RIVERS PHASE II

Draft Environmental Impact Report

Appendices

SCH 2005042018

November 2005

Prepared for:
City of West Sacramento
Community Development Department
1110 West Capitol Avenue
West Sacramento, CA 95691

Prepared by:
EIP Associates
1200 Second Street
Sacramento, CA 95984

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APPENDIX A
Initial Study/Notice of Preparation

CITY OF WEST SACRAMENTO

Initial Study
Environmental Checklist Form

1. Project title: Rivers Phase II

2. Lead agency name and address: City of West Sacramento
Community Development Department
1110 West Capitol Avenue
West Sacramento, CA 95691

3. Contact person and phone number: Sandra White
Senior Planner
(916) 617-4645

4. Project location:

Approximately 68 acres bordered by the Sacramento River on the north, East Fountain Drive on the east, Lighthouse Drive on the south and West Fountain Drive and Westlake Drive on the west. Approximately 3,000 linear feet of land immediately adjacent to the west bank of the Sacramento River from River Mile 60.5 to River Mile 61.3.

5. Project sponsor's name and address: The Grupe Company
905 Lighthouse Drive
West Sacramento, CA 95605

6. General plan designation: Riverfront Mixed Use (RMU)

7. Zoning: Waterfront Planned Development 29 (WF) PD-29

8. Description of project: See PROJECT DESCRIPTION below.

9. Surrounding land uses and setting: See PROJECT DESCRIPTION below.

10. Other public agencies whose approval is required: See PROJECT DESCRIPTION below.

PROJECT DESCRIPTION:

Introduction

The Rivers Phase II Project (proposed project) includes development of approximately 518 single-family homes, an approximately 11-acre K-8 school site, an one-acre park, and supporting infrastructure on approximately 68 acres of the approved Lighthouse Marina and Riverbend Development Project area in the City of West Sacramento. If the Washington Unified School District (WUSD) determines that it does not want to construct and operate the proposed school, then the project would construct an additional 176 residential units for a total of 694 units. The proposed project also includes installation of approximately 3,000 lineal feet of bank stabilization along the Sacramento River. Finally, the proposed project includes text amendments to PD-29, approval of a large lot tentative subdivision map and approval of a Water Supply Assessment. The background of the proposed development and specific project components are discussed in detail below.

Background

Lighthouse Marina and Riverbend Development Project

Approved in 1986, the Lighthouse Marina project envisioned a mixed-use project that included 1,881 residential units, a hotel/convention center, hotel-related uses, office uses, commercial uses, a marina and related uses and an 18-hole golf course. The City of West Sacramento, following incorporation in 1987, revised the Lighthouse Marina project in 1989 and 1991. As part of the 1989 revision, Planned Development 29 (PD - 29) was created. The intent of this zone overlay was to implement the Lighthouse Marina project. In 1991, the City approved a Tentative Map (TM #3953) that superseded the Lighthouse Marina map approved in 1989. TM #3953 included 308 acres (including the proposed project site). Unit A of TM #3953, which included most of the lots located west of Fountain Drive, was recorded in 1992 and included 285 single-family lots and four multi-family lots. The golf course was closed in 2003. Prior to 2003, one residential unit had been constructed. As of March 2005, 183 homes have either been constructed or are under construction, and 22 homes have been occupied.

Lighthouse Marina and Riverbend Development Bank Stabilization Project

The proposed project site is located adjacent to the west bank of the Sacramento River. Lots of the approved tentative subdivision map were constructed on fill on the riverside of the levee. Since the original development of the project, erosion of one of the parcels, Lot 305, has occurred. River bank protection efforts began in 1991 due to extensive erosion. In 1992 the U.S. Army Corps of Engineers (USCOE) and the California Department of Fish and Game (CDFG) permitted a 500-lineal foot long bank stabilization project for the area subject to the most severe erosion.

In 1993, additional erosion occurred and further bank stabilization was requested for a longer stretch of levee upstream and downstream from the work completed in 1992. At that time, agency representatives determined that the entire riverbank portion of the site should be analyzed and alternative bank protection/habitat restoration methods evaluated. During 1993/94, various bank protection alternatives were discussed and in January 1995, another 300 lineal feet of riverbank was stabilized due to erosion in severe storms.

In 1996, the Lighthouse Marina and Riverbend Development Bank Protection and Greenway EIR (State Clearinghouse #94123008) for the California State Lands Commission was completed. In this document, alternatives to bank stabilization along the Lighthouse project were evaluated. No construction work has been completed and all previous permits relating to the bank stabilization have since expired.

Project Location and Setting

Project Location

West Sacramento lies in eastern Yolo County between the Sacramento River on the east and the Yolo Bypass on the west. West Sacramento is immediately west of the City of Sacramento across the Sacramento River and is approximately 85 miles east of San Francisco (see Figure 1). Interstate 80 (I-80) goes through the northwestern part of the city and Business 80 bisects the city running east-west till it junctions with I-80.

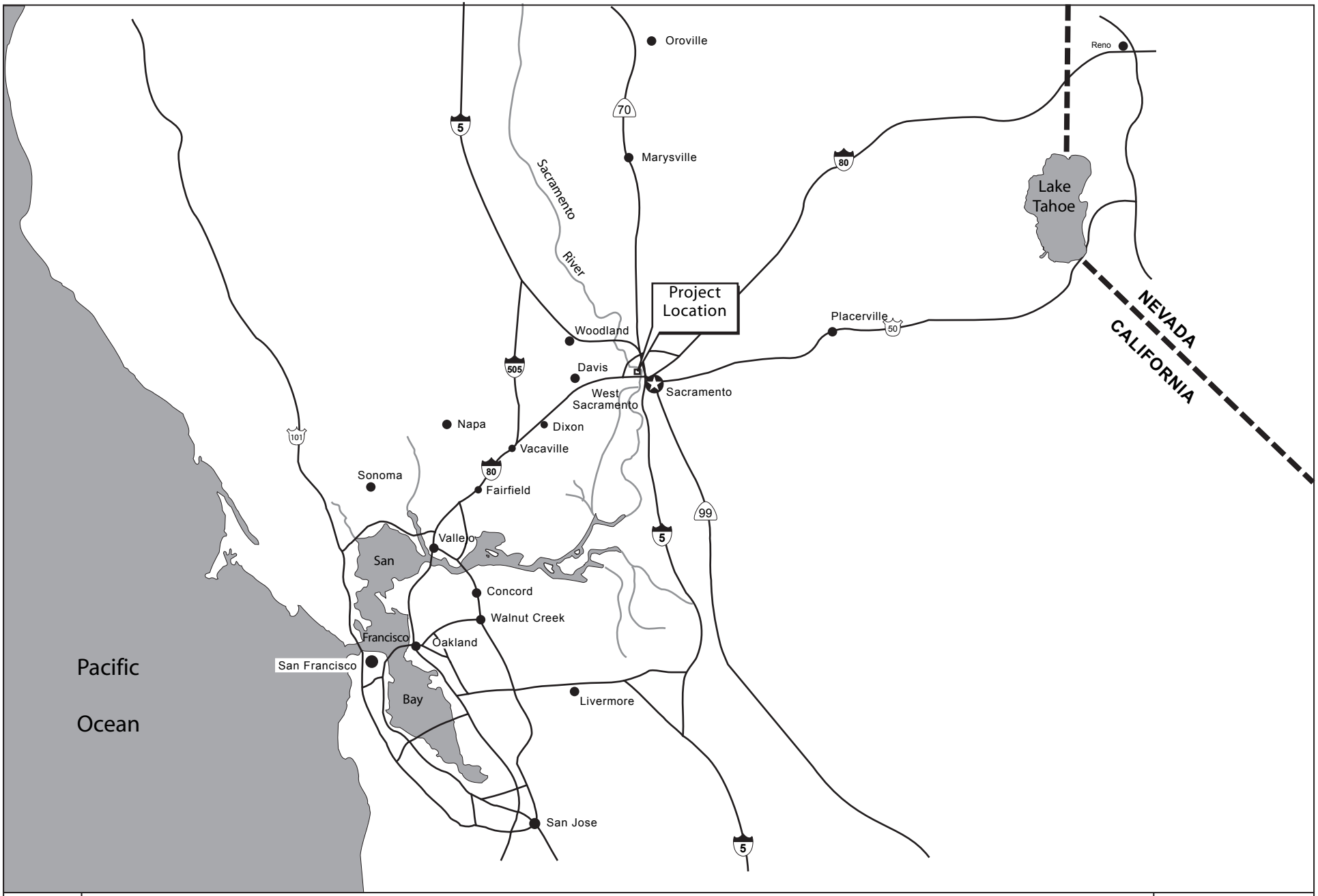

FIGURE **1**

Regional Site Map

***Source*:** EIP Associates, March 2005

Not to Scale

11006-00

The proposed 68-acre Rivers Phase II residential development site is bordered by the Sacramento River on the north, East Fountain Drive on the east, Lighthouse Drive on the south, and West Fountain Drive and Westlake Drive on the west (see Figure 2).

The bank stabilization portion of the project is located immediately adjacent to the west bank of the Sacramento River from approximately River Mile 60.5 to River Mile 65.3, just upstream of the confluence of the American and Sacramento Rivers (see Figure 2).

Existing Land Uses

Proposed Project Site

The topography of the proposed project site is gently rolling with a surface elevation of approximately 20 feet relative to mean sea level.[1] The majority of the site is located within the boundaries of the former Lighthouse Golf Course (that was opened to the public until its closure in December 2003). The former golf course portion of the site includes several existing structures (including maintenance buildings and a snack bar and restroom building), concrete paths, ponds and landscaping. Existing underground utilities also currently exist at the boundaries of the site. The northern and southern portions of the proposed project site have been graded for existing recorded lots and they contain sparse or moderate vegetative cover.

Vegetation that currently exists on the 3,000 linear feet of bank to be stabilized includes some young trees (mostly oak), poison oak, wild grape and blackberry.

Current General Plan Designation and Zoning

The current General Plan designation for the property is Riverfront Mixed Use (RMU), which provides for marinas, various commercial uses, offices, and multi-family housing oriented to the Sacramento River.

