only be used in the event of an emergency that required the use of a helicopter to remove building occupants. It would not be used on a routine basis.

Although potential physical safety hazards (e.g., electrical shock, slip and fall, overexertion) would exist during occupancy of the Proposed Project, these hazards are no greater than the hazards people would experience away from the project site. Workplace safety programs (e.g., Injury and Illness Prevention Plan, Emergency Action Plan) are required by Title 8 of the California Code of Regulations. These programs, in combination with effective engineering controls, would minimize potential safety hazards.

Certain activities could present hazards that are not fully understood. For example, electromagnetic fields (EMFs) would be generated by electrical systems, light fixtures, video display terminals, exhaust fans, refrigerators, temperature-controlled rooms, and electrical equipment. However, lack of conclusive data has constrained the Environmental Protection Agency and other U.S. agency scientists from recommending health-based standards for exposure to EMFs. In the absence of firm exposure guidelines, many public agencies support a response known as "prudent avoidance". If individuals and organizations are concerned about possible health risks from EMFs, they can take prudent steps now to minimize and avoid exposure to such fields, deferring large unjustified expenditures until more is known of any potential health effects.

Implementation of the Proposed Project would not result in any safety hazards beyond those that exist in typical office settings, and no mitigation is required.

- b) As stated on pages 4.19-2 and 4.20-2 of the RSP/RBAP DEIR, the Sacramento City General Plan contains broad policies regarding police and fire protection services. Development of the Proposed Project would incrementally contribute to, but would not exceed, the demand for emergency response services beyond those previously analyzed in the RSP/RBAP EIR. Compliance with RSP/RBAP EIR Mitigation Measures 4.19-1 and 4.20-1, which require that adequate police and fire protection services and safety measures are implemented during project development, would ensure an adequate level of emergency response in the project area. Construction activities and occupancy of the Proposed Project would be required to comply with all applicable State and local safety and emergency response regulations and codes. Therefore, implementation of the Proposed Project would not interfere with an emergency response plan or emergency evacuation plan.
- d) As stated on pages 4.13-49 through 4.13-57 and in Appendix I of the RSP/RBAP DEIR, the Richards Area historically supported a variety of industrial uses. Other uses include

wrecking yards, landfills, and automotive-related uses with underground tanks. Hazardous materials could be used and/or generated by such uses. As with many older areas of the City where industrial activities have taken place, the presence of contamination is suspected in the Richards Area, but the complete nature and extent of the contamination is unknown.

### Contamination Adjacent to Proposed Project

Twenty-two sites in the Richards Area have been identified as contaminated or possibly contaminated with elevated concentrations of chemicals in the soil and/or groundwater (See Figure 4.13-12 on page 4.13-50 of the RSP/RBAP DEIR). Some of these sites have undergone complete or partial remediation. In some cases, no remediation was required following the initial site investigation.<sup>4</sup> Of the 22 sites discussed in the RSP/RBAP DEIR, one (Sacramento Foods at 424 North 7th Street) is immediately west of the project site. As stated on page 4.13-56 of the RSP/RBAP DEIR, removal of asbestos-contaminated soils was completed in 1988. As of June 1995, soil and groundwater remediation using soil vapor extraction and groundwater extraction and treatment technologies to remove solvents and petroleum hydrocarbons were still in progress.<sup>5</sup> A Department of Toxic Substances Control (DTSC) questionnaire completed in 1981 indicated that sewer disposal of diluted sodium hydroxide had also occurred; however, the site is not included on any current DTSC lists, and DTSC has taken no further action.<sup>6</sup> The complete extent of groundwater contamination at two other sites located southeast of the Proposed Project, across Richards Boulevard, is unknown (See Figure 3-6). These sites are the Office of State Printing and WEMPCO/Envirotech. Soil and groundwater contamination is present at Big Valley Express, located southwest of the Proposed Project site, across Richards Boulevard. Details regarding these sites are presented on pages 4.13-53, 4.13-55, and 4.13-52 of the RSP/RBAP DEIR, respectively. As of August 1995, neither the Office of State Printing nor WEMPCO sites are considered active cleanup sites by DTSC or RWQCB, nor have DTSC or RWQCB taken any enforcement action regarding either site. However, groundwater at the Office of State Printing and WEMPCO sites is still under investigation as part of continued groundwater investigation and cleanup efforts associated with the SP site, and additional monitoring wells will be installed in the vicinity.<sup>7</sup> As of May 1995, remediation to remove fuel-related compounds (e.g., benzene, xylene) from groundwater as a result of underground tank leakage was still in progress at Big Valley Express.<sup>8</sup> Twelve sites have been identified

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<sup>4</sup> ERM-West, Inc., 1990. *Preliminary Environmental Assessment, Phase I Hazardous Substance Site Investigation of Richards Boulevard Redevelopment Area*, November 12, 1990.

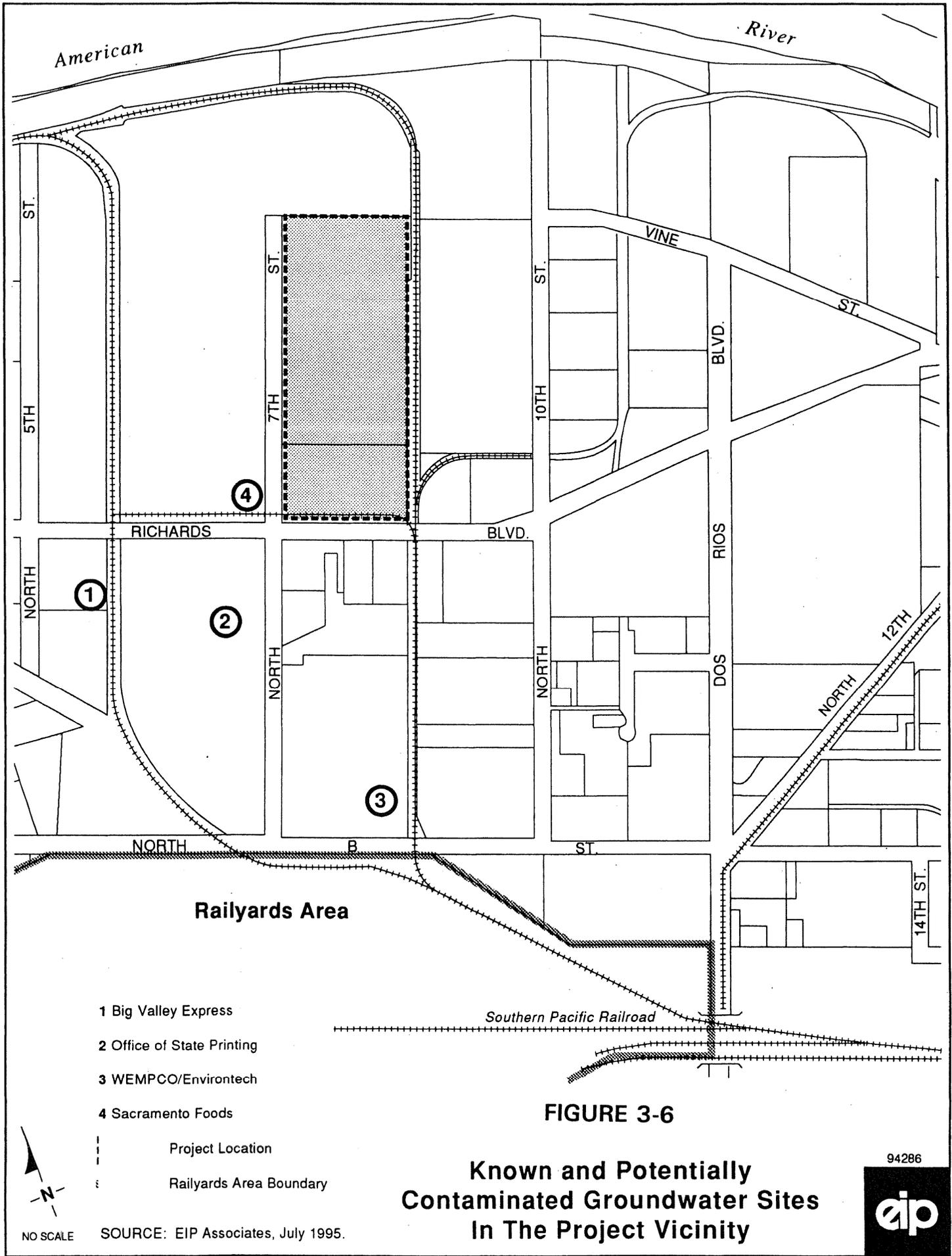
<sup>5</sup> Anita Wasoski, Records Manager, Sacramento County Environmental Management Department, personal communication, August 25, 1994.

<sup>6</sup> Mark Milani, Department of Toxic Substances Control, personal communication, August 16, 1994.

<sup>7</sup> Mark Milani, op cit.; Wendy Cohen, Central Valley Regional Water Quality Control Board, personal communication, August 16, 1995.

<sup>8</sup> Anita Wasoski, op. cit.





- 1 Big Valley Express
- 2 Office of State Printing
- 3 WEMPCO/Environtech
- 4 Sacramento Foods

--- Project Location  
 - - - Railyards Area Boundary



NO SCALE

SOURCE: EIP Associates, July 1995.

**FIGURE 3-6**

**Known and Potentially Contaminated Groundwater Sites In The Project Vicinity**

94286





in the Richards Area as having been previously remediated for soil and or groundwater contamination (See Figure 4.13-13 on page 4.13-58 of the RSP/RBAP DEIR).<sup>9</sup> Two of the sites, Continental Can and Sierra Fruit Co., are located immediately north and west of the Proposed Project, respectively. As stated on page 4.13-57 of the RSP/RBAP EIR, remedial actions have been completed at these two sites.

### **Potential Contamination at Project Site**

A Toxic Hazard Assessment of the area encompassing the Phase IV site was performed in late 1988 and completed in 1990.<sup>10</sup> The scope of work included site visits, review of readily available aerial photographs, maps, and agency information, installation and sampling of three shallow groundwater monitoring wells, and sampling of the existing building for asbestos-containing materials (ACM).

According to information presented in the final report, no volatile or semi-volatile organic compounds were detected above laboratory detection limits in the three monitoring wells that were drilled to depths of approximately 35 to 40 feet. Three soil samples from the monitoring well borings were analyzed for volatile organic compounds; toluene was detected in one sample at a level not considered a human health or environmental risk. Report preparers noted that a 2,500-gallon underground tank formerly used to contain fuel could still be present at the northeast corner of the warehouse. Although no contamination was apparent, the consultant recommended further investigation to determine the status of the tank. According to the report, testing of warehouse building materials indicated that some floor tiles contained 5 to 30 percent chrysotile asbestos. Soil samples adjacent to the warehouse were not sampled for asbestos, although the report indicated that noticeable amounts of potentially asbestos-containing dust were observed in and around an area where worn and used automotive brake shoes had been stockpiled at the loading dock on the north side of the warehouse. Information on adjacent contaminated sites is consistent with the information presented in Section 4.13 of the RSP/RBAP DEIR. Although some hazardous materials were used at the site and small quantities could still be present, the report concluded that the likelihood of hazardous materials to be present at the warehouse site, other than those noted, is low to very low.

A Preliminary Site Assessment (PSA) to evaluate the Phase I, II and III site for evidence of hazardous materials contamination in surface and near-surface soils was performed in April 1991.<sup>11</sup> The scope of work included a site visit, review of readily available aerial photographs, maps, and agency information, and interviews. The PSA findings regarding contaminated sites in the vicinity were generally consistent with those previously noted in the RSP/RBAP EIR. As part of an earlier geotechnical study, soil samples were

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<sup>9</sup> Ibid.

<sup>10</sup> Applied Geosciences Inc., *Toxic Hazard Assessment: 801 Richards Boulevard/425 North 7th Street, Sacramento, California*, September 21, 1988 and October 17, 1990.

<sup>11</sup> Wallace Kuhl & Associates, Inc., *Preliminary Site Assessment: Continental Plaza*, April 8, 1991.

collected to a depth of 25 feet. Because underground fuel tanks were formerly present at the site, selected soil samples were analyzed for volatile organic compounds and organochlorine pesticides and polychlorinated biphenyl compounds (PCBs). No contamination was found. The report concluded that although soils at the site had not been affected by past uses of the site, groundwater underlying the site could be affected by contamination spreading from the Sacramento Foods/Sierra Fruit Co. (also known as Sierra Quality Cannery) building complex across the street to the west.

### **Pre-Construction Activities**

Although some information is available about the project site and adjacent property, as stated on page 4.13-70 of the RSP/RBAP DEIR, only a small portion of the Richards Area has been characterized, and preliminary reconnaissance studies indicate that a range of contaminants could be present in the Richards Area. As noted above, only a portion of the project site has been investigated for the presence of hazardous materials. In addition, it appears that groundwater at the warehouse site may not have been tested since 1988, and soils were not tested for asbestos. Therefore, the potential exists for hazardous materials to be present in soil and/or groundwater at the project site.

As stated on page 4.13-72 of the RSP/RBAP DEIR, redevelopment of former industrial and commercial sites in the Richards Area would require investigation of potential risks to public health and safety from exposure to hazardous materials. As shown in Figure 2-3, a school is located approximately 1,250 feet from the project site. The RSP/RBAP EIR identified the following mitigation measures to ensure that development in the Richards Area does not present a long-term risk to public health and safety:

- 4.13-9(b) *Prior to issuance of building permits in areas of known groundwater contamination, the City shall assess the need for building features designed to protect against the risk of exposure to soil vapors in enclosed underground spaces. Such features could include vapor barriers and adequate ventilation.*
  
- 4.13-9(f) *For the Richards Area, the City shall link development approvals to specific remediation steps for each of the Alternatives as follows:*
  - (2) *For all commercial and industrial sites for which modification is proposed that require a discretionary land use entitlement from the City that will result in the disturbance of more than 50 cubic yards of soil and that are located within 2,000 feet of an existing or approved residence, school, daycare center, or other similar sensitive use, the City shall require, prior to the issuance of any building permit, that a Phase I site investigation be conducted. Should the Phase I analysis indicate the potential for contamination, a Phase II site investigation and cleanup of any discovered contamination shall be required.*

Compliance with RSP/RBAP EIR Mitigation Measures 4.13-9(b) and 4.13-9(f)(2) would ensure that the Proposed Project would not result in site development impacts other than those previously identified in the RSP/RBAP EIR. No further mitigation is required. It should be noted that the PSAs discussed above fulfill the requirements of the Mitigation Measure 4.13-9(f).

In the event contamination is found, the following RSP/RBAP EIR mitigation measures would be implemented, which would ensure that the potential for exposure to hazardous materials contamination at the project site would be reduced to a less-than-significant level:

4.13-9

(f)(4) *For all sites where contamination is found, the City shall require completed soil remediation and/or site closure approved by the applicable local, state or federal regulatory agency prior to the issuance of grading, demolition, building, or occupancy permits, unless preliminary construction work, such as excavation for building foundations, will occur as part of the remediation process. In some cases, permits may be issued while groundwater remediation or soil vapor extraction is ongoing, if a site specific health risk assessment demonstrates that there will be no significant risk to construction workers, site users, or occupants. In lieu of completed remediation and/or site closure, the permit applicant may submit a statement from the appropriate regulatory agency or from a registered engineer or geologist certifying that no remediation would be required under applicable laws.*

4.13-9(h) *For sites in the Richards area where soil or groundwater remediation is required, property owners shall be required to demonstrate that remediation methods comply with all applicable Sacramento Metropolitan Air Quality Management District requirements.*

## **During Construction**

### Excavation

Construction activities that move soil (e.g., grading, trenching, and excavation) or require dewatering could expose construction workers or the public to contamination in soil or groundwater. The RSP/RBAP DEIR stated that the presence of hazardous materials in contaminated soil or groundwater could pose health and safety risks for workers or the public during construction if contamination is not identified and properly managed (See pages 4.13-61 through 4.13-65 and 4.13-70). Implementation of the Proposed Project would incrementally contribute to, but would not exceed, construction-related hazardous materials impacts previously identified in the RSP/RBAP EIR.

### *Soil*

As stated on pages 4.13-61 through 4.13-62 of the RSP/RBAP DEIR, redevelopment in the Planning Area would require earth disturbance that could expose contaminated soils, which could expose construction workers to contaminants if present. Previously unidentified contamination could also be discovered during construction. For example, as noted above, the extent of contamination at the site immediately west of the project site is not completely known. The RSP/RBAP DEIR identified the following mitigation measures to reduce impacts associated with the exposure of construction workers to contaminated soil to a less-than-significant level:

4.13-1(a) *The entire Railyards Area, and each site within the Richards Area where hazardous materials contamination that requires remediation is identified, shall be cleaned up at the time of development or redevelopment, to levels, at a minimum, determined by DTSC*

*(and other involved agencies as appropriate) to be adequately protective of construction workers.*

Compliance with RSP/RBAP EIR Mitigation Measures 4.13-1(a) has been attained with the PSAs performed for the Continental Plaza sites; therefore, the Proposed Project would not result in construction-related contaminated soils impacts other than those previously identified in the RSP/RBAP, and no further mitigation is required.

### *Groundwater*

As stated on pages 4.12-4 to 4.12-5 of the RSP/RBAP DEIR, groundwater in the Richards Area can be encountered at depths ranging from 6 to 30 feet below grade, depending on surface water elevation in the Sacramento and American Rivers. Similarly, flow directions vary from southwesterly to northeasterly, depending on water elevation in the rivers. Excavations that would be necessary for Phase III mid- to high-rise construction would likely require groundwater dewatering activities. As discussed previously, limited information is available regarding groundwater quality at the project site. Therefore, dewatering could potentially bring contaminated groundwater to the surface. Disposal of contaminated groundwater removed during dewatering could also expose people to associated hazards unless properly managed. Dewatering for construction activities could also affect groundwater plume extent or direction, which could spread the contamination and/or lengthen the overall time needed to complete groundwater remediation at adjacent or nearby sites.

The RSP/RBAP EIR identified the following mitigation measures to reduce potential hazardous materials exposure impacts during construction dewatering activities to a less-than-significant level:

- 4.13-2(b) *The City shall require that extracted groundwater in the Planning Area be tested for the presence of hazardous materials, and that appropriate handling and disposal techniques be required accordingly.*
- 4.13-3(b) *The City shall require extracted groundwater that is to be discharged to the sanitary sewer be authorized by the City to be in compliance with its obligations to meet standards established by the CVRWQCB, in order to reduce the risk of leakage of unacceptable levels of contaminants along the sewer lines, and to assure that the regional treatment plant can meet standards established under its NPDES permit, prior to discharge.*
- 4.13-3(c) *If the City or regional treatment plant determines that groundwater extracted during dewatering activities does not meet applicable standards for discharge into the city sewer system, contractors shall implement groundwater treatment systems that treat groundwater to standards established by the CVRWQCB, City, and regional treatment plant.*
- 4.13-4(b) *In the Richards Area, prior to obtaining a grading or building permit that requires dewatering, the contractor shall coordinate with the City and the CVRWQCB to ensure that dewatering does not interfere with any adjacent or on-site groundwater remediation.*

4.13-4(c) *All dewatering in the Planning Area shall be coordinated with any on-site or adjacent groundwater remediation activities in accordance with measures agreed upon by DTSC, the City, the RWQCB, and the Southern Pacific Transportation Company, or other developers, if appropriate. In the absence of such agreement, DTSC shall require contractors to obtain approval of dewatering activities prior to initiation of construction.*

Compliance with RSP/RBAP EIR Mitigation Measures 4.13-2(b), 4.13-3(b) and (c), and 4.13-4(b) and (c) would ensure that the Proposed Project would not result in construction dewatering impacts other than those previously identified in the RSP/RBAP EIR. No further mitigation is required.

### Building Demolition

Implementation of the Proposed Project would involve the demolition of the warehouse located at the southern end of the site. As stated on page 4.13-65 of the RSP/RBAP EIR, the demolition of older buildings could expose construction workers and the public to carcinogenic asbestos fibers that might be present in the building components such as insulation, ceiling panels, linoleum flooring, and brittle plaster. Any activity that involves manipulation of these materials (i.e., cutting, grinding, or drilling) could release hazardous airborne asbestos fibers. It is also possible that asbestos exists in the soils underlying the Richards Area as a result of past demolition activities if they were not managed properly.

Building materials in the warehouse at the proposed Phase IV building site were sampled for asbestos in 1988.<sup>12</sup> Materials sampled included floor tiles/linoleum, molding, ceiling tiles, wallboard, roofing materials, and air conditioning components. Of 18 samples submitted for analysis, only the floor tiles were found to contain asbestos in amounts exceeding one percent. However, soils outside the warehouse were not tested. In addition to Mitigation Measures 4.13-1(a) and (e), cited above, the RSP/RBAP EIR identified the following mitigation measures that would prevent the potential for release of asbestos during warehouse demolition, thus reducing associated impacts to a less-than-significant level:

4.13-5(b) *If asbestos fibers are suspected or identified in soils or existing building materials, then additional sampling shall be performed prior to any construction activities to identify asbestos-containing materials that may be contained in building materials or obscured behind walls, above ceilings, and beneath floors.*

4.13-5(c) *Demolition activities affecting asbestos-containing material shall be performed by a licensed asbestos abatement contractor with properly trained personnel in accordance with all applicable federal, state and local regulations.*

Compliance with RSP/RBAP EIR Mitigation Measures 4.13-5(b) and (c), which include testing site soils for asbestos contamination, would ensure that the Proposed Project would not result in demolition-related asbestos impacts other than those previously identified in the RSP/RBAP EIR, and no further mitigation is required.

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<sup>12</sup> Ibid.

### Potential Effects from Adjacent Sites Undergoing Remediation

As previously described, site remediation is in progress at the Sierra Cannery facility immediately west of the Proposed Project site. Soil and groundwater remediation using soil vapor extraction and groundwater extraction and treatment technologies to remove solvents and petroleum hydrocarbons is in progress. The status of potential groundwater contamination due to sewer disposal of sodium hydroxide is unknown. As stated on page 4.13-70 of the RSP/RBAP DEIR, development of sites adjacent to sites that either have not been remediated, or are undergoing remediation could expose inhabitants or users to hazardous materials if contamination is later found to cross property lines or in areas where infrastructure improvements (e.g., sewers, roadway improvements) are planned. As further stated, only a small portion of the Richards Area has been characterized. The RSP/RBAP EIR identified the following mitigation measure to reduce impacts associated with remediation of an adjacent site or adjacent sites that may be identified later to a less-than-significant level:

- 4.13-8(a) *All contractors in the Richards Area shall coordinate with the City, DTSC, and other involved agencies, as appropriate, to assure that construction activities shall not interfere with any adjacent and/or on-site remediation activities or unduly delay either project development or site remediation.*

Compliance with RSP/RBAP EIR Mitigation Measure 4.13-8(a) would ensure that the Proposed Project would not result in impacts associated with remediation of the adjacent site or adjacent sites other than those previously identified in the RSP/RBAP EIR. No further mitigation is required.

### **Construction Contingency Measures**

As stated in Mitigation Measure 4.13-3(c), in the event that the City, or regional treatment plant determines that groundwater extracted during dewatering activities does not meet applicable standards for discharge into the City sewer system, the contractor would be required to implement groundwater treatment systems that treat groundwater to standards established by the CVRWQCB, City, and regional treatment plant. If treatment is required, implementation of the following mitigation measures (which apply to all forms of contamination, including groundwater) would ensure that potential impacts related to on-site treatment of contaminated water removed during construction dewatering activities would be reduced to a less-than-significant level, and no further mitigation would be required.

- 4.13-8(b) *All contractors in the Richards Area shall coordinate with the City, DTSC, and other involved agencies, as appropriate, to assure that accessible portions of the Richards Area containing hazardous materials contamination shall be covered, encapsulated, or otherwise rendered inaccessible to prevent unacceptable human exposure to hazardous materials.*
- 4.13-8(c) *Active remediation sites in the Richards Area shall employ measures to protect the surrounding population and environment. Such measures could include, as appropriate, buffer zones, fencing, posting, site security, dust control, and perimeter air monitoring.*

- e) As shown on Figure 2-3, the area surrounding the project site is developed and consists of fabrication/processing, warehouse/distribution, and office uses. Dry grasses and other highly flammable vegetation are not present. Therefore, there would be no increased fire hazard in areas with flammable brush, grass, or trees.

**Summary**

The Proposed Project would not result in any hazards impacts that have not already been analyzed in the RSP/RBAP EIR. RSP/RBAP EIR Mitigation Measures 4.13-1(a), 4.13-2(b), 4.13-3(b) and (c), 4.13-4(b) and (c), 4.13-5(b) and (c), 4.13-8(a), 4.13-9(b), 4.13-9(f)(2), 4.13-11(a), 4.13-12, and 4.13-13(b) through (e) will be implemented as part of the Proposed Project. In the event treatment of groundwater removed during construction is required, RSP/RBAP EIR Mitigation Measures 4.13-8(b) and (c) and 4.13-9(h) will be implemented as part of the Proposed Project. In the event contamination is found at the project site, RSP/RBAP EIR Mitigation Measures 4.13-9(b) and 4.13-9(f)(4) will be implemented as part of the Proposed Project.

Issues	Potentially Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for which RSP/RBAP EIR/SEIR is Sufficient	No Impact
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**10. NOISE.**

*Would the proposal result in:*

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a. Increases in existing noise levels?        | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b. Exposure of people to severe noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

**Explanation**

Noise issues are discussed in Section 4.10 (Noise) and Chapter 10 (Summary of Changes) of the RSP/RBAP EIR and Section 4.1.3 of the RSP/RBAP SEIR.

**a,b) Construction**

Implementation of the Proposed Project would result in construction noise associated with the clearing, excavation, grading, hauling, and general construction activities to prepare the site's surface and erect the two buildings and parking garage. Construction noise has the greatest potential for disturbing employees within the Continental Plaza site. In addition, construction noise could disturbing employees of the adjacent Sierra Cannery fabrication processing plant, State Lottery Office, and various nearby warehouse buildings. Noise levels experienced from individual pieces of construction equipment by employees within and near the project site would be similar to the levels presented on page 4.10-27 in Table 4.10-7 of the RSP/RBAP DEIR. Actual noise levels experienced by employees

would involve several pieces of construction equipment and would be attenuated by the walls, windows, and doors of the buildings. As indicated in the RSP/RBAP DEIR the number, type, and location of each kind of equipment being used are not known at this time. Although it is not possible to accurately predict noise levels, they would significantly exceed existing levels.

The RSP/RBAP EIR identified the following mitigation measures to reduce noise impacts associated with construction to a less-than-significant level:

- 4.10-5(a) *The contractor shall limit construction from 7 AM to 7 PM, Monday through Saturday and shall prohibit construction on Sundays, unless the City grants a special permit, in order to minimize disruption to residences adjacent and near the project. This mitigation measure would be required for all alternatives.*
- 4.10-5(b) *The contractor shall use mufflers, enclosure panels, or other noise suppression attachments on all equipment as appropriate and turn off equipment when not in use. This mitigation measure would be required for all alternatives.*

Compliance with RSP/RBAP EIR Mitigation Measures 4.10-5(a) and (b) would ensure that the Proposed Project would not result in any construction noise impacts other than those previously identified in the RSP/RBAP EIR, and no further mitigation is required.

### **Traffic Noise**

To determine the noise levels and noise level increases from automobiles associated with the implementation of the Proposed Project, the computer model SOUND32 was used. Noise levels were calculated along Richards Boulevard east of North 7th Street, North 7th Street north of Richards Boulevard, and Dos Rios Boulevard north of North B Street for existing conditions and the Proposed Project. Table 3-9 presents the  $L_{dn}$  noise levels at 75 feet from the centerline for the three roadways.

Although the City of Sacramento has not established interior noise level standards for commercial/office land uses, the General Plan does infer that interior noise standards should be comparable to the noise levels that would exist inside a building where the exterior noise level is "normally acceptable". The exterior noise standard for commercial/office land uses can reach a maximum of 65  $L_{dn}$  and the typical building attenuation is 20 dBA, so an interior noise standard of 45 dBA is used in this analysis. Because, the exterior of the building would be exposed to approximately 67  $L_{dn}$ , employees inside the building could be exposed to noise levels of approximately 47  $L_{dn}$ . This is above the standard of 45 dBA.

Implementation of the Proposed Project would result in increased traffic noise only on one of the three analyzed roadways. Motor vehicles associated with the Proposed Project (primarily employee automobiles) on North 7th Street north of Richards Boulevard would create a 5 dBA increase. However, this noise level increase along North 7th Street would not affect any sensitive residential land uses. Office and fabrication processing land uses along North 7th Street would not be affected by incremental noise level increases.

Implementation of the Proposed Project would not result in significant noise impacts on existing sensitive areas. The Dos Rios School at the northeast corner of Richards Boulevard and Dos Rios Boulevard and the residential area east Dos Rios Boulevard and south of Richards Boulevard would not experience noise level increases due to the Proposed Project.

The Proposed Project itself could be affected by noise levels from Richards Boulevard traffic. For the office land uses, exterior noise levels above 65  $L_{dn}$  are considered significant because they are in the "conditionally acceptable" or "unacceptable range" in the City General Plan. According to the traffic noise modeling data presented in Table 3-9, exterior noise levels would be 67  $L_{dn}$  75 feet from the centerline of Richards Boulevard adjacent to the Proposed Project. This would expose the Phase IV building exterior to noise above 65  $L_{dn}$ .

Locations	Existing $L_{dn}$ at 100 feet	Existing Plus Project $L_{dn}$ at 100 feet
Richards Blvd east of North 7th St	67	67
North 7th St north of Richards Blvd	60	65
Dos Rios Blvd north of North B St	56	56
SOURCE: EIP Associates, 1995.		

The RSP/RBAP EIR and the RSP/RBAP SEIR did not identify mitigation measures to reduce exterior noise impacts associated with traffic noise on the proposed commercial/office land uses. However, as stated on page 2-2, the Proposed Project will be constructed with sound attenuation measures to reduce interior noise levels to 45  $L_{dn}$  or lower. Therefore, noise impacts on office uses are considered less than significant.

### Summary

The Proposed Project would not result in any noise impacts other than those analyzed in the RSP/RBAP EIR and SEIR. RSP/RBAP EIR Mitigation Measures 4.10-5(a) and (b) will be implemented as part of the Proposed Project. No further mitigation is required.

3. Environmental Impact Checklist

Issues	Potentially Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for which RSP/RBAP EIR/SEIR is Sufficient	No Impact
<b>11. PUBLIC SERVICES.</b> <i>Would the proposal have an effect upon, or result in a need for new or altered government services in any of the following areas:</i>				
a. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Maintenance of public facilities, including roads?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Other governmental services?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation**

Public services in the Richards Area are addressed in Sections 4.19 (Police Services), 4.20 (Fire Protection Services), and 4.21 (Schools and Child Care) of the RSP/RBAP EIR.

**Fire Protection**

a) As stated on page 4.20-1 of the RSP/RBAP DEIR:

Fire protection services to the City of Sacramento are provided through the City of Sacramento Fire Department. . . The Fire Department maintains two stations within the downtown area, Station Number 1 at 7th and Q Streets, and Station Number 2 at 13th and I Streets. . . The Fire Department also maintains Station Number 14 within the Richards Area at 1341 North C Street. These stations maintain a response time to the Planning Area of approximately 3.5 minutes. Average Fire Department-wide response time is 4.2 minutes. . . The Fire Department plans to relocate Station Number 14 from its present location on North C Street to the intersection of North 10th Street and Richards Boulevard.

Station Number 14 is less than one mile from the project site. When this station is relocated, it will be even closer (within two blocks) of the project site.

As stated on page 4.20-6 of the RSP/RBAP DEIR:

Siting, acquisition, construction and staffing of at least one new fire station within the Planning Area will be required during the early stages of plan construction. Development within the Planning Area shall coordinate closely with the Sacramento Fire Department to permit appropriate timing and location of the station. Such stations shall initially consist at the minimum of a one company station staffed by four fire fighters on each shift (12 total) equipped with a fire engine meeting Fire Department standards. Additional companies will be added as necessary in accordance with Fire Department procedures.

As stated in the Project Description, the Proposed Project would consist of the development of a two-story, 59,850-square-foot office building with 250 employees for Phase III, and a 12-story, 810,000-square-foot office building with 2,430 employees for Phase IV. The Phase IV building is planned to be designed as a "Life-Safety" building that meets or exceeds Uniform Building Code. Building plans include a smoke detection system, a fire alarm and communication system, a smoke control system, standby power, light and emergency systems, special stairs, shafts and elevators, and a helistop.

The new buildings and employee population would increase demand for fire protection services. Given the number of employees associated with Phases III and IV, the Proposed Project would result in the need for approximately one firefighter (See page 4.20-3 of the RSP/RBAP DEIR). This demand was assumed in the RSP/RBAP EIR analysis, so the Proposed Project would incrementally contribute to, but would not exceed, fire protection impacts previously identified in the RSP/RBAP EIR. According to the Fire Department, the existing North C street station's staff and equipment are adequate to serve the Proposed Project.<sup>13</sup>

The RSP/RBAP EIR identified the following mitigation measure to reduce impacts on fire protection services to a less-than-significant level.

4.20-1 *Construct and staff new fire station(s) within the Planning Area in accordance with Sacramento Fire Department policies and procedures regarding new station construction and siting.*

Compliance with RSP/RBAP EIR Mitigation Measure 4.20-1 would ensure that the Proposed Project would not result in fire protection impacts other than those previously identified in the RSP/RBAP EIR. No further mitigation is required. This impact is therefore considered to be less than significant.

## **Law Enforcement**

- b) The Proposed Project would require the services of the City Police department. As stated on page 4.19-1 of the RSP/RBAP DEIR:

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<sup>13</sup> Dennis Smith, Fire Chief, City of Sacramento Fire Department, personal communication, August 8, 1995.

### 3. Environmental Impact Checklist

Police protection services within the City of Sacramento are provided by the City of Sacramento Police Department. The police Department maintains two stations. The central station is located adjacent to the Planning Area at 6th and I Streets . . . The Police Department target staff ratio is 2.0 officers per 1,000 residents. As of September 1991, this level was actually 1.6 officers per 1,000 population. . . The Police Department is planning to establish a new substation in the North Area north of the American River.<sup>14</sup>

A new substation has been opened in the North Area at 3550 Marysville Road; this is the closest station to the project site.

Implementation of the Proposed Project would incrementally contribute to, but would not exceed, impacts on the City of Sacramento Police Department previously identified in the RSP/RBAP EIR. The RSP/RBAP EIR identified the following mitigation measures to reduce impacts to police protection as a result of the Proposed Project to a less-than-significant level. According to the Police Department, the Proposed Project could be served adequately by the Police Department if there are no swing shifts, and if the buildings are designed with appropriate crime prevention measures.<sup>15</sup>

4.19-1(a) *Development within the Planning Area shall ensure that adequate police protection services are available at the time of development. All necessary sworn officer positions and non-sworn support staff shall be made available to the Planning Area in accordance with Police Department standards.*

4.19-1(b) *Development within the Planning Area shall be coordinated on a project-specific basis with the Sacramento City Police Department Community Resources Division at the design phase of project approval. This will ensure that appropriate design measures are implemented to improve public safety and reduce crime.*

The expansion of Phase III and the development of Phase IV would result in the need for one to two officers. This demand was assumed in the RSP/RBAP EIR analysis.

Compliance with RSP/RBAP EIR Mitigation Measures 4.19-1(a) and (b) would ensure that the Proposed Project would not result in police protection impacts other than those previously identified in the RSP/RBAP EIR, and no further mitigation is required. This impact is therefore considered to be less than significant.

#### **Schools**

- c) As stated on pages 4.21-1 and 4.21-4 of the RSP/RBAP DEIR, the following school services are provided in the project area:

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<sup>14</sup> Op. cit., pp. 4.19-1, 4.19-2.

<sup>15</sup> Captain Brazil, City of Sacramento Police Department, personal communication, August 7, 1995.

Public school services are provided in the Planning Area through three separate school districts: Sacramento City Unified School District, Grant Joint Union High School District, and North Sacramento Elementary School District. . . The North Sacramento Elementary School District provides school services for children in grades K through 6. The Richards Area is served by the Dos Rios campus. The school is over 40 years old, with an original design capacity of 210 to 220 students. With the use of two portable classrooms, the school currently houses an estimated 272 students. . . Average enrollment increases are approximately eight percent annually since the 1986-87 school year.

The RSP/RBAP DEIR (pages 4.21-4 and 4.21-5) also identified services for childcare provided to the Proposed Project area:

As of July 2, 1991, the Department of Social Services reported a total of 214 licensed facilities for both categories within the City of Sacramento. These combined facilities had a total capacity of 11,147 spaces.

Implementation of the Proposed Project would incrementally contribute to, but would not exceed, impacts on the City of Sacramento School Districts previously identified in the RSP/RBAP EIR. As the Proposed Project consists of the development of office buildings, the growth of school-age children would be negligible, with more potential of effect being placed on childcare needs. The RSP/RBAP EIR identified the following mitigation measures to address the need for child care services:

- 4.21-6 *New development within the Planning Area shall demonstrate that adequate provision for facility space for child care services is included in the application for use permit approval. The City of Sacramento shall not approve the occupancy of any office, commercial or residential use that is unable to demonstrate the availability of child care services. In the absence of the immediate availability of child care services, approval may be granted to projects that submit a plan of action that would ensure the provision of child care services within a reasonable period and that is approved by the City of Sacramento Child Care Coordinator. Recognizing that the market for child care services requires an established customer base to justify location of new facilities, the City of Sacramento, through the Child Care Coordinator, shall actively encourage and support the expansion of child care services by licensed care providers within the Planning Areas.*

As stated in Chapter 2, Project Description, the Proposed Project includes a Special Permit for a 4,300-square-foot child care facility, which is consistent with Mitigation Measure 4.21-6. Therefore, this impact is considered to be less than significant.