The current zoning for the proposed Rivers Phase II project is Waterfront (WF) PD–29. The PD-29 zoning designation allows for mixed use development consisting of low, medium, and high density residential uses, retail and commercial uses, office and marina and marina-related uses. PD-29 includes detailed development standards for 13 land use sub-areas including: six for residential development; a business professional sub-area for office uses; three sub-areas for tourist commercial, retail commercial, and marine commercial uses; and three sub-areas for a marina, golf course, and open space uses.

Adjacent Land Uses

The proposed project site is surrounded by single-family residential uses to the north, the Sacramento River to the east (vacant land does exist between the project site and the River), multi-family residential to the south, and single-family residential and active open space to the west.

1 Wallace-Kuhl and Associates, Inc., *Geotechnical Engineering Report, The Rivers Phase 2 – Portions of Lots 53, 54, and 55*, April 22, 2004, page 3.

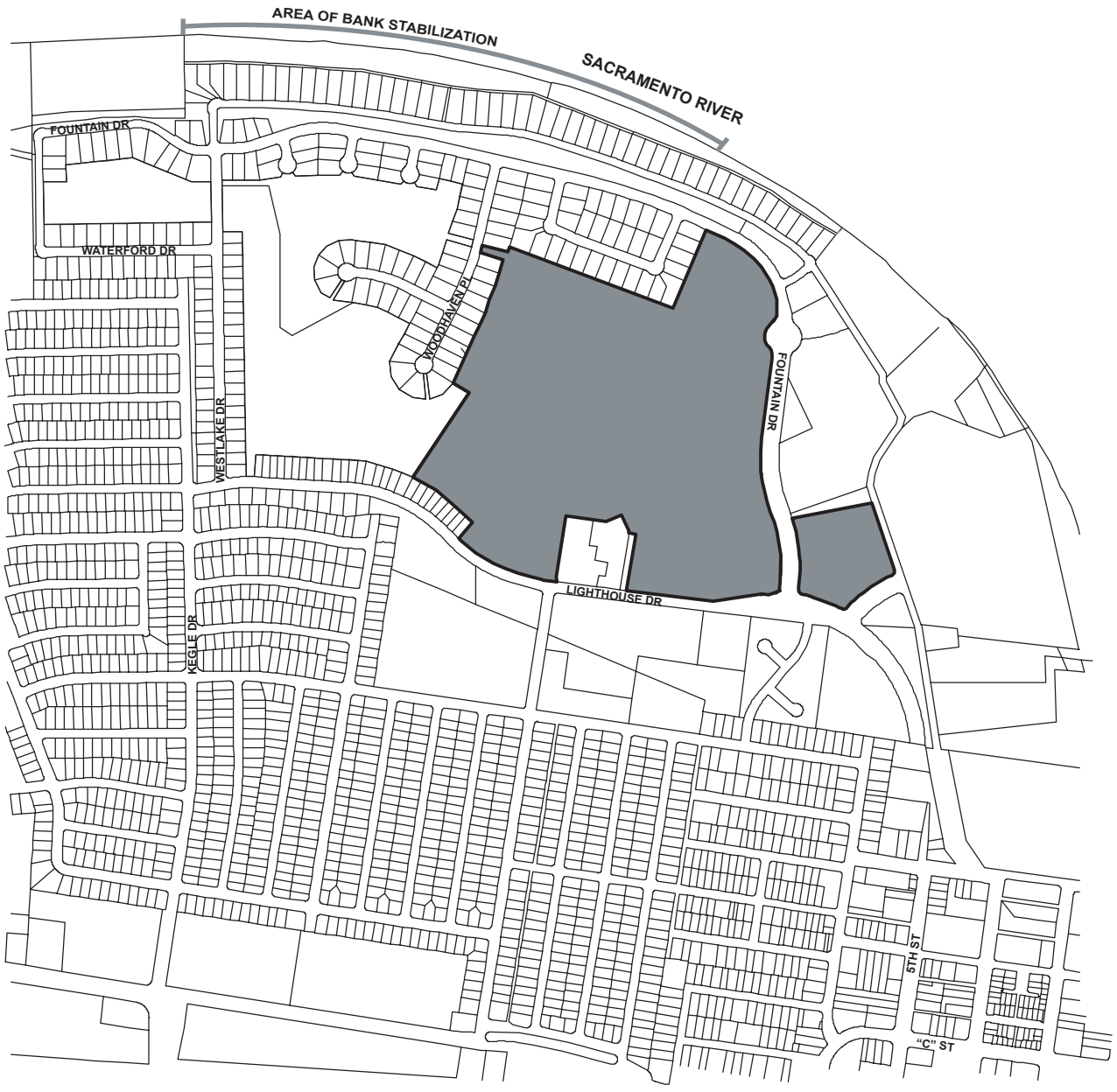

FIGURE **2**

Vicinity Map

***Source*:** NOLTE

Not to Scale

11006-00

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Project Objectives

The objectives for the Rivers Phase II project are:

- Create an unique and attractive community with a strong sense of place.
- Increase the City's housing supply in close proximity to existing infrastructure, transportation corridors, and employment centers to minimize trip length for employees.
- Develop land uses that are consistent with the City's land use policies for the site and the neighborhood that are compatible with surrounding neighborhoods.
- Enhance the City's supply of quality housing that provides a range of housing opportunities available to residents from a wide range of economic levels.
- Prevent the loss of property and the risk of hazards associated with damage to the Sacramento River levee.
- Provide for the development of adequate school facilities for residents of the community.
- Enhance and preserve a residential environment adjacent to the Sacramento River.
- Develop land uses that are economically viable and financially feasible.
- Provide and maintain services and infrastructure in accordance with City standards and policies.
- Provide opportunities for innovative community design.
- Provide a range of housing opportunities to meet the housing needs of all residents.

Project Description

The Rivers Phase II project proposes development of a mix of single-family residential units (approximately 518 units), an approximately 11-acre K-8 school site, one-acre park, and supporting infrastructure (see Figure 3). If the WUSD determines that it does not want to construct and operate the proposed school, then the project would construct an additional 176 residential units for a total of 694 units. The General Plan designation would remain RMU. The zoning for the Rivers Phase II project would remain PD-29; however, the developer proposes amendments to PD-29 to accommodate the proposed development. The proposed project also includes installation of approximately 3,000 lineal feet of bank stabilization along the Sacramento River. Table 1 summarizes the proposed project uses. The specific project components are discussed in detail below.

TABLE 1

SUMMARY OF PROPOSED PROJECT LAND USES

	Scenario A With School		Scenario B Without School	
Proposed Project Uses	**Acres**	**Units**	**Acres**	**Units**
Single-Family Residential	55.4	518	66.9	694
K-8 School	11.5			
Park	1.0		1.0	
Total	**67.9**	**518**	**67.9**	**694**

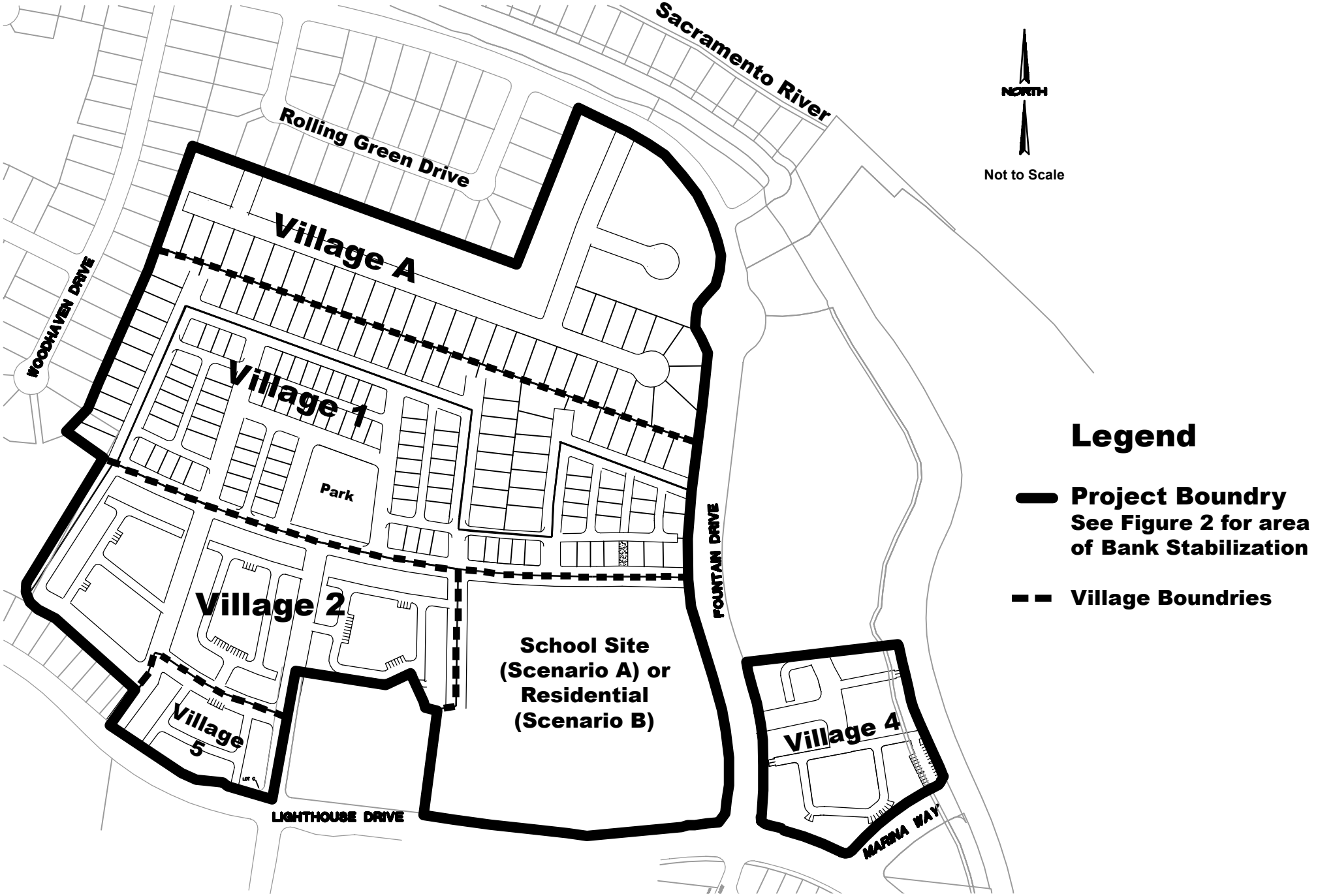

Figure 3
Proposed Land Uses
Rivers Phase II

11006-00

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Residential Land Uses

The proposed project proposes development of single-family detached (SFD) and single-family attached (SFA) units. Under Scenario A (with development of the K-8 school), a total of 212 SFD units are proposed on lots ranging from 3,000 to 6,000 square-feet (sf). The proposed project also includes development of 306 SFA units consisting of townhouse and stacked flat types with condominium ownership ranging from 14 dwelling units per acre (du/ac) to 25 du/ac. Under Scenario B (without development of the K-8 school), a total of 212 SFD units would be constructed and 482 SFA units would be constructed. The densities would be the same under Scenario B as they are with Scenario A and both scenarios include development of 97 SFD units that would have garages accessed via an alley behind the units. Table 2 summarizes the mix of housing types proposed.