- d,e) The Proposed Project is the development of two office buildings, one 810,000-square feet and one 60,000 square feet, on a site currently occupied by a 105,600-square-foot warehouse that is slated for demolition. The Proposed Project would include Irrevocable Offers of Dedication (IODs) for future roadways (the extension of Vine Street and a road immediately north of the Phase IV building. These roadways are anticipated in the RSP and RBAP. The Proposed Project itself would not require additional roadway maintenance nor would it require additional governmental services. Therefore, there would be no impact on roadways or other governmental services.

**Summary**

The Proposed Project would not result in any significant police, fire, schools or other government impacts other than those that have been analyzed in the RSP/RBAP EIR, and RSP/RBAP Mitigation Measures 4.19-1(a) and (b), 4.20-1 and 4.21-6 will be implemented as part of the Proposed Project. No further mitigation is required.

Issues	Potentially Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for which RSP/RBAP EIR/SEIR is Sufficient	No Impact
<b>12. UTILITIES AND SERVICE SYSTEMS.</b>				
<i>Would the proposal result in a need for new systems or supplies, or substantial alternations to the following utilities:</i>				
a. Power or natural gas?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Communications systems?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Local or regional water treatment or distribution facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Sewer or septic tanks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Storm water drainage?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Solid waste disposal?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Local or regional water supplies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation**

Public Utilities are discussed in Sections 4.15 (Water Supply), 4.16 (Wastewater Conveyance and Treatment), 4.17 (Stormwater and Drainage), 4.18 (Solid Waste) and 4.22 (Electricity and Gas Services), as amended in Chapter 10 (Summary of Changes) of the RSP/RBAP EIR and Sections 4.1.4 (Water Supply), 4.1.5 (Wastewater Treatment and Conveyance) and 4.1.6 (Storm Drainage) of the RSP/RBAP SEIR.

**Power and Natural Gas**

- a) See Item 8 (Energy and Mineral Resources), above.

## Communications

- b) Communications systems are discussed in Section 4.4 (Radio, Microwave and Radar) of the RSP/RBAP EIR.

As stated on page 4.4-1 of the RSP/RBAP DEIR, the City of Sacramento and County of Sacramento operate radio and microwave communications systems near the Planning Area. City police and fire communications systems antennas are located at 111 Bercut Avenue within the Richards Area and south of the Railyards Area at 813 6th Street. The County system has antennas at 700 H Street and the Main Jail at 607 I Street.

Other communication systems in the project area include the County of Sacramento Water Resources Division system of remote rain and stream gauges throughout the county used in operational flood forecasting (See page 4.4-1 of the RSP/RBAP EIR). These remote gauges are linked to offices at 827 7th Street via a line-of-sight radio communication system. These same gauges and other rain and stream gauge communications links are received and used by the National Weather Service and State of California flood forecasting centers located at 1416 9th Street.

According to the RSP/RBAP DEIR (pages 4.4-3 and 4.4-4), buildings taller than 180 feet could block communications between Sacramento flood control agencies and remote stream and rain gauges and other communication links. Buildings greater than 100 feet in height would affect City and County public safety (police, fire, emergency) communications. Phase IV of the Proposed Project would be 176 feet tall, so it could interfere with federal, State, City and County public safety communications, but not flood control communications.

The RSP/RBAP EIR contains the following mitigation measure to address interference with public safety communications:

4.4-3(a) *The City of Sacramento shall, in conjunction with the State of California, Sacramento County, and the City of West Sacramento, design and implement a replacement safety communications antenna. A funding mechanism shall be established through which high-rise developments within the Planning Area pay fair-share costs for the eventual replacement of City and County apparatus (antennae and microwave dishes) adversely affected by such high-rise development.*

4.4-3(b) *Approval shall not be given to any building exceeding 100-feet in height until it has been shown that it would not interfere or can mitigate interference with signals to or from the State's proposed communications tower at 111 Bercut Drive, or existing communications facilities.*

According to the Mitigation Monitoring Program for the RSP/RBAP EIR, the Applicant must provide written confirmation that the Phase IV building will not interfere with the communication tower at 111 Bercut Drive. Such confirmation would indicate compliance with Mitigation Measure 4.4-3(b), and would reduce the impact of the Proposed Project to a less-than-significant level.

## Water Treatment and Distribution

- c) Existing water supply and storage capacity for the Richards Area are discussed in detail in the RSP/RBAP DEIR in Section 4.15 and Section 4.1-4 of the RSP/RBAP SEIR.

### Water Treatment

As stated on page 4.1-31 of the RSP/RBAP SEIR, the City currently has a water treatment capacity of over 240 million gallons per day (mgd) and storage capacity of 36 million gallons. The RSP/RBAP EIR concluded that with the City's current estimated average day demand of approximately 90 mgd, there is ample supply of water to serve the first phase of the RBAP, which included 870,000 square feet of office development (See page 4.1-33 of the RSP/RBAP SEIR).

### Distribution

As stated on page 4.1-31 of the RSP/RBAP SEIR, the City's distribution system in the development area is comprised mainly of 8-inch, 10-inch and 12-inch asbestos cement and cast iron pipe. These pipelines are considered to be in good condition and are adequate to convey water to the Richards Area.

In the Richards Area, an existing public water distribution system serves existing land uses. Where the future land use increases the domestic water or fire flow demand to a level greater than the existing system capacity, a new system or additions to the existing distribution system would be required to meet the new demands (See page 4.1-34 of the RSP/RBAP SEIR).

Development under the RBAP would be served by new pipelines installed with new streets. Portions of major water mains would be constructed within any portions of main arterial roadways constructed as a part of Phase 1 development. As stated on page 4.1-32 of the RSP/RBAP EIR, connection to the City's main transmission mains near North Seventh Street and North B Street would be necessary for Phase 1 development, which includes the 870,000 square feet of office development in the Richards Area.

As indicated in the RSP/RBAP EIR, the City's Water Division has stated that an increase in flows in the City's mains would not adversely affect domestic and fire flow requirements (See page 4.1-34 of the RSP/RBAP SEIR).

Mitigation Measure 4.15-2 of the RSP/RBAP EIR, shown below, requires that new local water distribution system piping be installed with construction of new roadways, and that proposed water mains be sized to meet domestic and fire flow requirements.

- 4.15-2 *New local water distribution system piping will be installed concurrent with construction of the roadways that are proposed to serve the Planning Area. New water mains are considered to be a developer responsibility and will be installed at the developer's cost at the time the roadways are constructed.*

*Proposed water mains will be sized and located to meet domestic and fire flow requirements. Water main size and location shall be verified at both the preliminary design and final design stage of project development.*

Implementation of this mitigation measure would result in a less-than-significant impact.

#### Storage

The RSP/RBAP EIR concluded that the level of development proposed in the first phase of development would not warrant added storage capacity. The RSP/RBAP EIR included mitigation measures requiring that a storage facility be constructed for subsequent development.

#### **Sewer System and Stormwater Drainage**

- d,e) The Proposed Project would increase flows in the City's wastewater conveyance system and the amount of wastewater requiring treatment. The RSP/RBAP EIR assumed that office development would generate 80 gallons per day (gpd) of wastewater per 1,000 square feet of development (See page 4.16-4). Using this factor, the Proposed Project would generate an average daily flow of 69,600 gpd and a peak flow of 160,080 gpd. The existing warehouse is estimated to generate approximately 8,500 gpd (assuming 80 gpd per 1,000 square feet), so the net increase attributable to the Proposed Project would be approximately 61,150 gpd. This increase was assumed in the projected flows for Phase 1 development in both the RSP/RBAP DEIR and SEIR (See pages 4.16-2 and 4.1-36, respectively). As explained below, this amount of wastewater can be accommodated by the sewer treatment plant, but could cause a significant impact on the City's combined sewer system (CSS):

The RSP/RBAP SEIR provides the following description of the City's CSS in the Richards Area on pages 4.1-35 through 4.1-39.

Several older portions of the City are currently served by a combined sanitary/storm sewer collection system. The greater part of the Richards Area is served by a separated storm system; however, flows from the sewer system from the Richards Area flows into the Central City combined system. The sewage flows eventually reach the Sacramento Regional Wastewater Treatment Plant (SRWTP), except during periods of high runoff when diversion to other outfalls can be used. These alternate outfall locations are discussed in Section 4.16 of the RSP/RBAP EIR.

During intense rain storms, peak flows exceed the capacity of the combined system creating local street flooding. In response to a Cease and Desist Order issued by the State Regional Water Quality Control Board in June, 1990, the City has adopted the policy that additional sanitary sewage flows from land development can be discharged to the combined sewers only if a corresponding existing stormwater flow can be removed from the system in a quantity sufficient to prevent the amount of peak sanitary sewage outflows

from increasing. The City is considering options for improving the CSS, but an option has not been chosen.

As stated above, the City has allowed additional sanitary sewage flows to enter the combined system where the system has adequate capacity to convey the normal sewage flows and when measures to offset increases with reductions in storm runoff are implemented.

For the Richards Area, the peak reduction could be achieved by individual project onsite detention, diverting existing runoff from the CSS to the existing separated drainage system, or a combination of both. Again, the system design would provide a significant decrease in the peak runoff when compared to existing conditions, and the sanitary sewer collection system would then be able to discharge directly into the CSS. Stored storm flows diverted from CSS areas would be allowed to be released into the combined system after the storm peak flow has passed. Several small-scale projects, such as in-street storage projects have been undertaken.<sup>16</sup>

The Proposed Project can participate in the reduction of flows in the CSS in one of two ways: (a) by providing for the removal of storm flows (amount to be determined by the City) in another part of the CSS; or (b) by contributing a fair-share payment to the City's fund for CSS improvements, as indicated in RSP/RBAP Mitigation Measures 4.16-2(a), 4.17-1(a) and 4.17-1(c).

### **Solid Waste Disposal**

- f) As stated on page 4.18-1 of the RSP/RBAP DEIR, solid waste from Sacramento is disposed of at the Sacramento County landfill located on Keifer Boulevard. The landfill has expected adequate capacity to serve the projected population of the Sacramento area until approximately the year 2015.

Using a solid waste generation factor of 1.0 lbs/day per 100 square feet of office space, and factoring out waste generated by the existing warehouse, the Proposed Project would generate a new increase of approximately 7,644 pounds of solid waste per day. This increase in solid waste generation was evaluated and accounted for in the RSP/RBAP DEIR (See pages 4.18-3 through 4.18-6).

The RSP/RBAP EIR identified the following mitigation measures to reduce the impacts from solid waste increases to a less-than-significant level:

*4.18-1(a) The City of Sacramento shall require all new development within the Planning Area to participate fully in a comprehensive solid waste management program designed so that, on average, a least 50 percent of the solid waste generated within the area is diverted from landfilling to either recycling, re-use, or other disposal means such as cogeneration. All recycling and source*

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<sup>16</sup> Ivan Gennis, Nolte Associates, personal communication, July 27, 1995.

*reduction programs shall comply fully with the City of Sacramento Recycling and Solid Waste Reduction Ordinance.*

Compliance with RSP/RBAP Mitigation Measure 4.18-1(a) would ensure that the Proposed Project would not result in impacts related to increases in solid waste generation other than those identified in the RSP/RBAP.

**Water Supply**

- g) The Proposed Project would increase demand for water by 87,000 gpd (assuming 100 gpd per 1,000 square feet). When existing water demand for the warehouse is taken into consideration (100 gpd per 1,000 square feet), the net increase would be 76,400 gpd. This water demand was assumed in the RSP/RBAP EIR, which concluded that, because Phase 1 development would increase the City’s average day demand by less than one-half of one percent, this would not require an increase in supply capacity.

**Summary**

The Proposed Project would not result in any utilities impacts that have not already been analyzed in the RSP/RBAP EIR and SEIR, and RSP/RBAP EIR Mitigation Measures, 4.4-3(a) and (b), 4.15-2, and 4.18-1(a) will be implemented as part of the Proposed Project. No further mitigation is required.

Issues	Potentially Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for which RSP/RBAP EIR/SEIR is Sufficient	No Impact
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**13. AESTHETICS.**

*Would the proposal:*

- |    |  |                          |                                     |                                     |                          |
|----|--|--------------------------|-------------------------------------|-------------------------------------|--------------------------|
| a. | Affect a scenic vista or scenic highway?       | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b. | Have a demonstrable negative aesthetic effect? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
| c. | Create light or glare?                         | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

**Explanation**

Aesthetic issues are addressed in Section 4.3 (Urban Design and Visual Quality) of the RSP/RBAP EIR.

- a) There are no scenic vistas or highways within view of the project site. The American River Parkway is a scenic area approximately 2,000 feet to the north of the project site. The RSP/RBAP EIR found that new development could affect views from the river and parkway (see page 4.1-53). However, the project site is south of the area of concern. Therefore, this is a less-than-significant impact.
- b) As stated on page 4.3-46 of the RSP/RBAP DEIR, development in the Planning Area will change the relationship between the Planning Area and observers in the surrounding community. The Proposed Project would increase the amount of office space in an area that is presently dominated by industrial and warehouse uses. The visual quality of the Proposed Project becomes more important in the context of future planned uses. The Office-Transit zone is intended to promote intensified office development in proximity to the intermodal station and light rail stops, to reinforce transit use, and to create a strong pedestrian orientation. The scale, form and architectural treatment of the Phase IV building will affect the visual character of the area, and hence its attractiveness to pedestrians and others.

The Proposed Project includes PUD Design Guidelines that are generally consistent with the RBAP and the Richards Boulevard SDP section of the Zoning Ordinance, except for those components discussed under item 1b, above. The PUD contains Design Guidelines addressing landscaping, lighting, building facades, buildings bases, fenestration, roof treatments, tower elements, building materials, and parking areas. Compliance with the Design Guidelines will ensure that the Phase IV building is architecturally compatible with other new development on Richards Boulevard and in the surrounding area. Further, the Proposed Project will be subject to Design Review by the City.

While compliance with Design Guidelines will ensure that the Proposed Project is visually compatible with future development, the changes to the existing relationship between the project area and viewers in the surrounding area will change irrevocably. This significant unavoidable impact has been fully addressed in the RSP/RBAP EIR and the Findings and Overriding Considerations adopted by the Sacramento City Council and Redevelopment Agency in connection with its approval of the RSP and RBAP (see page 3-46 for a discussion of the override).

- c) The Proposed Project will increase the amount of light in the Richards Area, but this is not a significant impact because the area is already urbanized and subject to extensive night lighting.

As stated on Page 4.3-48 of the RSP/RBAP DEIR, glare, which can be caused by reflections from pavement, vehicles and reflective building materials, can create hazards to motorists and nuisances for pedestrians and other viewers. Phase III of the Proposed Project could create some additional glare, but it is not tall enough to create glare-related hazards or nuisances. At twelve stories, Phase IV will be tall enough to create glare that could be seen from nearby residential and commercial areas, as well as roadways. The RSP/RBAP EIR contains the following mitigation measure to reduce impacts from glare and lighting:

4.3-4(b) *Include the following design standards and guidelines in the final approved version of the RBAP:*

- *The configuration of exterior light fixtures shall emphasize close spacing and lower intensity light that is directed downward, in order to minimize glare on adjacent residential areas and other sensitive receptors.*
- *Highly reflective mirrored glass walls shall be avoided as a primary building material for facades.*

Compliance with this measure, which has been incorporated into the RBAP, would reduce the effects of light and glare to a less-than-significant level.

**Summary**

The Proposed Project would not result in any visual impacts that have not already been analyzed in the RSP/RBAP EIR, and RSP/RBAP EIR Mitigation Measure 4.3-4(b) will be implemented as part of the Proposed Project.

Issues	Potentially Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for which RSP/RBAP EIR/SEIR is Sufficient	No Impact
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**14. CULTURAL RESOURCES.**

*Would the proposal:*

a.	Disturb paleontological resources?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b.	Disturb archaeological resources?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c.	Affect historical resources?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Have the potential to cause a physical change which would affect unique ethnic cultural values?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e.	Restrict existing religious or sacred uses within the potential impact area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation**

- a,b) As stated in the Project Description, the Proposed Project consists of construction of two office buildings and a parking structure. Excavation and/or grading would occur as part of the Proposed Project, which could damage or destroy previously undisturbed paleontological and/or archaeological resources.

Paleontological resources such as fossilized remains of large vertebrate animals such as camels and mammoths could exist in alluvial sedimentary soils. The presence or absence of large vertebrate fossils is not restricted to specific depths; although, it would be unlikely that fossils would occur in shallow soil horizons. Such fossils are more likely to be encountered in large, deep excavations or contouring-type activities, such as those associated with mining, quarrying, or road building, in which significant amounts of rock or unconsolidated materials are exposed. It is unlikely that paleontological resources at the Proposed Project site would be disturbed as the Proposed Project site is in an urban area that has previously been disturbed, and the Proposed Project would not involve extensive, deep excavations.

It is unlikely that surface archaeological resources would be in existence on the Proposed Project site, as the site is located within an urban setting and has been previously subjected to leveling, filling and soil disturbance. However, the potential for archaeological artifacts or sites below the surface does exist. The RSP/RBAP DEIR states on page 4.6-17:

Extensive subsurface deposits are present at many sites as demonstrated at CA-SAC-26 with a recorded depth of 20 feet. Because successive episodes of fluvial deposition may have buried earlier prehistoric components to considerable depths the likelihood of encountering prehistoric sites is still a possibility, despite historic and modern urban development.<sup>17</sup>

These resources, buried under modern created land surfaces, would not be visible during ground surveys, but could be exposed during construction, as evidenced by a recent excavation for the Federal Courthouse at 7th and I Streets south of the project site which unearthed numerous historic remains.

Construction of the Proposed Project would incrementally contribute to, but would not exceed, cultural resource impacts previously identified in the RSP/RBAP EIR. The RSP/RBAP EIR identified the following mitigation measure to reduce impacts to cultural resources as a result of excavation and/or grading to a less-than-significant level.

*4.6-1(d) The project construction team shall become familiar with the indicators of historic and prehistoric archaeological sites. In the event that subsurface archaeological or historical remains are discovered during development or construction of specific projects, work in the area shall stop immediately and a qualified archaeologist and a representative of the Native American Heritage Commission shall be consulted to develop, if necessary, further*

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<sup>17</sup> City of Sacramento, Planning and Development Department, Environmental Services Division, *Railyards Specific Plan/Richards Boulevard Area Plan, Draft Environmental Impact Report*, June 10, 1992, p. 4.6-17.

*mitigation measures to reduce any archaeological impact to a less-than-significant level before construction continues.*

Compliance with RSP/RBAP EIR Mitigation Measure 4.6-1(d) would ensure that the Proposed Project would not result in impacts on archaeological resources other than those previously identified in the RSP/RBAP EIR, and no further mitigation is required.

- c) No known historically significant resources exist on the project site, according to both federal and local historical resource inventories. Three buildings currently exist on-site. Of the three buildings, two were built in the 1980s (the current Department of Health Services facilities) and would not be affected by the Proposed Project. The third building is a warehouse, approximately 45 years of age, which would be demolished as part of Phase IV. The National Register of Historic Places does not consider buildings under 50 years old to be eligible for listing as historic resources. As the warehouse is under 50 years of age, and is not listed on State or local historical resource inventories, loss of this building is not considered to be significant. Therefore, no impact would occur to loss of historical resources.
- d, e) Implementation of the Proposed Project would not cause a physical change that would affect unique ethnic cultural values, or restrict religious or sacred uses within the potential impact area, as there is neither a unique ethnic or cultural identity associated with the Proposed Project or within the vicinity of the Proposed Project; nor are there any religious or sacred uses associated with the project site. The site consists of two office buildings and a warehouse in an urban environment. Therefore, no impact would occur on ethnic cultural values, or religious or sacred uses.

**Summary**

The Proposed Project would not result in any new cultural resource impacts that have not already been analyzed in the RSP/RBAP EIR, and RSP/RBAP EIR Mitigation Measures 4.6-1(d) will be implemented as part of the Proposed Project.

Issues	Potentially Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for which RSP/RBAP EIR/SEIR is Sufficient	No Impact
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**15. RECREATION.**

*Would the proposal:*

- |    |  |                          |                                     |                          |                                     |
|----|--|--------------------------|-------------------------------------|--------------------------|-------------------------------------|
| a. | Increase the demand for neighborhood or regional parks or other recreational facilities? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| b. | Affect existing recreational opportunities?  | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**Explanation**

- a) Parks and open space are discussed in Section 4.2 of the RSP/RBAP DEIR. Of City parks in the Central City, only one, Dos Rios School Park, is in the Richards Area. As stated on page 4.2-1 of the RSP/RBAP DEIR. This 4.8-acre park shares a site with Dos Rios Elementary School. The American River Parkway provides the primary source of open space in the Richards Area.

The RBAP and Zoning Ordinance require one square foot of open space for every 10 square feet of office development in the Office-Transit zone. A minimum of 20% of this open space is to be provided on site. Some of this open space may be provided off-site through an agreement with the City. Landscaped setback areas may be counted toward the open space requirement provided that they contribute to the active or passive enjoyment of the development's employees. Courtyards and plazas are to be oriented toward pedestrian linkages or located adjacent to people-oriented uses, and are to incorporate one or more features such as landscaping, decorative paving, public art, water features, seating areas, canopies and lighting.

Phase IV of the Proposed Project includes 810,000 square feet of office space, so it will need to provide 81,000 square feet of open space. The Phase IV site plan makes provision for 32,450 square feet of permanent on-site open space. This open space includes a plaza on the north side of the site and a 5,888-square-foot outdoor dining area adjacent to the cafeteria on the west side of the site. The project will be responsible for providing an additional 48,500 square feet of open space off-site or of paying an open space in-lieu fee. Therefore, the Proposed Project meets the open space and plaza/courtyard dedication requirements. For these reasons, the Proposed Project would have a less-than-significant impact on parks and open space.

- b) There are no recreational facilities in or near the project site; therefore, development of the Proposed Project will have no impact on such facilities.

**Summary**

The Proposed Project would not result in any significant parks and recreation impacts.

Issues	Potentially Significant Impact/New Mitigation Required	New Less Than Significant Impact	Impact for which RSP/RBAP EIR/SEIR is Sufficient	No Impact
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**16. MANDATORY FINDINGS OF SIGNIFICANCE.**

- |    |   |                          |                          |                                     |                          |
|----|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a. | Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b. | Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c. | Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d. | Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

**Explanation**

- a) As discussed under Item 7, Biological Resources, above, the project site has been disturbed and is developed. There are no fish, wildlife or special-status species on the site. The project site does not contain any historically significant buildings. Historic or prehistoric artifacts could be buried on the site; however, RSP/RBAP EIR Mitigation Measure 4.6-1(d) (See page 3-81), would reduce impacts on subsurface archaeological resources to a less-than-significant level.
- b) The relationship between short-term uses of the environment and long-term environmental goals was addressed in Section 5.4 of the RSP/RBAP DEIR. Development of the project site, as well as the Richards Area as a whole, would result in the reuse of already developed lands. As discussed throughout this Initial Study, the project site does not contain significant biological, mineral, hydrological, cultural or other natural resources, so long-term protection of natural resources would not be affected by the Proposed Project. The Proposed Project would have some negative long-term effects on the environment, primarily due to increased employee traffic. As discussed in Item 5, Air Quality, air pollution would increase. Demand for public services and utilities would also increase (See Items 11 and 12). All of these effects were addressed in the RSP/RBAP EIR and can either be fully mitigated or were determined by the City to be acceptable in light of overriding considerations.
- c) The Proposed Project is part of development occurring under the RBAP. The cumulative effects of this development were fully analyzed in the RSP/RBAP EIR. Anticipated cumulative impacts are summarized in Section 5.2 of the RSP/RBAP DEIR, and fully addressed in each section of Chapter 4 of that document. The Proposed Project would contribute incrementally to the cumulative impacts of the RBAP and RSP, but would not cause the identified impacts to be exceeded.
- d) The Proposed Project could have a substantial adverse effect on human beings by increasing the number of employees at a site that could be subjected to hazardous materials and noise from surrounding industrial uses. In addition, the Proposed Project would generate additional traffic, which would increase air pollutant emissions and noise. Employees could also be exposed to the risks of flooding or seismic events. All of these effects were fully addressed in the RSP/RBAP EIR and can either be fully mitigated or were determined by the City to be acceptable in light of overriding considerations.

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#### 4. REFERENCES AND PERSONS CONTACTED

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##### References

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**WIND TUNNEL ANALYSIS FOR THE PROPOSED CONTINENTAL PLAZA PROJECT  
SACRAMENTO, CALIFORNIA**

**Prepared for:**

**EIP Associates  
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**August 1995**

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## **I. INTRODUCTION**

A wind tunnel study was performed in investigate the pedestrian wind environment around the proposed Continental Plaza Project in the Central City area of Sacramento. The Continental Plaza Project would involve the construction of two new office structures (Continental Plaza Phase III and IV) and a parking structure. The Continental Plaza III building would be a 810,000 sq. ft. office building fronting on Richards Boulevard. The western portion of this building would be 12 stories in height; the eastern portion would be five stories tall. The Phase III building would be a two-story structure of about 60,000 sq. ft. located at the northeast corner of the project site. A six-story parking structure would be built along the eastern edge of the proposed site between the Phase IV and Phase III buildings.

The focus of this study is the potential wind effects of the Phase IV building. Neither the Phase III building or the proposed parking garage would be of a size or design that could substantially alter the current wind environment. These structures would, however, influence winds on the project site and were included in the scale model that was tested.

Pedestrian-level wind speeds were measured at 33 selected points for the existing site and the proposed project to quantify wind impacts in public spaces near the site and predict the acceptability of wind conditions within the site for the uses envisioned.

## **II. METHODOLOGY**

### **Wind Tunnel Facilities**

The study was conducted in the Boundary Layer Wind Tunnel at the Department of Architecture, University of California, Berkeley.

The interior dimensions of the wind tunnel duct are 5 feet high, seven feet wide and 45 feet long. The test area is 36 feet down wind of the inlet, with the fan downwind of the test area. Figures 1 and 2 show the configuration and dimensions of the U.C. Berkeley wind tunnel.

### **Model and Boundary Layer**

A model of the proposed Capitol Towers project and surrounding area was fabricated from blue styrofoam at a scale of 1 inch = 30 feet, based on drawings and data provided by the project architect. Additional information on existing structures was obtained from recent aerial photographs of the project environs. The area modelled extended a minimum of one block in all directions from the project site, an area which included all significant nearby structures.

Wind obstructions located beyond the extent of the model were considered as part of the general roughness of the site, and were modeled as part of the characteristic atmospheric boundary layer in the wind tunnel.

The scale model did not include trees and other vegetation. In wind tunnel modelling it is very difficult to scale down the effects of trees and vegetation. Scale models of trees, when put into the wind tunnel, have a much greater wind-reducing effect than trees in the real world. Tests were therefore conducted with no trees or vegetation, but their effect considered in the analysis of the data.

### **Simulation of the Atmospheric Boundary Layer**

Simulation of the boundary layer in the natural wind is achieved by turbulence generators placed upwind of the test section. This allows for adjustment in the wind characteristics to provide for

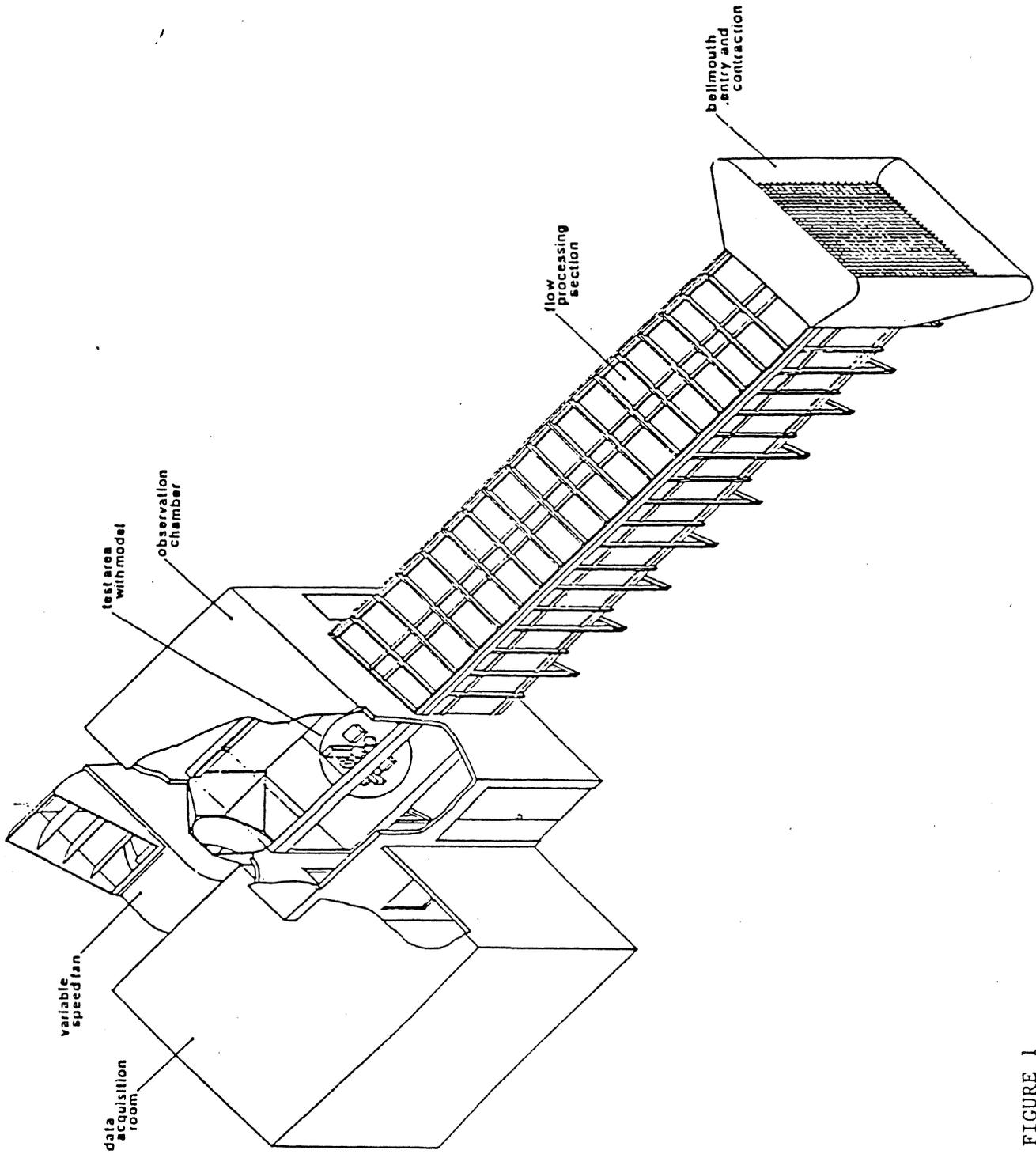


FIGURE 1  
BOUNDARY LAYER WIND TUNNEL

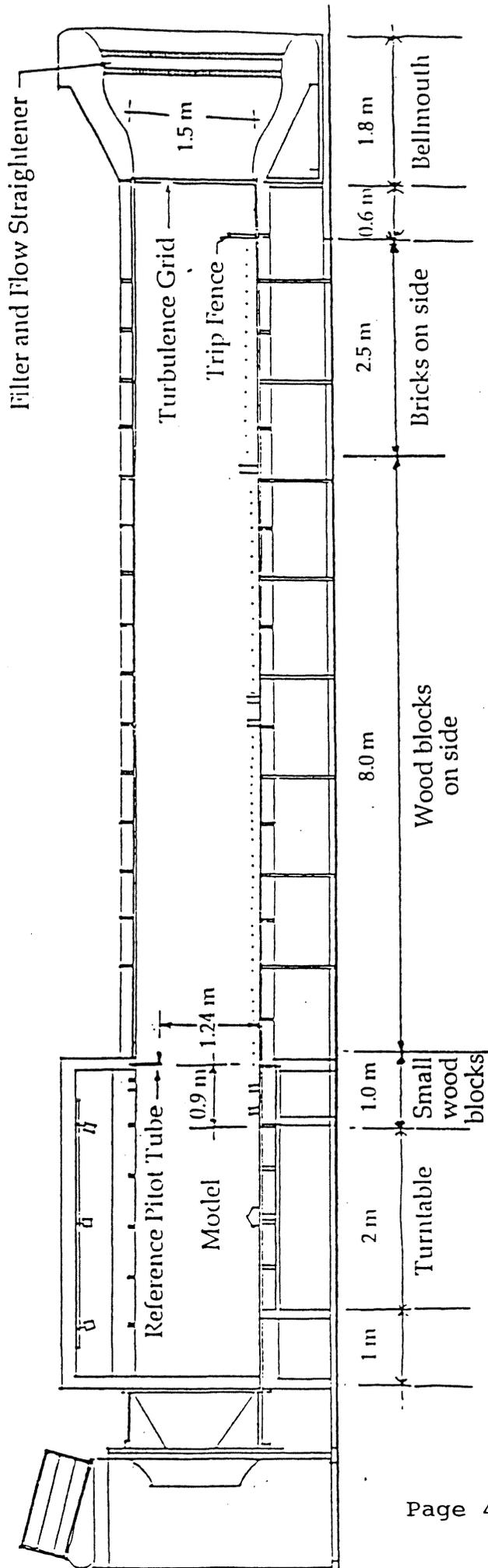


FIGURE 2: Boundary Layer Wind Tunnel Configuration

different model scales and varying terrain upwind of the project. Within the atmospheric boundary layer the key wind features to be modeled (the vertical distributions of mean wind speed, turbulence intensity, and eddy size) are largely determined by surface characteristics upwind of a particular building site.

The variation of wind velocity with height in the lower levels of the atmospheric boundary layer has been represented by a logarithmic velocity profile for a thermally neutral atmosphere. The approaching boundary layer flow was simulated in the wind tunnel using a filter and square mesh turbulence grid; a sawtooth trip fence; bricks and wooden blocks.

### **Instrumentation**

The velocity measurements in this study were made with a Thermo Systems (TSI) Model 1053B anemometer attached to a TSI Model 1266 rugged metal clad probe. Prior to commencement of the experiments probe calibrations were performed with a TSI Model 1125 calibrator using an MKS Instruments, Inc. Model 220BD differential pressure transducer. An IBM-PC based data acquisition system was used to record the anemometer measurements and to perform the necessary data reduction, analysis, and storage.

The mean freestream velocity at a stationary reference location was monitored with a Dwyer Model 166-12 pitot tube connected to a Validyne Model DP103 differential pressure transducer and Model CD15 Sine wave carrier demodulator. This reference velocity measurement allowed the wind tunnel results to be presented in terms of a velocity ratio. Flow visualization was performed with an Elven Precision Ltd. smoke generating system.

### **III. MEASUREMENT PROCEDURE**

Thirty-three pedestrian level velocity measurement locations were

selected around the project (See Figure 3). These points consisted of ground-level locations within pedestrian areas outside the project site, either sidewalk or public area locations.

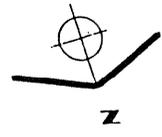
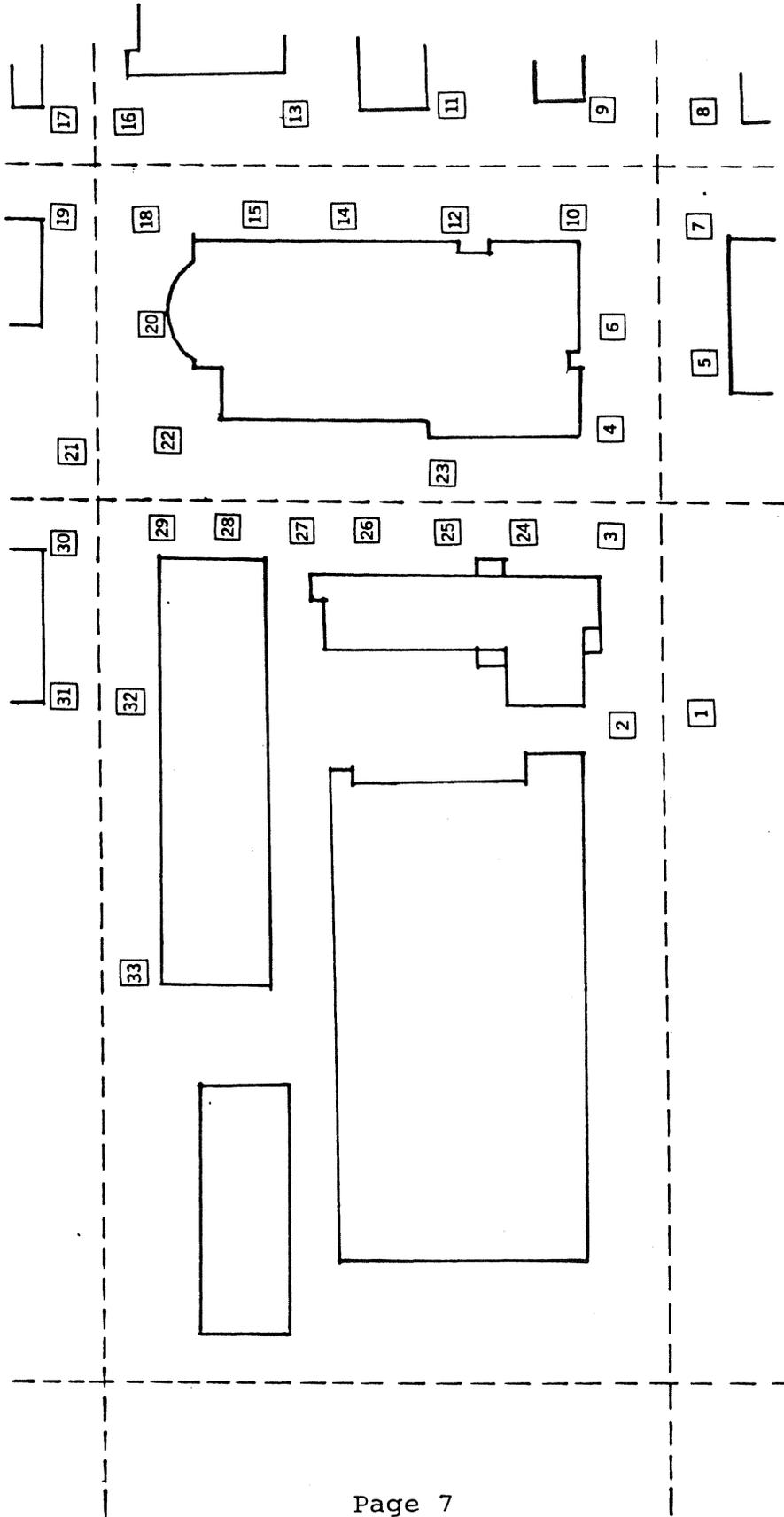
Each measurement consisted of simultaneous readings from the anemometer probe and the reference pitot tube, one positioned at the desired pedestrian level location and the other at a stationary reference location above the wind tunnel floor. The axes of the probes were positioned vertically in all cases. The height of the reference sensor was selected to provide a stable characteristic reference velocity away from the influence of the building models and ground-level measurements. During each measurement the two velocity probes were sampled at a rate of 15 samples per second for a duration of 30 seconds.

The collected data were analyzed to produce the quantities of interest: mean velocity, turbulence intensity, and equivalent wind speed.

#### **IV. COMFORT CRITERIA**

The comfort of pedestrians varies under different conditions of sun exposure, temperature, clothing, and wind speed. Winds up to four MPH have no noticeable effect on pedestrian comfort. With winds from four to eight MPH, wind is felt on the face. Winds from 8 to 13 MPH will disturb hair, cause clothing to flap, and extend a light flag mounted on a pole. For winds from 19 to 26 MPH, the force of the wind will be felt on the body. At 26 MPH to 34 MPH wind, umbrellas are used with difficulty, hair is blown straight, there is difficulty in walking steadily, and wind noise is unpleasant. Winds over 34 MPH increase difficulty with balance and gusts can blow people over.

The City of Sacramento has not established wind acceptability criteria. San Francisco, however, has established wind criteria for



**Velocity Measurement Location Map  
Continental Plaza Project, Sacramento**

downtown areas. The City of San Francisco Planning Code establishes an equivalent (includes the effects of turbulence) wind speed of seven and 11 MPH as comfort criteria. This code sets comfort levels of 7 MPH equivalent wind speed for public seating areas and 11 MPH equivalent wind speed for areas of substantial pedestrian use. The wind criteria specify that these levels may be exceeded no more than 10% of the time.

The San Francisco wind criteria should not be applied unmodified to Sacramento projects for several reasons. The lack of a data base similar to that developed for San Francisco is one reason, but also of primary importance is the difference between the climate of the two cities. The San Francisco wind criteria reflect a desire to avoid the enhanced bodily cooling that the wind causes when the weather is cool and cloudy as it is frequently in San Francisco. Sacramento's hot and sunny summer weather makes wind desirable, and discomfort due to insufficient wind is probably more frequent than discomfort due to excessive wind. Three separate wind criteria have been used for this analysis in determining the significance of impacts. Separate thresholds of significance have been applied to the three wind directions tested: southwest, north-northwest and south-southeast.

Southwest winds are most frequent and strongest on average in the summer when temperatures are warm. Thermal discomfort due to excessive cooling from the wind is unlikely. A mean wind speed of 20 MPH has been used as the threshold of significance for winds from this direction. Wind increases that cause this threshold to be exceeded or cause the number of locations exceeding this threshold to increase are considered significant.

Discomfort due to north-northwest winds occurs in winter, and since it is the coolness of this wind that causes discomfort a more stringent wind criteria is appropriate. An average wind speed of 15 MPH has been used as the threshold of significance for winds

from this direction. Wind increases that cause this threshold to be exceeded or cause the number of locations exceeding this threshold to increase are considered significant.

The third important wind direction in Sacramento is south-southeast. This is the winter storm wind direction. Since winds from this direction are highly correlated with clouds and rain outdoor comfort is unlikely to be determined by wind, since all outdoor areas would be already uncomfortable. This is the wind direction for extreme winds, however, so a criterion to avoid hazardous wind conditions, rather than uncomfortable wind conditions, would be appropriate. The threshold of significance has been set at a 1% frequency of winds above 35 MPH, which is considered a potentially hazardous wind speed.

## **V. ANALYSIS**

The San Francisco wind code was used as a guide in determining the acceptability of the measured wind conditions around the project site. This wind code is based on wind acceptability criteria defined in terms of "equivalent wind speed" (EWS). EWS denotes the mean hourly wind speed adjusted to account for the expected turbulence intensity or gustiness at the site. The wind speed limits in the code were developed with an inherent turbulence intensity of 15%. When the measured turbulence intensity at a point is greater than 15%, the equivalent wind speed is calculated by multiplying the mean velocity at the point by a weighting factor according to the following formula:

$$\text{EWS} = V_m (2 \cdot \text{TI} + 0.7)$$

where:

$V_m$  = mean pedestrian-level wind speed

TI = turbulence intensity

For measured turbulence intensities less than 15%, EWS is taken to be equal to  $V_m$ .

The collected wind tunnel data has been analyzed to produce an empirical relationship between the equivalent wind speed at each selected pedestrian-level location and the mean wind speed at the weather station.

### **Southwest Winds**

Table 1 shows predicted mean wind speeds for southwest winds. Predicted mean wind speeds are shown for existing conditions and with the proposed project. Existing mean windspeeds for this wind direction range from 5.0 to 13.3 MPH.

The project's effect on pedestrian areas adjacent or near the site would be generally to moderately increase mean wind speeds. Mean wind speeds with the proposed project would range from 5.9 to 19.6 MPH. All measurement points meet the comfort criterion (mean wind speed less than 20 MPH) for southwest winds, although location 18 approaches this criterion.

### **North-Northwest Winds**

Table 2 shows predicted mean wind speeds for north-northwest winds. Predicted mean wind speeds are shown for existing conditions and with the proposed project. Existing mean wind speeds near that project site range from 2.9 to 14.8 MPH.

The project's effect on pedestrian areas adjacent or near the site would be to moderately increase average windspeeds for this wind direction. The range of mean wind speeds is 3.3 to 14.8 MPH. All measurement points meet the comfort criterion (mean wind speed less than 15 MPH) for north-northwest winds.

### **South-Southeast Winds**

Table 3 shows predicted peak wind speeds (1% frequency) for south-southeast winds. Peak mean wind speeds are shown for existing conditions and with the proposed project. Peak winds (with a 1% frequency on an annual basis) range from 5.7 to 26.6 MPH at the existing site.

The project would have a mixed effect on peak winds from the south-southeast wind direction. Roughly half the measurement locations would experience increased winds while half would experience lowered winds. Peak winds would range from 6.4 to 34.4 MPH. Peak wind speeds are predicted to be below 35 MPH and therefore would meet the pedestrian safety criterion.

### **Summary**

The existing wind environment within and near the project site meets the criterion for comfort and safety based on predicted mean and peak winds. The effect of the project would be to generally increase wind speeds near the base of the building, but predicted mean wind speeds and peak wind speeds would remain below both the comfort and safety criterion.

For each wind direction at least one measurement location approaches, but does not exceed the comfort or safety criterion. Since the wind tunnel testing did not include the effects of vegetation and landscaping, predicted wind speeds are somewhat conservative. Within the project landscaping can be expected to reduce actual ground level winds by perhaps 10% or more. When the effect of landscaping is considered, it is clear that all measurement locations would meet the comfort and safety criterion with a margin of safety.

Table 1: WIND TUNNEL MEASUREMENT RESULTS  
 Continental Plaza Project, Sacramento  
 Wind Direction: South West Significance Criteria = 20 MPH  
 July-Aug 1995

Point Location (see Figure 3)	EXISTING			PROPOSED		
	Turbulence Intensity	Velocity Ratio	Mean Speed (MPH)	Turbulence Intensity	Velocity Ratio	Mean Speed (MPH)
1	0.1597	0.9779848	11.5	0.1465	1.0495842	12.4
2	0.1542	1.0092492	11.9	0.1589	1.0969451	12.9
3	0.1771	0.8348224	9.9	0.1788	1.242587	14.7
4	0.1387	0.7714326	9.1	0.1487	1.4061962	16.6
5	0.1709	0.6477616	7.6	0.1445	1.0815765	12.8
6	0.2212	0.4199919	5.0	0.2068	1.1335171	13.4
7	0.1547	1.0585488	12.5	0.1397	1.0093736	11.9
8	0.2239	0.6508152	7.7	0.2909	0.8194037	9.7
9	0.1277	0.999513	11.8	0.2392	0.9162088	10.8
10	0.1849	0.6392923	7.5	0.3688	1.0700574	12.6
11	0.2091	0.7392577	8.7	0.4155	0.7207743	8.5
12	0.2858	0.6327861	7.5	0.3414	0.6822552	8.1
13	0.1953	0.75725	8.9	0.3073	0.7867389	9.3
14	0.3598	0.6400184	7.6	0.2408	1.1826184	14.0
15	0.2502	0.6771298	8.0	0.1923	1.3822264	16.3
16	0.2944	0.8003113	9.4	0.2319	0.8847038	10.4
17	0.1612	1.0091283	11.9	0.1525	1.0672211	12.6
18	0.1612	0.975699	11.5	0.1473	1.6612546	19.6
19	0.2324	0.9654462	11.4	0.1444	1.0316802	12.2
20	0.1903	0.9634487	11.4	0.3274	0.8465851	10.0
21	0.1836	0.9333452	11.0	0.4499	1.0292622	12.1
22	0.4802	0.534512	6.3	0.3377	0.5179352	6.1
23	0.2135	0.39276	4.6	0.3752	0.5006277	5.9
24	0.288	0.7370738	8.7	0.1638	1.3156171	15.5
25	0.3171	0.8742557	10.3	0.1304	1.3847702	16.3
26	0.2441	0.7359462	8.7	0.2569	0.9497888	11.2
27	0.148	0.8907894	10.5	0.2299	0.9378307	11.1
28	0.1461	0.8971692	10.6	0.3807	0.6326753	7.5
29	0.1622	0.8232056	9.7	0.3338	0.7024524	8.3
30	0.2245	1.006718	11.9	0.5272	0.6802228	8.0
31	0.1224	1.1077049	13.1	0.3927	0.7886817	9.3
32	0.156	1.0860251	12.8	0.445	0.6556819	7.7
33	0.1669	1.1259085	13.3	0.2068	0.7193977	8.5

Table 2:

**WIND TUNNEL MEASUREMENT RESULTS**

Continental Plaza Project, Sacramento

Wind Direction: South Southeast      Significance Criteria = 15 MPH

July-Aug 1995

Point Location (see Figure 3)	EXISTING			PROPOSED		
	Turbulence Intensity	Velocity Ratio	Mean Speed (MPH)	Turbulence Intensity	Velocity Ratio	Mean Speed (MPH)
1	0.2231	0.4301963	4.6	0.3719	0.4811428	5.2
2	0.2394	0.3769506	4.1	0.2614	0.7622879	8.2
3	0.1527	1.0623147	11.5	0.2377	1.0966251	11.8
4	0.1305	1.2702821	13.7	0.3469	0.321956	3.5
5	0.2942	0.2124364	2.3	0.2067	1.2285334	13.3
6	0.2137	1.1690202	12.6	0.533	0.3084356	3.3
7	0.2266	0.1738751	1.9	0.2199	1.1459281	12.4
8	0.1537	0.8787822	9.5	0.1209	1.3143981	14.2
9	0.115	1.2403032	13.4	0.2351	0.5979702	6.5
10	0.1614	0.6667571	7.2	0.1049	1.2856698	13.9
11	0.1619	1.0236815	11.1	0.2907	0.8165062	8.8
12	0.3373	0.5498571	5.9	0.1988	1.0218749	11.0
13	0.1859	1.0341893	11.2	0.2768	0.8708317	9.4
14	0.2728	0.6047892	6.5	0.3636	0.9021731	9.7
15	0.2127	0.9393786	10.1	0.4223	0.9763849	10.5
16	0.2945	1.0941214	11.8	0.3559	0.8785188	9.5
17	0.1996	1.1578709	12.5	0.3783	0.3196391	3.5
18	0.3616	0.5923039	6.4	0.314	0.595557	6.4
19	0.2918	1.068411	11.5	0.1651	0.8581339	9.3
20	0.1191	1.2194355	13.2	0.1616	1.1754115	12.7
21	0.1893	0.893023	9.6	0.1311	1.1234075	12.1
22	0.1728	1.221262	13.2	0.1326	1.338063	14.5
23	0.13	1.1347892	12.3	0.1515	1.3691988	14.8
24	0.1497	0.7850355	8.5	0.1663	1.304889	14.1
25	0.1414	1.0877635	11.7	0.1376	1.3397508	14.5
26	0.1785	0.9416214	10.2	0.1235	1.0797445	11.7
27	0.2258	0.9040469	9.8	0.1073	1.3440035	14.5
28	0.1548	1.1712022	12.6	0.1389	1.1941135	12.9
29	0.1565	1.2075991	13.0	0.192	0.8385172	9.1
30	0.1424	1.2808629	13.8	0.1142	1.0366449	11.2
31	0.141	1.3728569	14.8	0.3108	0.4806273	5.2
32	0.416	0.2674611	2.9	0.3216	1.0428025	11.3
33	0.2364	0.7235221	7.8	0.1199	1.2834114	13.9

Table 3:

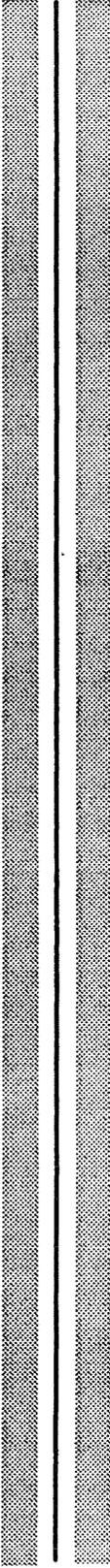
## WIND TUNNEL MEASUREMENT RESULTS

Continental Plaza Project, Sacramento

Wind Direction: North Northwest      Significance Criteria = 35 MPH

July-Aug 1995

Point Location (see Figure 3)	EXISTING			PROPOSED		
	Turbulence Intensity	Velocity Ratio	Mean Speed (MPH)	Turbulence Intensity	Velocity Ratio	Mean Speed (MPH)
1	0.1728	1.0131932	21.7	0.2241	1.0357708	22.2
2	0.163	1.10081	23.6	0.17	1.0476085	22.4
3	0.1182	1.2975148	27.8	0.1408	1.0059349	21.5
4	0.1902	0.8675833	18.6	0.4218	0.5482841	11.7
5	0.1586	0.2661345	5.7	0.33	0.6306952	13.5
6	0.1289	1.0569284	22.6	0.1744	1.0758816	23.0
7	0.2586	0.5195266	11.1	0.175	0.6708028	14.4
8	0.1237	1.2191844	26.1	0.1019	1.1777337	25.2
9	0.1945	0.8559202	18.3	0.1705	1.0615546	22.7
10	0.1083	1.2106586	25.9	0.1018	1.6094405	34.4
11	0.1946	0.9405243	20.1	0.1432	1.429908	30.6
12	0.1704	0.7010157	15.0	0.4893	0.2220816	4.8
13	0.1647	0.9590984	20.5	0.1916	1.1297193	24.2
14	0.1906	0.8345222	17.9	0.3238	0.6629104	14.2
15	0.1733	0.5797204	12.4	0.257	0.5683532	12.2
16	0.1271	1.1693619	25.0	0.3102	0.5594494	12.0
17	0.1597	0.9421766	20.2	0.3675	0.621481	13.3
18	0.4297	0.4437232	9.5	0.4014	0.376477	8.1
19	0.1159	1.1704277	25.0	0.3198	0.7070754	15.1
20	0.1882	0.6727986	14.4	0.2776	0.6313247	13.5
21	0.1395	1.0414755	22.3	0.2786	1.1618772	24.9
22	0.1251	1.2452945	26.6	0.1115	1.5750028	33.7
23	0.1625	0.7905982	16.9	0.2136	1.0775378	23.1
24	0.2384	0.4646589	9.9	0.4313	0.6003505	12.8
25	0.1486	0.7750453	16.6	0.1758	0.8321567	17.8
26	0.1833	0.7897207	16.9	0.1114	1.0760907	23.0
27	0.4372	0.635074	13.6	0.1123	0.985772	21.1
28	0.2241	0.6696482	14.3	0.367	0.4832133	10.3
29	0.1736	0.8956082	19.2	0.3185	0.2987513	6.4
30	0.1356	1.226378	26.2	0.2997	0.4952812	10.6
31	0.1572	0.8164758	17.5	0.2261	1.1192579	24.0
32	0.1538	1.0692563	22.9	0.1975	0.7434058	15.9
33	0.1663	0.7598698	16.3	0.1117	1.5751913	33.7



# TRANSPORTATION ASSESSMENT

## Continental Plaza Phases III and IV

*prepared for*  
City of Sacramento

*prepared by*  
DKS Associates

August 23, 1995



## **1. INTRODUCTION**

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## **1. INTRODUCTION**

DKS Associates have undertaken an assessment of the transportation impacts of the proposed Continental Plaza Phases III and IV Project in the City of Sacramento. This assessment has been conducted for the City of Sacramento, and focuses on the near term impacts of the project. "Cumulative" impacts were addressed previously in environmental impact reports associated with redevelopment of the Southern Pacific Railyards and Richards Boulevard areas of the City, and are therefore not included in this assessment. This report summarizes the methodology, analyses, and conclusions of the assessment.

### **PROJECT DESCRIPTION**

The proposed project consists of two new office buildings to be constructed on a site on the northeast corner of North 7th Street and Richards Boulevard in the City of Sacramento. (See Figure 1.) The site is located in an industrial and commercial area of the City. Currently, the site is occupied by two office buildings totaling 226,816 square feet, and a vacant warehouse adjacent to Richards Boulevard. The proposed project would be constructed in two phases:

- Phase III - Construction of an additional 59,850 square foot office building
- Phase IV - Construction of an additional 810,000 square foot office building

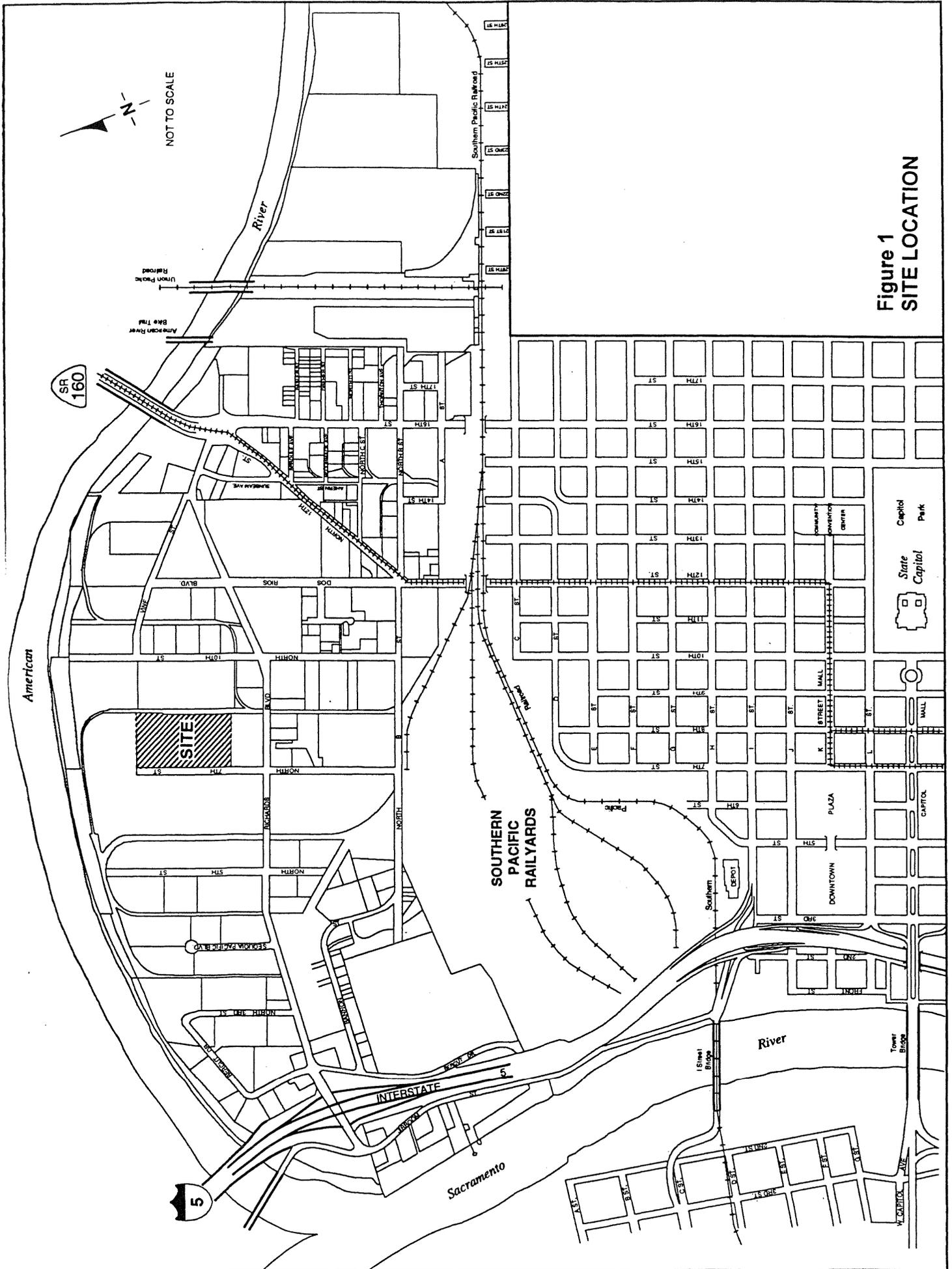
Together with the additional office space, structured parking would be provided on the site. All vehicular access to the site is proposed via driveways accessing North 7th Street. No direct access is proposed to Richards Boulevard.

### **STUDY AREA**

In conjunction with the City of Sacramento Department of Public Works Transportation Division, the following critical intersections and freeway ramps were identified:

- Intersections
  1. Richards Boulevard and I-5 Southbound Ramps - signalized
  2. Richards Boulevard and I-5 Northbound Ramps - signalized
  3. Richards Boulevard and North 5th Street - unsignalized
  4. Richards Boulevard and North 7th Street - signalized
  5. North 12th Street, Sunbeam Avenue, and Sproule Avenue - signalized
  6. North 16th Street, Sproule Avenue, and Basler Street - signalized
  7. North 7th Street and North B Street - unsignalized





**Figure 1**  
**SITE LOCATION**



8. North 12th Street, North B Street, and Dos Rios Boulevard - signalized
9. North 16th Street and North B Street - signalized

- Freeway Ramps

1. I-5 northbound to Richards Boulevard
2. I-5 southbound to Richards Boulevard
3. Richards Boulevard to I-5 northbound
4. Richards Boulevard to I-5 southbound



## **2. EXISTING TRANSPORTATION SYSTEM**

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## **2. EXISTING TRANSPORTATION SYSTEM**

### **ROADWAY SYSTEM - REGIONAL ACCESS**

Regional automobile access to the site is provided primarily by Interstate Route 5 (I-5) and State Route 160 (SR 160). I-5 is a north-south facility which is located about 0.7 miles west of the site. Access to the site from I-5 is via a diamond interchange at Richards Boulevard. To the south, I-5 provides access to downtown Sacramento, southern portions of the City and County, as well as other central valley communities. To the north, I-5 provides access to I-80, northern portions of the City and County, Sacramento Metro Airport, and other central valley communities.

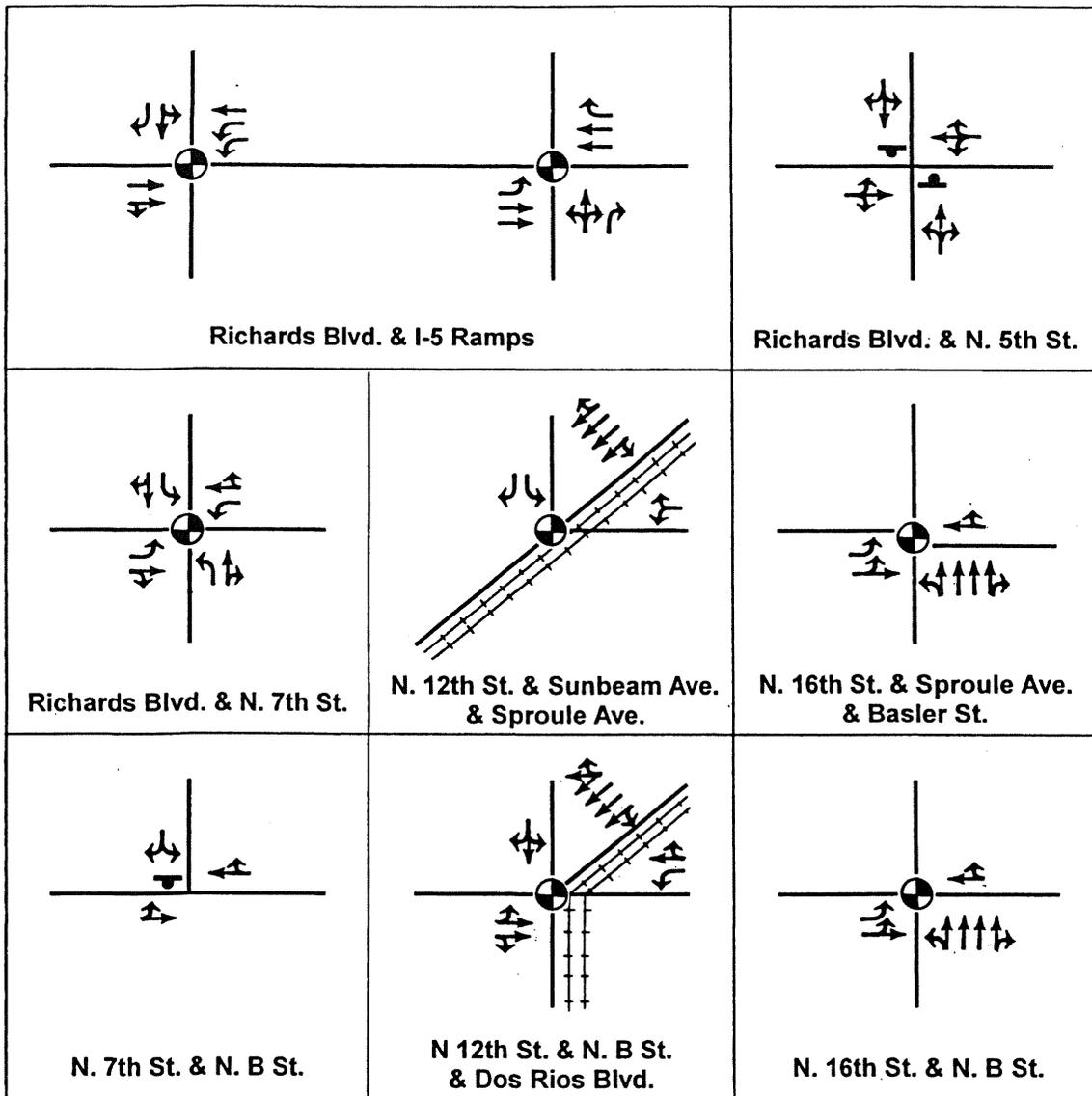
SR 160 is located about 0.7 miles east of the site. North of Richards Boulevard, SR 160 crosses the American River and continues as a freeway to Business Route 80. To the north, SR 160 provides access to North Sacramento, northeastern portions of the City and County, South Natomas via Northgate Boulevard, and I-80 extending into Placer County. South of Richards Boulevard, SR 160 operates as an arterial couplet, with southbound travel on North 12th Street and northbound travel on North 16th Street. These roadways provide access to the south into downtown Sacramento.

### **ROADWAY SYSTEM - LOCAL ACCESS**

Richards Boulevard provides the primary local access to the site. Richards Boulevard is an east-west roadway which extends from west of I-5 to SR 160. It is generally a two-lane roadway, except in the immediate vicinity of I-5, where it has been widened to provide additional through lanes and turning lanes. At SR 160, access to and from Richards Boulevard is limited to right turns to and from southbound SR 160.

North 7th Street is a two-lane north-south roadway which extends from the northern edge of the project site to North B Street. North B Street is a two-lane east-west roadway which extends from west of North 7th Street to east of North 16th Street. Site access is provided to and from Downtown Sacramento via North 7th Street and North B Street. Sunbeam Avenue and Sproule Avenue are two-lane roadways which provide access from eastbound Richards Boulevard to northbound SR 160. Existing intersection geometry and traffic control for the critical intersections in the study area are shown on Figure 2.





**Legend:**

-  Traffic Signal
-  Stop Sign Control
-  Light Rail

**Figure 2**  
**EXISTING INTERSECTION GEOMETRY**



## **TRANSIT SERVICE**

Regional Transit is the major transit provider within Sacramento County, providing light rail service and fixed-route bus service on 60 routes. Light rail service extends from downtown to the Watt/I-80 station to the northeast and to the Butterfield Station to the east. Twenty-eight stations are located along the approximately 18.3 mile line. Transit schedules are synchronized to provide "timed transfers" between bus routes and light rail at seven stations. Many suburban stations include park and ride facilities. Light rail operates at 15 minute headways daily and on weekends, and at 30 minute headways during the evening.

As shown on Figure 1, light rail operates along North 12th Street near the project site. The closest light rail stations to the project are Globe Avenue (1.6 miles from the site), located north of the American River, and Alkali Flat / La Valentina (1.0 mile from the site), located south of the Southern Pacific Railroad mainline. Neither of these stations provide convenient walking access to the site. Bus service to the site is provided by Route 15 (Rio Linda Boulevard - T Street). This route operates along Richards Boulevard. To the west, it continues to Downtown Sacramento, Tahoe Park, and the University / 65th Street Light Rail Station. To the east, it continues to the Arden / Del Paso Light Rail Station, North Sacramento, Del Paso Heights, and the Watt / I-80 Light Rail Station. Route 15 service is provided at 30 minute frequency during peak and midday periods, and 60 minute frequency during evenings and on Saturdays and Sundays.

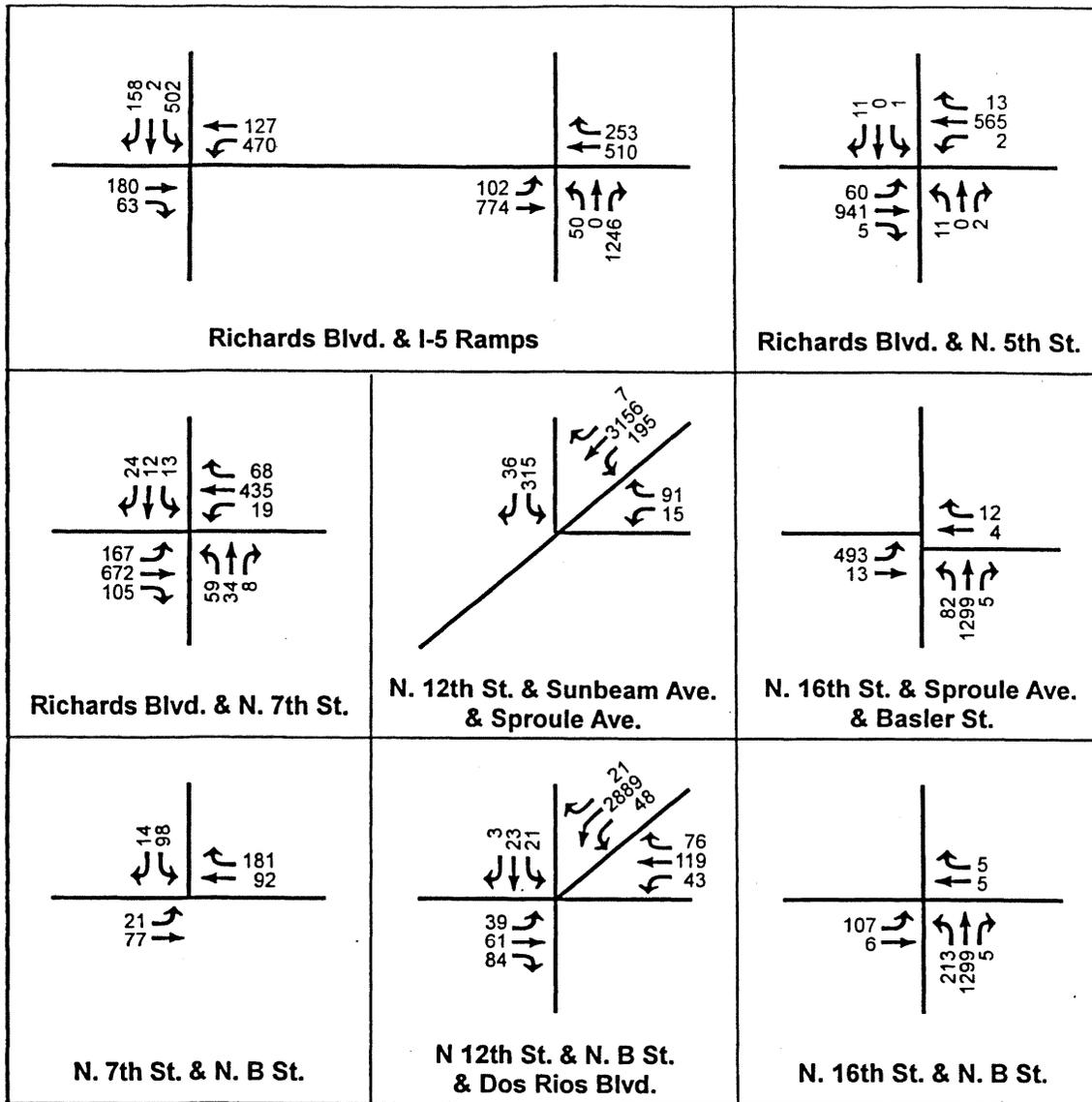
## **EXISTING TRAFFIC CONDITIONS**

### **Existing Peak Hour Traffic Volumes**

Traffic volume data was assembled for the a.m. and p.m. peak hours for each of the critical intersections and ramp segments. Peak period traffic counts were conducted on April 18 through 20, 1995. Because of the predominance of industrial uses in the immediate vicinity of the project site, vehicle classification counts were undertaken in conjunction with the traffic counting program to ascertain the percentage of heavy vehicles included in the traffic counts.

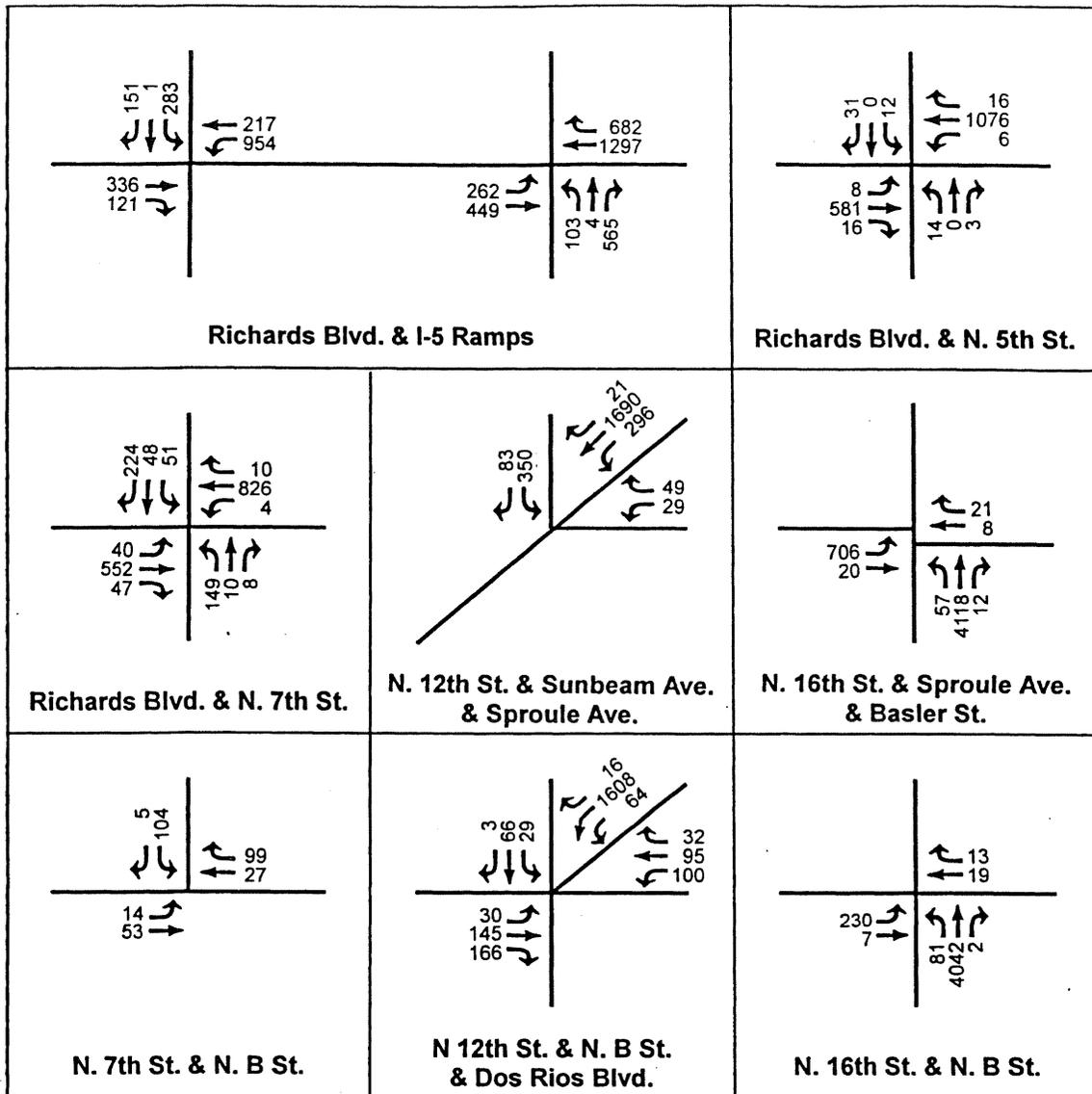
The traffic counts were adjusted upward to reflect the percentage of heavy vehicles in the traffic stream, since the presence of heavy vehicles affects roadway operations. Figures 3 and 4 illustrate the adjusted a.m. and p.m. peak hour intersection traffic volumes, respectively. Table 1 summarizes the adjusted peak hour ramp traffic volumes. Table 2 summarizes the vehicle classification data for the a.m. and p.m. peak periods. As shown, about 94 percent of the traffic stream consists of "light" vehicles, such as motorcycles, automobiles, small vans, and pickup trucks. This vehicle classification information is representative of average conditions in the area. During certain seasons, the truck percentages may be greater due to the seasonal nature of the agricultural operations in the area.