TABLE 2

PROPOSED HOUSING TYPES AND DWELLING UNITS

Housing Type	Density	PD – 29 Use Area Designation	Sub-Areas	Scenario A Number of Dwelling Units with School	Scenario B Number of Dwelling Units without School
SFD	6,000 sf lots[1]	RB	Village A	67	67
SFD	5,000 sf lots[1]	RC-A	Village 1	48	48
SFD	3,000 sf[2]	RC-A	Village 1	97	97
SFA	14 du/acre[3]	RD	Village 2	160	160
SFA	16 du/acre[3]	RD	Village 4	82	258
SFA	25 du/acre[3]	RE	Village 5	64	64
School		RD		N/A	N/A
Total Dwelling Units				518	694

Notes:
1. sf = square foot
SFD (Single family detached homes) on the 5,000 and 6,000 sf lots would range from 1,600 to 4,000 square feet with 3 to 6 bedrooms and 2 to 4 bathrooms.
2. SFD homes on the 3,000 sf lots would range from 1,300 to 2,400 sf with 2 to 4 bedrooms and 2 to 3 bathrooms.
3. du/acre = dwelling units per acre
SFA (Single family attached homes would range from 1,200 to 2,200 sf with 2 to 4 bedrooms and 2 to 3 bathrooms. Housing types would consist of townhouse and stacked flat types with condominium ownership.

Source: Correspondence from Alberto Esquivel, Project Manager, The Grupe Company, to Sandra White, Senior Planner, City of West Sacramento, February 14, 2005.

School

As part of the proposed project, the Washington Unified School District (WUSD) has indicated an interest in acquiring an 11.5-acre site. The WUSD would construct a 600-student academy to serve grades kindergarten through eighth (K-8). One half of the school's capacity (300 seats) would be reserved for students from the proposed Rivers Phase II. The remaining capacity would be available to students throughout the WUSD.

Parks

Approximately one acre of the project site would be developed as a private park. In addition, residents would have access to the existing Rivers 40-acre park system.

Infrastructure

Roadways and Circulation

The proposed project would include construction of additional on-site roads to accommodate internal circulation. All streets constructed as part of the proposed project would be designed according to current City standards. Village A would be gated and would include a private street. The rest of the road network would be public. No improvements to off-site roads are proposed as part of this project.

Water Supply Distribution

The City of West Sacramento would provide water to the proposed project. Preliminary analysis indicates that existing off site water facilities are adequate to serve the proposed project. New distribution lines within the Rivers Phase II site would be installed.

Wastewater Collection

The City of West Sacramento would provide wastewater collection and treatment facilities to the proposed project site. The existing wastewater collection system includes a series of 6 to 12-inch mains to a 15-inch discharge main in Hardy Drive, located just south of the proposed project site.

The proposed Rivers Phase II project would install new collection lines within the project site and discharge to the existing system. A draft sanitary sewer master plan is currently under study. Sufficient calculations were made to indicate that the existing off-site infrastructure has sufficient capacity to convey the increased wastewater flows resulting from development of the proposed project site in addition to the existing flows.[2]

Storm Drain Collection

The portion of the proposed project site that is developed within the former golf course does not currently drain to the City's storm drainage system. The area drains to one of a series of lakes within the golf course used for retention and percolation to groundwater. The remaining portions of the proposed project site drain naturally.

The Rivers Phase II project includes installation of a new storm drain outfall line located in Lighthouse Drive. The new line would convey the storm drainage to an existing pump station. The proposed project includes modification of the pump station to increase the capacity and upgrade the facilities. The pump station directs storm water to the Sacramento River.

The proposed project includes installation and operation of an underground separator system to treat stormwater before discharge. The proposed system would be installed in the last manhole connecting to the collection system (north side of Lighthouse Drive). The separator would be sized to treat 100-year peak flows and to remove greater than 80% of total suspended solids that are typical of urban runoff.

2 Correspondence from Craig Cameron, Project Engineer, Nolte Associates, to Cathy McEfee, Project Manager, EIP Associates, February 23, 2005.

Electric, Gas, Telephone, and Cable Utilities

The project applicant anticipates that the following service providers would serve the proposed project:

- Electric and Natural Gas – Pacific Gas and Electric
- Telephone – SBC Communications
- Cable Television – Charter Communications

The proposed project would use existing utility infrastructure. No new distribution lines are proposed as part of the proposed project.

Landscaping

Existing landscaping is located along Lighthouse Drive and Fountain Drive at the perimeter of the site. The applicant would make efforts to preserve existing trees protected by the City's Tree Preservation Ordinance; however, it is anticipated that protected trees would need to be removed to accommodate project construction. Any trees removed would be subject to the requirements of the City's Tree Ordinance, as appropriate. On-site landscaping would include street trees, front yard landscaping for single-family detached homes, and perimeter landscaping for single family attached homes.

Community Facilities District

A Community Facilities District (CFD) is proposed to fund the cost for lighting services, street landscaping, and drainage system operation and maintenance. Specifically, authorized services to be funded include:

- Maintenance of landscaping, lighting, and other equipment in or along public rights-of-way for landscape corridors;
- Cost of parkway landscape improvement, repair or replacement;
- Cost of open space improvement, repair or maintenance;
- Storm drainage and drainage system facilities maintenance;
- Miscellaneous costs related to any of the items described above including planning, engineering, and legal and administration costs; and
- Levy of Special Taxes to accumulate funds for anticipated future repair or replacement costs of landscaping, irrigation facilities, lighting and other facilities maintained by the CFD.

Other Project Components

Bank Stabilization Project

The proposed Rivers Phase II project includes the stabilization of approximately 3,000 linear feet of the west bank of the Sacramento River, located north of the proposed project site. It is anticipated that no other work would be required along this stretch of the riverbank.

The method for bank stabilization would include construction of a dike behind which would be a vegetative berm. The dike would incorporate large woody debris on the site that could provide fish habitat on the waterside of the berm. The berm would be vegetated with native riparian species. Upslope of the berm, the bank would be further protected with rock. The rock would

be imported and would be delivered to the site and installed from a barge on the river. Native vegetation would be planted through the stone to achieve a natural-looking bank.

Construction Considerations

Site Preparation and Grading

Construction of the proposed project would require redevelopment of the portion of the former golf course located within the project boundary. Facilities that supported the golf course operation would also be removed including irrigation piping, concrete paths, ponds, two existing maintenance buildings, and a building housing a snack bar and restrooms. As stated above, any trees removed would be subject to the requirements of the City's Tree Preservation Ordinance, as appropriate. All construction staging areas would be located on the proposed project site. Approximately 50,000 cubic yards of fill would be required to accommodate development of the proposed project.

Project Phasing

The project applicant anticipates that construction of the proposed project would be done in one phase. Construction is anticipated to occur from 2006 through 2009, although market conditions could extend the schedule or require an additional phase(s).

Regulatory Requirements, Permits, and Approvals

The City of West Sacramento is the Lead Agency for the proposed project. The EIR is intended to be used in conjunction with the consideration of the following entitlements by the City of West Sacramento: the text amendments to PD-29; a large lot tentative subdivision map; and approval of the Water Supply Assessment for the proposed project. Prior to acting on these entitlements, however, the City Council must certify the EIR as complete and adequate. Approval of the Rivers Phase II EIR would also require adoption of a Mitigation Monitoring Plan (MMP), which would specify the methods for monitoring mitigation measures required to eliminate or reduce the project's significant effects on the environment. The City Council also would be required to adopt Findings of Fact, and for those impacts determined to be significant and unavoidable, the City Council must adopt a Statement of Overriding Considerations.

As part of implementation of the proposed project, other permits and approvals would also be necessary prior to construction. These are listed below and the relevant agencies listed in the review process are identified.

Federal

The following federal actions could be required prior to development occurring on the project site.

- **Section 404 Permit** (U.S. Army Corps of Engineers and Environmental Protection Agency)

  The U.S. Army Corps of Engineers (USCOE) regulates the placement of fill or dredged materials that affect waters of the United States, which include stream courses. The USCOE regulates these activities under the authority of Section 404 of the Clean Water Act, and the Environmental Protection Agency (EPA) has commenting and vetoing

authority on U.S. Army Corps of Engineers' decisions. The USCOE would regulate any development associated with the proposed project that affects jurisdictional waters, such as the Sacramento River.

The proposed bank stabilization project would require obtaining a Nationwide permit (NWP 13) from the USCOE.

- **Section 7 Consultation** (Federal Endangered Species Act)

  As part of the 404 permit process, the USCOE would initiate consultation with the U.S. Fish and Wildlife Service (USFWS) to determine whether any federally listed species could be adversely affected, and to identify measures to avoid or lessen adverse impacts on listed species.

  Because the bank stabilization project requires obtaining a NWP 13, the USCOE would initiate consultation with the USFWS.