**Figure 3**  
**EXISTING AM PEAK HOUR**  
**TRAFFIC VOLUMES**





**Figure 4**  
**EXISTING PM PEAK HOUR**  
**TRAFFIC VOLUMES**



**TABLE 1  
EXISTING PEAK HOUR RAMP TRAFFIC VOLUMES**

<b>RAMP</b>	<b>A.M. PEAK HOUR</b>	<b>P.M. PEAK HOUR</b>
I-5 Northbound to Richards Boulevard	1,296	672
I-5 Southbound to Richards Boulevard	662	435
Richards Boulevard to I-5 Northbound	355	948
Richards Boulevard to I-5 Southbound	535	1,076

**TABLE 2  
EXISTING PEAK PERIOD VEHICLE CLASSIFICATION**

<b>VEHICLE TYPE</b>	<b>PERCENTAGE</b>
Motorcycles, Scooters	0.1%
Automobiles, Small Vans, Pickups	94.1%
2-axle 6-wheel buses and trucks	3.0%
3-axle buses and trucks	0.8%
Trucks and truck-trailers with more than 3 axles	2.0%

**Existing Peak Hour Operating Conditions**

Field reconnaissance was undertaken to ascertain the traffic control characteristics of each of the critical intersections and ramps. Lane configuration and traffic control information is illustrated in Figure 2, while signal phasing information is included in the existing conditions intersection analysis summaries in the Technical Appendix.

Determination of roadway operating conditions is based upon comparison of known or projected traffic volumes during peak hours to roadway capacity. In an urban setting, roadway capacity is generally governed by intersection characteristics. Roadway operating conditions are described by "levels of service." Level of service is a qualitative measure of the effect of a number of factors, including speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs. Levels of service are designated "A" through "F" from best to worst, which cover the entire range of traffic operations that might occur. Level of Service (LOS) "A" through "E" generally

represent traffic volumes at less than roadway capacity, while LOS "F" represents over capacity and/or forced flow conditions. Table 3 presents level of service definitions.

The City of Sacramento utilizes a LOS "C" goal for roadway operating conditions. Because of the constraints of existing development in the City, and because of other environmental concerns, this goal cannot always be met. Caltrans considers highway segments and ramp segments in the downtown area to be acceptable if they operate at LOS D or better.

### Signalized Intersection Analysis

Signalized intersection analyses were conducted using the methodology outlined in the Transportation Research Board's Circular 212, *Interim Materials on Highway Capacity* (1980). This methodology is often referred to as the "planning method." This procedure calculates a volume-to-capacity ratio of critical movements at a signalized intersection, and assigns a level of service designation based upon the ratio. Table 4 presents the critical volume-to-capacity ratios and corresponding levels of service for signalized intersections.

Two study intersections include light-rail tracks:

- North 12th Street, Sunbeam Avenue, and Sproule Avenue - At this intersection, dual light rail tracks exist just east of the southbound travel lanes on one-way North 12th Street. When a light rail vehicle approaches in either the northbound or southbound direction, all other traffic is stopped at the traffic signal until the train passes.
- North 12th Street, North B Street, and Dos Rios Boulevard - At this intersection, a single northbound light rail track exists just east of the southbound travel lanes on one-way North 12th Street. A single southbound light rail track shares the most easterly North 12th Street travel lane. When a northbound light rail vehicle approaches the intersection, all other traffic is stopped at the traffic signal until the train passes. Southbound trains share the southbound North 12th Street signal phase.

Under all analyses in this study, consideration has been given to the impact of light rail operations on traffic operations. At the North 12th Street, Sunbeam Avenue, and Sproule Avenue intersection, overall intersection capacity was reduced by ten percent to reflect the impact of light rail operations. At the North 12th Street, North B Street, and Dos Rios Boulevard intersection, overall intersection capacity was reduced by five percent to reflect the impact of light rail operations. Additionally, capacity in the lane shared by automobiles and light rail vehicles was reduced by ten percent to account for motorist avoidance of the lane.

**TABLE 3  
LEVEL OF SERVICE DEFINITIONS**

*Level of Service A* represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high. The general level of comfort and convenience provided to the motorist, passenger, or pedestrian is excellent.

*Level of Service B* is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within the traffic stream from LOS A. The level of comfort and convenience provided is somewhat less than at LOS A, because the presence of others in the traffic stream begins to affect individual behavior.

*Level of Service C* is in the range of stable flow, but marks the beginning of the range of flow in which the operations of individual users becomes significantly affected by interactions with others in the traffic stream. The selection of speed is now affected by the presence of others, and maneuvering within the traffic stream requires substantial vigilance on the part of the user. The general level of comfort and convenience declines noticeably at this level.

*Level of Service D* represents high-density, but stable, flow. Speed and freedom to maneuver are severely restricted, and the driver or pedestrian experiences a generally poor level of comfort and convenience. Small increases in traffic flow will generally cause operational problems at this level.

*Level of Service E* represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Freedom to maneuver within the traffic stream is extremely difficult, and it is generally accomplished by forcing a vehicle or pedestrian to "give way" to accommodate such maneuvers. Comfort and convenience levels are extremely poor, and driver or pedestrian frustration is generally high. Operations at this level are usually unstable, because small increases in flow or minor perturbations within the traffic stream will cause breakdowns.

*Level of Service F* is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount which can traverse the point. Queues form behind such locations. Operations within the queue are characterized by stop-and-go waves, and they are extremely unstable. Vehicles may progress at reasonable speeds for several hundred feet or more, then be required to stop in a cyclic fashion. Level of service "F" is used to describe the operating conditions within the queue, as well as the point of the breakdown.

*Source: Highway Capacity Manual, Transportation Research Board, Special Report No. 209, Washington, D.C., 1985.*

**TABLE 4  
LEVEL OF SERVICE DEFINITIONS  
SIGNALIZED INTERSECTIONS**

LEVEL OF SERVICE (LOS)	VOLUME TO CAPACITY RATIO	DESCRIPTION
A	0.00-0.60	<b>Free Flow/Insignificant Delays:</b> No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication.
B	0.61-0.70	<b>Stable Operation/Minimal Delays:</b> An occasional approach phase is fully utilized. Many drivers begin to feel somewhat restricted.
C	0.71-0.80	<b>Stable Operation/Acceptable Delays:</b> Major approach phases fully utilized. Most drivers feel somewhat restricted.
D	0.81-0.90	<b>Approaching Unstable/Tolerable Delays:</b> Drivers may have to wait through more than one red signal indication. Queues may develop but dissipate rapidly, without excessive delays.
E	0.91-1.00	<b>Unstable Operation/Significant Delays:</b> Volumes at or near capacity. Vehicles may wait through several signal cycles. Long queues form upstream from intersection.
F	>1.00	<b>Forced Flow/Excessive Delays:</b> Represents jammed conditions. Intersection operates below capacity with low volumes. Queues may block upstream intersections.

*Source: Highway Capacity Manual, Transportation Research Board, Special Report No. 209, Washington, D.C., 1985. 1988 City of Sacramento General Plan Update.*

Unsignalized Intersection Analysis

Stop sign controlled intersections were analyzed utilizing the methodology outlined in the Transportation Research Board's Special Report 209, *Highway Capacity Manual* (1985). This methodology assigns level of service based upon the "reserve capacity" of controlled movements. Reserve capacity is a measurement of the available capacity for a particular movement which is not utilized by the demand volumes. In this assessment, the movement

having the worst level of service is utilized to define overall intersection level of service. Table 5 presents the relationship of reserve capacity to level of service.

<b>TABLE 5 LEVEL OF SERVICE DEFINITIONS UNSIGNALIZED INTERSECTIONS</b>		
<b>LEVEL OF SERVICE (LOS)</b>	<b>EXPECTED DELAY</b>	<b>RESERVE CAPACITY (Vehicles/Hour)</b>
A	Little or no delay	≥400
B	Short traffic delay	300-399
C	Average traffic delay	200-299
D	Long traffic delay	100-199
E	Very long traffic delay	≤0-99
F	Extreme delays potentially affecting other traffic movements in the intersection	0

*Source: Highway Capacity Manual, Transportation Research Board, Special Report No. 209, Washington, D.C., 1985.*

Freeway Ramp Analysis

Freeway ramps were analyzed utilizing the methodology outlined in the Transportation Research Board's Special Report 209, *Highway Capacity Manual* (1985). Specifically, Table 5-5 of the manual provides approximate freeway ramp service flow rates corresponding to each level of service. Table 6 presents the relationship of freeway ramp service flow rates to level of service.

A.M. and P.M. Peak Hour Operating Conditions

Table 7 summarizes existing a.m. and p.m. peak hour levels of service at the critical study locations. The following locations do not currently meet the level of service goal:

<b>TABLE 6 LEVEL OF SERVICE DEFINITIONS FREEWAY RAMPS</b>						
<b>LEVEL OF SERVICE (LOS)</b>	<b>SERVICE FLOW RATES FOR SINGLE LANE RAMPS RAMP DESIGN SPEED (MPH)<sup>1</sup></b>					<b>DEFINITION</b>
	<b>≤ 20</b>	<b>21-30</b>	<b>31-40</b>	<b>41-50</b>	<b>≥ 51</b>	
A	- <sup>2</sup>	- <sup>2</sup>	- <sup>2</sup>	- <sup>2</sup>	600	Conditions of free flow; speed is controlled by driver's desires, speed limits, or physical conditions.
B	- <sup>2</sup>	- <sup>2</sup>	- <sup>2</sup>	900	900	Conditions of stable flow; operating speeds beginning to be restricted; little or no restrictions on maneuverability from other vehicles.
C	- <sup>2</sup>	- <sup>2</sup>	1,100	1,250	1,300	Conditions of stable flow; speeds and maneuverability more closely restricted
D	- <sup>2</sup>	1,200	1,350	1,550	1,600	Conditions approach unstable flow; tolerable speeds can be maintained, but temporary restrictions may cause extensive delays; little freedom to maneuver; comfort and convenience low.
E	1,250	1,450	1,600	1,650	1,700	Conditions approach capacity; unstable flow with stoppages of momentary duration; maneuverability severely limited.
F	WIDELY VARIABLE					Forced flow conditions; stoppages for long periods; low operating speeds.

<sup>1</sup> For two lane ramps, multiply the values in the table by: 1.7 for ≤ 20 mph; 1.8 for 21-30 mph; 1.9 for 31-40 mph; 2.0 for ≥ 41 mph.

<sup>2</sup> Level of service not attainable due to restricted design speed.

*Source: Highway Capacity Manual, Transportation Research Board, Special Report No. 209, Washington, D.C., 1985.*

<b>TABLE 7 EXISTING ROADWAY OPERATING CONDITIONS</b>				
<b>INTERSECTION</b>	<b>A.M. PEAK HOUR</b>		<b>P.M. PEAK HOUR</b>	
	<b>VOLUME- CAPACITY RATIO</b>	<b>LEVEL OF SERVICE</b>	<b>VOLUME- CAPACITY RATIO</b>	<b>LEVEL OF SERVICE</b>
Richards Blvd. & I-5 SB Ramps	0.60	B	0.69	B
Richards Blvd. & I-5 NB Ramps	0.73	C	0.87	D
Richards Blvd. & N. 5th St.	69 <sup>2</sup>	E	52 <sup>2</sup>	E
Richards Blvd. & N. 7th St.	0.63	B	0.91	E
N. 12th St., Sunbeam Ave., & Sproule Ave.	0.87	D	0.65	B
N. 16th St., Sproule Ave., & Basler St.	0.41	A	0.96	E
N. 7th St. & N. B St.	484 <sup>2</sup>	A	594 <sup>2</sup>	A
N. 12th St.; N. B St., & Dos Rios Blvd.	0.77	C	0.59	A
N. 16th St. & N. B St.	0.30	A	0.79	C
<b>RAMP</b>	<b>VOLUME</b>	<b>LOS</b>	<b>VOLUME</b>	<b>LOS</b>
I-5 NB to Richards Blvd.	1,296	D	672	C
I-5 SB to Richards Blvd.	662	C	435	C
Richards Blvd. to I-5 NB	355	C	948	C
Richards Blvd. to I-5 SB	535	C	1,076	C
<p>1. Level of Service constrained by ramp design speed.                  2. Unsignalized Intersection - Reserve Capacity shown</p>				

- Richards Boulevard and I-5 Northbound Ramps - p.m. peak hour

LOS "D" operations exist at this intersection (volume-capacity ratio of 0.87), resulting from heavy westbound through volumes.

- Richards Boulevard and North 5th Street - a.m. and p.m. peak hours

LOS "E" operations exist at this unsignalized intersection (reserve capacity of 69 and 52 vehicles in the a.m. and p.m. peak hours, respectively). Because of heavy volumes along Richards Boulevard, few gaps exist for traffic entering from North 5th Street.

- Richards Boulevard and North 7th Street - p.m. peak hour

LOS "E" operations exist at this intersection (volume-capacity ratio of 0.91), resulting from heavy westbound through volumes.

- North 12th Street, Sunbeam Avenue, and Sproule Avenue - a.m. peak hour

LOS "D" operations exist at this intersection (volume-capacity ratio of 0.87), resulting from heavy southbound through volumes

- North 16th Street, Sproule Avenue, and Basler Street - p.m. peak hour

LOS "E" operations exist at this intersection (volume-capacity ratio of 0.96), resulting from heavy northbound through volumes

### **3. PROJECT TRAFFIC**



### 3. PROJECT TRAFFIC

#### TRIP GENERATION AND MODE CHOICE

The project is proposed to increase the amount of office space on the site by 869,850 square feet, providing a total of 1,096,666 square feet of office space. For analysis purposes, this proposed use was considered to be “generic” office space; that is, no specific tenant was assumed to occupy the buildings. Accordingly, trip generation and mode choice characteristics of the project were analyzed based upon typical conditions. Specific tenants may have characteristics which may be more or less favorable from a transportation impact perspective. Because of the limited transit service to the site, limited ability to attract pedestrian and bicycle trips, and free parking, typical suburban trip generation and mode choice characteristics were utilized. Trip generation was based upon data contained in the Institute of Transportation Engineers' (ITE) *Trip Generation, Fifth Edition* (1991). Table 8 summarizes the projected daily, a.m. peak hour, and p.m. peak hour trip generation of the project.

<b>TABLE 8</b>				
<b>PROJECT TRIP GENERATION (VEHICLE TRIPS)</b>				
<b>TRIPS IN ADDITION TO EXISTING SITE USES</b>				
<b>DAILY</b>	<b>A.M. PEAK HOUR</b>		<b>P.M. PEAK HOUR</b>	
	<b>ENTERING</b>	<b>EXITING</b>	<b>ENTERING</b>	<b>EXITING</b>
5,972	772	95	127	619

#### TRIP DISTRIBUTION

Distribution of trips generated by the project was determined through utilization of the SACMET model. The model was utilized to determine the overall distribution of trip origins and destinations throughout the region. These trips were assigned to the roadway network in accordance with knowledge of the proposed site access, and local travel patterns. Figure 5 illustrates the regional trip distribution. About 73 percent of site traffic is projected to be oriented to I-5, and about 25 percent to SR 160. Traffic destined to SR 160 north of the American River from the site follows two paths. Some of the traffic has been routed via Richards Boulevard, Sunbeam Avenue, and Sproule Avenue to North 16th Street. The remainder of this traffic was routed via North 7th Street and North B Street to North 16th Street.







## **4. EXISTING PLUS PROJECT TRAFFIC**

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#### **4. EXISTING PLUS PROJECT TRAFFIC**

##### **EXISTING PLUS PROJECT TRAFFIC VOLUMES**

Utilizing the trip generation and distribution projections, traffic associated with the project was added to existing peak hour traffic volumes to provide the basis for analysis. Figures 6 and 7 illustrate the peak hour existing plus project traffic volumes for the a.m. and p.m. peak hours. Similarly, Table 9 summarizes existing plus project traffic volumes on the critical freeway ramps.

<b>TABLE 9 EXISTING PLUS PROJECT PEAK HOUR RAMP TRAFFIC VOLUMES</b>		
<b>RAMP</b>	<b>A.M. PEAK HOUR</b>	<b>P.M. PEAK HOUR</b>
I-5 Northbound to Richards Boulevard	1,690	737
I-5 Southbound to Richards Boulevard	832	463
Richards Boulevard to I-5 Northbound	376	1,084
Richards Boulevard to I-5 Southbound	584	1,392



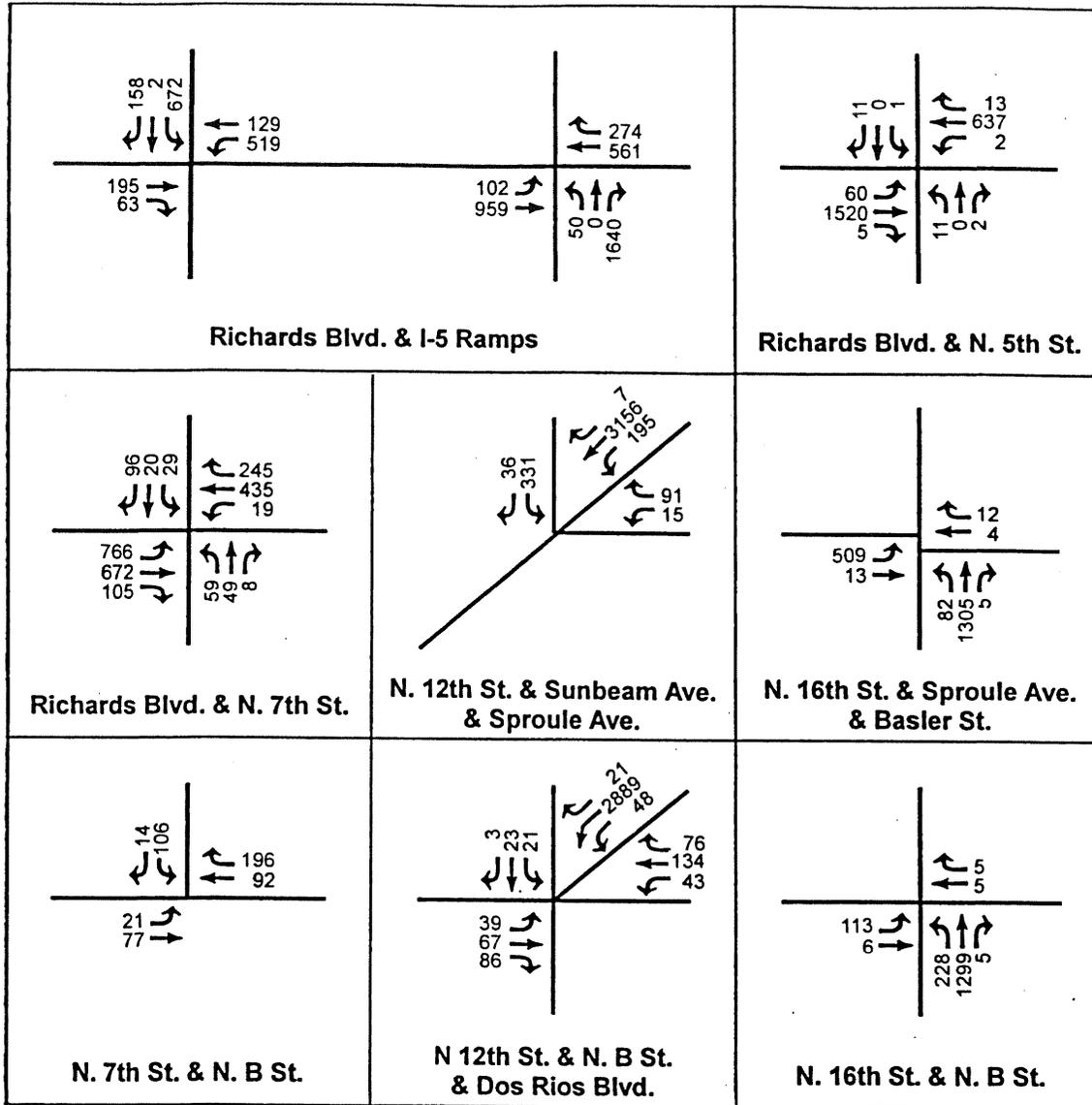


Figure 6  
 EXISTING PLUS PROJECT AM PEAK  
 HOUR TRAFFIC VOLUMES



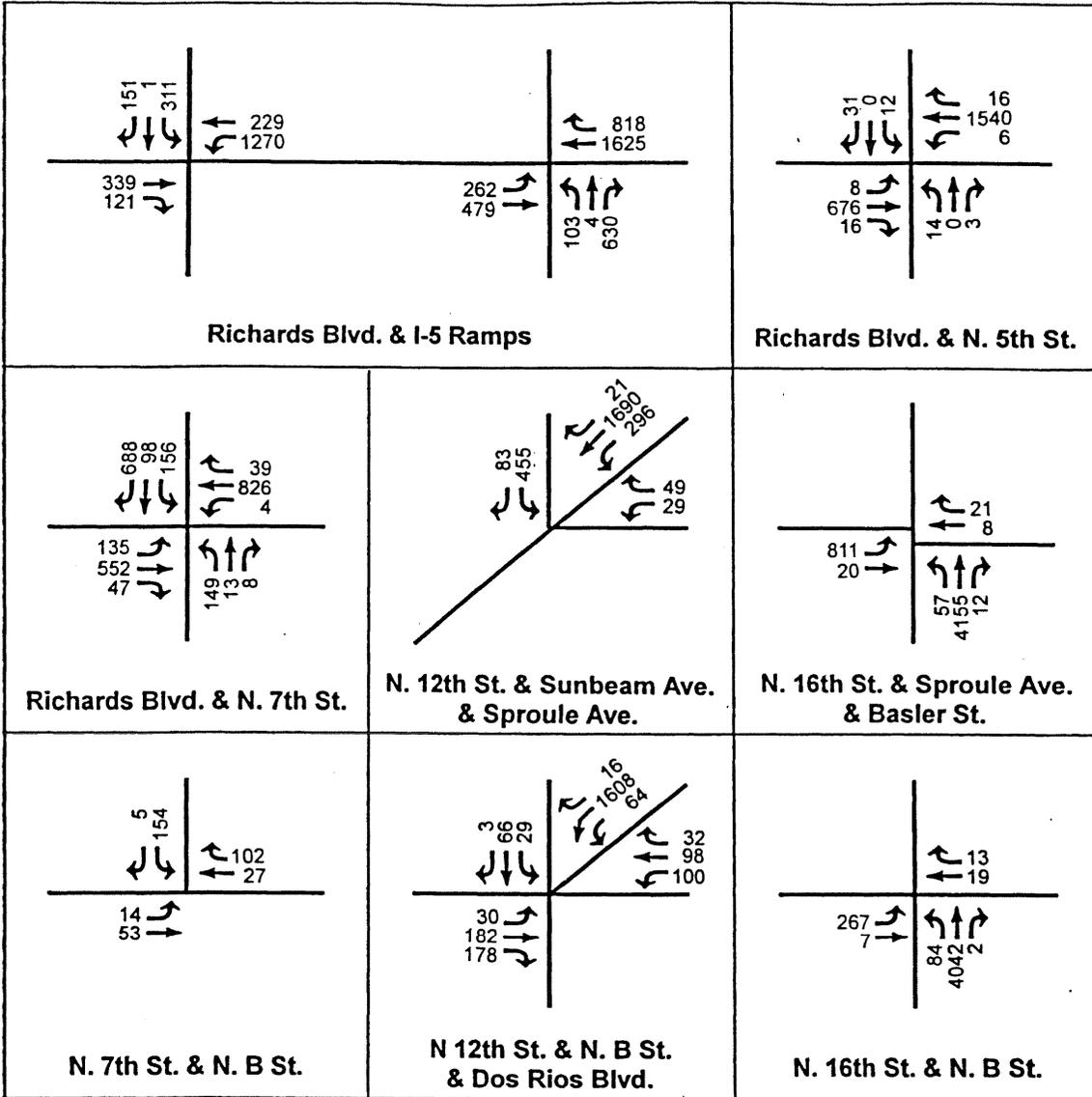


Figure 7  
 EXISTING PLUS PROJECT PM PEAK  
 HOUR TRAFFIC VOLUMES



## **5. IMPACTS**

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## 5. IMPACTS

### STANDARDS OF SIGNIFICANCE

#### **Intersection or Street Segment**

In the City of Sacramento, a significant traffic impact (intersection or segment) occurs when:

1. the traffic generated by a project degrades peak period *Level of Service* (LOS) from A, B, or C (without project) to D, E, or F (with project), or,
2. the LOS (without project) is D, E, or F, and project generated traffic increases the peak period *Volume-to-Capacity Ratio* (V/C ratio) by 0.02 or more.

#### **Freeway Ramps**

Caltrans considers highway segments and ramp segments in the downtown area to be acceptable if they operate at LOS D or better. Caltrans does not currently apply incremental degradation (increasing V/C ratio or seconds of delay per vehicle) as a threshold of significance (Jellison, personal communication). In this assessment, a significant traffic impact (freeway ramp) occurs when:

1. the traffic generated by a project degrades peak period *Level of Service* (LOS) from A, B, C or D (without project) to E or F (with project).
2. the traffic generated by a project degrades peak period *Level of Service* (LOS) from E (without project) to F (with project).

### IMPACT CLASSIFICATION

This analysis classifies impacts in the following manner:

- No Impact
- Less Than Significant (mitigation unnecessary)
- Significant Avoidable (impact can be mitigated to less-than-significant levels)
- Significant Unavoidable (impact cannot be mitigated to less-than-significant levels)

Impacts are considered avoidable if and when a feasible mitigation measure will improve plus-project operating conditions to levels which would not have resulted in identification of

an impact. For instance, if an intersection has a V/C ratio of 0.90 under existing conditions, and project generated traffic were to increase the V/C ratio to 0.93, mitigation measures would be required to reduce the V/C ratio back to no more than 0.91 (less than an increase of 0.02 over existing conditions).

This method generally ensures that a proposed project will only be responsible to mitigate the traffic impact it creates. In some cases, the LOS or V/C ratio may be improved beyond the “no project” condition, such that the project has more than offset the traffic impact it created. This typically occurs because a necessary improvement, such as an additional lane or new traffic signal, provides additional capacity beyond that necessary to mitigate the impact. Such improvements cannot be “partially” implemented.

## **Feasible Mitigation Measures**

Feasible traffic mitigation measures usually consist of physical intersection improvements (e.g., intersection signalization, lane restriping, addition of travel lanes) which analysis has shown to be capable of avoiding impacts. Occasionally, changes to traffic signal timing or phasing may be appropriate. Physical improvements such as additional travel lanes are usually considered feasible if right-of-way exists or can be readily acquired. Right-of-way is generally considered obtainable only if adjacent to a proposed project so that the applicant can dedicate the right-of-way. Off-site right-of-way is often difficult to obtain.

## **IMPACT/MITIGATION - EXISTING PLUS PROJECT CONDITIONS**

### **Intersections**

Tables 10 and 11 summarize the peak hour operating conditions for the critical intersections for both existing conditions and the existing plus project scenario.

### *Impact*

#### **Richards Boulevard and I-5 Southbound Ramps**

During the p.m. peak hour, the project will degrade the volume-to-capacity ratio from 0.69 to 0.83. The level of service will degrade from “B” to “D.” This is considered a *significant impact*.

#### **Richards Boulevard and I-5 Northbound Ramps**

During the a.m. peak hour, the project will degrade the volume-to-capacity ratio from 0.73 to 0.93. The level of service will degrade from “C” to “E.”

<b>TABLE 10 EXISTING PLUS PROJECT A.M. PEAK HOUR OPERATING CONDITIONS</b>				
<b>INTERSECTION</b>	<b>EXISTING</b>		<b>EXISTING PLUS PROJECT</b>	
	<b>VOLUME-CAPACITY RATIO</b>	<b>LEVEL OF SERVICE</b>	<b>VOLUME-CAPACITY RATIO</b>	<b>LEVEL OF SERVICE</b>
Richards Blvd. & I-5 SB Ramps	0.60	B	0.75	C
Richards Blvd. & I-5 NB Ramps	0.73	C	0.93	E
Richards Blvd. & N. 5th St.	69 <sup>2</sup>	E	---	F
Richards Blvd. & N. 7th St.	0.63	B	1.14	F
N. 12th St., Sunbeam Ave., & Sproule Ave.	0.87	D	0.87	D
N. 16th St., Sproule Ave., & Basler St.	0.41	A	0.42	A
N. 7th St. & N. B St.	484 <sup>2</sup>	A	467 <sup>2</sup>	A
N. 12th St., N. B St., & Dos Rios Blvd.	0.77	C	0.78	C
N. 16th St. & N. B St.	0.30	A	0.30	A
<b>RAMP</b>	<b>VOLUME</b>	<b>LOS</b>	<b>VOLUME</b>	<b>LOS</b>
I-5 NB to Richards Blvd.	1,296	D	1,690	F
I-5 SB to Richards Blvd.	662	C	832	C
Richards Blvd. to I-5 NB	355	C	376	C
Richards Blvd. to I-5 SB	535	C	584	C
<p>1. Level of Service constrained by ramp design speed.                  2. Unsignalized Intersection - Reserve Capacity shown</p>				

<b>TABLE 11 EXISTING PLUS PROJECT P.M. PEAK HOUR OPERATING CONDITIONS</b>				
<b>INTERSECTION</b>	<b>EXISTING</b>		<b>EXISTING PLUS PROJECT</b>	
	<b>VOLUME-CAPACITY RATIO</b>	<b>LEVEL OF SERVICE</b>	<b>VOLUME-CAPACITY RATIO</b>	<b>LEVEL OF SERVICE</b>
Richards Blvd. & I-5 SB Ramps	0.69	B	0.83	D
Richards Blvd. & I-5 NB Ramps	0.87	D	1.01	F
Richards Blvd. & N. 5th St.	52 <sup>2</sup>	E	---	F
Richards Blvd. & N. 7th St.	0.91	E	1.36	F
N. 12th St., Sunbeam Ave., & Sproule Ave.	0.65	B	0.73	C
N. 16th St., Sproule Ave., & Basler St.	0.96	E	1.00	F
N. 7th St. & N. B St.	594 <sup>2</sup>	A	536 <sup>2</sup>	A
N. 12th St., N. B St., & Dos Rios Blvd.	0.59	A	0.61	B
N. 16th St. & N. B St.	0.79	C	0.82	D
<b>RAMP</b>	<b>VOLUME</b>	<b>LOS</b>	<b>VOLUME</b>	<b>LOS</b>
I-5 NB to Richards Blvd.	672	C	737	C
I-5 SB to Richards Blvd.	435	C	463	C
Richards Blvd. to I-5 NB	948	C	1,084	C
Richards Blvd. to I-5 SB	1,076	C	1,392	E
<p>1. Level of Service constrained by ramp design speed.                  2. Unsignalized Intersection - Reserve Capacity shown</p>				

During the p.m. peak hour, the project will degrade the volume-to-capacity ratio from 0.87 to 1.01. The level of service will degrade from “D” to “F.” This is considered a *significant impact*.

## *Mitigation*

### **Richards Boulevard and I-5 Southbound Ramps**

### **Richards Boulevard and I-5 Northbound Ramps**

The significant impact at these adjacent intersections can be mitigated by widening Richards Boulevard through the interchange area. Currently, Richards Boulevard is five lanes wide under I-5. Discussions with City staff has indicated that widening to seven lanes under I-5 appears feasible. The seven lanes would consist of three eastbound through lanes, a single eastbound left turn lane, a double westbound left turn lane, and a single westbound through lane. Additionally, the ramp from I-5 southbound to Richards Boulevard should be restriped to allow left turns from both intersection approach lanes, and the ramp from I-5 northbound to Richards Boulevard should be widened to permit an exclusive double right turn lane.

Some roadway widening immediately east and west of the interchange along Richards Boulevard would also be required. With this improvement, the Richards Boulevard and I-5 Southbound Ramps intersection level of service would improve to “C” during the p.m. peak hour with a volume-to-capacity ratio of 0.77. The Richards Boulevard and I-5 Northbound Ramps intersection level of service would improve to “C” during the a.m. peak hour with a volume-to-capacity ratio of 0.76, and to “D” during the p.m. peak hour with a volume-to-capacity ratio of 0.83. This mitigation measure would reduce the impact to a *less-than-significant* level.

## *Impact*

### **Richards Boulevard and North Fifth Street**

During both the a.m. and p.m. peak hours, the project will degrade level of from “E” to “F.” This is considered a *significant impact*.

## *Mitigation*

### **Richards Boulevard and North Fifth Street**

Discussions with City staff have indicated that Richards Boulevard is planned to be widened to four lanes through this intersection. Together with installation of a traffic signal at this

location, the level of service would improve to “A” during both a.m. and p.m. peak hours. The volume-to-capacity ratio would be 0.55 during the a.m. peak hour and 0.58 during the p.m. peak hour. However, traffic signal warrants may not be met at this location. This mitigation measure would reduce the impact to a *less-than-significant* level.

## *Impact*

### **Richards Boulevard and North Seventh Street**

The project would degrade level of service during the a.m. peak hour at this intersection from “B” to “F,” with a change in volume-to-capacity ratio from 0.63 to 1.14.

During the p.m. peak hour, the level of service would degrade from “E” to “F,” with a change in volume-to-capacity ratio from 0.91 to 1.36. This is considered a *significant impact*.

## *Mitigation*

### **Richards Boulevard and North Seventh Street**

Discussions with City staff have indicated that Richards Boulevard is planned to be widened to four lanes through this intersection. The widening should include a single westbound left turn lane and double eastbound left turn lane at this intersection. The southbound North Seventh Street approach should allow right turns from both intersection approach lanes, while the northbound North Seventh Street approach should allow left turns from both intersection approach lanes. With this mitigation measure, the level of service during the a.m. peak hour would improve to “B,” with a volume-to-capacity ratio of 0.62. During the p.m. peak hour, the level of service would improve to “C,” with a volume-to-capacity ratio of 0.77. This mitigation measure would reduce the impact to a *less-than-significant* level.

## *Impact*

### **North 16th Street, Sproule Avenue, and Basler Street**

During the p.m. peak hour, the project will degrade the volume-to-capacity ratio from 0.96 to 1.00. The level of service will degrade from “E” to “F.” This is considered a *significant impact*.

## *Mitigation*

### **North 16th Street, Sproule Avenue, and Basler Street**

No local improvement has been planned or is readily available for this location without acquiring additional right-of-way. This impact is considered *significant and unavoidable*.

## *Impact*

### **North 16th Street and North B Street**

During the p.m. peak hour, the project will degrade the volume-to-capacity ratio from 0.79 to 0.82. The level of service will degrade from “C” to “D.” This is considered a *significant impact*.

## *Mitigation*

### **North 16th Street and North B Street**

No local improvement has been planned or is readily available for this location without acquiring additional right-of-way. This impact is considered *significant and unavoidable*.

## Freeway Ramps

Tables 10 and 11 summarize the peak hour operating conditions for the critical freeway ramps for both existing conditions and the existing plus project scenario.

## *Impact*

### **I-5 Northbound Ramp to Richards Boulevard**

During the a.m. peak hour, the project will degrade the level of service from “D” to “F.” This is considered a *significant impact*.

## *Mitigation*

### **I-5 Northbound Ramp to Richards Boulevard**

Widening this ramp to two lanes would improve the level of service during the a.m. peak hour to “C.” This mitigation measure would reduce the impact to a *less-than-significant* level.

*Impact*

**Richards Boulevard Ramp to I-5 Southbound**

During the p.m. peak hour, the project will degrade the level of service from “C” to “E.” This is considered a *significant impact*.

*Mitigation*

**Richards Boulevard Ramp to I-5 Southbound**

Widening this ramp to two lanes would improve the level of service during the p.m. peak hour to “C.” This mitigation measure would reduce the impact to a *less-than-significant* level.

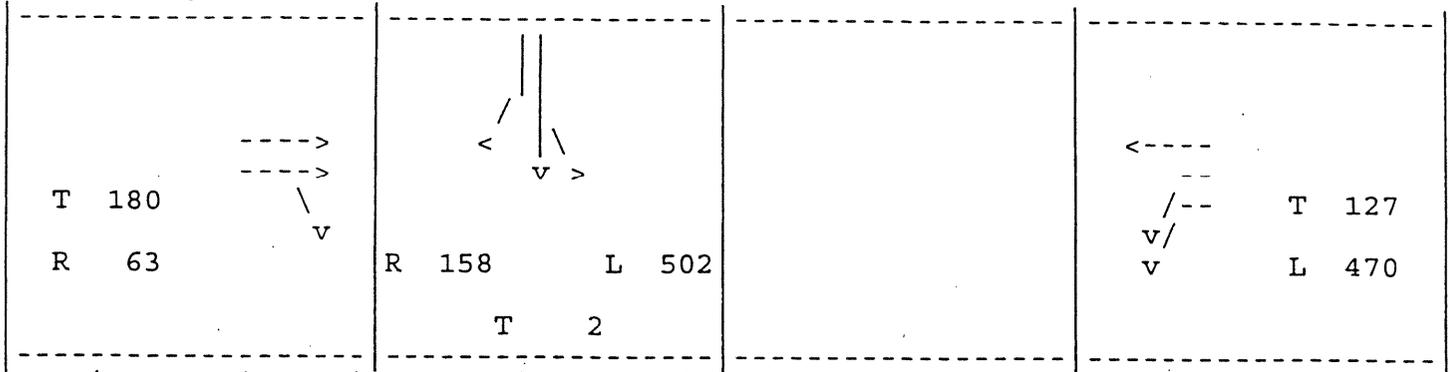
**CAPACITY ANALYSIS SUMMARIES**  
**Existing Conditions**  
**- A.M. Peak Hour**

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CONTINENTAL PLAZA TRAFFIC STUDY  
 AM PEAK HOUR (NO PROJECT)  
 INPUT: CONAMNP.VOA & CONPLAZA.GEO  
 Intersection: 1 SB 1-5 RAMPS & RICHARDS BLVD.