State

State regulatory agencies would also need to take action on elements of the proposed project, as indicated below.

- **Water Quality Certification** (State Water Resources Control Board)

  Construction of the proposed project has the potential to directly or indirectly affect "waters of the United States." Water disturbance could result in a discharge to the Sacramento River. A water quality certification would be required by the State Water Resources Control Board (SWRCB) for development requiring a Section 404 permit.

  Because the proposed project includes obtaining a NWP for the bank stabilization project, a water quality certificate would be required.

- **Construction Storm Water Discharge Permit** (State Water Resources Control Board)

  Construction would involve clearing, grading, and excavation activities that would result in the disturbance of one acre or more of land. As such, a SWRCB permit would be required for storm water discharge from construction sites. The permit process would include development of a Storm Water Pollution Prevention Plan (SWPP) and identification of Best Management Practices (BMPs) to control pollutants in storm water discharges both during and after construction.

- **State Lands Commission Lease**

  The bank stabilization project would occur primarily on property owned by the State Lands Commission. Any work would require authorization by the Commission through a lease between the applicant and the Commission.

Local

City of West Sacramento

The following land use actions and entitlements would be required to allow the proposed project to proceed.

- **PD-29 Text Amendments**

  The PD-29 zone would be amended for consistency with the proposed project. The amended PD-29 would establish the land use regulatory control for lands within this zoning overlay (covering approximately 73 acres), including the land uses permitted by each use area designation within the PD-29.

- **Tentative Map Approval**

  The City would be required to approve the large lot tentative subdivision map and subsequent small lot tentative subdivision maps for the 68 acre site.

- **Building Permits**

  Building permits for the proposed project would be reviewed, approved and issued by the City.

- **Water Supply Assessment**

  The City would approve the Water Supply Assessment prepared for the proposed project and provide a written verification consistent with SB610/221 requirements.

Washington Unified School District Superintendent of Schools

The acquisition of the proposed school site for a 600-student academy to be constructed and operated by the WUSD would require approval from the Superintendent of Schools.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☒ Aesthetics	☐ Agricultural Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Geology / Soils
☐ Hazards & Hazardous Materials	☒ Hydrology / Water Quality	☒ Land Use / Planning
☐ Mineral Resources	☒ Noise	☒ Population / Housing
☒ Public Services	☒ Recreation	☒ Transportation / Traffic
☒ Utilities / Service Systems	☒ Mandatory Findings of Significance	

DETERMINATION: (To be completed by the Lead Agency)

On behalf of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environmental, and a NEGATIVE DECLARATION will be prepared

☐ 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 revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in a 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. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to the earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Planner's Signature

Date

Planner's Printed name

City of West Sacramento
For

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the projects outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, and EIR is required.

4) "Potentially Significant Unless Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). Earlier analyses are discussed in Section XVII at the end of the checklist.

Note: All discussions in the Initial Study refer to both Scenarios A and B, unless otherwise noted.

I. AESTHETICS -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock croppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☒	☐	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

a. The proposed project site has not been designated as 'scenic' by Yolo County or the City of West Sacramento. In addition, there are no scenic vistas to and from the residential and/or bank stabilization site. Therefore, the proposed Rivers Phase II project would not have a substantial adverse effect on a scenic vista and ***no impact*** would occur. This issue will not be evaluated in the EIR.

b. The proposed project sites are not adjacent to, or within, a State scenic highway and; therefore, ***no impact*** would occur. This issue will not be evaluated in the EIR.

c. Development of the Rivers Phase II project would consist of developing residential land uses on land formally operated as a golf course that is dominated by an open landscaped area associated with the former golf course. Surrounding existing uses include residential uses and the Sacramento River. Recreational boaters consistently use this portion of the river. The proposed project would alter views of the site from the River and adjacent neighborhoods. The bank stabilization proposed as part of Rivers Phase II would alter the appearance of approximately 3,000 linear feet of the west bank of the Sacramento River. Therefore, the proposed project would change the visual character to and from the site and could result in a ***potentially significant impact***. This issue will be evaluated in the EIR.

d. The proposed project would include the installation of street lights, security lights in multi-residential parking lots, security lights at the school (Scenario A only), and outdoor lighting at residences and; therefore, would result in an increase in the amount of light over that which currently exists. Light reflections from reflective surfaces, such as pavement, vehicles, and building materials cause glare. During daylight hours the generation of glare depends upon the intensity and direction of sunlight. Artificial lighting can cause glare at night.

The PD-29 land use regulations contain measures to prevent or minimize the impacts to the project area from the increased light and potential glare resulting from development of the planned development. Regulation E 3 recommends indirect lighting and requires that lighting not produce hazardous or annoying glare to motorists, building occupants, or the general public. Regulation E-4 requires that the lighting for multifamily residential parking areas average 1.5 foot-candles.[3] Regulation E-5 requires that the design and location of all on-site lighting minimize light trespass to adjacent premises.

Due to the proposed land uses (residences and a school for Scenario A and residences for Scenario B), the use of exterior building materials with reflective surfaces, other than windows, is not anticipated. Furthermore, the Uniform Building Code (UBC) regulates the amount of window area for buildings.

Although the proposed project would result in an increase in the amount of reflective materials and artificial lighting over that which currently exists, project uses would be required to comply with land use regulations in PD-29 and the requirements in the UBC. Therefore, impacts associated with new sources of light and glare would be ***less than significant.*** This issue will not be evaluated in the EIR.

3 A footcandle is a unit to measure luminance.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AGRICULTURAL RESOURCES -- In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the Project:				
(a) Convert Prime farmland, Unique farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
(b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
(c) Involve other changes in the existing environment which due to their location or nature, could result in conversion of farmland, to non-agricultural use?	☐	☐	☐	☒

a.–c. The latest Farmland Mapping and Monitoring Program map for Yolo County (2002) designates the proposed project site as Urban/Built Up lands. There is no Williamson Act Contract land on the site or the 3,000 linear feet of riverbank and neither site is currently in agricultural production. Therefore, the proposed project would not convert agricultural lands to a non-agricultural use and ***no impact*** would occur. This issue will not be evaluated in the EIR.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY -- Where applicable, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☒	☐	☐	☐

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☒	☐	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

a.–c. The proposed Rivers Phase II project is located in the Sacramento Valley Air Basin (SVAB), which the federal government has classified as a severe non-attainment area for ozone. The State has classified the SVAB as a non-attainment zone for both ozone and fine particulate matter (particulate matter with a diameter of less than 10 microns (PM_{10}). Air quality management in West Sacramento is the responsibility of the Yolo-Solano Air Pollution Control District (YSAPCD). The YSAPCD is responsible for developing and enforcing an air quality plan for Yolo and Solano Counties.

Construction of the proposed project (both residential and bank stabilization components) could potentially affect air quality. The dust created during clearing, grubbing, and earth movement could create fugitive dust, of which PM_{10} is the primary pollutant of concern. The use of heavy equipment with diesel fuel combustion would emit nitrogen oxides (NO_x), carbon monoxide (CO), sulfur dioxide (SO_2), hydrocarbons (HC), and PM_{10}. These construction emissions and dust would be short term and temporary, but could still cause adverse effects on local air quality. Operation of the proposed Rivers Phase II project would also generate increases in air emissions associated with increased vehicle trips.

Air emissions generated during construction and operation of the Rivers Phase II project could result in ***potentially significant impacts*** associated with increases in criteria pollutants and; therefore, air quality impacts will be evaluated in the EIR. Modeling of the potential and anticipated air emissions would determine if the proposed project would conflict with the implementation of the air quality plan developed by the YSAPCD, violate air quality standards, contribute substantially to an air quality violation, or result in a cumulatively considerable net increase of a criteria pollutant.

d. The proposed project is located within the vicinity of the existing Elkhorn Elementary School and is surrounded on three sides by residential development. The project proposes to construct residences and a K through 8 school (Scenario A) and/or residences (Scenarios A and B). Residents and students are considered sensitive receptors for air pollutants. Construction and/or operation of the proposed Rivers Phase II could expose sensitive receptors to either short-term or long-term substantial pollutant concentrations. This is considered a ***potentially significant impact*** and this issue will be evaluated in the EIR.

e. Heavy equipment has the potential to generate objectionable odors during construction of the proposed project; however, these impacts would not affect a substantial number of people and would be short-term. The proposed land uses of the Rivers Phase II project are not considered to be generators of objectionable odors. Therefore, neither construction nor

operation of the proposed project would generate odors that could affect a substantial number of people and the impact would be ***less than significant***. This issue will not be evaluated in the EIR.

IV. BIOLOGICAL RESOURCES -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
b) Have a substantial adverse effect on any riparian habitat or sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☒	☐	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native residents or migratory wildlife corridors or impede the use of native wildlife nursery sites?	☒	☐	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local regional, or state habitat conservation plan?	☐	☐	☐	☒

a. According to the Lighthouse Marina EIR-EIS that was certified in 1986, Swainson's hawks and other nesting raptors use the proposed project site for nesting[4]. The previous document also stated that the site contained Valley elderberry shrubs that are habitat for the listed valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) or VELB.

4 EDAW, Inc., *Lighthouse Marina EIR-EIS*, May 1986, page 4-25.

Installation of the bank stabilization project would include the removal of several elderberry shrubs. All shrubs were surveyed and no exit holes were found. The applicant is proposing to transplant the affected shrubs to a mitigation site. Informal consultation with the USFWS has been initiated and has requested a formal consultation to address the proposed bank stabilizations potential impacts to VELB.[5] Four listed fish species and their critical habitat could also be affected by the proposed work including delta smelt (*Hypomesus transpacificus*), Central Valley winter-run chinook salmon (*Oncorhynchus tshawytscha*), Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha*) and Central Valley Steelhead (*Oncorhynchus mykiss*). It is anticipated that work on the bank stabilization project could occur during accepted in-water windows that would minimize impacts on fisheries.[6]

Due to the potential presence of suitable habitat for protected species, protected species and/or their nesting and foraging habitat could be adversely effected by development of the Rivers Phase II residential and bank stabilization project. This is considered a ***potentially significant impact*** and this issue will be evaluated in the EIR.

b. As previously stated, the site of the proposed bank stabilization is located adjacent to the west bank of the Sacramento River. Vegetation that currently exists on the 3,000 linear feet of bank includes some young trees (mostly oak), poison oak, wild grape and blackberry. Some trees would be removed to accommodate installation of the bank protection measures. The site is actively eroding and without stabilization, existing trees could be lost.