Lane Configuration and Turn Volumes

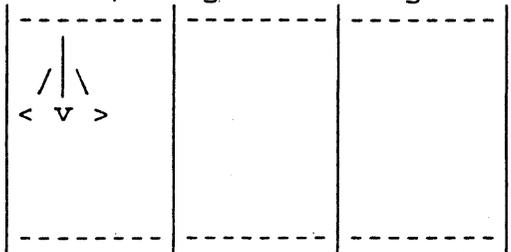


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	L	0	502	504
	T	1	504	
	EXR	1	158	
EB	TR	2	122	122
WB	EXL	2	235	235
	T	1	127	
Total Critical Volume				861

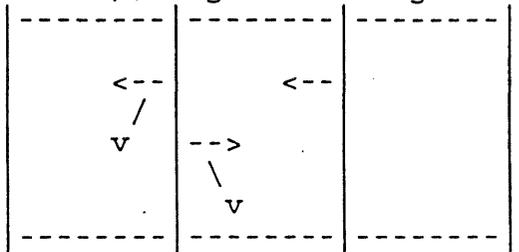
Level of Service	Maximum Total Critical Volumes		
	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 861  
 No of Critical Phases = 3  
 Level of Service = B  
 Volume/Capacity = 0.60

N/S Signal Phasing



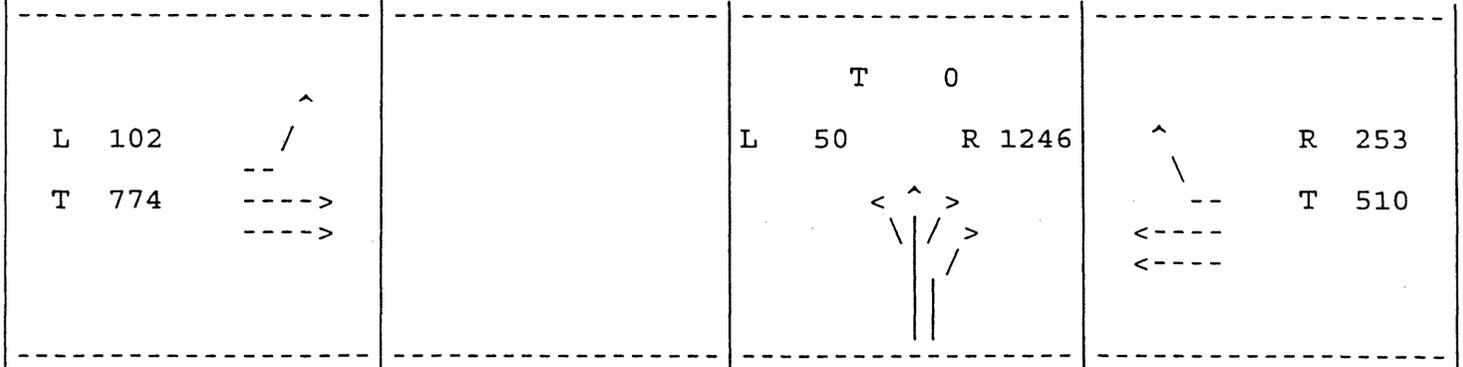
E/W Signal Phasing



3 Phase Signal

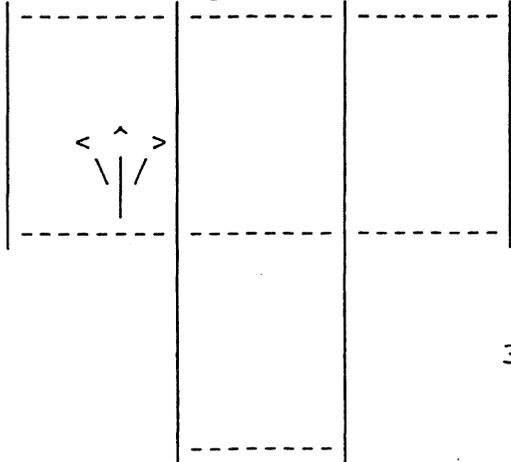
CONTINENTAL PLAZA TRAFFIC STUDY  
 AM PEAK HOUR (NO PROJECT)  
 INPUT: CONAMNP.VOA & CONPLAZA.GEO  
 Intersection: 2 NB 1-5 RAMPS & RICHARDS BLVD.

Lane Configuration and Turn Volumes

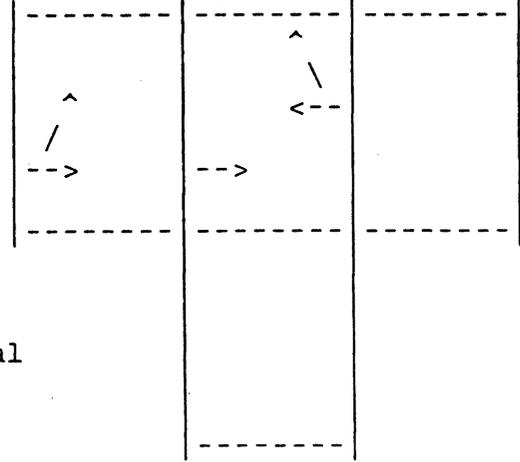


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume	Maximum Total Critical Volumes			
					Level of Service	Two Phase	Three Phase	Four Phase
NB	LTR	2	648	648				
EB	EXL	1	102	387	A	900	855	825
	T	2	387		B	1050	1000	965
WB	T	2	255	1035	C	1200	1140	1100
	EXR	1	253		D	1350	1275	1225
					E	1500	1425	1375
					F	NA	NA	NA
Total Critical Volume					Critical Volume = 1035			
					No of Critical Phases = 3			
					Level of Service = C			
					Volume/Capacity = 0.73			

N/S Signal Phasing



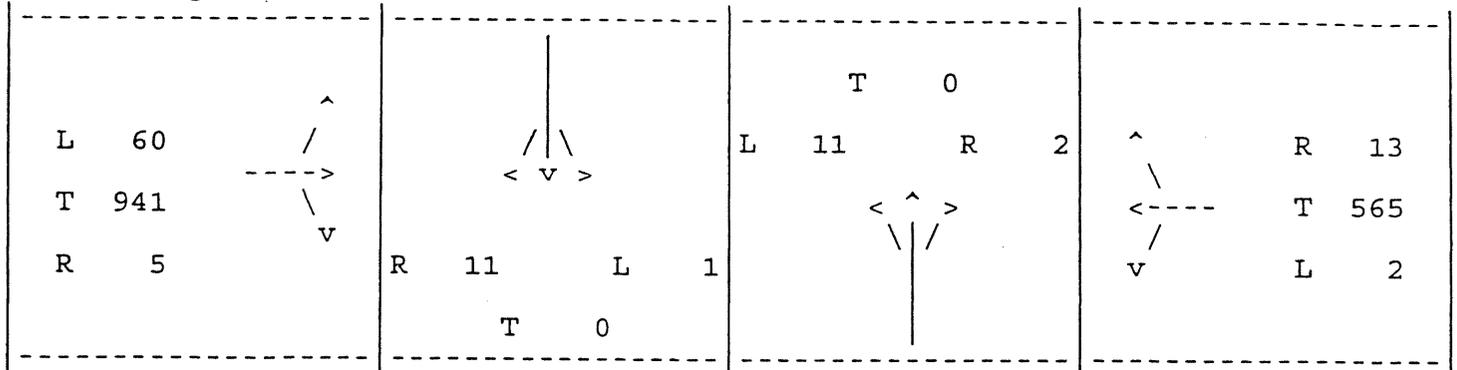
E/W Signal Phasing



3 Phase Signal

CONTINENTAL PLAZA TRAFFIC STUDY  
 AM PEAK HOUR (NO PROJECT)  
 INPUT: CONAMNP.VOA & CONPLAZA.GEO  
 Intersection: 3 N 5TH ST. & RICHARDS BLVD.

Lane Configuration and Turn Volumes



APPROACH	MAJOR ROADWAY (45 MPH)		MINOR ROADWAY (2-WAY STOP)					
	EB	WB	NB			SB		
MOVEMENT	L	L	L	T	R	L	T	R
CONTROL	UNC	UNC	STOP	STOP	STOP	STOP	STOP	STOP
VOLUME (VPH)	60	2	11	0	2	1	0	11
VOLUME (PCPH)	66	2	12	0	2	1	0	12
CONFLICTING FLOW	578	946	1594	1584	944	1581	1580	572
CRITICAL GAP (SEC)	5.5	5.5	7.0	7.0	6.0	7.0	7.0	6.0
POTENTIAL CAPACITY	567	347	81	82	305	82	82	500
PERCENT OF CAPACITY	12	1		0	1		0	2
IMPEDENCE FACTOR	0.93	1.00		1.00	1.00		1.00	0.99
ACTUAL CAPACITY	567	347	73	76	305	75	76	500
SHARED LANES			LTR			LTR		
SHARED LANE CAPACITY			83			340		
RESERVE CAPACITY	501	345	69			327		
LEVEL OF SERVICE	A	B	E			B		

Level of Service of Worst Movement

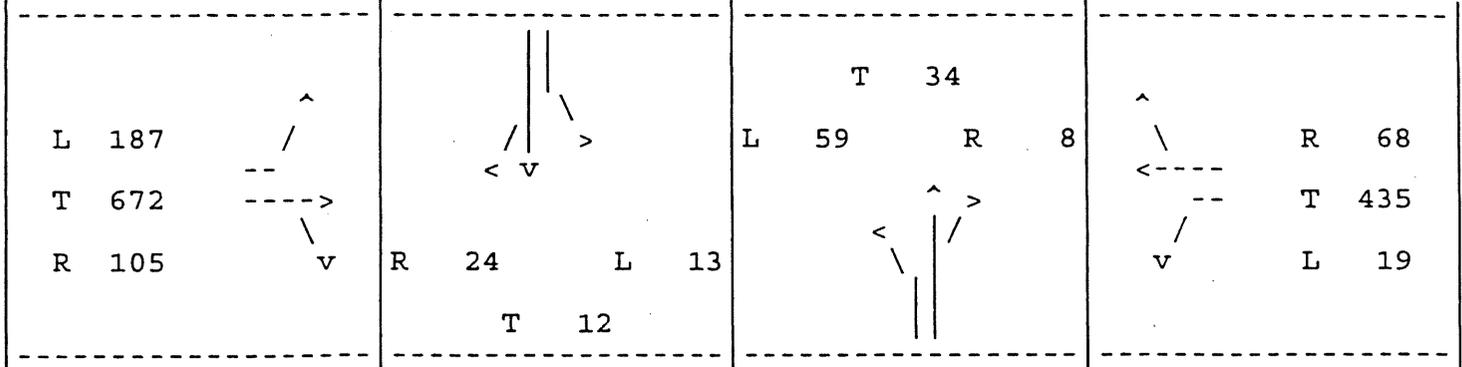
Worst Movement	NB	LTR
Reserve Capacity		69
Level of Service		E

Level of Service Criteria

Level of Service	Reserve Capacity
A	> 400
B	300 - 399
C	200 - 299
D	100 - 199
E	0 - 99
F	< 0

CONTINENTAL PLAZA TRAFFIC STUDY  
 AM PEAK HOUR (NO PROJECT)  
 INPUT: CONAMNP.VOA & CONPLAZA.GEO  
 Intersection: 4 N 7TH ST. & RICHARDS BLVD.

Lane Configuration and Turn Volumes

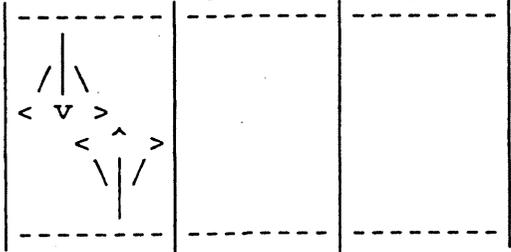


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	59	59
	TR	1	42	
SB	EXL	1	13	
	TR	1	36	36
EB	EXL	1	187	
	TR	1	777	777
WB	EXL	1	19	19
	TR	1	503	
Total Critical Volume				891

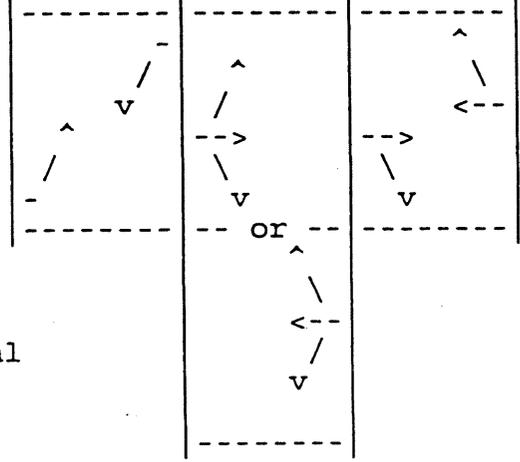
Level of Service	Maximum Total Critical Volumes		
	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 891  
 No of Critical Phases = 3  
 Level of Service = B  
 Volume/Capacity = 0.63

N/S Signal Phasing



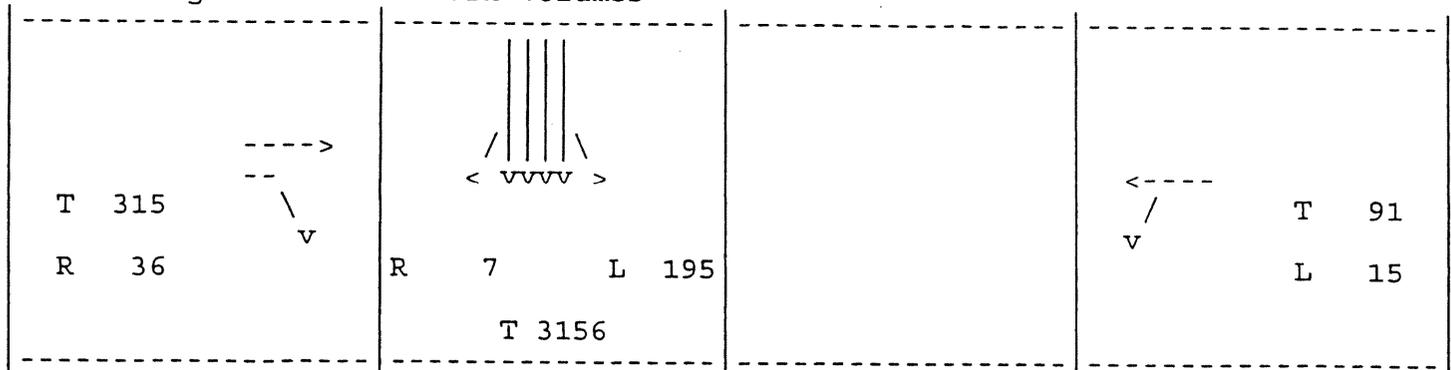
E/W Signal Phasing



5 Phase Signal

CONTINENTAL PLAZA TRAFFIC STUDY  
 AM PEAK HOUR (NO PROJECT)  
 INPUT: CONAMNP.VOA & CONPLAZA.GEO  
 Intersection: 5 N 12TH ST. & SUNBEAM AVE.

Lane Configuration and Turn Volumes



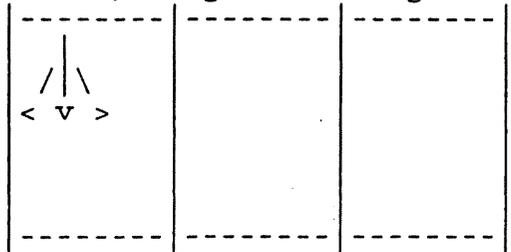
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	LTR	4	840	840
EB	T	1	315	315
	EXR	1	36	
WB	L	0	15	15
	T	1	121	
Total Critical Volume				1170

Level of Service	Maximum Total Critical Volumes		
	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

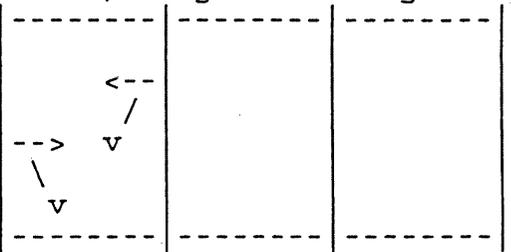
LRT ADJUSTMENT = 10%

Critical Volume	= 1170
No of Critical Phases	= 2
Level of Service	= D
Volume/Capacity	= 0.87

N/S Signal Phasing



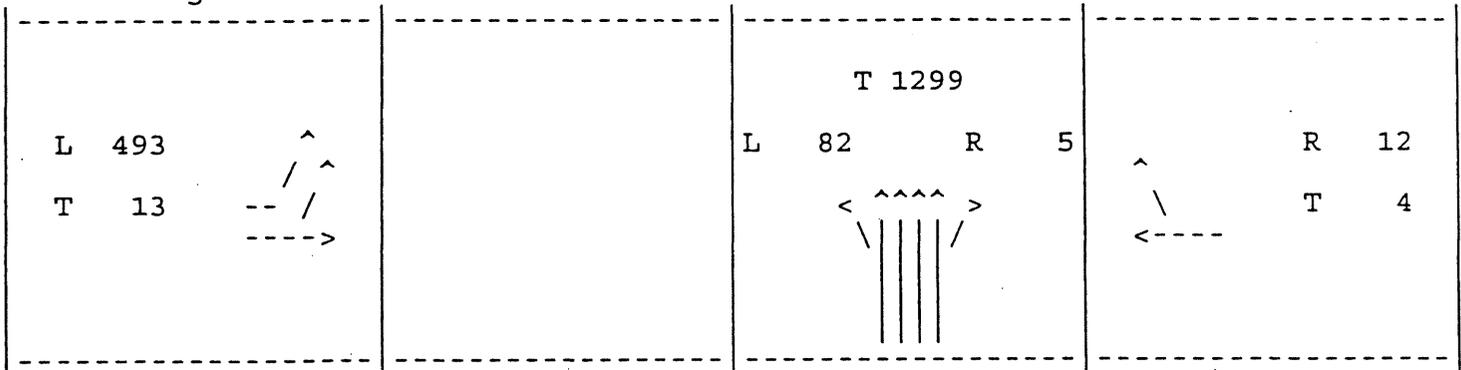
E/W Signal Phasing



2 Phase Signal

CONTINENTAL PLAZA TRAFFIC STUDY  
 AM PEAK HOUR (NO PROJECT)  
 INPUT: CONAMNP.VOA & CONPLAZA.GEO  
 Intersection: 6 N 16TH ST. & SPROULE AVE.

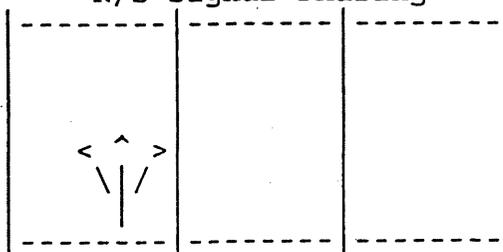
Lane Configuration and Turn Volumes



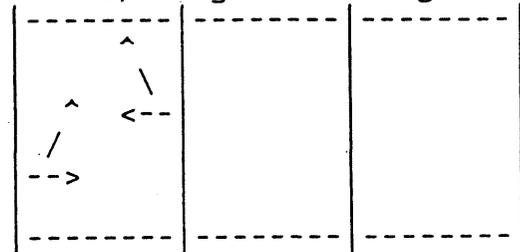
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume	Maximum Total Critical Volumes			
					Level of Service	Two Phase	Three Phase	Four Phase
NB	LTR	4	347	347				
EB	LT	2	253	253	A	900	855	825
					B	1050	1000	965
					C	1200	1140	1100
					D	1350	1275	1225
					E	1500	1425	1375
					F	NA	NA	NA
WB	TR	1	16	16				
Total Critical Volume				616				

Critical Volume = 616  
 No of Critical Phases = 2  
 Level of Service = A  
 Volume/Capacity = 0.41

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

CONTINENTAL PLAZA TRAFFIC STUDY  
 AM PEAK HOUR (NO PROJECT)  
 INPUT: CONAMNP.VOA & CONPLAZA.GEO  
 Intersection: 7 N 7TH ST. & N B ST.

Lane Configuration and Turn Volumes

L 21 T 77 ^ / ----->		R 181 T 92 ^ \ <-----
	MAJOR ROADWAY (45 MPH)	MINOR ROADWAY (1-WAY STOP)
APPROACH	EB      WB	NB      SB
MOVEMENT	L	L      R
CONTROL	UNC	STOP      STOP
VOLUME (VPH)	21	98      14
VOLUME (PCPH)	23	108      15
CONFLICTING FLOW	273	280      183
CRITICAL GAP (SEC)	5.5	7.0      6.0
POTENTIAL CAPACITY	821	596      818
PERCENT OF CAPACITY	3	2
IMPEDENCE FACTOR	0.98	0.99
ACTUAL CAPACITY	821	586      818
SHARED LANES		LR
SHARED LANE CAPACITY		607
RESERVE CAPACITY	798	484
LEVEL OF SERVICE	A	A

Level of Service of Worst Movement

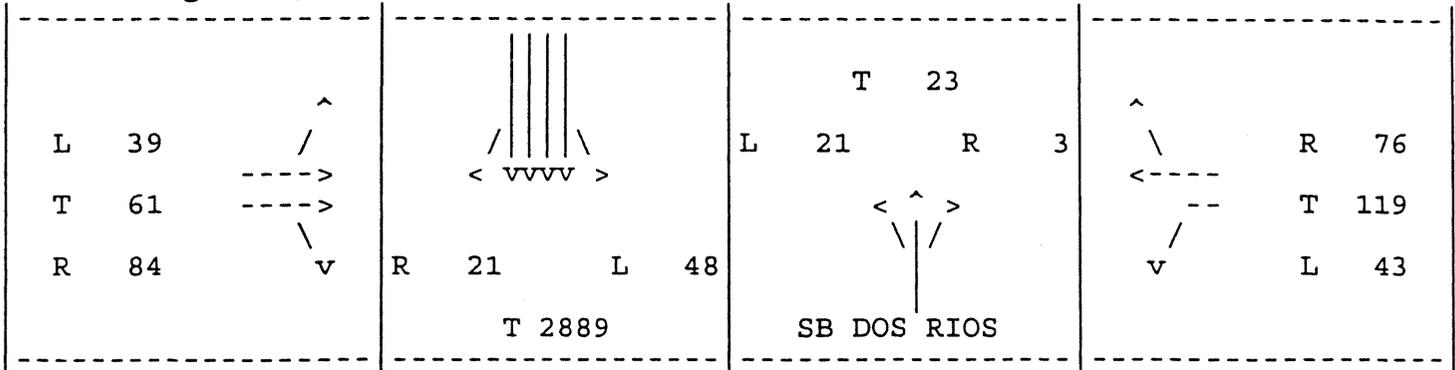
Worst Movement	SB    LR
Reserve Capacity	484
Level of Service	A

Level of Service Criteria

Level of Service	Reserve Capacity
A	> 400
B	300 - 399
C	200 - 299
D	100 - 199
E	0 - 99
F	< 0

CONTINENTAL PLAZA TRAFFIC STUDY  
 AM PEAK HOUR (NO PROJECT)  
 INPUT: CONAMNP.VOA & CONPLAZA.GEO  
 Intersection: 8 N 12TH/DOS RIOS & N B ST.

Lane Configuration and Turn Volumes



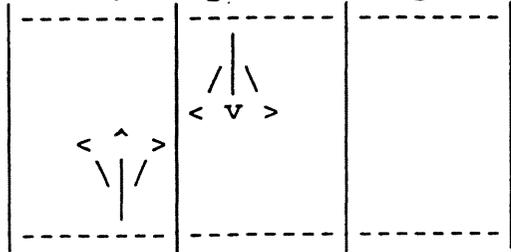
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB (DOS RIOS)	LTR	1	47	47
SB	LTR	3.9	758	758
EB	L	0	39	39
	TR	2	94	
WB	EXL	1	43	195
	TR	1	195	
Total Critical Volume				1039

Level of Service	Maximum Total Critical Volumes		
	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

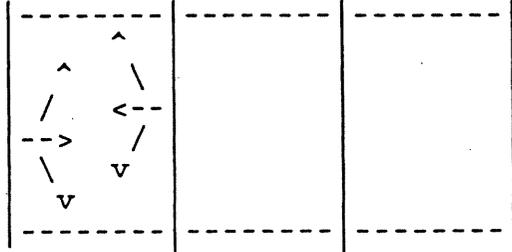
LRT ADJUSTMENT = 5%

Critical Volume = 1039  
 No of Critical Phases = 3  
 Level of Service = C  
 Volume/Capacity = 0.77

N/S Signal Phasing



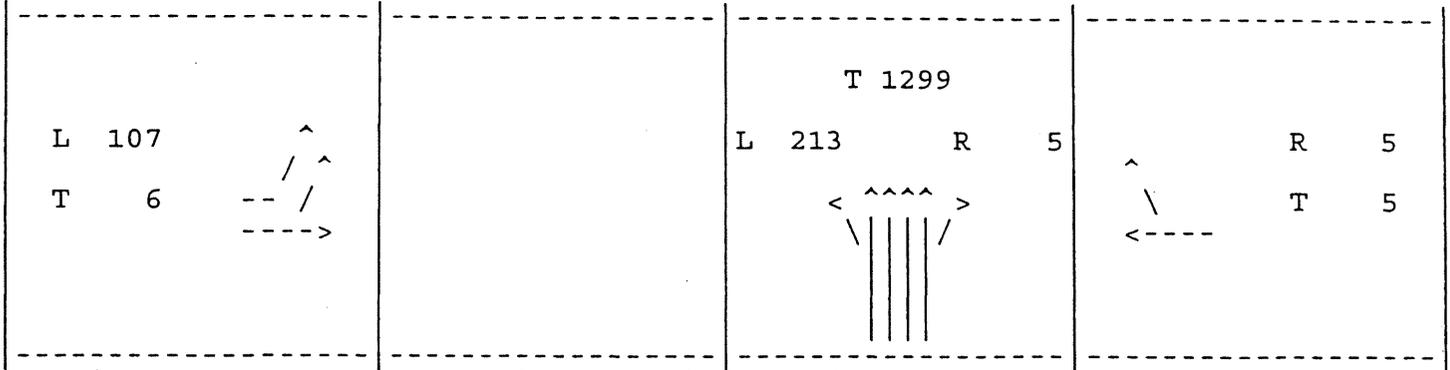
E/W Signal Phasing



3 Phase Signal

CONTINENTAL PLAZA TRAFFIC STUDY  
 AM PEAK HOUR (NO PROJECT)  
 INPUT: CONAMNP.VOA & CONPLAZA.GEO  
 Intersection: 9 N 16TH ST. & N B ST.

Lane Configuration and Turn Volumes

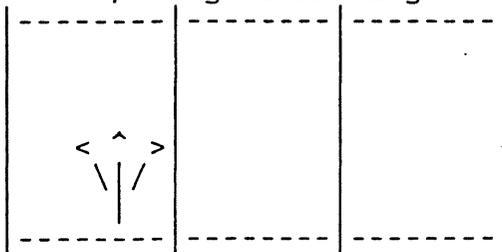


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	LTR	4	379	379
EB	LT	2	57	57
WB	TR	1	10	10
Total Critical Volume				446

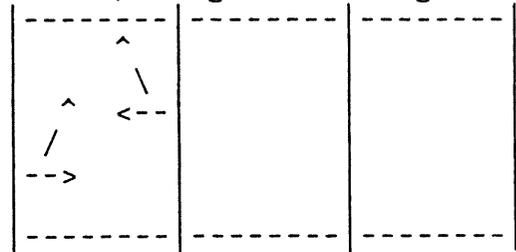
Level of Service	Maximum Total Critical Volumes		
	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 446  
 No of Critical Phases = 2  
 Level of Service = A  
 Volume/Capacity = 0.30

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal



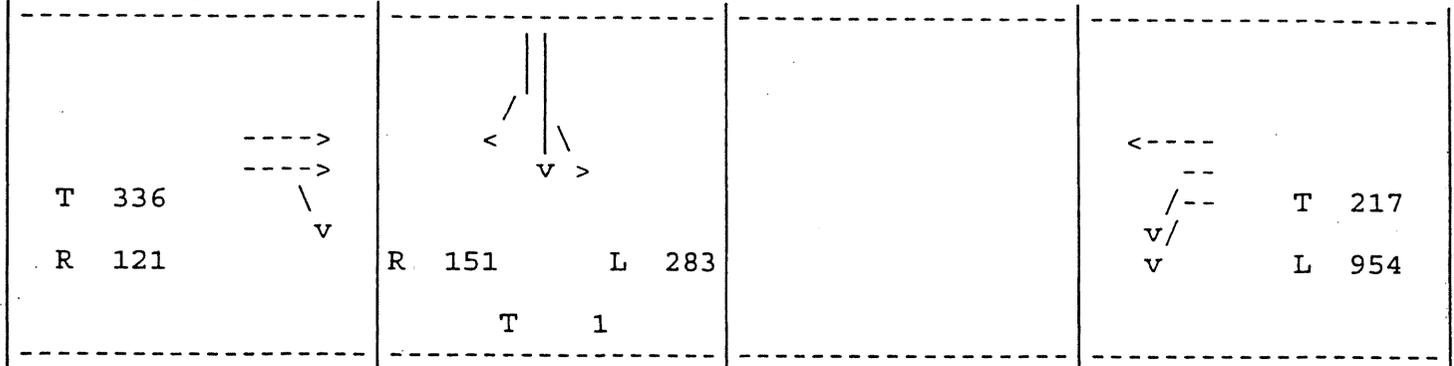
**CAPACITY ANALYSIS SUMMARIES**  
**Existing Conditions**  
**- P.M. Peak Hour**

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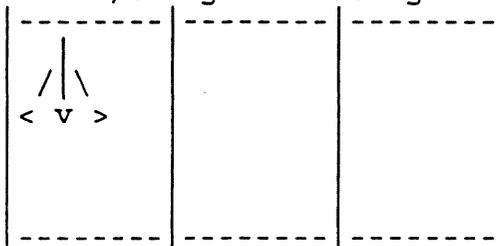
CONTINENTAL PLAZA TRAFFIC STUDY  
 PM PEAK HOUR (NO PROJECT)  
 INPUT: CONPMNP.VOA & CONPLAZA.GEO  
 Intersection: 1 SB 1-5 RAMPS & RICHARDS BLVD.

Lane Configuration and Turn Volumes

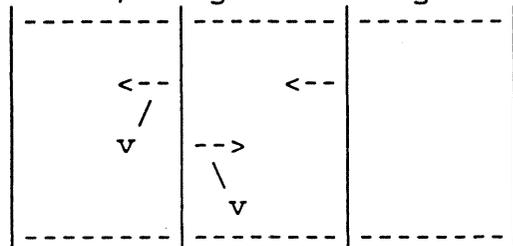


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume	Maximum Total Critical Volumes			
					Level of Service	Two Phase	Three Phase	Four Phase
SB	L	0	283	284	A	900	855	825
	T	1	284		B	1050	1000	965
	EXR	1	151		C	1200	1140	1100
EB	TR	2	228	228	D	1350	1275	1225
					E	1500	1425	1375
WB	EXL	2	477	477	F	NA	NA	NA
					T	1	217	
Total Critical Volume				989	Critical Volume = 989			
					No of Critical Phases = 3			
					Level of Service = B			
					Volume/Capacity = 0.69			

N/S Signal Phasing



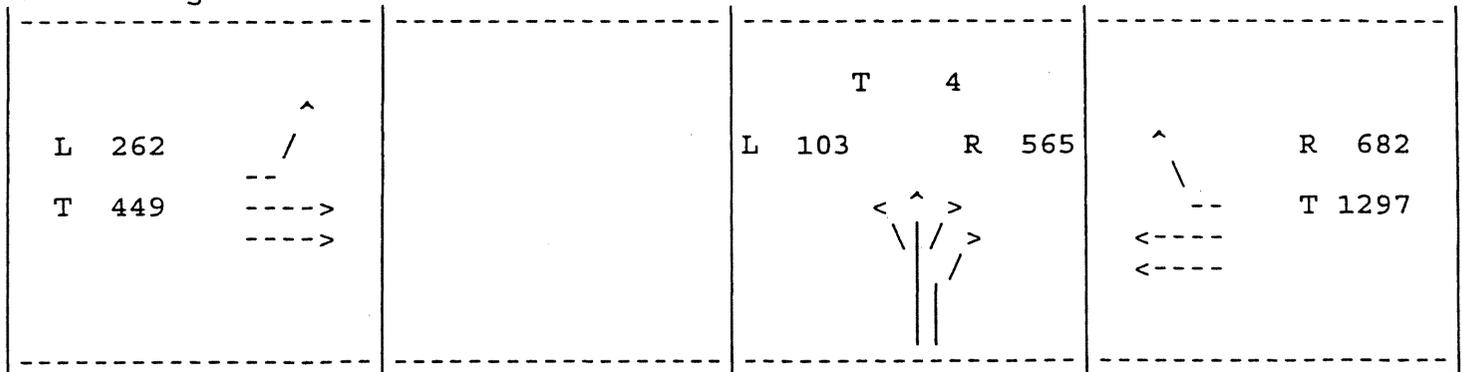
E/W Signal Phasing



3 Phase Signal

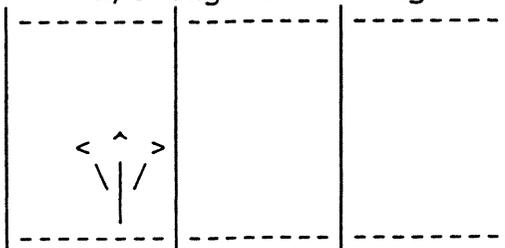
CONTINENTAL PLAZA TRAFFIC STUDY  
 PM PEAK HOUR (NO PROJECT)  
 INPUT: CONPMNP.VOA & CONPLAZA.GEO  
 Intersection: 2 NB 1-5 RAMPS & RICHARDS BLVD.

Lane Configuration and Turn Volumes

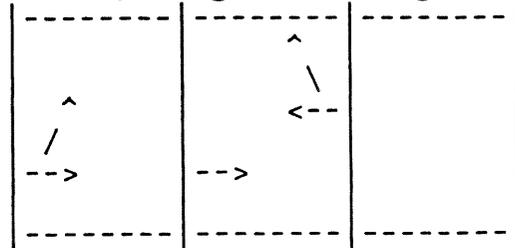


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume	Maximum Total Critical Volumes			
					Level of Service	Two Phase	Three Phase	Four Phase
NB	LTR	2	336	336				
EB	EXL	1	262	262	A	900	855	825
	T	2	224		B	1050	1000	965
WB	T	2	648	648	C	1200	1140	1100
	EXR	1	682		D	1350	1275	1225
					E	1500	1425	1375
					F	NA	NA	NA
Total Critical Volume				1246	Critical Volume = 1246			
					No of Critical Phases = 3			
					Level of Service = D			
					Volume/Capacity = 0.87			

N/S Signal Phasing



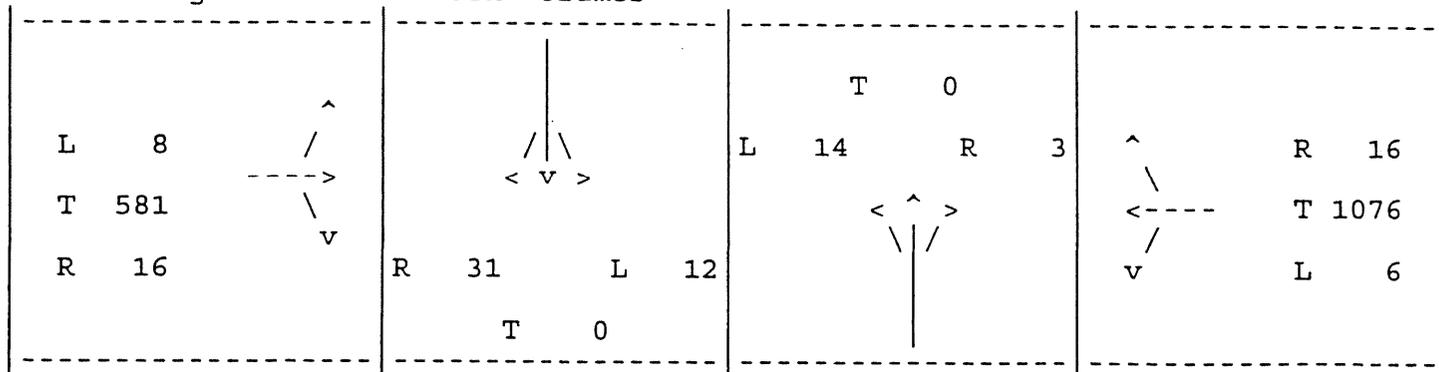
E/W Signal Phasing



3 Phase Signal

CONTINENTAL PLAZA TRAFFIC STUDY  
 PM PEAK HOUR (NO PROJECT)  
 INPUT: CONPMNP.VOA & CONPLAZA.GEO  
 Intersection: 3 N 5TH ST. & RICHARDS BLVD.