The bank stabilization installed by the proposed project could result in disturbances of the riparian habitat; therefore, this is considered a ***potentially significant impact*** and it will be evaluated in the EIR.

c. The majority of the proposed project site is developed with uses associated with a former golf course. The portion of the site that is not developed has been graded. The geotechnical engineering report prepared for the proposed Rivers Phase II project determined that subsurface soils contain "occasional concentrations of clay".[7] Soils containing clay can be an indication of the potential for vernal pools and other seasonal wetlands. However, due to the development and disturbed condition of the site, it is unlikely that wetlands exist.

No other waters of the US, except the Sacramento River, exist on the bank stabilization project site. Implementation of the bank stabilization project would require obtaining a permit (likely a NWP 13) under Section 404 of the Clean Water Act. Adverse effects to protected wetlands are considered a ***potentially significant impact*** and this issue will be evaluated in the EIR.

d. Development of the Rivers Phase II project would consist of developing residential land uses on land formally operated as a golf course that is dominated by an open landscaped area associated with the former golf course. The portion of the site that is undeveloped has been graded. The project also includes installation of approximately 3,000 linear feet of bank stabilization along the Sacramento River that contains existing vegetation. In addition, there are four listed fish species and their critical habitat that could be affected by installation of proposed erosion control measures. Due to the project's proximity to the Sacramento River and the open

5 Gibson & Skordal, LLC, letter to Mr. Michael Finan, US Army Corps of Engineers, Pre-Construction Notification for Grupe's The River Project, Bank Protection, October 21, 2004.

6 Ibid.

7 Wallace-Kohl and Associates, Geotechnical Engineering Report, the Rivers Phase II – Portions of Lots 53, 54, and 55, April 22, 2004, page 4.

space associated with the existing golf course, development of the project could interfere substantially with the movement of migratory wildlife species. This is considered a ***potentially significant impact*** and it will be evaluated in the EIR.

e. Existing trees are located both on the Rivers Phase II residential site and the bank stabilization site. The City of West Sacramento has a Tree Preservation Ordinance (Ordinance 04-01) that governs the removal and preservation of certain trees on private and public property, and the planning and maintenance of street trees in new and already established developments. The project applicant has surveyed the 68-acre site to identify protected trees. The site does contain trees that would fall under the protection of the ordinance. The applicant would make efforts to preserve trees that are protected by the ordinance. However, it is possible that some trees would require removal or maintenance to accommodate project construction. Implementation of the following mitigation measure would ensure that tree removal and/or maintenance would be accomplished consistent with the requirements of the Tree Ordinance. Therefore, this impact would be ***less than significant with mitigation incorporated***.

Mitigation Measure 1

The project applicant shall remove and/or conduct maintenance on any trees protected by the Tree Preservation Ordinance consistent with the applicable requirements of that Ordinance, including mitigation and obtaining permits from the City. In addition, on-site trees not being removed shall be protected during construction activities.

Implementation of Mitigation Measure 1 would reduce potential impacts during construction to trees protected by the Tree Preservation Ordinance to a less-than-significant level. Therefore, this issue will not be evaluated in the EIR.

f. The proposed project site is not located in the boundaries of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local regional, or state habitat conservation plan; therefore, ***no impact*** would occur and this issue will not be evaluated in the EIR.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES -- Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☒	☐	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

d) Disturb any human remains, including those interred outside of formal cemeteries? ☐ ☒ ☐ ☐

a. A historic resource records search and field reconnaissance were performed as part of the EIR-EIS for the Lighthouse Marina (certified in 1986), which included the proposed Rivers Phase II site. In the mid to late 1800's, the area of the proposed project was developed with at least one home site, although the field reconnaissance found no trace of it. The historic structural remains found within the entire Lighthouse Marina site were recorded with the California Department of Parks and Recreation as LMP-1.[8] Based on the figure on Page 3-49 of the EIR-EIS for the Lighthouse Marina, it appears that LMP-1 is located northwest of the proposed Rivers Phase II site.

In 1986, Yolo County prepared a historic resource survey. The survey did not list any historic resources on the proposed Rivers Phase II site.[9] However, the *West Sacramento General Plan Background Document* concluded the 1986 survey was incomplete and more detailed analysis may be necessary in order to support historic preservation efforts in the City.[10]

Although there are no known historic resources on the project site, or in the 3,000 linear feet of riverbank, earthdisturbing activities associated with construction of the proposed project could disturb previously unidentified historic resources, which would be a potentially significant impact. Implementation of the following mitigation measure would ensure that potential impacts to historic buried resources are minimized. Therefore, this impact would be ***less than significant with mitigation incorporated***.

Mitigation Measure 2

The project applicant shall incorporate the following language into construction documents:

Should any evidence of either surface or subsurface historic resources be encountered during grading or excavation, work shall be suspended within 100 feet of the find, and the City of West Sacramento shall be immediately notified. At that time, the City shall coordinate any necessary investigation of the site with a qualified historical architect to assess the resource and provide proper management recommendations. Possible management recommendations for important resources could include resource avoidance or data recovery and relocation. The contractor shall implement any measures deemed necessary by the City of West Sacramento for the protection of the historic resource.

Implementation of Mitigation Measure 2 would reduce potential impacts during construction to unidentified historic resources to a less-than-significant level. Therefore, this issue will not be evaluated in the EIR.

8 EDAW, Inc., *Final Environmental Impact Report for the Lighthouse Marina, Broderick, CA*, May 1986, pages 3-50 and 51.

9 City of West Sacramento, *General Plan Background Document*, last revised and adopted June 14, 2000, Figure 7-2.

10 City of West Sacramento, *General Plan Background Document*, last revised and adopted June 14, 2000, page VII-15.

b. Archeological records were reviewed as part of the preparation of the EIR for the Lighthouse Marina project. According to the records, one potential prehistoric site (Yol-25), recorded in 1934, is present within the Lighthouse Marina project site, which includes the proposed project area. The only information available at the time of the preparation of the Lighthouse Marina EIR-EIS was that the site consisted of a low mound, but the Lighthouse Marina site had been heavily disturbed and this disturbance greatly reduced the likelihood of observing cultural resources.[11] According to the EIR for the Lighthouse Marina project, previous reconnaissance "revealed no traces of Yol-25, indicating that it was either removed or buried during construction of the levee or that its occurrence was incorrectly recorded. Similarly, no evidence of Yol-25 was found during the current field reconnaissance even though the map showing it supposed location was utilized during inspection."[12]

Although the site was previously disturbed, thereby reducing the chance of finding cultural resources, the previous record search of the site was performed in the early 1980's and will be updated for this project. Due to the age of the previous record search, additional information about the location of Yol-25 or other cultural resources on the proposed project site could be available. Without updated research of available cultural records, the construction of the proposed project (both the residential and bank stabilization projects) could result in ***potentially significant impacts*** to archaeological resources. Therefore, this issue will be evaluated in the EIR.

c. Some recent construction in the Sacramento region has discovered paleontological resources, especially in the Riverbank and Turlock soil formations. The geotechnical report prepared for the proposed Rivers Phase II project determined through previously mapped geology and soil borings on the site for the proposed project, that the Riverbank formation underlies the younger soils on the site.[13] Although the proposed project site is not known to contain such resources, the earthwork associated with the proposed project (both the residential and bank stabilization projects) could uncover previously unknown paleontological resources. The potential impact would be considered ***less than significant with mitigation incorporated***.

Mitigation Measure 3

The project applicant shall require incorporate the following language into construction documents:

Should any evidence of paleontological resources (e.g., fossils) be encountered during grading or excavation, work shall be suspended within 100 feet of the find, and the City of West Sacramento shall be immediately notified. At that time, the City shall coordinate any necessary investigation of the site with a qualified paleontologist to assess the resource and provide proper management recommendations. Possible management recommendations for important resources could include resource avoidance or data recovery excavations. The contractor shall implement any measures deemed necessary by the paleontologist for the protection of the paleontological resources.

11 EDAW, Inc., *Final Environmental Impact Report for the Lighthouse Marina, Broderick, CA*, May 1986, page 3-50.

12 EDAW, Inc., *Final Environmental Impact Report for the Lighthouse Marina, Broderick, CA*, May 1986, page 3-50.

13 Wallace-Kuhl and Associates, Inc., *Geotechnical Engineering Report, The Rivers Phase 2- Portions of Lots 53, 54, and 55*, April 22, 2004, page 4.

Implementation of Mitigation Measure 3 would reduce potential impacts during construction to unidentified paleontological resources to a less-than-significant level. Therefore, this issue will not be evaluated in the EIR.

d. The proposed project site has been disturbed to develop the former golf course, residential home sites and associated infrastructure. The proposed residential site and bank stabilization sites are located close to and immediately adjacent to the Sacramento River; prehistoric cultures are known to occupy areas adjacent to sources of water. Therefore, project construction could unearth previously unknown graves or grave sites. If human remains were encountered, the following mitigation would ensure that any human remains are handled in a lawful manner. Therefore, this impact would be considered ***less than significant with mitigation incorporated.***

Mitigation Measure 4

The project applicant shall incorporate the following language into construction documents:

In the event of discovery or recognition of any human remains on the project site, the project sponsor shall contact the Yolo County Coroner, pursuant to Section 7050.5(b) of the California Health and Safety Code. In this event, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until (1) the Coroner determines that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and (2) the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code. No further disturbance of the site may be made except as authorized by the County Coroner. The Coroner shall make the determination within two working days from the time the person responsible for the excavation, or authorized representative, notifies the Coroner of the discovery or recognition of the human remains.

If the remains are Native American, the Coroner shall notify the Native American Heritage Commission, which in turn shall inform a most likely descendent. The descent will then recommend to the landowner appropriate disposition of the remains and any grave goods. Disposition may include (1) in-situ reinternment of the remains and associated artifacts and capping the site or (2) relocation and reinternment.