Lane Configuration and Turn Volumes



APPROACH	MAJOR ROADWAY (45 MPH)		MINOR ROADWAY (2-WAY STOP)					
	EB	WB	NB			SB		
MOVEMENT	L	L	L	T	R	L	T	R
CONTROL	UNC	UNC	STOP	STOP	STOP	STOP	STOP	STOP
VOLUME (VPH)	8	6	14	0	3	12	0	31
VOLUME (PCPH)	9	7	15	0	3	13	0	34
CONFLICTING FLOW	1092	597	1726	1695	589	1698	1695	1084
CRITICAL GAP (SEC)	5.5	5.5	7.0	7.0	6.0	7.0	7.0	6.0
POTENTIAL CAPACITY	288	552	67	71	488	70	71	246
PERCENT OF CAPACITY	3	1		0	1		0	14
IMPEDEANCE FACTOR	0.98	0.99		1.00	1.00		1.00	0.91
ACTUAL CAPACITY	288	552	60	69	488	68	69	246
SHARED LANES			LTR			LTR		
SHARED LANE CAPACITY			71			142		
RESERVE CAPACITY	279	546	52			95		
LEVEL OF SERVICE	C	A	E			E		

Level of Service of Worst Movement

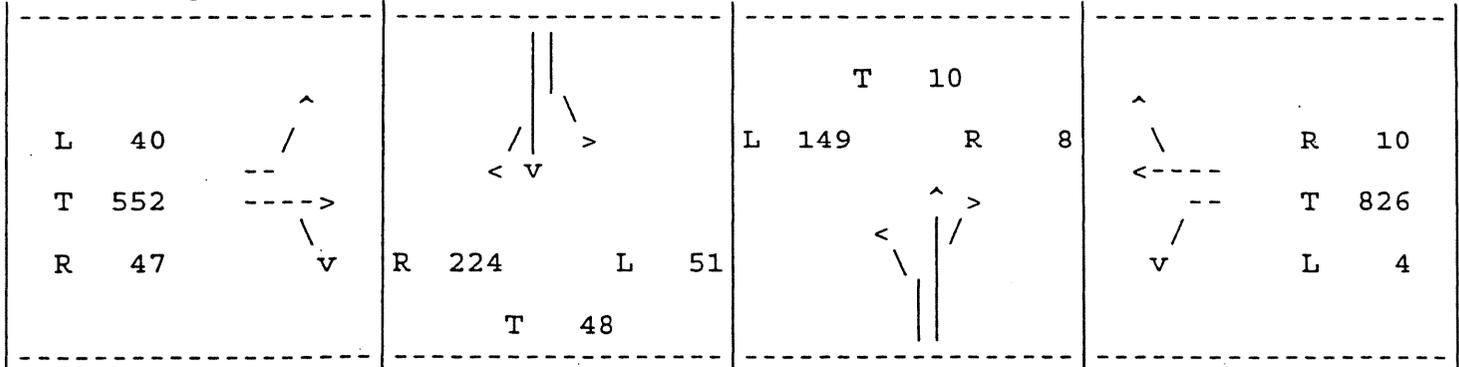
Worst Movement	NB	LTR
Reserve Capacity		52
Level of Service		E

Level of Service Criteria

Level of Service	Reserve Capacity
A	> 400
B	300 - 399
C	200 - 299
D	100 - 199
E	0 - 99
F	< 0

CONTINENTAL PLAZA TRAFFIC STUDY  
 PM PEAK HOUR (NO PROJECT)  
 INPUT: CONPMNP.VOA & CONPLAZA.GEO  
 Intersection: 4 N 7TH ST. & RICHARDS BLVD.

Lane Configuration and Turn Volumes

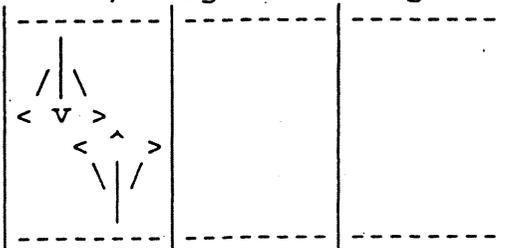


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	EXL	1	149	149
	TR	1	18	
SB	EXL	1	51	
	TR	1	272	272
EB	EXL	1	40	40
	TR	1	599	
WB	EXL	1	4	
	TR	1	836	836
Total Critical Volume				1297

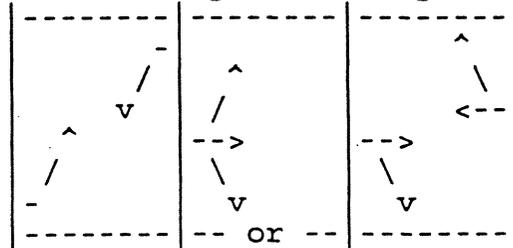
Level of Service	Maximum Total Critical Volumes		
	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 1297  
 No of Critical Phases = 3  
 Level of Service = E  
 Volume/Capacity = 0.91

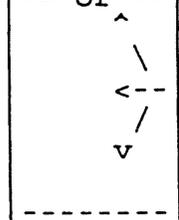
N/S Signal Phasing



E/W Signal Phasing

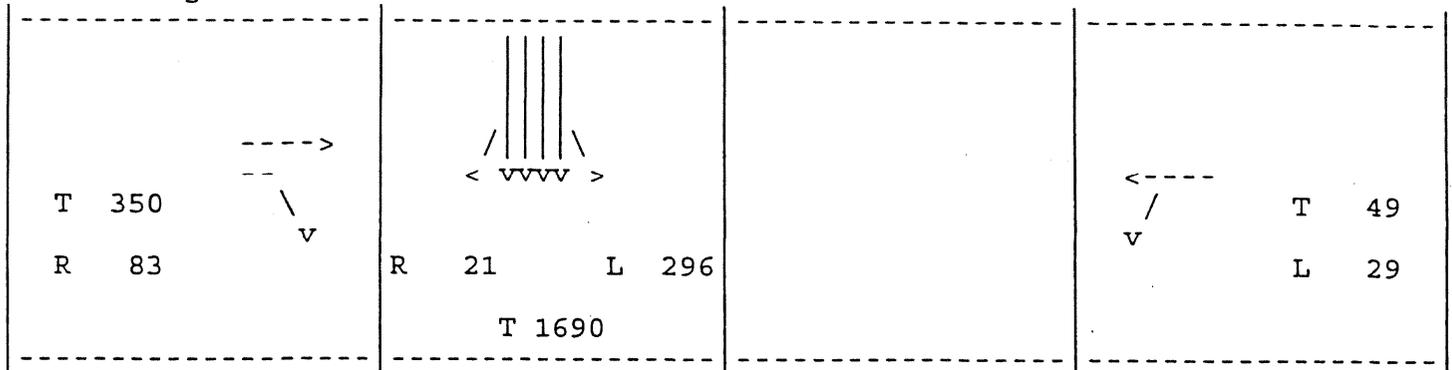


5 Phase Signal



CONTINENTAL PLAZA TRAFFIC STUDY  
 PM PEAK HOUR (NO PROJECT)  
 INPUT: CONPMNP.VOA & CONPLAZA.GEO  
 Intersection: 5 N 12TH ST. & SUNBEAM AVE.

Lane Configuration and Turn Volumes



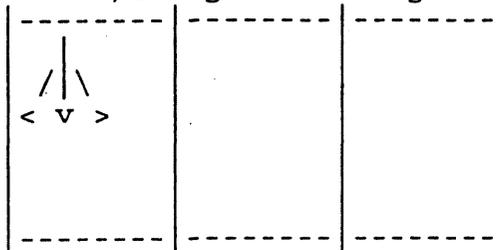
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	LTR	4	502	502
EB	T	1	350	350
	EXR	1	83	
WB	L	0	29	29
	T	1	107	
Total Critical Volume				881

Maximum Total Critical Volumes			
Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

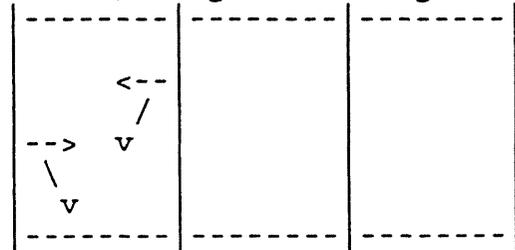
LRT ADJUSTMENT = 10%

Critical Volume	=	881
No of Critical Phases	=	2
Level of Service	=	B
Volume/Capacity	=	0.65

N/S Signal Phasing



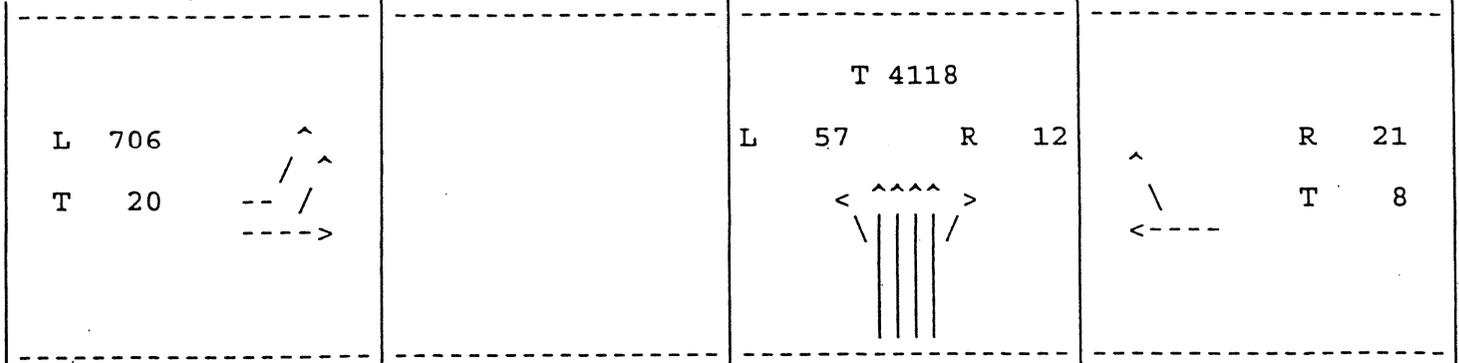
E/W Signal Phasing



2 Phase Signal

CONTINENTAL PLAZA TRAFFIC STUDY  
 PM PEAK HOUR (NO PROJECT)  
 INPUT: CONPMNP.VOA & CONPLAZA.GEO  
 Intersection: 6 N 16TH ST. & SPROULE AVE.

Lane Configuration and Turn Volumes

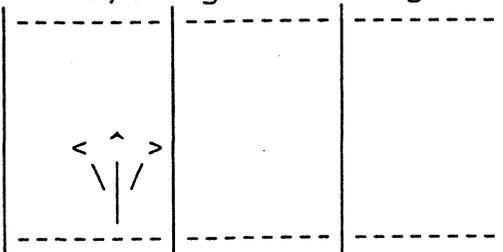


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	LTR	4	1047	1047
EB	LT	2	363	363
WB	TR	1	29	29
Total Critical Volume				1439

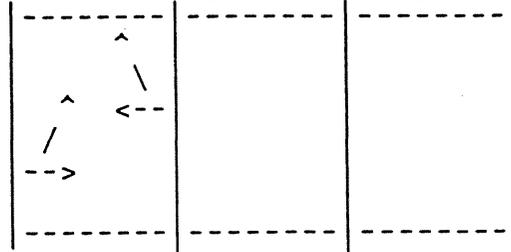
Level of Service	Maximum Total Critical Volumes		
	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 1439  
 No of Critical Phases = 2  
 Level of Service = E  
 Volume/Capacity = 0.96

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

CONTINENTAL PLAZA TRAFFIC STUDY  
 PM PEAK HOUR (NO PROJECT)  
 INPUT: CONPMNP.VOA & CONPLAZA.GEO  
 Intersection: 7 N 7TH ST. & N B ST.

Lane Configuration and Turn Volumes

L 14 T 53		R 99 T 27
	R 5      L 104	
	MAJOR ROADWAY (45 MPH)	MINOR ROADWAY (1-WAY STOP)
APPROACH	EB      WB	NB      SB
MOVEMENT	L	L      R
CONTROL	UNC	STOP      STOP
VOLUME (VPH)	14	104      5
VOLUME (PCPH)	15	114      6
CONFLICTING FLOW	126	144      77
CRITICAL GAP (SEC)	5.5	7.0      6.0
POTENTIAL CAPACITY	968	713      924
PERCENT OF CAPACITY	2	1
IMPEDENCE FACTOR	0.99	1.00
ACTUAL CAPACITY	968	706      924
SHARED LANES		LR
SHARED LANE CAPACITY		714
RESERVE CAPACITY	952	594
LEVEL OF SERVICE	A	A

Level of Service of Worst Movement

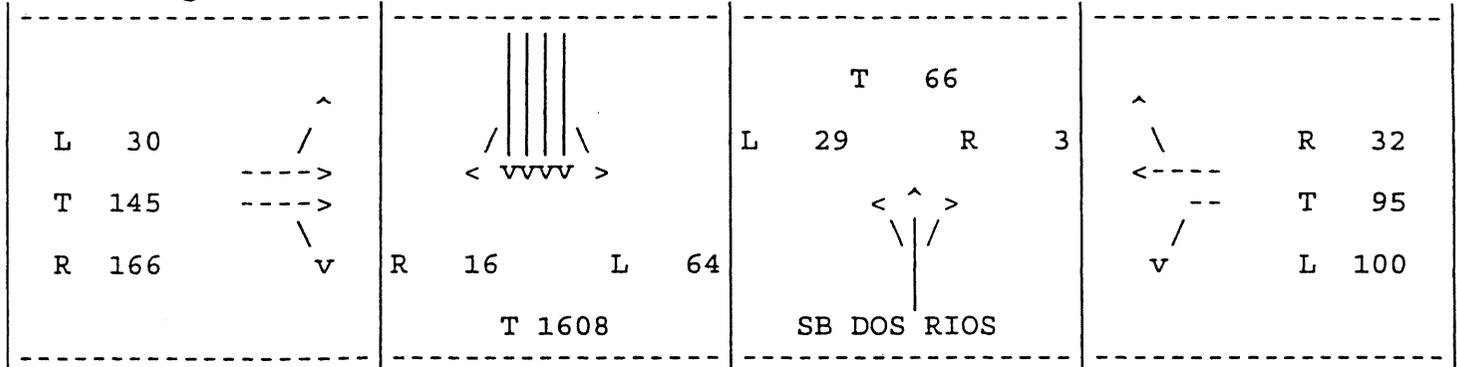
Worst Movement	SB      LR
Reserve Capacity	594
Level of Service	A

Level of Service Criteria

Level of Service	Reserve Capacity
A	> 400
B	300 - 399
C	200 - 299
D	100 - 199
E	0 - 99
F	< 0

CONTINENTAL PLAZA TRAFFIC STUDY  
 PM PEAK HOUR (NO PROJECT)  
 INPUT: CONPMNP.VOA & CONPLAZA.GEO  
 Intersection: 8 N 12TH/DOS RIOS & N B ST.

Lane Configuration and Turn Volumes



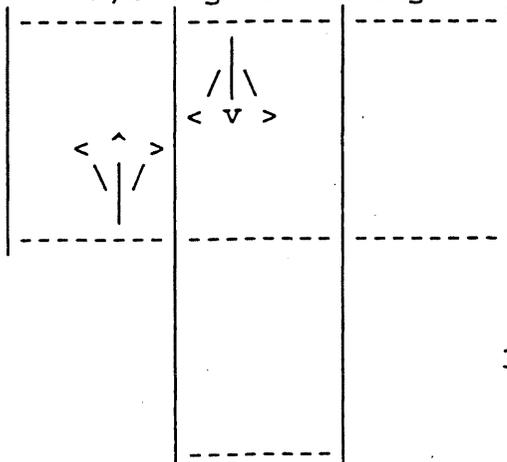
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB (DOS RIOS)	LTR	1	98	98
SB	LTR	3.9	433	433
EB	L	0	30	
	TR	2	172	172
WB	EXL	1	100	100
	TR	1	127	
Total Critical Volume				803

Level of Service	Maximum Total Critical Volumes		
	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

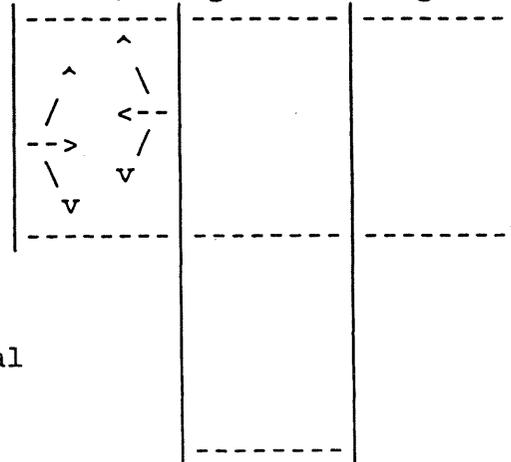
LRT ADJUSTMENT = 5%

Critical Volume = 803  
 No of Critical Phases = 3  
 Level of Service = A  
 Volume/Capacity = 0.59

N/S Signal Phasing



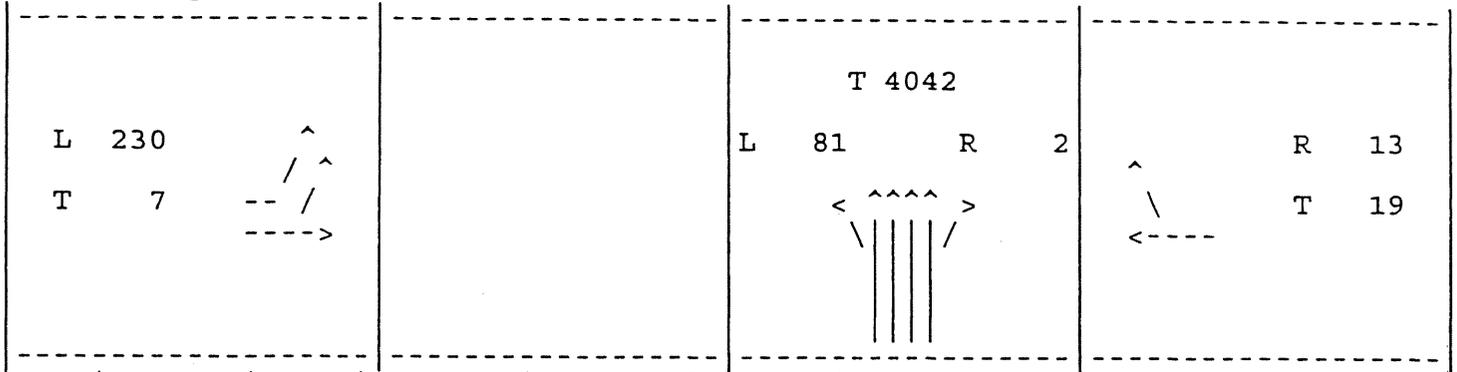
E/W Signal Phasing



3 Phase Signal

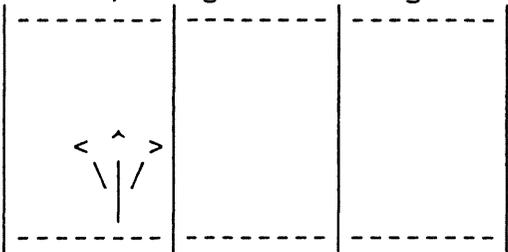
CONTINENTAL PLAZA TRAFFIC STUDY  
 PM PEAK HOUR (NO PROJECT)  
 INPUT: CONPMNP.VOA & CONPLAZA.GEO  
 Intersection: 9 N 16TH ST. & N B ST.

Lane Configuration and Turn Volumes

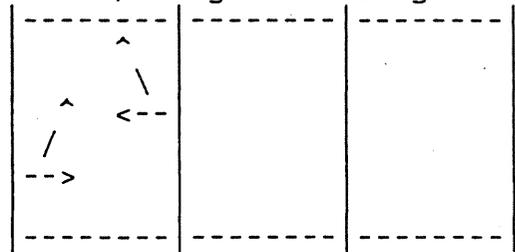


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume	Maximum Total Critical Volumes			
					Level of Service	Two Phase	Three Phase	Four Phase
NB	LTR	4	1031	1031				
EB	LT	2	119	119				
WB	TR	1	32	32				
Total Critical Volume				1182	Critical Volume = 1182 No of Critical Phases = 2 Level of Service = C Volume/Capacity = 0.79			

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal



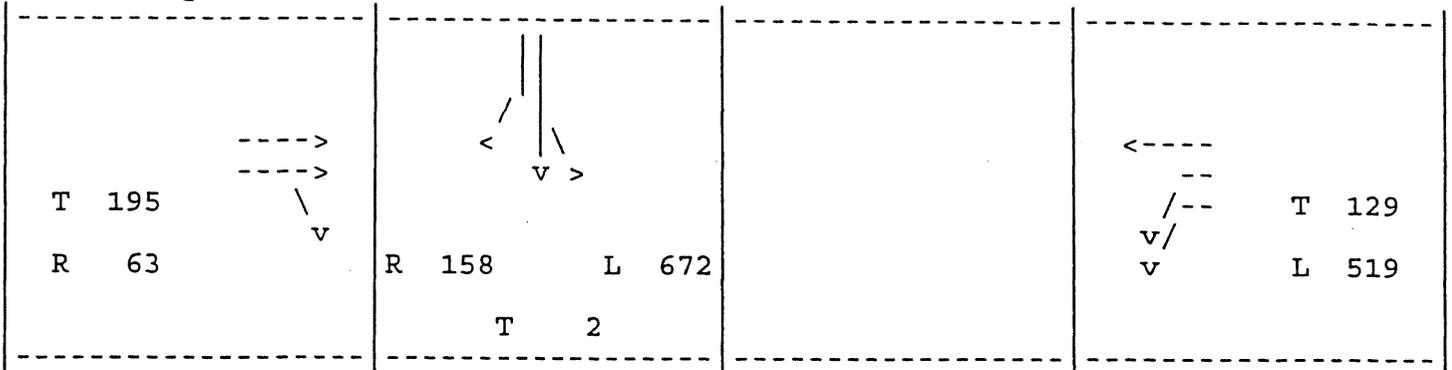
**CAPACITY ANALYSIS SUMMARIES**  
**Existing Plus Project Conditions**  
**- A.M. Peak Hour**

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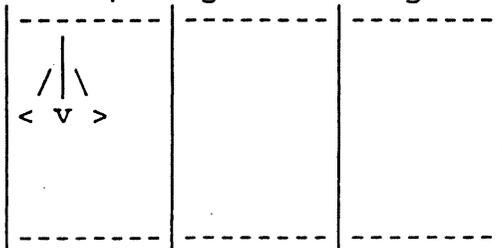
CONTINENTAL PLAZA TRAFFIC STUDY  
 AM PEAK HOUR (WITH PROJECT)  
 INPUT: CONAMWP.VOA & CONPLAZA.GEO  
 Intersection: 1 SB 1-5 RAMPS & RICHARDS BLVD.

Lane Configuration and Turn Volumes

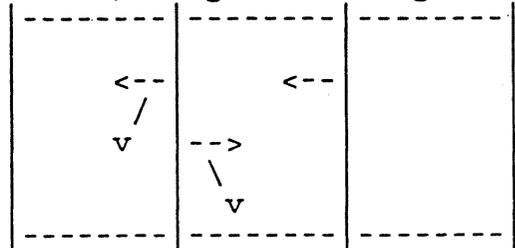


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume	Maximum Total Critical Volumes			
					Level of Service	Two Phase	Three Phase	Four Phase
SB	L	0	672	674	A	900	855	825
	T	1	674		B	1050	1000	965
	EXR	1	158		C	1200	1140	1100
EB	TR	2	129	129	D	1350	1275	1225
					E	1500	1425	1375
WB	EXL	2	260	260	F	NA	NA	NA
	T	1	129					
Total Critical Volume				1063	Critical Volume = 1063			
					No of Critical Phases = 3			
					Level of Service = C			
					Volume/Capacity = 0.75			

N/S Signal Phasing



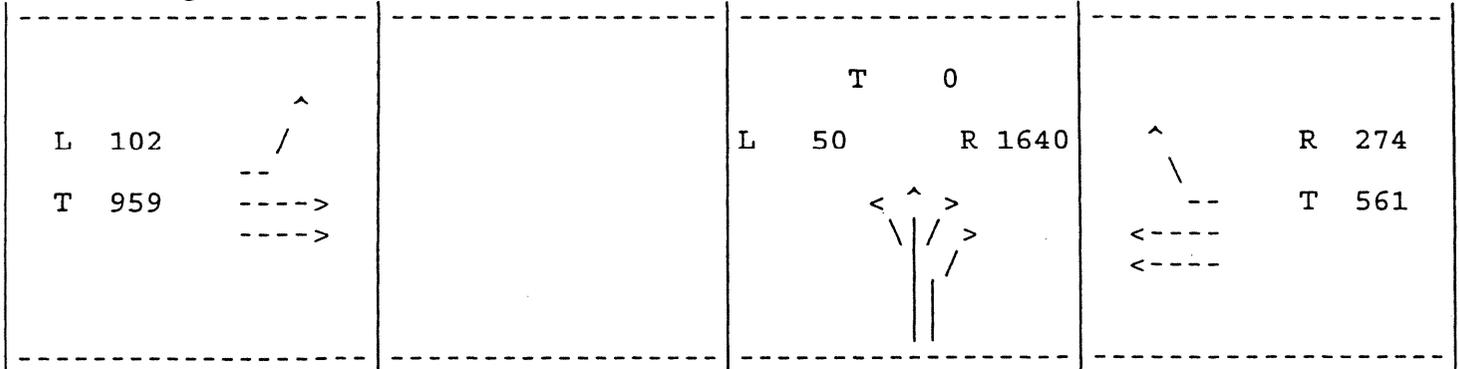
E/W Signal Phasing



3 Phase Signal

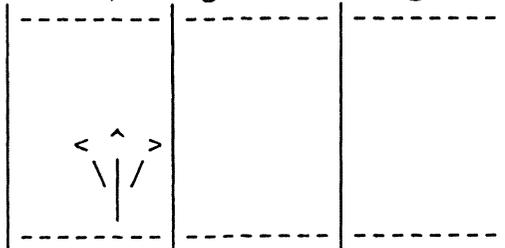
CONTINENTAL PLAZA TRAFFIC STUDY  
 AM PEAK HOUR (WITH PROJECT)  
 INPUT: CONAMWP.VOA & CONPLAZA.GEO  
 Intersection: 2 NB 1-5 RAMPS & RICHARDS BLVD.

Lane Configuration and Turn Volumes

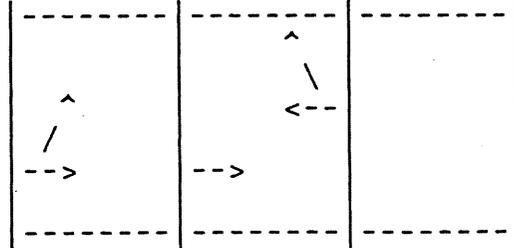


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume	Maximum Total Critical Volumes			
					Level of Service	Two Phase	Three Phase	Four Phase
NB	LTR	2	845	845				
EB	EXL	1	102	480	A	900	855	825
	T	2	480		B	1050	1000	965
WB	T	2	280		C	1200	1140	1100
	EXR	1	274		D	1350	1275	1225
					E	1500	1425	1375
					F	NA	NA	NA
Total Critical Volume				1325	Critical Volume = 1325			
					No of Critical Phases = 3			
					Level of Service = E			
					Volume/Capacity = 0.93			

N/S Signal Phasing



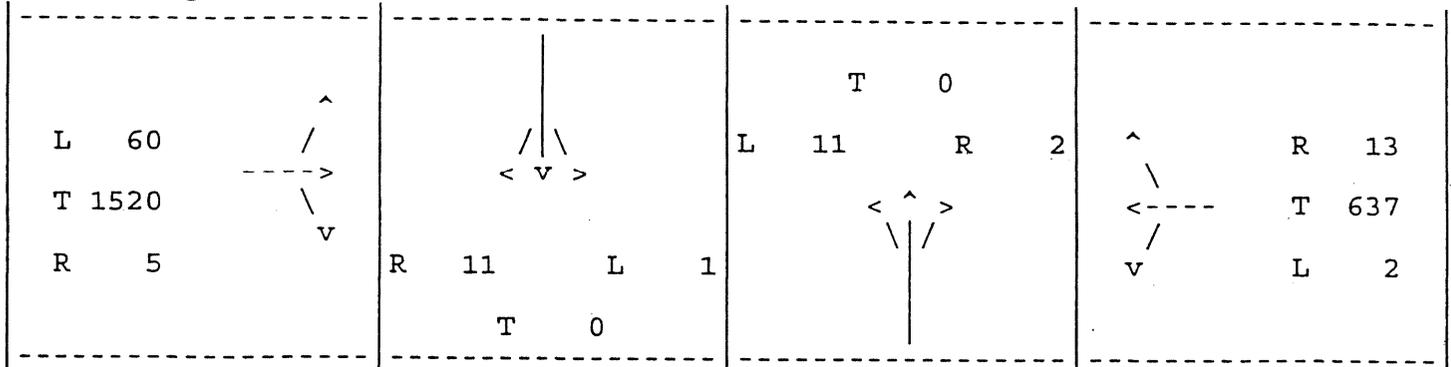
E/W Signal Phasing



3 Phase Signal

CONTINENTAL PLAZA TRAFFIC STUDY  
 AM PEAK HOUR (WITH PROJECT)  
 INPUT: CONAMWP.VOA & CONPLAZA.GEO  
 Intersection: 3 N 5TH ST. & RICHARDS BLVD.

Lane Configuration and Turn Volumes



APPROACH	MAJOR ROADWAY (45 MPH)		MINOR ROADWAY (2-WAY STOP)					
	EB	WB	NB			SB		
	L	L	L	T	R	L	T	R
CONTROL	UNC	UNC	STOP	STOP	STOP	STOP	STOP	STOP
VOLUME (VPH)	60	2	11	0	2	1	0	11
VOLUME (PCPH)	66	2	12	0	2	1	0	12
CONFLICTING FLOW	650	1525	2245	2235	1523	2232	2231	644
CRITICAL GAP (SEC)	5.5	5.5	7.0	7.0	6.0	7.0	7.0	6.0
POTENTIAL CAPACITY	518	159	N/A	N/A	132	N/A	N/A	456
PERCENT OF CAPACITY	13	1		N/A	2		N/A	3
IMPEDENCE FACTOR	0.92	0.99		N/A	0.99		N/A	0.98
ACTUAL CAPACITY	518	159	N/A	N/A	132	N/A	N/A	456
SHARED LANES			LTR			LTR		
SHARED LANE CAPACITY			N/A			N/A		
RESERVE CAPACITY	452	157	N/A			N/A		
LEVEL OF SERVICE	A	D	N/A			N/A		

WARNING: Conflicting Movements > 1800 on one or more movements

Level of Service of Worst Movement

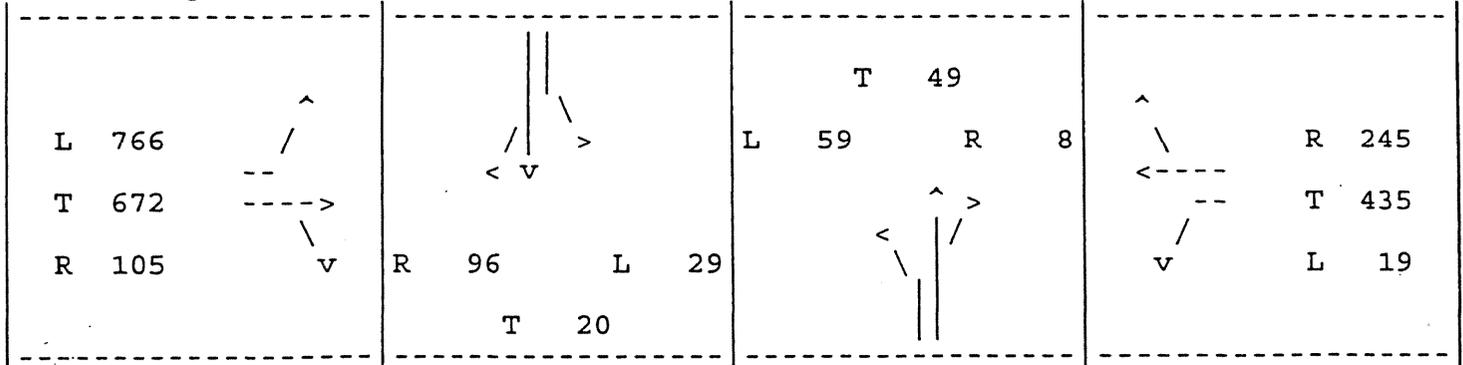
Worst Movement
Reserve Capacity
Level of Service

Level of Service Criteria

Level of Service	Reserve Capacity
A	> 400
B	300 - 399
C	200 - 299
D	100 - 199
E	0 - 99
F	< 0

CONTINENTAL PLAZA TRAFFIC STUDY  
 AM PEAK HOUR (WITH PROJECT)  
 INPUT: CONAMWP.VOA & CONPLAZA.GEO  
 Intersection: 4 N 7TH ST. & RICHARDS BLVD.

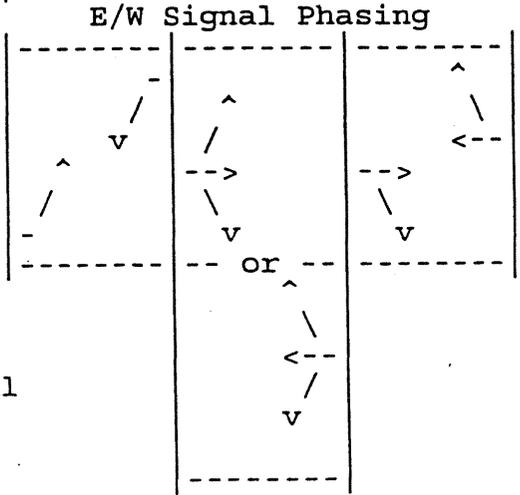
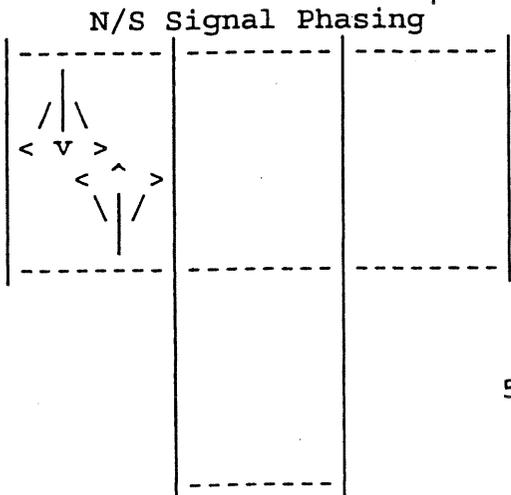
Lane Configuration and Turn Volumes



Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume	Maximum Total Critical Volumes							
					Level of Service	Two Phase	Three Phase	Four Phase				
NB	EXL	1	59	59	A	900	855	825				
	TR	1	57									
SB	EXL	1	29	116					B	1050	1000	965
	TR	1	116						C	1200	1140	1100
EB	EXL	1	766	766					D	1350	1275	1225
	TR	1	777						E	1500	1425	1375
WB	EXL	1	19	680	F	NA	NA	NA				
	TR	1	680									
Total Critical Volume				1621								

Level of Service	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

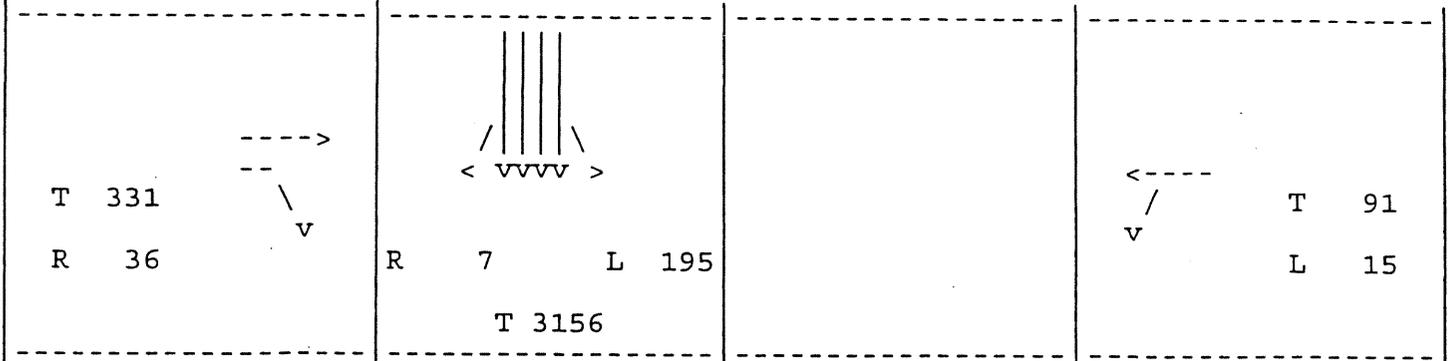
Critical Volume = 1621  
 No of Critical Phases = 3  
 Level of Service = F  
 Volume/Capacity = 1.14



5 Phase Signal

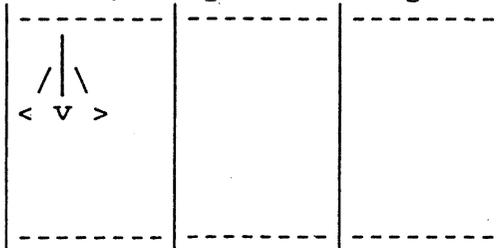
CONTINENTAL PLAZA TRAFFIC STUDY  
 AM PEAK HOUR (WITH PROJECT)  
 INPUT: CONAMWP.VOA & CONPLAZA.GEO  
 Intersection: 5 N 12TH ST. & SUNBEAM AVE.