Implementation of Mitigation Measure 4 would reduce potential impacts during construction to unidentified buried human remains to a less-than-significant level. Therefore, this issue will not be evaluated in the EIR.

VI. GEOLOGY AND SOILS -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects including the risk of loss injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known Fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☒	☐	☐
b) Expose people or structures to potential substantial adverse effects including the risk of loss injury, or death involving strong seismic ground shaking?	☐	☒	☐	☐
c) Expose people or structures to potential substantial adverse effects including the risk of loss injury, or death involving seismic-related ground failure, including liquefaction?	☐	☒	☐	☐
d) Expose people or structures to potential substantial adverse effects including the risk of loss, injury, or death involving landslides?	☐	☐	☐	☒
e) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
f) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☒	☐	☐
g) Be located on expansive soil, as defined in Table 18-1-B of the uniform Building Code (1994), creating substantial risks to life or property?	☐	☒	☐	☐

a.,b. West Sacramento is located in one of the least active seismic regions in the State and no known or inferred faults occur within the City. The proposed project site is not located in an Alquist-Priolo Earthquake Fault zone as defined by the Division of Mines and Geology Special Publication 42.[14]

While the area of the City has not been a source of earthquakes within recent geologic time, seismic activity in neighboring regions could affect the West Sacramento area. There are three potentially active faults generally located west to southwest of the City, ranging approximately

14 California Geological Survey, http://wwwlconsrv.ca.gov/CGS/rghm/ap/affected.htm, website accessed March 9, 2005.

18 to 65 miles away. There are three faults considered active located east and west and approximately 50 to 80 miles from the City.[15] The San Andreas, Hayward, Calaveras, and Midland faults have maximum probable earthquake Richter Scale readings ranging from 6.5 to 7. During quakes of those magnitudes, West Sacramento could experience general alarm and moderate damage.[16]

All foundations, structures, and infrastructure developed as part of the Rivers Phase II project would be constructed in compliance with the most current UBC criteria for seismic design and construction; thereby, reducing the potential for seismic damage.

In addition to compliance with the UBC, it is recommended that project development be constructed in accordance with the recommendations contained in the April 22, 2004 *Geotechnical Engineering Report, The Rivers Phase 2-Portions of Lots 53, 54 and 55* prepared by Wallace-Kuhl & Associates, Inc. With implementation of the following mitigation measure, impacts associated with the potential exposure of people or structures during a seismic event would be less than significant. Therefore, this impact would be ***less than significant with mitigation incorporated***.

Mitigation Measure 5

> *The project applicant shall incorporate the recommendations contained in the April 22, 2004 Geotechnical Engineering Report, The Rivers Phase 2-Portions of Lots 53, 54 and 55 prepared by Wallace-Kuhl & Associates, Inc. into site preparation techniques, and building and infrastructure design and construction.*

Implementation of Mitigation Measure 5 would reduce impacts of the potential exposure of people or structures during a seismic event to a less-than-significant level. Therefore, this issue will not be evaluated in the EIR.

c. In West Sacramento, the primary ground failure hazard due to seismic activity is soil liquefaction.[17] Liquefaction within the City exists in low-lying areas composed of unconsolidated, saturated, clay-free sands and silts, particularly in the Southport area,[18] which is south of the proposed project site. According to the geotechnical engineering report prepared for the proposed Rivers Phase II project, the project site is underlain by interbedded layers of silty and clayey sands and sandy silts with occasional concentrations of clay. Borings on the site found groundwater between depths of 8 ½ feet and 13 feet below grade.[19]

As previously stated, a site-specific geotechnical engineering report was prepared for the proposed Rivers Phase II project and it included recommendations to minimize potential impacts associated with geologic and soil conditions. Implementation of Mitigation Measure 5 would reduce potential impacts of the exposure of people or structures during a seismically-related ground failure, including liquefaction to a less-than-significant level. Therefore, this

15 West Sacramento, *City of West Sacramento General Plan Background Report*, Revised and Adopted June 14, 2000, pages IX 2 and IX 3.
16 West Sacramento, *City of West Sacramento General Plan Background Report*, Revised and Adopted June 14, 2000, page IX-9.
17 West Sacramento, *City of West Sacramento General Plan Background Report*, Revised and Adopted June 14, 2000, page IX-9.
18 West Sacramento, *City of West Sacramento General Plan Background Report*, Revised and Adopted June 14, 2000, page IX-7.
19 Wallace-Kuhl and Associates, Inc., *Geotechnical Engineering Report, The Rivers Phase 2- Portions of Lots 53, 54, and 55*, April 22, 2004, page 4.

impact would be ***less than significant with mitigation incorporated*** and it will not be evaluated in the EIR.

d. The topography of the 68-acre proposed project site is relatively flat and the risk of exposing structures or people to hazards associated with landslides does not exist. The proposed project also includes stabilization of 3,000 linear feet of the west bank of the Sacramento River. This portion of the bank is actively eroding under existing conditions. The proposed project would include measures, such as re-vegetation, that would stabilize the bank, therefore, minimizing the potential for future erosion and/or slope failure. Therefore, ***no impact*** would occur and this issue will not be evaluated in the EIR.

e. Construction of the proposed project would require redevelopment of the portion of the former golf course located within the project boundary. Site clearing and grading would be required to accommodate construction activities. Approximately 50,000 cubic yards of fill would be imported to accommodate development of the proposed project. The bank stabilization project is intended to reduce future erosion. Site preparation would also include some site clearing. However, once the site is prepared, it will be re-vegetated. Chapter 70 of the UBC includes standards for excavation and grading activities. In addition, the City of West Sacramento regulates grading activities in its Municipal Code. Chapter 15.08, Grading, establishes standards for site preparation and construction activities to minimize erosion. Chapter 15.08 requires a permit be obtained before any grading activities are undertaken and that such activities include incorporation of measures to reduce water and wind generated erosion. In addition, the City requires that standard tentative map conditions require the applicant to prepare a grading, geotechnical and erosion control plan as part of the improvement plans. With implementation of the following mitigation measure, impacts associated with soil erosion would be less than significant. Therefore, this impact would be ***less than significant with mitigation incorporated***.

Mitigation Measure 6

> *The applicant shall prepare a grading, geotechnical and erosion control plan. The plan shall be submitted to the City of West Sacramento Public Works Department for approval prior to approval of the Improvement Plans.*

Implementation of Mitigation Measure 6 would reduce impacts associated with substantial soil erosion to a less than significant level and this issue will not be evaluated in the EIR.

f. The site-specific geotechnical report determined that soils within the former golf course are considered unsuitable for direct support of structures in their current condition due to the high organic content and looseness. The report recommended that the elevated topographical features and the upper 12 inches of existing ground within the proposed building pads within the area of the former golf course be removed. The resulting exposed ground should be re-compacted and filled with engineered fill. Implementation of Mitigation Measure 5 would ensure that recommendations contained in the site-specific geotechnical report are implemented. Therefore, this impact would be ***less than significant with mitigation incorporated*** and it will not be evaluated in the EIR.

g. The geotechnical report for the proposed project site determined that although near-surface soils are predominately granular in nature and considered relatively non-expansive,

moderately expansive clays and silts could occasionally be present.[20] The geotechnical report recommended that when encountered, clay soils be removed and replaced with granular fill soils or covered with a layer of non-expansive engineered fill. Implementation of Mitigation Measure 5 would ensure that recommendations contained in the site-specific geotechnical report are implemented. Therefore, this impact would be ***less than significant with mitigation incorporated*** and it will not be evaluated in the EIR.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. HAZARDS AND HAZARDOUS MATERIALS -- Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handles hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working within the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒

20 Wallace-Kuhl and Associates, Inc., *Geotechnical Engineering Report, The Rivers Phase 2- Portions of Lots 53, 54, and 55*, April 22, 2004, pages 6 and 11.

h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands ore adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

a. Construction of the proposed project, including the bank stabilization, would involve the use of various products that could contain materials classified as hazardous (e.g., solvents, adhesives and cements, certain paints, cleaning agents and degreasers). Fuels, such as gasoline and diesel, would also be used in heavy equipment and other construction vehicles. The potential for spills or inadvertent releases of hazardous materials during construction to adversely affect people or the environment would be minimal. First, these products would be used in small quantities and for a limited amount of time. Second, the use and storage of such products is subject to applicable hazardous materials regulations. Standard contract specifications would also contain specific provisions regarding the use of these products and compliance with applicable regulations and standards. Because applicable hazardous materials laws and regulations would be implemented as standard procedure for the proposed project through contractor specifications and monitored by the applicant and City staff, the impact of construction-related hazardous chemical use and storage would be less than significant.

Occupancy of the proposed project would be limited to residential, park, and potentially K-8 school uses. Some household products typically and routinely used in a residential development project contain chemicals that may be hazardous. Cleaners and degreasers, paints and solvents, automotive products, pesticides, and some art materials are examples of such materials. However, because the number and quantities would be limited, this would not present a substantial, adverse hazard to people or the environment. Household hazardous waste (including used oil and antifreeze and discarded paints, for example) would be generated, but the City of West Sacramento has programs in place to assist residents in the proper disposal of such materials. There would be no significant transport of hazardous materials to or from the project site.

Because the proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, impacts would be ***less than significant***, and this issue will not be evaluated in the EIR.

b. Upset or accident conditions that could result in a release of hazardous materials that could affect project occupants include hazardous substances that may be in the soil or groundwater at the site as a result of past uses at the site, which could be encountered during construction or occupancy, and transportation accidents on local roadways. Potential impacts are discussed below.

<u>Potential for Soil/Groundwater Contamination</u>

Historically, the site was used for agriculture, and scattered residential development was present for several decades prior to construction of a golf course in the early 1970s. The golf course closed in 2003. Prior Tentative Map approvals for the site resulted in the creation of several hundred lots and infrastructure. Throughout its development history, the site is known to have contained groundwater wells and underground storage tanks, and some limited hazardous materials use, primarily associated with the golf course.