Lane Configuration and Turn Volumes

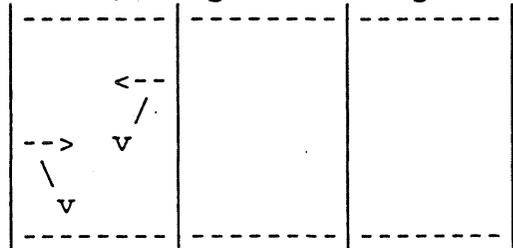


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume	Maximum Total Critical Volumes			
					Level of Service	Two Phase	Three Phase	Four Phase
SB	LTR	4	840	840	A	900	855	825
EB	T	1	331	331	B	1050	1000	965
	EXR	1	36		C	1200	1140	1100
WB	L	0	15	15	D	1350	1275	1225
	T	1	121		E	1500	1425	1375
Total Critical Volume					F	NA	NA	NA
					LRT ADJUSTMENT = 10%			
					Critical Volume = 1186			
					No of Critical Phases = 2			
					Level of Service = D			
					Volume/Capacity = 0.87			

N/S Signal Phasing



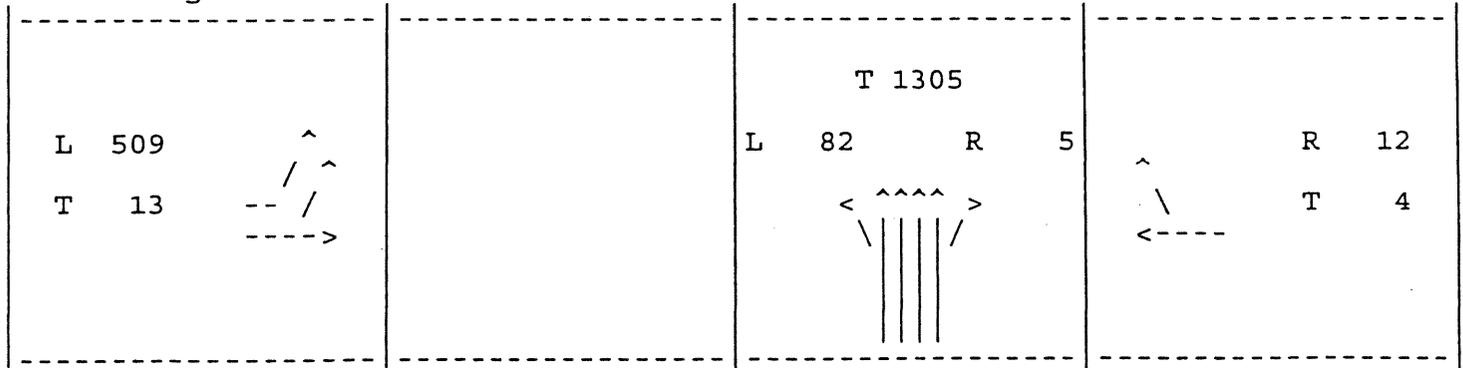
E/W Signal Phasing



2 Phase Signal

CONTINENTAL PLAZA TRAFFIC STUDY  
 AM PEAK HOUR (WITH PROJECT)  
 INPUT: CONAMWP.VOA & CONPLAZA.GEO  
 Intersection: 6 N 16TH ST. & SPROULE AVE.

Lane Configuration and Turn Volumes

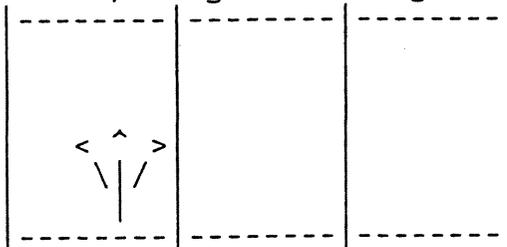


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	LTR	3	348	348
EB	LT	2	261	261
WB	TR	1	16	16
Total Critical Volume				625

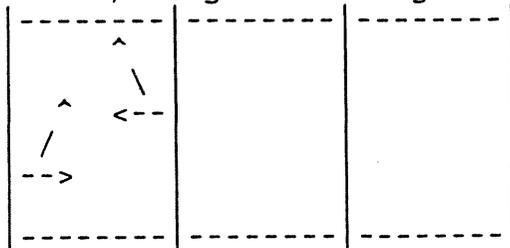
Level of Service	Maximum Total Critical Volumes		
	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 625  
 No of Critical Phases = 2  
 Level of Service = A  
 Volume/Capacity = 0.42

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

CONTINENTAL PLAZA TRAFFIC STUDY  
 AM PEAK HOUR (WITH PROJECT)  
 INPUT: CONAMWP.VOA & CONPLAZA.GEO  
 Intersection: 7 N 7TH ST. & N B ST.

Lane Configuration and Turn Volumes

L 21 T 77		R 14 L 106	R 196 T 92	
MAJOR ROADWAY (45 MPH)		MINOR ROADWAY (1-WAY STOP)		
APPROACH	EB	WB	NB	SB
MOVEMENT	L			L      R
CONTROL	UNC			STOP      STOP
VOLUME (VPH)	21			106      14
VOLUME (PCPH)	23			117      15
CONFLICTING FLOW	288			288      190
CRITICAL GAP (SEC)	5.5			7.0      6.0
POTENTIAL CAPACITY	806			590      810
PERCENT OF CAPACITY	3			2
IMPEDENCE FACTOR	0.98			0.99
ACTUAL CAPACITY	806			579      810
SHARED LANES				LR
SHARED LANE CAPACITY				599
RESERVE CAPACITY	783			467
LEVEL OF SERVICE	A			A

Level of Service of Worst Movement

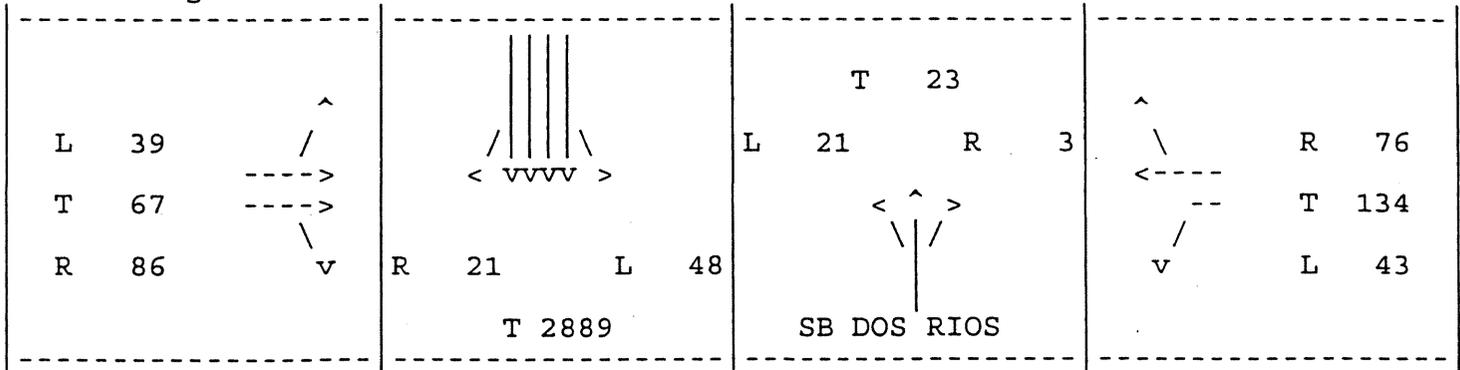
Worst Movement	SB	LR
Reserve Capacity	467	
Level of Service	A	

Level of Service Criteria

Level of Service	Reserve Capacity
A	> 400
B	300 - 399
C	200 - 299
D	100 - 199
E	0 - 99
F	< 0

CONTINENTAL PLAZA TRAFFIC STUDY  
 AM PEAK HOUR (WITH PROJECT)  
 INPUT: CONAMWP.VOA & CONPLAZA.GEO  
 Intersection: 8 N 12TH/DOS RIOS & N B ST.

Lane Configuration and Turn Volumes

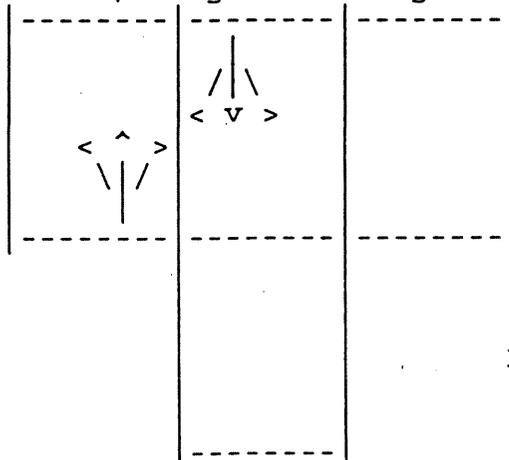


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume	Maximum Total Critical Volumes			
					Level of Service	Two Phase	Three Phase	Four Phase
SB (DOS RIOS)	LTR	1	47	47				
SB	LTR	3.9	758	758	A	900	855	825
EB	L	0	39	39	B	1050	1000	965
	TR	2	116		C	1200	1140	1100
WB	EXL	1	43		D	1350	1275	1225
	TR	1	210	210	E	1500	1425	1375
Total Critical Volume				1054	F	NA	NA	NA

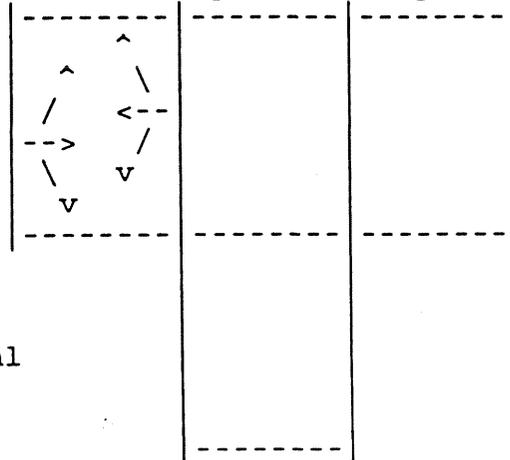
LRT ADJUSTMENT = 5%

Critical Volume = 1054  
 No of Critical Phases = 3  
 Level of Service = C  
 Volume/Capacity = 0.78

N/S Signal Phasing



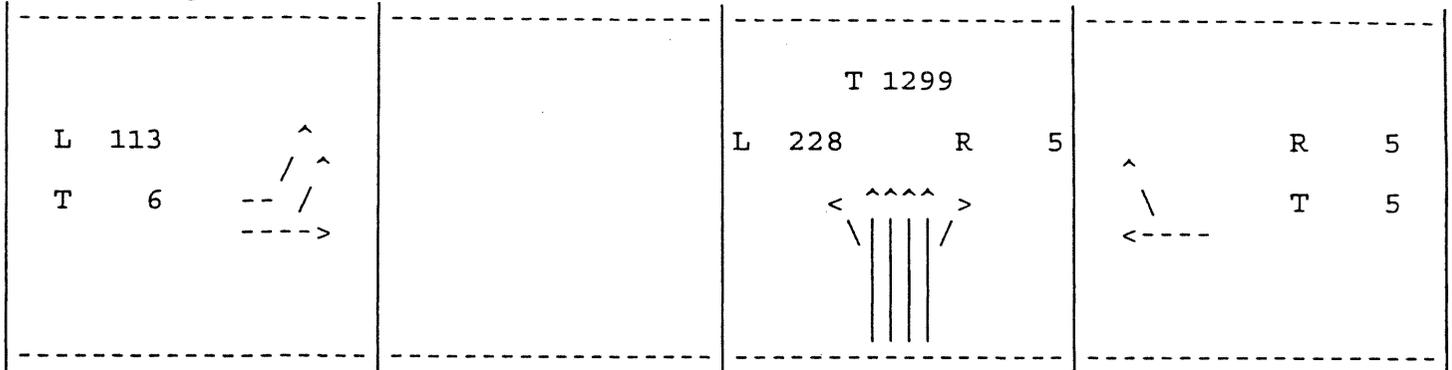
E/W Signal Phasing



3 Phase Signal

CONTINENTAL PLAZA TRAFFIC STUDY  
 AM PEAK HOUR (WITH PROJECT)  
 INPUT: CONAMWP.VOA & CONPLAZA.GEO  
 Intersection: 9 N 16TH ST. & N B ST.

Lane Configuration and Turn Volumes

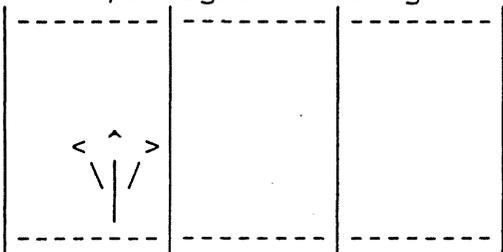


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	LTR	4	383	383
EB	LT	2	60	60
	T	2	65	
WB	TR	1	10	10
Total Critical Volume				453

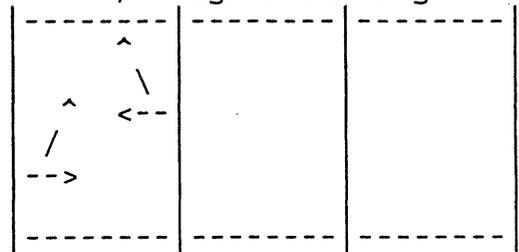
Level of Service	Maximum Total Critical Volumes		
	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 453  
 No of Critical Phases = 2  
 Level of Service = A  
 Volume/Capacity = 0.30

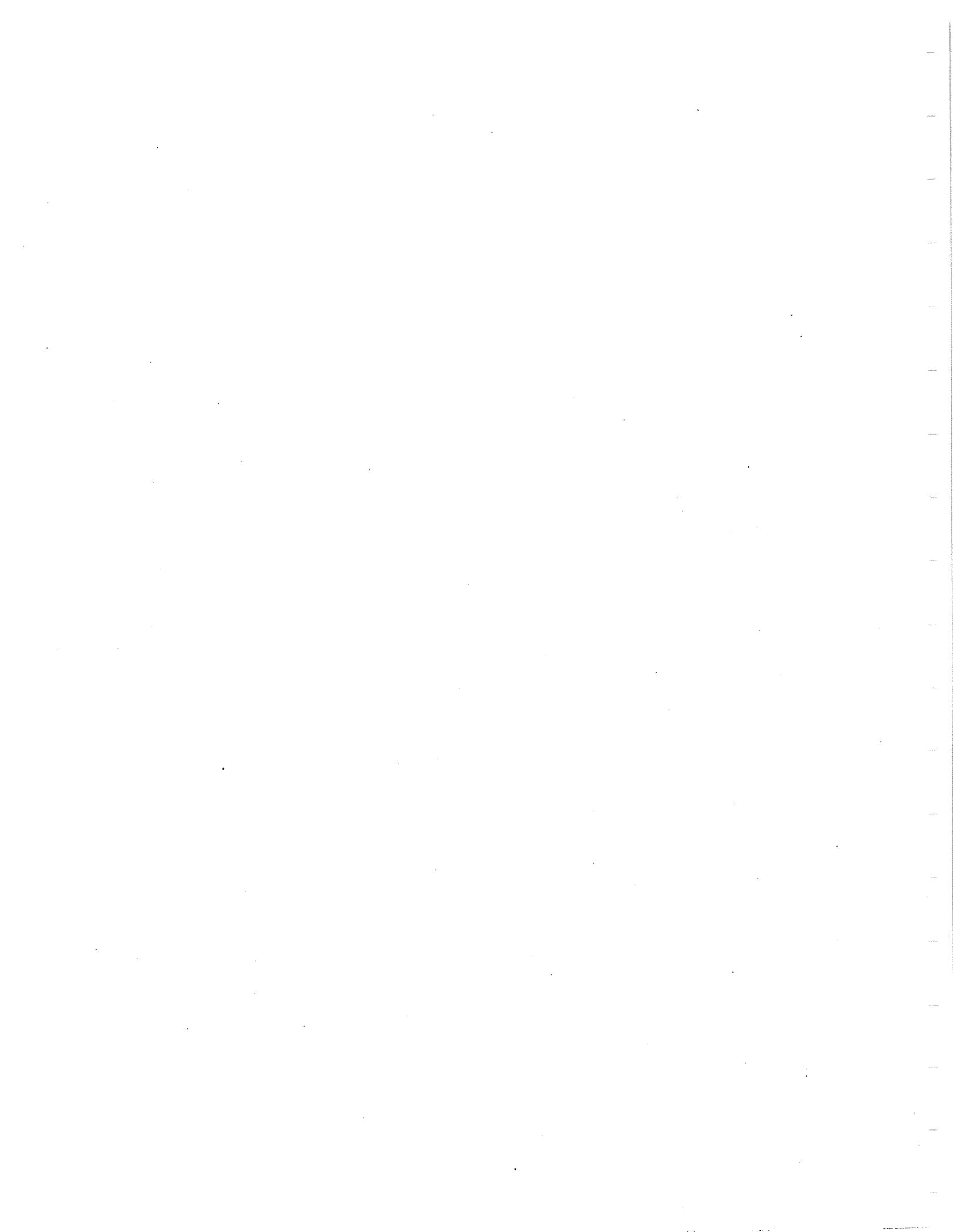
N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

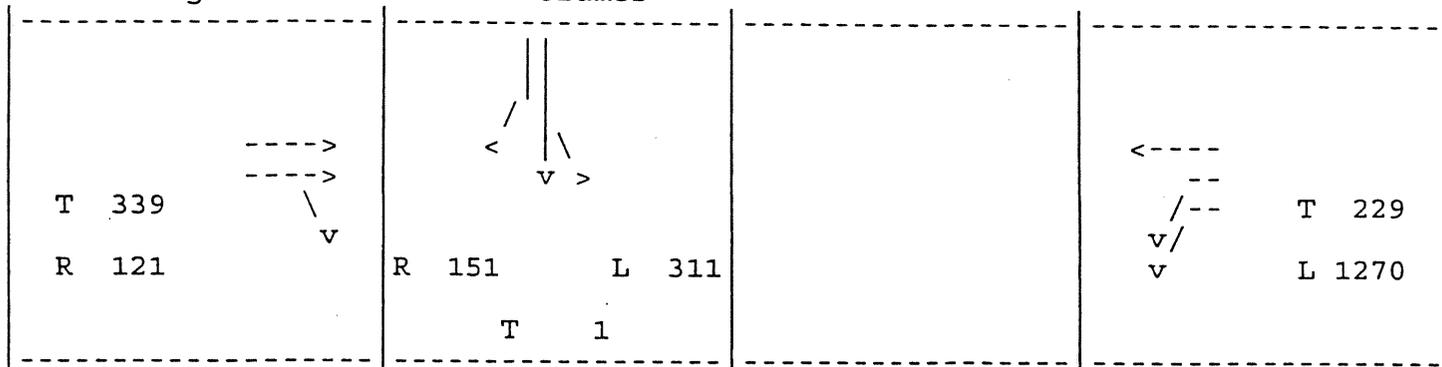


**CAPACITY ANALYSIS SUMMARIES**  
**Existing Plus Project Conditions**  
**- P.M. Peak Hour**



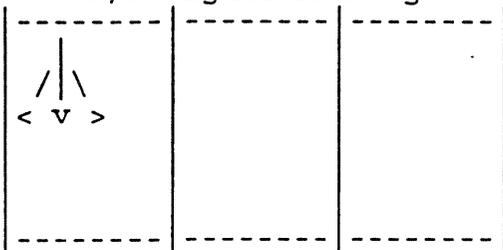
CONTINENTAL PLAZA TRAFFIC STUDY  
 PM PEAK HOUR (WITH PROJECT)  
 INPUT: CONPMWP.VOA & CONPLAZA.GEO  
 Intersection: 1 SB 1-5 RAMPS & RICHARDS BLVD.

Lane Configuration and Turn Volumes

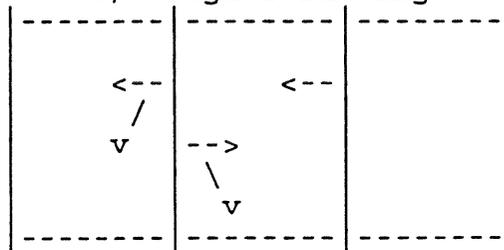


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume	Maximum Total Critical Volumes			
					Level of Service	Two Phase	Three Phase	Four Phase
SB	L	0	311	312	A	900	855	825
	T	1	312		B	1050	1000	965
	EXR	1	151		C	1200	1140	1100
EB	TR	2	230	230	D	1350	1275	1225
					E	1500	1425	1375
WB	EXL	2	635	635	F	NA	NA	NA
					T	1	229	
Total Critical Volume				1177	Critical Volume = 1177			
					No of Critical Phases = 3			
					Level of Service = D			
					Volume/Capacity = 0.83			

N/S Signal Phasing



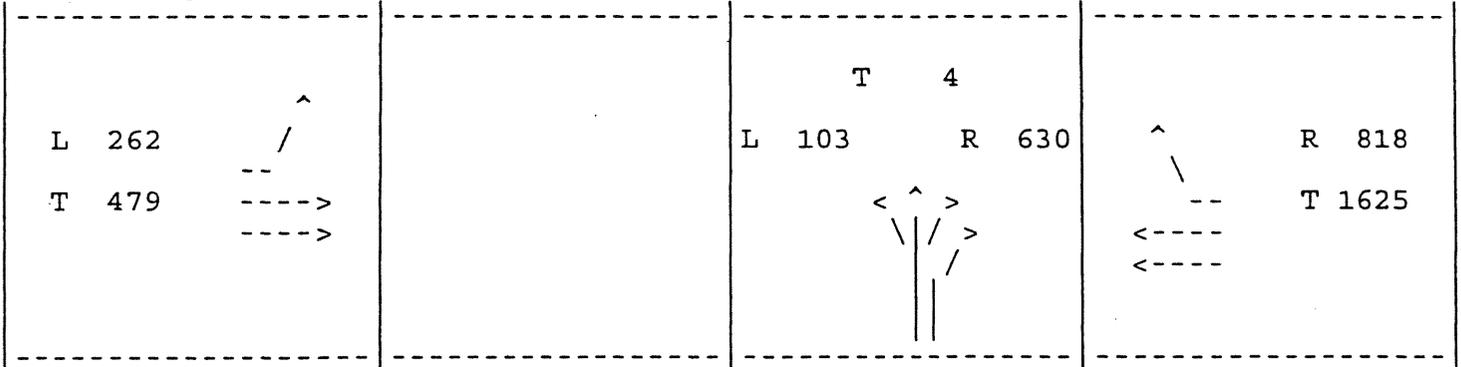
E/W Signal Phasing



3 Phase Signal

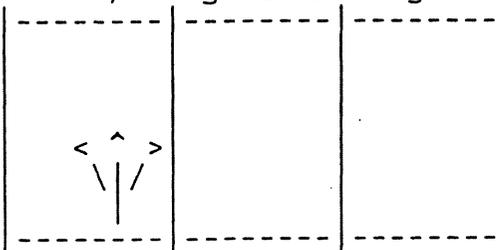
CONTINENTAL PLAZA TRAFFIC STUDY  
 PM PEAK HOUR (WITH PROJECT)  
 INPUT: CONPMWP.VOA & CONPLAZA.GEO  
 Intersection: 2 NB 1-5 RAMPS & RICHARDS BLVD.

Lane Configuration and Turn Volumes

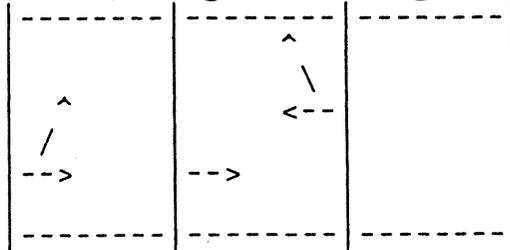


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume	Maximum Total Critical Volumes			
					Level of Service	Two Phase	Three Phase	Four Phase
NB	LTR	2	368	368				
EB	EXL	1	262	262	A	900	855	825
	T	2	240		B	1050	1000	965
WB	T	2	812	812	C	1200	1140	1100
	EXR	1	818		D	1350	1275	1225
Total Critical Volume					E	1500	1425	1375
					F	NA	NA	NA
					Critical Volume = 1442			
					No of Critical Phases = 3			
					Level of Service = F			
					Volume/Capacity = 1.01			

N/S Signal Phasing



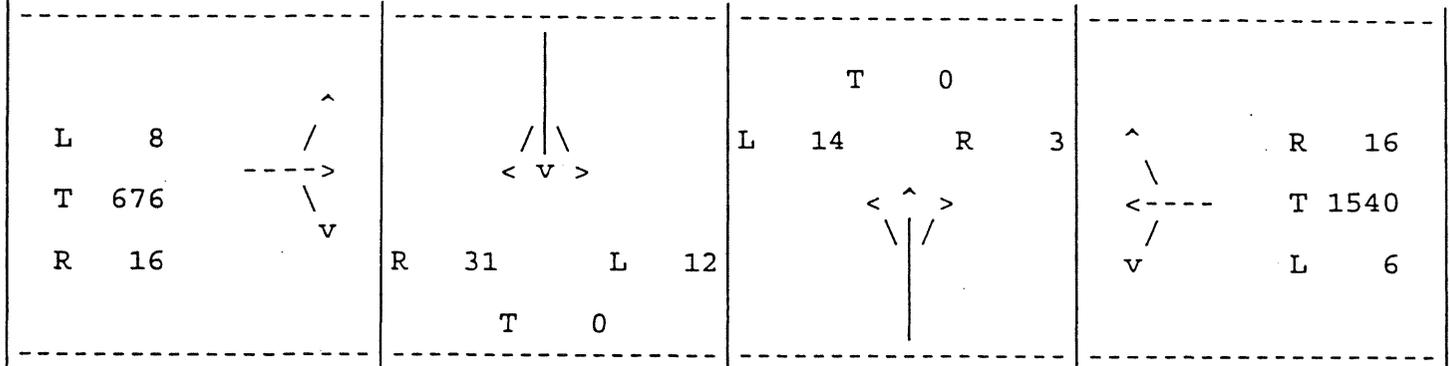
E/W Signal Phasing



3 Phase Signal

CONTINENTAL PLAZA TRAFFIC STUDY  
 PM PEAK HOUR (WITH PROJECT)  
 INPUT: CONPMWP.VOA & CONPLAZA.GEO  
 Intersection: 3 N 5TH ST. & RICHARDS BLVD.

Lane Configuration and Turn Volumes



APPROACH	MAJOR ROADWAY (45 MPH)		MINOR ROADWAY (2-WAY STOP)					
	EB	WB	NB			SB		
	L	L	L	T	R	L	T	R
CONTROL	UNC	UNC	STOP	STOP	STOP	STOP	STOP	STOP
VOLUME (VPH)	8	6	14	0	3	12	0	31
VOLUME (PCPH)	9	7	15	0	3	13	0	34
CONFLICTING FLOW	1556	692	2285	2254	684	2257	2254	1548
CRITICAL GAP (SEC)	5.5	5.5	7.0	7.0	6.0	7.0	7.0	6.0
POTENTIAL CAPACITY	151	490	N/A	N/A	434	N/A	N/A	128
PERCENT OF CAPACITY	6	1		N/A	1		N/A	27
IMPEDENCE FACTOR	0.97	0.99		N/A	1.00		N/A	0.82
ACTUAL CAPACITY	151	490	N/A	N/A	434	N/A	N/A	128
SHARED LANES			LTR			LTR		
SHARED LANE CAPACITY			N/A			N/A		
RESERVE CAPACITY	142	484	N/A			N/A		
LEVEL OF SERVICE	D	A	N/A			N/A		

WARNING: Conflicting Movements > 1800 on one or more movements

Level of Service of Worst Movement

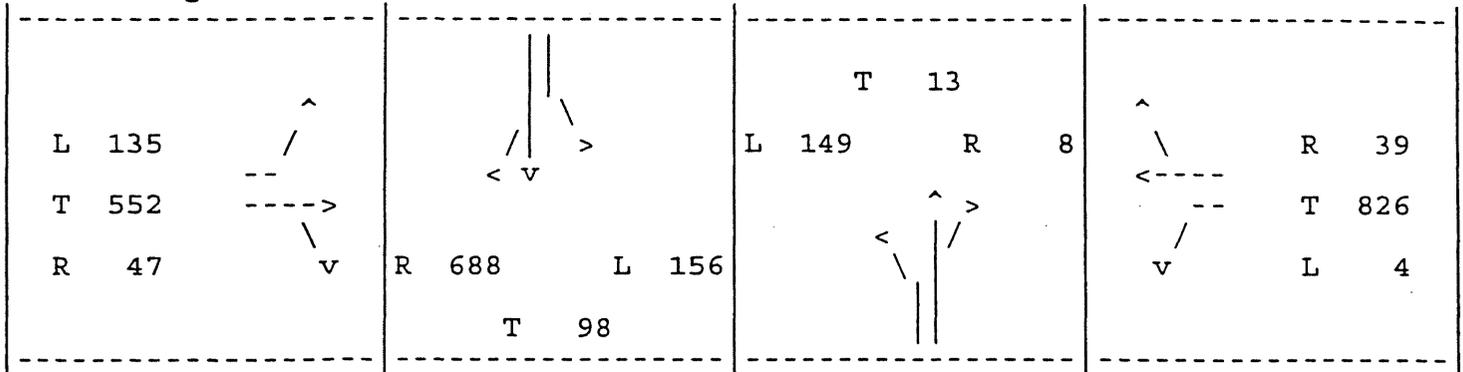
Worst Movement
Reserve Capacity
Level of Service

Level of Service Criteria

Level of Service	Reserve Capacity
A	> 400
B	300 - 399
C	200 - 299
D	100 - 199
E	0 - 99
F	< 0

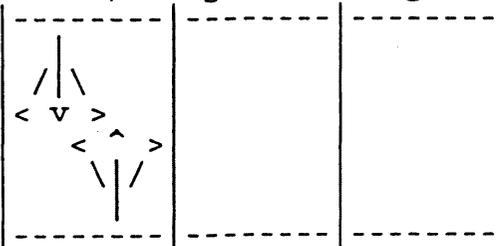
CONTINENTAL PLAZA TRAFFIC STUDY  
 PM PEAK HOUR (WITH PROJECT)  
 INPUT: CONPMWP.VOA & CONPLAZA.GEO  
 Intersection: 4 N 7TH ST. & RICHARDS BLVD.

Lane Configuration and Turn Volumes

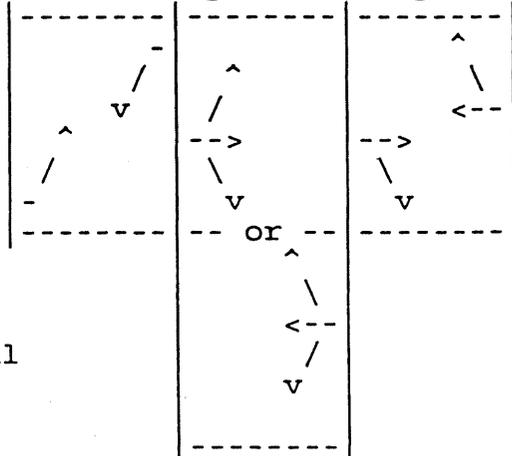


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume	Maximum Total Critical Volumes			
					Level of Service	Two Phase	Three Phase	Four Phase
NB	EXL	1	149	149	A	900	855	825
	TR	1	21					
SB	EXL	1	156	786	B	1050	1000	965
	TR	1	786		C	1200	1140	1100
EB	EXL	1	135	135	D	1350	1275	1225
	TR	1	599		E	1500	1425	1375
WB	EXL	1	4	865	F	NA	NA	NA
	TR	1	865					
Total Critical Volume				1935	Critical Volume = 1935			
					No of Critical Phases = 3			
					Level of Service = F			
					Volume/Capacity = 1.36			

N/S Signal Phasing



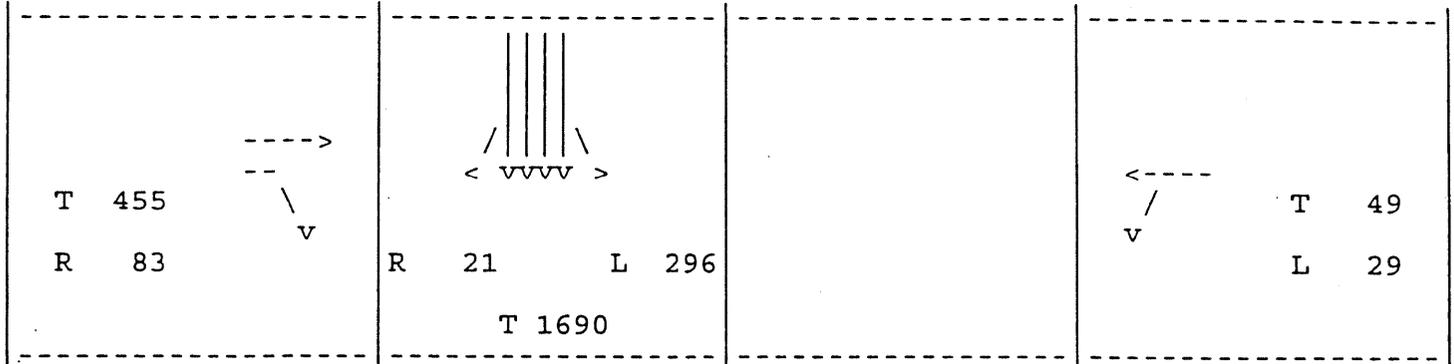
E/W Signal Phasing



5 Phase Signal

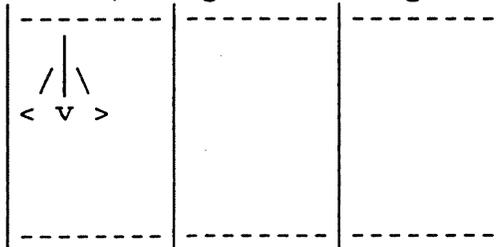
CONTINENTAL PLAZA TRAFFIC STUDY  
 PM PEAK HOUR (WITH PROJECT)  
 INPUT: CONPMWP.VOA & CONPLAZA.GEO  
 Intersection: 5 N 12TH ST. & SUNBEAM AVE.

Lane Configuration and Turn Volumes

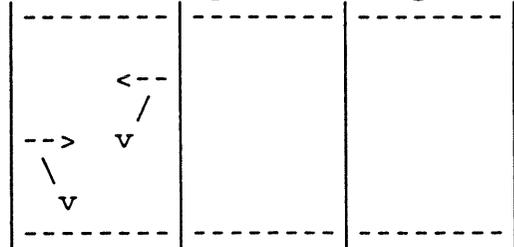


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume	Maximum Total Critical Volumes			
					Level of Service	Two Phase	Three Phase	Four Phase
SB	LTR	4	502	502	A	900	855	825
EB	T	1	455	455	B	1050	1000	965
	EXR	1	83		C	1200	1140	1100
WB	L	0	29	29	D	1350	1275	1225
	T	1	107		E	1500	1425	1375
Total Critical Volume					F	NA	NA	NA
					LRT ADJUSTMENT = 10%			
					Critical Volume = 986			
					No of Critical Phases = 2			
					Level of Service = C			
					Volume/Capacity = 0.73			

N/S Signal Phasing



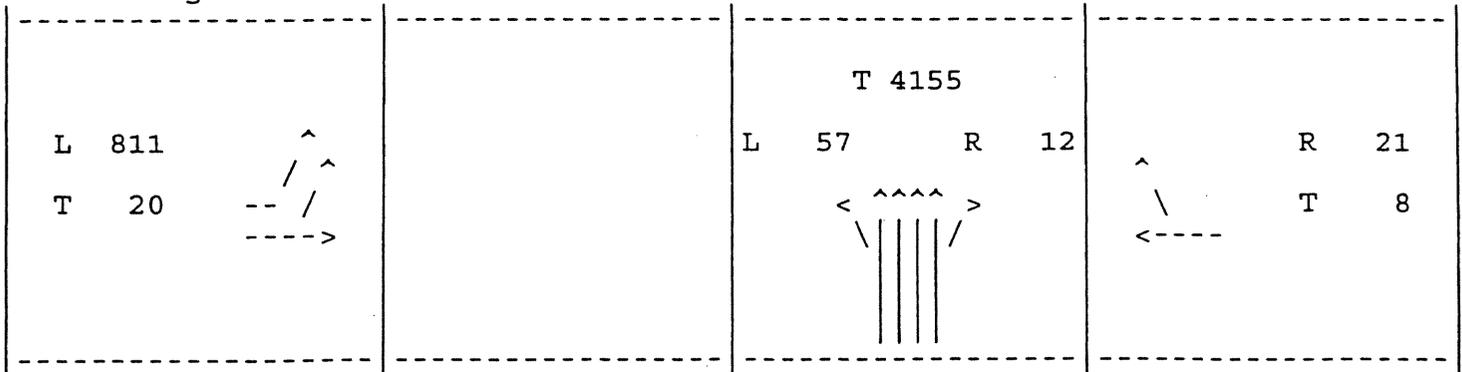
E/W Signal Phasing



2 Phase Signal

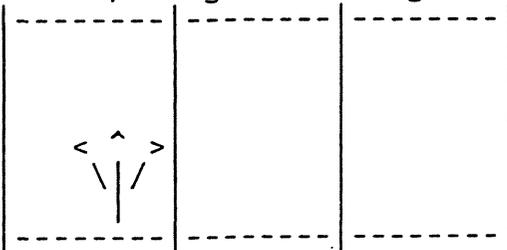
CONTINENTAL PLAZA TRAFFIC STUDY  
 PM PEAK HOUR (WITH PROJECT)  
 INPUT: CONPMWP.VOA & CONPLAZA.GEO  
 Intersection: 6 N 16TH ST. & SPROULE AVE.

Lane Configuration and Turn Volumes

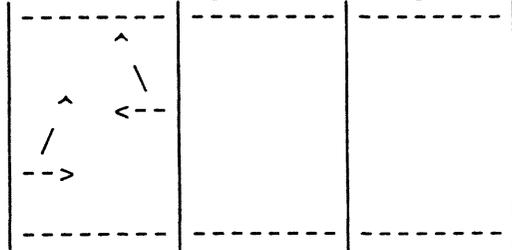


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume	Maximum Total Critical Volumes			
					Level of Service	Two Phase	Three Phase	Four Phase
NB	LTR	4	1056	1056				
EB	LT	2	416	416	A	900	855	825
					B	1050	1000	965
					C	1200	1140	1100
					D	1350	1275	1225
					E	1500	1425	1375
					F	NA	NA	NA
WB	TR	1	29	29				
Total Critical Volume				1501	Critical Volume = 1501			
					No of Critical Phases = 2			
					Level of Service = F			
					Volume/Capacity = 1.00			

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal

CONTINENTAL PLAZA TRAFFIC STUDY  
 PM PEAK HOUR (WITH PROJECT)  
 INPUT: CONPMWP.VOA & CONPLAZA.GEO  
 Intersection: 7 N 7TH ST. & N B ST.

Lane Configuration and Turn Volumes

L 14 T 53				
	MAJOR ROADWAY (45 MPH)	MINOR ROADWAY (1-WAY STOP)		
APPROACH	EB	WB	NB	SB
MOVEMENT	L			L      R
CONTROL	UNC			STOP      STOP
VOLUME (VPH)	14			154      5
VOLUME (PCPH)	15			169      6
CONFLICTING FLOW	129			145      78
CRITICAL GAP (SEC)	5.5			7.0      6.0
POTENTIAL CAPACITY	965			712      922
PERCENT OF CAPACITY	2			1
IMPEDENCE FACTOR	0.99			1.00
ACTUAL CAPACITY	965			705      922
SHARED LANES				LR
SHARED LANE CAPACITY				711
RESERVE CAPACITY	949			536
LEVEL OF SERVICE	A			A

Level of Service of Worst Movement

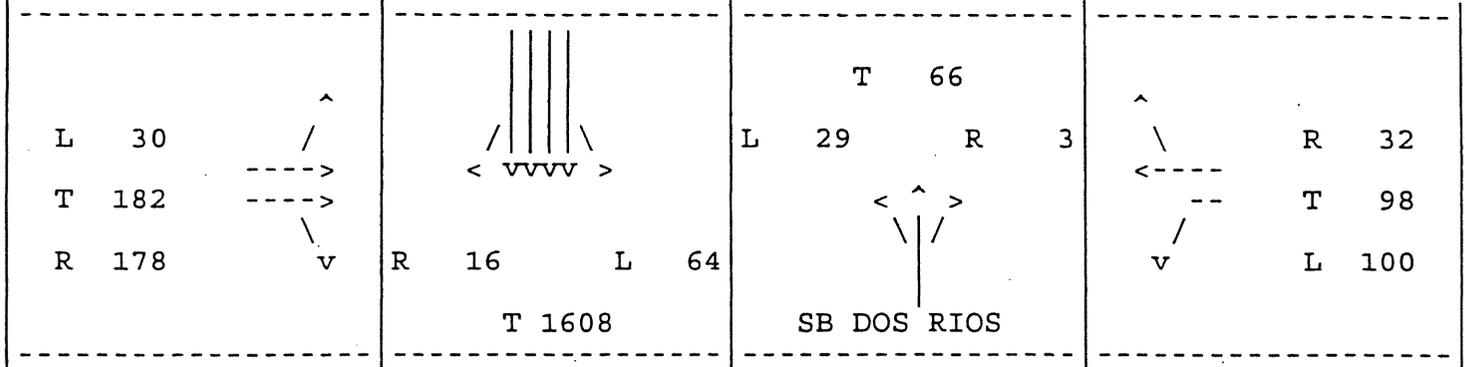
Worst Movement	SB	LR
Reserve Capacity	536	
Level of Service	A	

Level of Service Criteria

Level of Service	Reserve Capacity
A	> 400
B	300 - 399
C	200 - 299
D	100 - 199
E	0 - 99
F	< 0

CONTINENTAL PLAZA TRAFFIC STUDY  
 PM PEAK HOUR (WITH PROJECT)  
 INPUT: CONPMWP.VOA & CONPLAZA.GEO  
 Intersection: 8 N 12TH/DOS RIOS & N B ST.

Lane Configuration and Turn Volumes



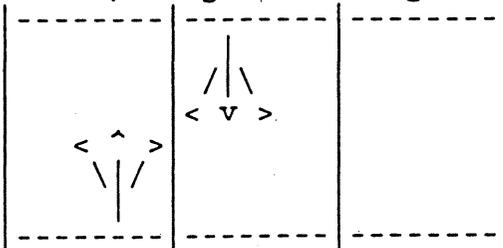
Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB (DOS RIOS)	LTR	1	98	98
SB	LTR	3.9	433	433
EB	L	0	30	
	TR	2	196	196
WB	EXL	1	100	100
	TR	1	130	
Total Critical Volume				827

Level of Service	Maximum Total Critical Volumes		
	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

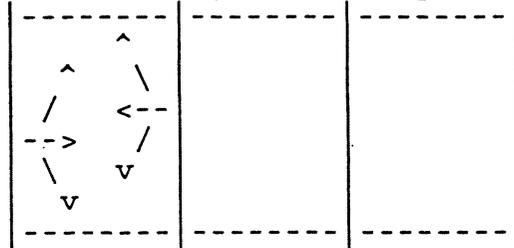
LRT ADJUSTMENT = 5%

Critical Volume = 827  
 No of Critical Phases = 3  
 Level of Service = B  
 Volume/Capacity = 0.61

N/S Signal Phasing



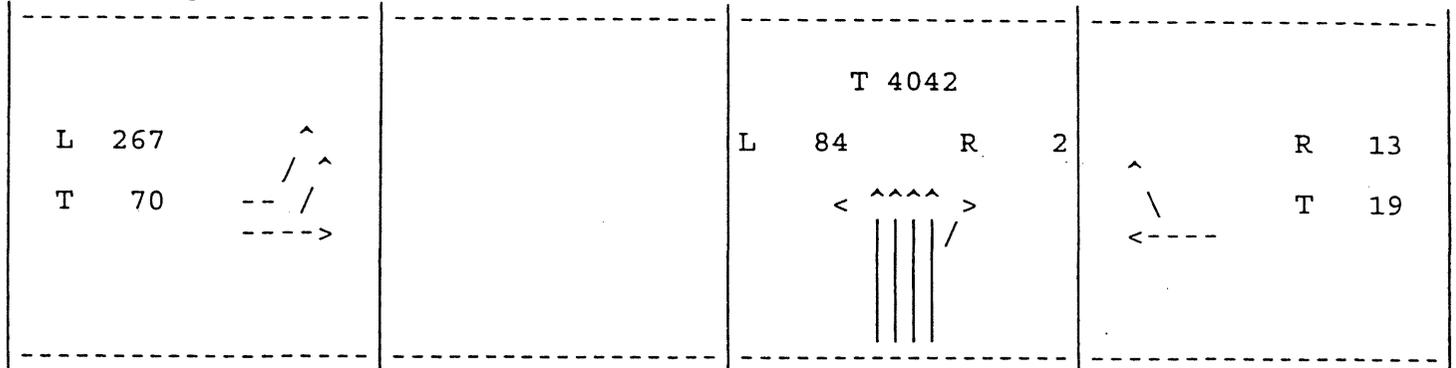
E/W Signal Phasing



3 Phase Signal

CONTINENTAL PLAZA TRAFFIC STUDY  
 PM PEAK HOUR (WITH PROJECT)  
 INPUT: CONPMWP.VOA & CONPLAZA.GEO  
 Intersection: 9 N 16TH ST. & N B ST.

Lane Configuration and Turn Volumes

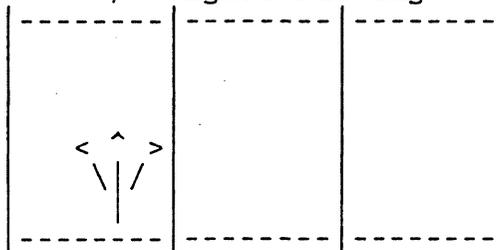


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume	Maximum Total Critical Volumes			
					Level of Service	Two Phase	Three Phase	Four Phase
NB	LTR	4	1032	1032				
EB	LT	2	169	169				
WB	TR	1	32	32				
Total Critical Volume				1233				

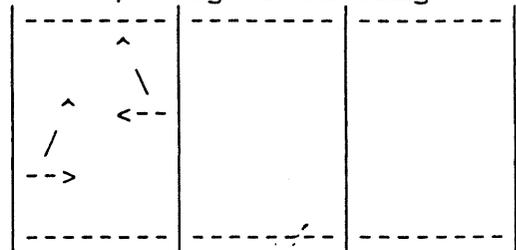
  

Critical Volume	=	1233
No of Critical Phases	=	2
Level of Service	=	D
Volume/Capacity	=	0.82

N/S Signal Phasing



E/W Signal Phasing



2 Phase Signal



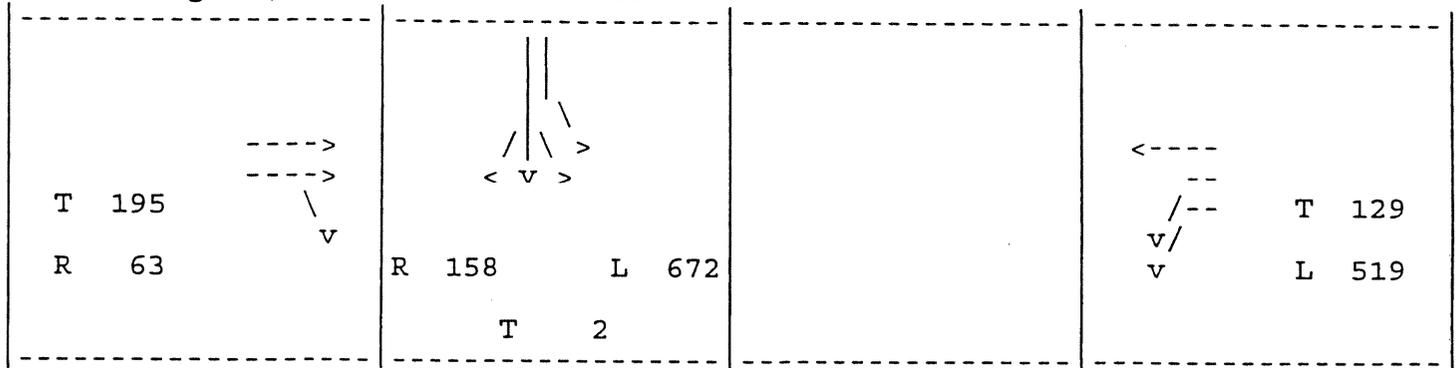
**CAPACITY ANALYSIS SUMMARIES**  
**Existing Plus Project Conditions**  
**- A.M. Peak Hour**  
**with Mitigation**

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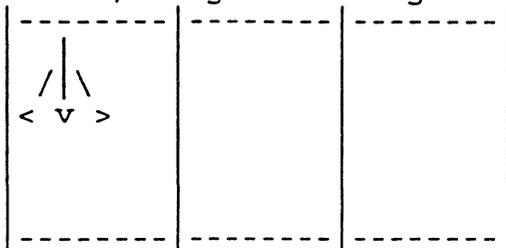
CONTINENTAL PLAZA TRAFFIC STUDY  
 AM PEAK HOUR (IMPROVED WITH PROJECT)  
 INPUT: CONAMWP.VOA & IMPLAZA.GEO  
 Intersection: 1 SB 1-5 RAMPS & RICHARDS BLVD.

Lane Configuration and Turn Volumes

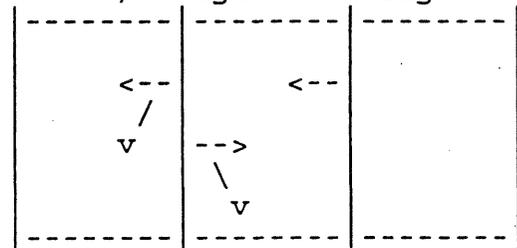


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume	Maximum Total Critical Volumes			
					Level of Service	Two Phase	Three Phase	Four Phase
SB	LTR	2	832	416	A	900	855	825
EB	TR	2	129	129	B	1050	1000	965
					C	1200	1140	1100
					D	1350	1275	1225
					E	1500	1425	1375
					F	NA	NA	NA
WB	EXL	2	260	260				
	T	1	129					
Total Critical Volume				805	Critical Volume = 805			
					No of Critical Phases = 3			
					Level of Service = A			
					Volume/Capacity = 0.56			

N/S Signal Phasing



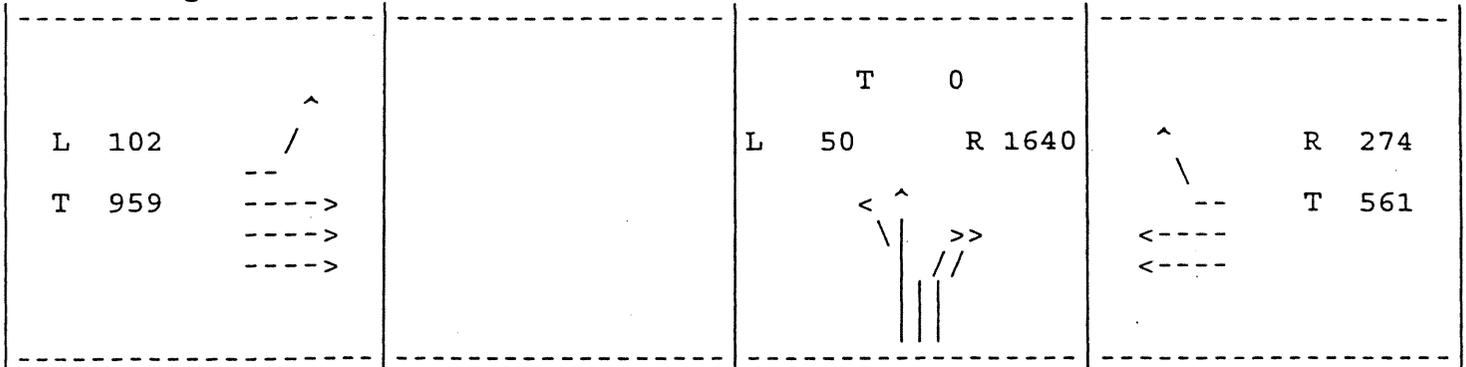
E/W Signal Phasing



3 Phase Signal

CONTINENTAL PLAZA TRAFFIC STUDY  
 AM PEAK HOUR (IMPROVED WITH PROJECT)  
 INPUT: CONAMWP.VOA & IMPLAZA.GEO  
 Intersection: 2 NB 1-5 RAMPS & RICHARDS BLVD.

Lane Configuration and Turn Volumes

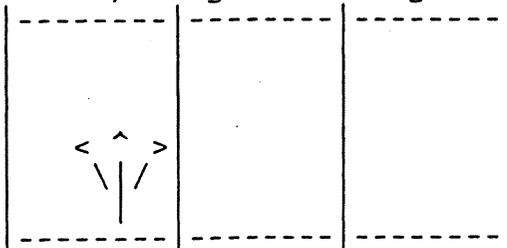


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	LT	1	50	820
	EXR	2	820	
EB	EXL	1	102	320
	T	3	320	
WB	T	2	280	274
	EXR	1	274	
Total Critical Volume				1140

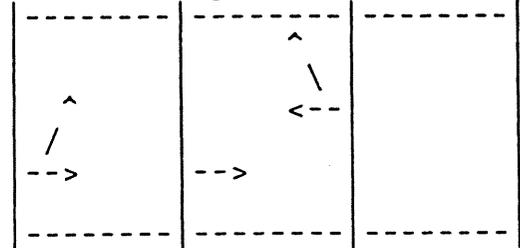
Level of Service	Maximum Total Critical Volumes		
	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 1140  
 No of Critical Phases = 3  
 Level of Service = C  
 Volume/Capacity = 0.76

N/S Signal Phasing



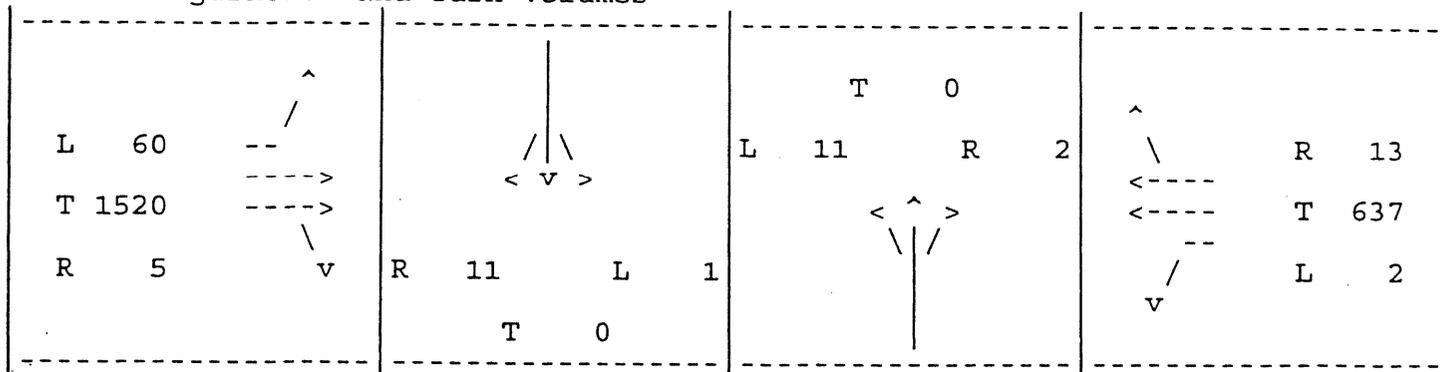
E/W Signal Phasing



3 Phase Signal

CONTINENTAL PLAZA TRAFFIC STUDY  
 AM PEAK HOUR (IMPROVED WITH PROJECT)  
 INPUT: CONAMWP.VOA & IMPLAZA.GEO  
 Intersection: 3 N 5TH ST. & RICHARDS BLVD.

Lane Configuration and Turn Volumes

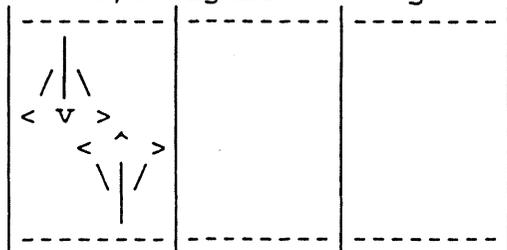


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	L	0	10	10
	TR	1	14	
SB	L	0	0	
	TR	1	12	12
EB	EXL	1	60	
	TR	2	762	762
WB	EXL	1	2	2
	TR	2	325	
Total Critical Volume				786

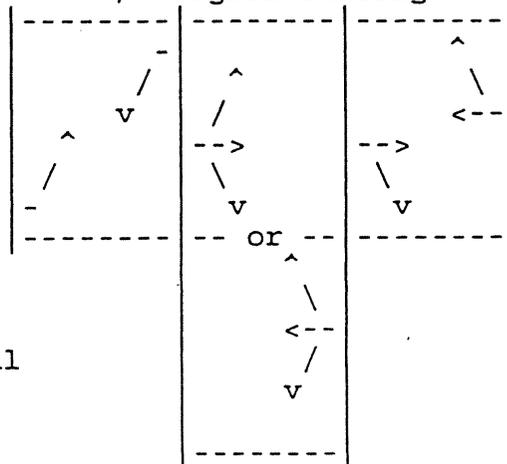
Level of Service	Maximum Total Critical Volumes		
	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 786  
 No of Critical Phases = 3  
 Level of Service = A  
 Volume/Capacity = 0.55

N/S Signal Phasing



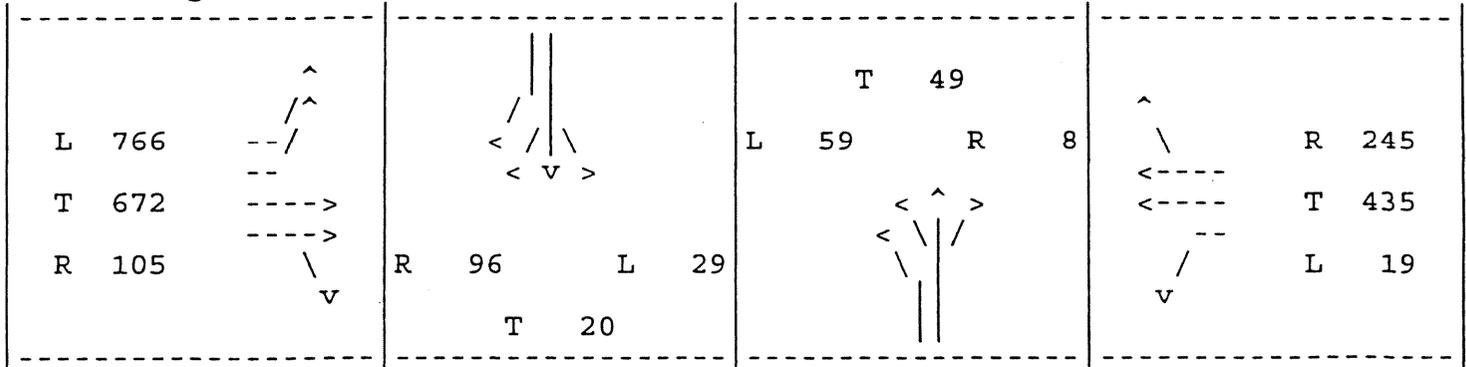
E/W Signal Phasing



5 Phase Signal

CONTINENTAL PLAZA TRAFFIC STUDY  
 AM PEAK HOUR (IMPROVED WITH PROJECT)  
 INPUT: CONAMWP.VOA & IMPLAZA.GEO  
 Intersection: 4 N 7TH ST. & RICHARDS BLVD.

Lane Configuration and Turn Volumes

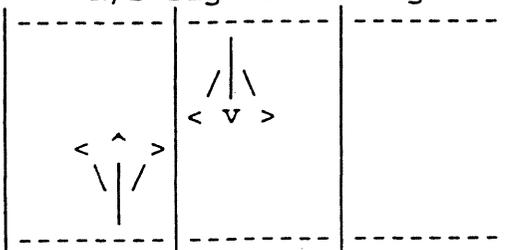


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	LTR	2	116	58
SB	LTR	2	72	72
EB	EXL	2	383	383
EB	TR	2	388	383
WB	EXL	1	19	340
WB	TR	2	340	340
Total Critical Volume				853

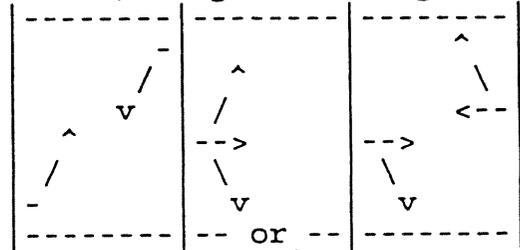
Level of Service	Maximum Total Critical Volumes		
	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 853  
 No of Critical Phases = 4  
 Level of Service = B  
 Volume/Capacity = 0.62

N/S Signal Phasing



E/W Signal Phasing



6 Phase Signal

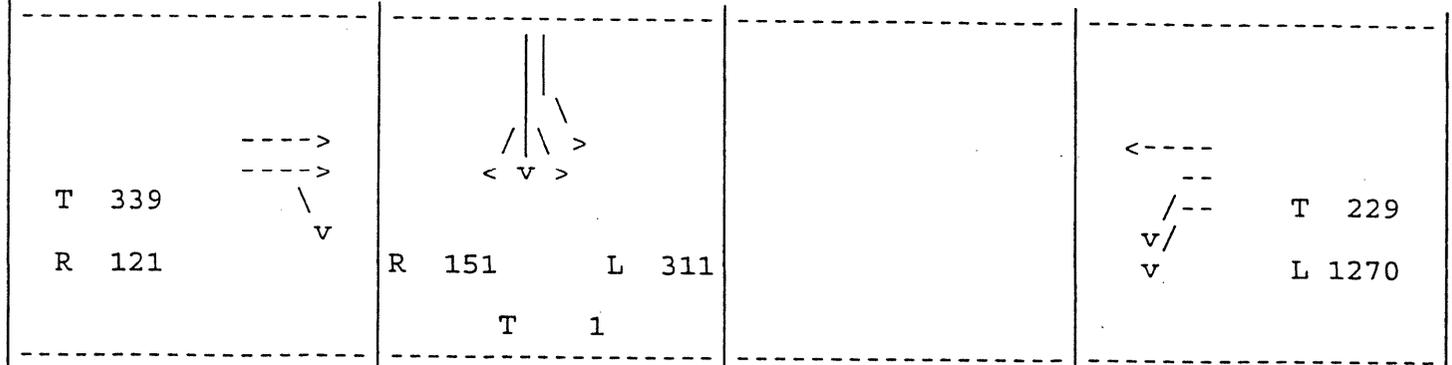
**CAPACITY ANALYSIS SUMMARIES**  
**Existing Plus Project Conditions**  
**- P.M. Peak Hour**  
**with Mitigation**

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CONTINENTAL PLAZA TRAFFIC STUDY  
 PM PEAK HOUR (IMPROVED WITH PROJECT)  
 INPUT: CONPMWP.VOA & IMPLAZA.GEO  
 Intersection: 1 SB 1-5 RAMPS & RICHARDS BLVD.

Lane Configuration and Turn Volumes

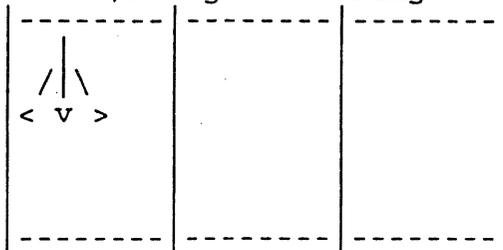


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
SB	LTR	2	463	232
EB	TR	2	230	230
WB	EXL T	2 1	635 229	635
Total Critical Volume				1097

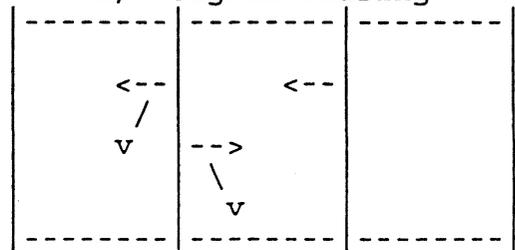
Level of Service	Maximum Total Critical Volumes		
	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 1097  
 No of Critical Phases = 3  
 Level of Service = C  
 Volume/Capacity = 0.77

N/S Signal Phasing



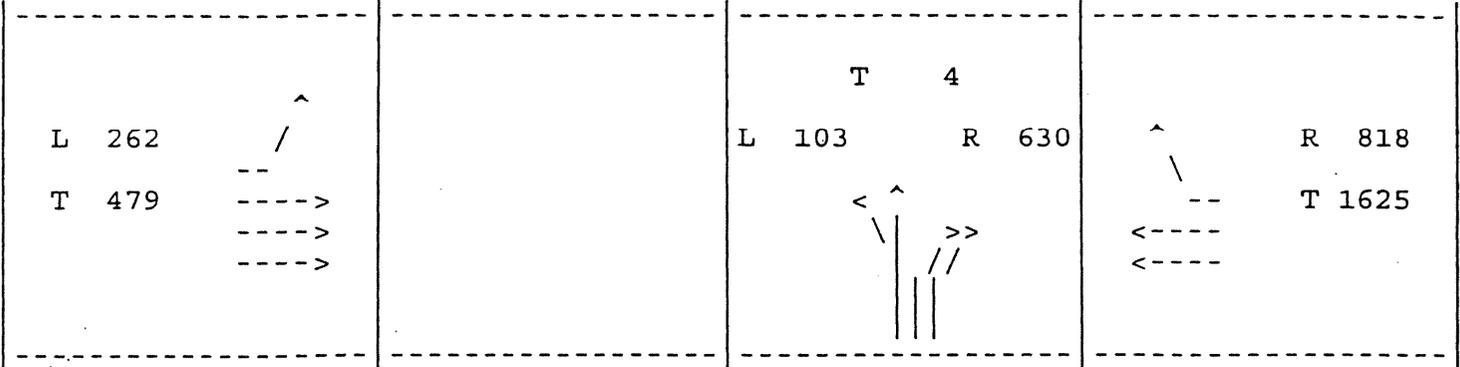
E/W Signal Phasing



3 Phase Signal

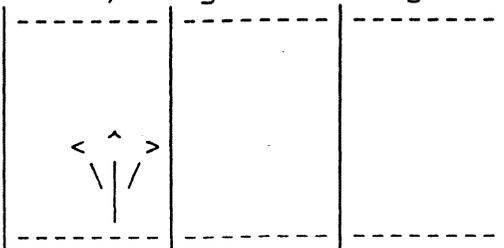
CONTINENTAL PLAZA TRAFFIC STUDY  
 PM PEAK HOUR (IMPROVED WITH PROJECT)  
 INPUT: CONPMWP.VOA & IMPLAZA.GEO  
 Intersection: 2 NB 1-5 RAMPS & RICHARDS BLVD.

Lane Configuration and Turn Volumes

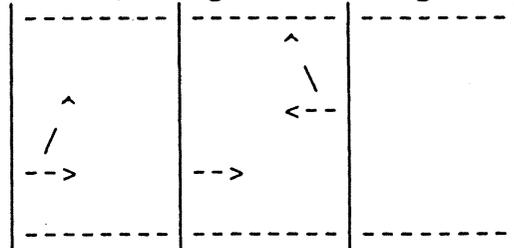


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume	Maximum Total Critical Volumes			
					Level of Service	Two Phase	Three Phase	Four Phase
NB	LT	1	107	107	A B C D E F	900 1050 1200 1350 1500 NA	855 1000 1140 1275 1425 NA	825 965 1100 1225 1375 NA
	EXR	2	315					
EB	EXL	1	262	262				
	T	3	160					
WB	T	2	812	818				
	EXR	1	818					
Total Critical Volume				1187	Critical Volume = 1187 No of Critical Phases = 3 Level of Service = D Volume/Capacity = 0.83			

N/S Signal Phasing



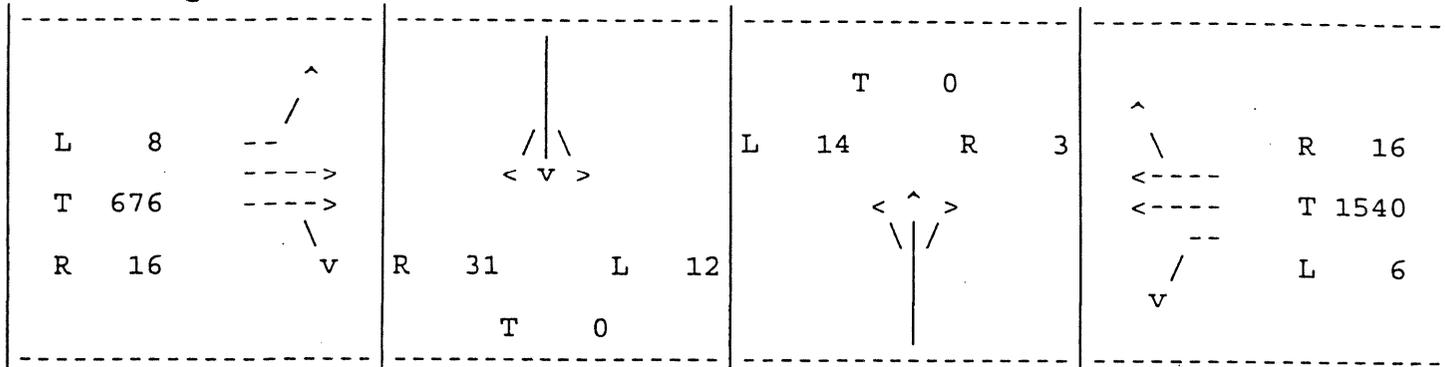
E/W Signal Phasing



3 Phase Signal

CONTINENTAL PLAZA TRAFFIC STUDY  
 PM PEAK HOUR (IMPROVED WITH PROJECT)  
 INPUT: CONPMWP.VOA & IMPLAZA.GEO  
 Intersection: 3 N 5TH ST. & RICHARDS BLVD.

Lane Configuration and Turn Volumes

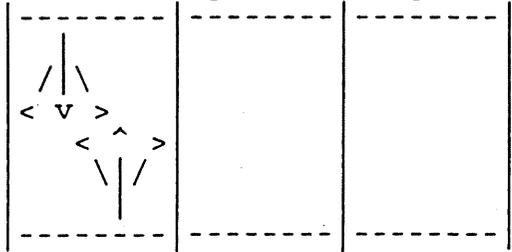


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	L	0	2	2
	TR	1	18	
SB	L	0	0	
	TR	1	44	44
EB	EXL	1	8	8
	TR	2	346	
WB	EXL	1	6	
	TR	2	778	778
Total Critical Volume				832

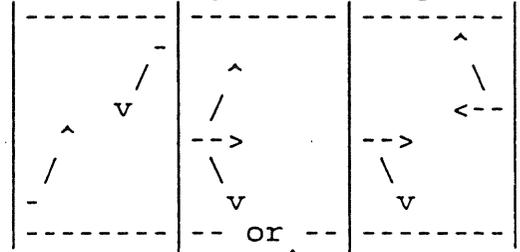
Level of Service	Maximum Total Critical Volumes		
	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 832  
 No of Critical Phases = 3  
 Level of Service = A  
 Volume/Capacity = 0.58

N/S Signal Phasing



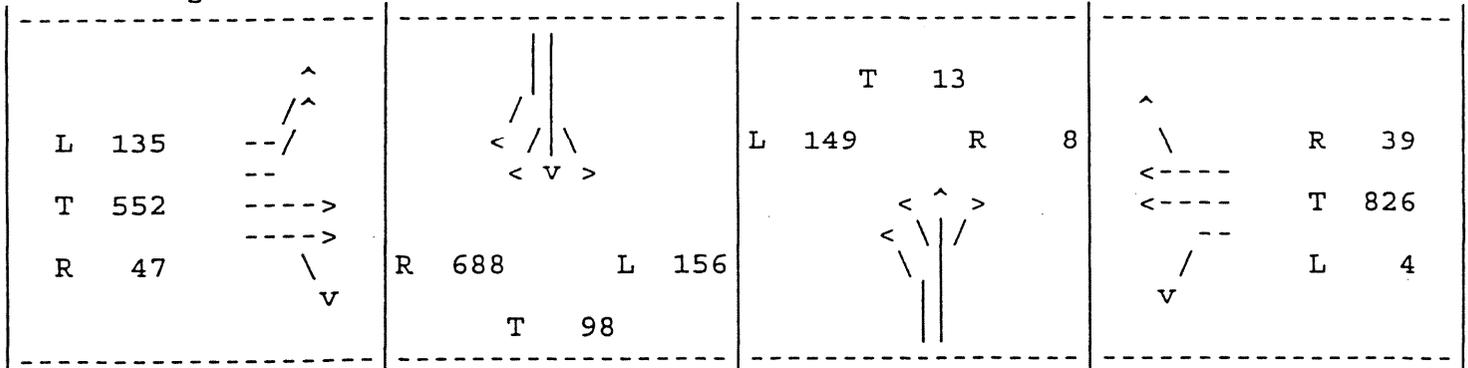
E/W Signal Phasing



5 Phase Signal

CONTINENTAL PLAZA TRAFFIC STUDY  
 PM PEAK HOUR (IMPROVED WITH PROJECT)  
 INPUT: CONPMWP.VOA & IMPLAZA.GEO  
 Intersection: 4 N 7TH ST. & RICHARDS BLVD.

Lane Configuration and Turn Volumes

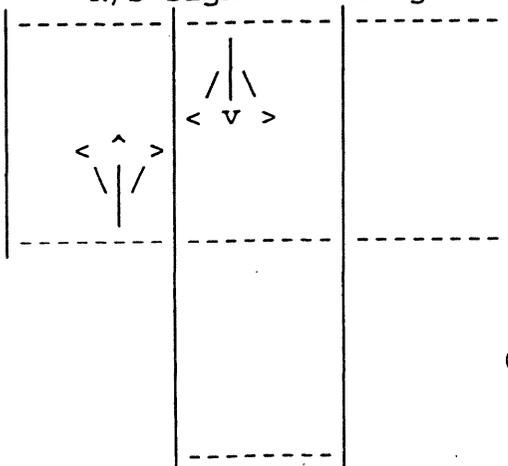


Appr	Lane Group	No of Lanes	Per Lane Volume	Critical Volume
NB	LTR	2	170	85
SB	LTR	2	471	471
EB	EXL	2	68	68
	TR	2	300	
WB	EXL	1	4	432
	TR	2	432	
Total Critical Volume				1056

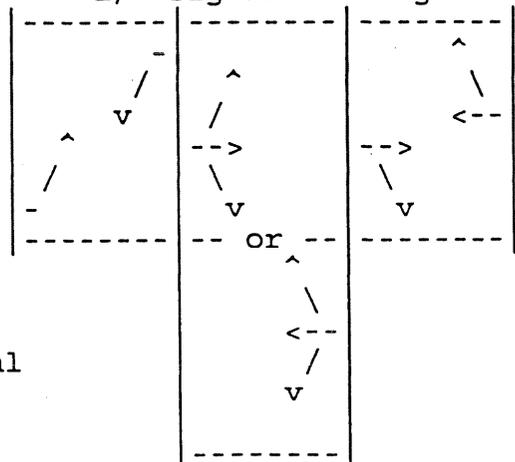
Level of Service	Maximum Total Critical Volumes		
	Two Phase	Three Phase	Four Phase
A	900	855	825
B	1050	1000	965
C	1200	1140	1100
D	1350	1275	1225
E	1500	1425	1375
F	NA	NA	NA

Critical Volume = 1056  
 No of Critical Phases = 4  
 Level of Service = C  
 Volume/Capacity = 0.77

N/S Signal Phasing



E/W Signal Phasing



6 Phase Signal