Site studies in the form of Phase I Environmental Site Assessments (ESA) or other specialized studies are used to identify the presence or likelihood of soil and groundwater contamination at a specific site. The American Society for Testing and Materials (ASTM) standards are used routinely in preparation of Phase I ESAs to determine the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products onto the surface or into the ground, groundwater or surface water of the property. Phase I ESA research includes direct site observations, records and database searches of agency files, interviews, and review of historic maps and air photos. If a Phase I ESA finds that hazardous materials found on the property may have been released, then a Phase II ESA is usually recommended. A Phase II investigation typically includes collection and analysis of soil and water samples. Based on the results, the Phase II ESA may recommend additional testing, remediation, or other controls to address contamination.

Two Phase I ESAs and a supplement have been completed for the project site. The Phase 1 ESAs were completed in 2003, when the golf course was still open, and covered a larger area than the current project site. Items noted in the Phase I ESA documents included some groundwater wells no longer in operation, underground fuel storage tanks that reportedly had been removed, remnants of former structures and scattered debris, a building that stored products used for golf course maintenance and an adjacent above-ground fuel storage tank, waste oil storage at the golf course maintenance building, below-grade utility vaults and piping, pole-mounted transformers, and a gas pipeline.

The results of the Phase I ESAs did not identify any significant concerns related to hazardous materials releases or wastes within the boundaries of the proposed Rivers Phase II site, with the exception of suspected asbestos contamination in building materials in the golf course clubhouse. The Phase I ESA authors recommended follow-up testing and evaluation of the type and extent of asbestos-containing building materials (ACBM).[21] No Phase II testing was recommended for any location.

Although there was no documented or observable evidence of hazardous materials contamination or wastes at the golf course site (other than ACBM), the golf course ceased operation in 2003, after the Phase I ESAs were completed. It is unknown the extent to which pesticide applications at the golf course or chemical storage in the maintenance building could have resulted in environmental hazards. Asbestos may still be present in golf course buildings. Due to the age of the buildings, lead-based paint and electrical and lighting fixtures containing hazardous substances (e.g., PCBs or mercury) could be present. The latter were not identified as potential hazards in the Phase I ESAs, but are sometimes found in older structures. The due diligence reporting in the previous Phase I ESAs was completed in accordance with industry standards. However, whenever a site is redeveloped, there is always the potential that previously undocumented buried tanks or contamination may be present which could not have been ascertained during the Phase 1. During excavation, trenching, and general site preparation activities, these items could be discovered.

Based on the above, construction and demolition activities could result in an inadvertent or accidental release of hazardous materials from past uses if not properly identified and

21 Kleinfelder, Inc., Phase 1 Environmental Site Assessment Lighthouse Golf Course and Country Club, 500 Douglas Street, West Sacramento, Calfornia, January 17, 2003; Kleinfelder, Inc., Phase 1 Environmental Site Assessment Lighthouse Development, West Sacramento, Calfornia, January 17, 2003; Kleinfelder, Inc., Phase 1 Environmental Site Assessment Supplement No.1 Three Additional Parcels and Receipt of Additional Information Lighthouse Development, West Sacramento, California, March 13, 2003.

managed. This could create a significant hazard to the public or the environment through reasonably foreseeable accident conditions involving the release of hazardous materials into the environment. This impact is considered ***less than significant with mitigation incorporated***.

Mitigation Measure 7

(a) *Prior to any activity involving site preparation and/or demolition of golf course structures, the results of a follow-up investigation to the previous Phase I ESAs for the project site shall be prepared by a qualified professional to identify whether there are any "recognized environmental conditions," as defined by the ASTM Phase I ESA standard, requiring mitigation. The evaluation shall include identification of ACBM, lead-based paint, and other structural or non-structural items that could include or be contaminated with hazardous substances. The evaluation shall also include a qualitative determination of whether past pesticide and herbicide use at the golf course could have resulted in levels of contaminants in soil or groundwater that would present a human health risk to construction workers and future single-family residential development.*

(b) *If the Phase I ESA recommends a Phase II evaluation, the Phase II evaluation shall be completed prior to site preparation. No site work or demolition shall occur until all hazards are identified and managed to the satisfaction of the Yolo County Environmental Health Department, City of West Sacramento, and Yolo-Solano Air Quality Management District (for asbestos abatement).*

(c) *In the event that previously unidentified USTs or other features or materials that could present a threat to human health or the environment are discovered during excavation and grading, construction in that immediate area shall cease immediately. A qualified professional shall evaluate the location and hazards and make appropriate recommendations. Work shall not proceed in that area until identified hazards are managed to the satisfaction of YCEHD.*

Implementation of Mitigation Measure 7 (a) – (c) would reduce potential impacts associated with reasonably foreseeable accident conditions involving the release of hazardous materials into the environment to a less-than-significant level. Therefore, this issue will not be evaluated in the EIR.

The following additional discussion applies to Scenario A only.

The California Education Code (Section 17210 *et seq*.) requires that, prior to commencing the acquisition of property for a new school site, an environmental site investigation be completed to determine the health and safety risks (if any) associated with a site. Recent legislation and changes to the Education Code identify Department of Toxic Substances Control (DTSC's) role in the assessment, investigation, and cleanup of proposed school sites. All proposed school sites that will receive State funding for acquisition and/or construction must go through a comprehensive investigation and cleanup process under DTSC oversight. DTSC is required to be involved in the environmental review process to ensure that selected properties are free of contamination, or if the property is contaminated, that it is cleaned up to a level that is protective

of students and faculty who will occupy the new school. All proposed school sites must be suitable for residential land use, which is DTSC's most protective standard for children.

Prior to acquiring a school site or engaging in a construction project, school districts must contract for the preparation of a Phase I ESA, which must be reviewed by DTSC according to established timelines. The Phase I ESA, which must be prepared by a qualified professional, can be used to support a conclusion that no recognized environmental conditions are present, or a Preliminary Endangerment Assessment (PEA) is necessary. If the Phase I concludes, or DTSC determines, that a PEA be conducted, the school district can either proceed with the PEA or drop the school site from further consideration. If the district chooses to proceed with a PEA, it will be required to enter into an Environmental Oversight Agreement with DTSC to oversee preparation of the PEA, which must be submitted to DTSC for review and approval. If the approved PEA concludes the property would not pose a threat, DTSC will issue a "No Further Action" determination and will not require additional investigation or cleanup. If the PEA concludes the property is contaminated, the district must clean up the site or it can choose not to proceed with development of the school project. When all necessary cleanup activities are completed according to DTSC-approved plans, DTSC will certify the site cleanup is complete.

In conjunction with the Phase I and PEA process, DTSC has also developed specific sampling guidance for schools proposed on land historically used for agriculture where pesticides have been routinely applied. DTSC recommends that school districts and their hazardous materials consultant coordinate with DTSC to determine the applicability of the Interim Guidance to a specific location and the need for testing.

The previous Phase I ESAs prepared for the site are over two years old and would not meet the requirements of the Education Code for the school site. Therefore, prior to constructing and operating the proposed school under Scenario A, the WUSD would be required to conduct an additional environmental site investigation in accordance with California Education Code Section 17210 to determine potential safety risks associated with the site. Therefore, this issue will not be evaluated in the EIR.

Off-Site Hazardous Materials Transportation

The project site is located approximately one mile west of Interstate 5 (I-5) and is separated from I-5 by the Sacramento River. Hazardous materials are routinely transported on I-5. Accidents during hazardous waste transport could expose individuals and the environment to risks at some distance from the project site. However, transportation accidents are infrequent. Several federal and State agencies all specify packaging requirements for hazardous materials and wastes that limit the potential for packages to fail on impact. These requirements reduce the potential for hazardous materials releases to occur in the unlikely event of an accident. Consequently, the potential for project occupants to be exposed a hazardous materials release through a reasonably foreseeable upset or accident conditions is not substantial. Impacts would be less than significant and this issue will not be evaluated in the EIR.

c. The proposed Rivers Phase II project is located within ¼ mile of two existing schools (Elk Horn Elementary and Golden State Middle School). A K-8 school is proposed at the site. As discussed in Item VIIa, above, the proposed on-site land uses would not use substantial quantities of hazardous materials. The types of hazardous materials used on-site would be limited to household-type products containing limited amounts of hazardous substances. No facilities that would generate hazardous materials emissions (e.g., industrial processes) would be located on-site. The Phase 1 ESAs included the results of regulatory agency database

searches for businesses and properties that handle hazardous materials and hazardous waste within one mile of the entire project site. None of the listed off-site facilities is within ¼ mile of the proposed K-8 school site. Impacts would be ***less than significant***, and this issue will not be evaluated in the EIR.

d. The proposed Rivers Phase II project site is not listed on the Department of Toxic Substances Control Hazardous Waste and Substances Site List (Cortese List);[22] therefore, the project would not create a hazard to the public or environment as a result of construction on a known contaminated site. ***No impact*** would occur and this issue will not be evaluated in the EIR.

e., f. The proposed project site is not within the boundary of either the Sacramento International Airport or Sacramento Executive Airport Comprehensive Land Use Plans,[23] the two closest public airports. No private airstrips are in the vicinity of the project site, although there are helicopter operations at the California Highway Patrol Academy on Reed Avenue a few miles west of the site. Due to distance, helicopter operations do not pose a substantial hazard to the site. Therefore, the development of the proposed project would not result in a safety hazard for people residing or working in the project area due to aircraft operations, and ***no impact*** would occur. These issues will not be evaluated in the EIR.

g. The proposed project would not close roads, remove existing road intersections, or remove access to the surrounding residential uses that could impair implementation of or physically interfere with the City of West Sacramento's emergency response and/or evaluation plans. Therefore, ***no impact*** would occur and this issue will not be evaluated in the EIR.

h. The project site is located within an urban, built-up area on the north, south and west. The Sacramento River borders the site on the east. Therefore, the construction of proposed project uses would not expose residents or students to the risk of wildland fires, and ***no impact*** would occur. This issue will not be evaluated in the EIR.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. HYDROLOGY AND WATER QUALITY -- Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒

22 DTSC website (www.dtsc.ca.gov/database/Calsites/Cortese_List.cfm), Yolo County, accessed March 2, 2005.

23 SACOG website (www.sacog.org/airport/maps/International.pdf), map showing Sacramento International Airport Comprehensive Land Use Plan, accessed March 2, 2005 and map showing Sacramento Executive Airport Comprehensive Land Use Plan, accessed March 3, 2005..

b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?	☐	☒	☐	☐
d)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☒	☐	☐	☐
e)	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☒	☐	☐
f)	Otherwise substantially degrade water quality?	☐	☒	☐	☐
g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood hazard Boundary or Flood Insurance rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☒	☐
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☒	☐

a. Wastewater from the project site would be collected and conveyed to the City of West Sacramento wastewater treatment plant (WWTP), which discharges to the Sacramento River. The plant is permitted by the Regional Water Quality Control Board and operates under Waste Discharge Requirements. The permit and WDRs specify plant discharge limits to ensure compliance with federal and State Clean Water Act requirements contained in *the Water Quality Control Plan for the Sacramento River Basin and San Joaquin River Basin* (Basin Plan).

Wastewater from the project site would be generated by residential development and a school, which would not contain constituents that could affect the ability of the City's WWTP to comply with adopted WDRs or exceed water quality standards. There would be ***no impact*** and this issue will not be evaluated in the EIR.

Please see Item c-f regarding storm water runoff from construction activities and pollutants in urban runoff from the developed site upon occupancy.

b. The majority of the proposed project site is located with the boundaries of the former Lighthouse Golf Course. The former golf course includes landscape areas as wells as areas of impervious surface cover such as structures and concrete paths. Roads also currently exist on the site. Implementation of the proposed project would result in an increase of impervious surface cover that would alter the rate and amount of groundwater recharge; however, the project would still include landscape areas. In addition, groundwater levels in the project area are influenced by water levels in the Sacramento River. Therefore, the proposed project would not be anticipated to substantially interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table.

The City of West Sacramento does not use groundwater as a water supply source. Therefore, any change in the amount of groundwater recharge would not deplete groundwater supplies. Changes in groundwater recharge potential and groundwater supplies would be ***less than significant*** and this issue will not be evaluated in the EIR.

c, e, f.

Construction

Construction of the proposed project, including bank stabilization, would involve soil-disturbing construction activities, such as grading and excavation. These activities would result in soil being exposed to erosion by wind or rain, depending on the time of year. During excavation and trenching, dewatering may also be required. Runoff from the construction sites could contain constituents such as sediment and urban pollutants that could enter storm drains or the Sacramento River.

In accordance with NPDES regulations, to minimize the potential effects of erosion and construction runoff on receiving water quality, the State requires that any construction activity affecting one acre or more must obtain a General Construction Activity Stormwater Permit (General Permit). The proposed project would be required to comply with this permit. Performance standards for obtaining and complying with the General Permit are described in NPDES General Permit No. CAS000002, Waste Discharge Requirements, Order No. 99-08-DWQ. SWRCB Resolution No. 2001-046 requires permittees to implement specific sampling and analytical procedures to determine whether the BMPs used at permitted construction sites are effective.

General Permit applicants are required to prepare a SWPPP, an Erosion Control Plan, and implement BMPs to reduce construction effects on receiving water quality by implementing erosion control measures. Examples of typical construction BMPs included in SWPPPs include, but are not limited to: using temporary mulching, seeding, or other suitable stabilization measures to protect uncovered soils; storing materials and equipment to ensure that spills or leaks cannot enter the storm drain system or surface water; developing and implementing a spill prevention and cleanup plan; installing traps, filters, or other devices at drop inlets to prevent

contaminants from entering storm drains; and using barriers, such as straw bales or plastic, to minimize the amount of uncontrolled runoff that could enter drains or surface water.

As a standard mitigation measure, the City requires applicants to prepare a comprehensive plan demonstrating how erosion, siltation and contamination of stormwater will be prevented prior to approval of a final map. The plan must be prepared in accordance with the permit conditions and requirements of the NPDES general permit requirements. Implementation of the following mitigation measure would ensure that applicants prepare a comprehensive plan to prevent construction stormwater pollution. Therefore, this impact would be ***less than significant with mitigation incorporated***.

Mitigation Measure 8

> *The applicant shall prepare a comprehensive plan demonstrating how erosion, siltation and contamination of stormwater shall be prevented. The plan shall be submitted to the City of West Sacramento Public Works Department for approval prior to approval of the final map. The plan shall be prepared in accordance with the conditions and requirements of the NPDES General Construction Activity Stormwater Permit.*

With implementation of Mitigation Measure 8, construction of the proposed project would not result in substantial erosion or siltation on-site or off-site, provide substantial addition sources of polluted runoff, or otherwise substantially degrade water quality. Construction stormwater quality impacts would be reduced to less than significant and this issue will not be evaluated in the EIR.

Post-Construction Conditions

The proposed Rivers Phase II project would convert a significant portion of the project site from vacant land and a golf course, which are relatively permeable surfaces to impervious surfaces, such as buildings and paving. This would change the existing drainage pattern of the site so that the rate or volume of stormwater runoff would change, as compared to existing conditions. The types and concentrations of pollutants in stormwater runoff would also change from existing conditions. Such conditions could introduce new or greater quantities of pollutants into local waterways.

The conversion from a golf course to residential uses would be anticipated to reduce the concentration of fertilizers and pesticides in site runoff. The amount of heavy metals and oil and grease in site runoff could increase with additional roads and vehicle trips when compared to current conditions.

The proposed project includes installation and operation of an underground separator system to treat stormwater before discharge. The proposed system would be installed in the last manhole connecting to the collection system (north side of Lighthouse Drive). Consistent with City requirements, the separator would be sized to treat 100-year peak flows and to remove greater than 80% of total suspended solids that are typical of urban runoff.

As a standard mitigation measure, the City requires applicants to demonstrate the effectiveness of proposed stormwater quality management practices. Implementation of the following

mitigation measure would ensure that applicants design and implement adequate stormwater quality management practices to prevent post-construction stormwater pollution. Therefore, this impact would be ***less than significant with mitigation incorporated***.

Mitigation Measure 9

> *The applicant shall prepare a comprehensive plan demonstrating how post-construction stormwater quality measures shall be designed and implemented to protect receiving water quality. The plan shall be submitted to the City of West Sacramento Public Works Department for approval prior to approval of the Improvement Plans.*

Implementation of Mitigation Measure 9 would reduce post-construction water quality impacts to receiving waters to a less-than-significant level and this issue will not be evaluated in the EIR.

d. As previously stated, implementation of the proposed project would increase the amount of impervious surface cover which could change the existing drainage pattern and increase the rate and amount of surface runoff. This could result in exceeding the capacity of the existing stormwater collection system and result in on- and/or off-site flooding. This is considered a ***potentially significant impact***. The proposed project includes the installation of new and modification of existing storm drain collection infrastructure. The adequacy of the proposed system storm drainage system will be evaluated in the EIR. See also Item XVc.

g. The portion of the Rivers Phase II site proposed for residential development is not within a 100-year flood hazard area. All areas of the City that are behind the levees, such as the proposed project site, are located within Zone X, which designates the area as "protected from a 100 year storm by levees".[24] Therefore, the proposed project would not place housing within a 100-year flood hazard area and ***no impact*** would occur. This issue will not be evaluated in the EIR.

h. The proposed bank stabilization would include construction of a stone dike behind which would be a vegetated berm. The dike would incorporate large woody debris, which would provide fish habitat on the waterside of the berm. Upslope of the berm, the bank would be reinforced with rock. Native vegetation would be planted to achieve a natural-looking bank. The proposed bank protection would be sited within the floodway of the Sacramento River.

The 3,000-foot-long bank protection segment proposed under the Rivers Phase II project is a slight design modification of a previously evaluated, larger bank stabilization project (see Project Description Background). The effect on water surface elevations in the Sacramento River and the potential for increased flood hazard were evaluated as part of the permitting and environmental documentation for the larger project. Results of that evaluation indicated that floodway encroachment would not have a significant effect on channel capacity and flood levels during both normal downstream flow and flow reversal during the largest floods.[25]

The overall footprint of the bank stabilization component of the proposed project that would be within the Sacramento River floodway would not differ from the larger project previously evaluated. Only the methods of stabilization would differ. The proposed vegetated dike and

24 West Sacramento, *City of West Sacramento General Plan Background Report*, Revised and Adopted June 14, 2000, page IX-13 and Figure 9-1.

25 State Lands Commission, *Lighthouse Marina and Riverbend Development Bank Protection and Greenway Draft Environmental Impact Report* (SCH #94123008), March 1996, page 4-15.

woody debris and rock placement would not result in any new or more severe floodway encroachment problems than previously evaluated. Therefore, because the proposed project would not place new structures that would impede or redirect flood flows, impacts would be ***less than significant*** and this issue will not be evaluated in the EIR.

i. Folsom Dam, which is located on the American River, is located upstream of the proposed project site. Failure of Folsom Dam could lead to inundation of West Sacramento. The proposed project would place more people within a dam inundation zone, as compared to existing conditions. Dam failure could result in the exposure of project occupants and structures to flooding hazard.

Three conditions increase the risk from dam failure: (1) seismic activity, (2) structural instability, and (3) intense rainfall in excess of the dam's holding capacity. The City of West Sacramento General Plan determined that the risk of Folsom Dam failure is remote. The General Plan also stated that State law requires local jurisdictions to adopt emergency procedures for the evacuation of populated areas in inundation areas.[26] In addition, an established procedure has been adopted by the City to evacuate the portions of the City anticipated to be inundated. For these reasons the risks to project occupants due to dam failure inundation are considered ***less than significant*** and the issue will not be evaluated in the EIR.

j. Due to the distance of the City of West Sacramento from the Pacific Ocean, the proposed project site is not subject to tsunami. Seiches are earthquake-generated waves within enclosed or restricted bodies of water. According to the City's General Plan, the Sacramento River is susceptible to seiches and, the danger of seiches during seismic events is limited to those periods when the Sacramento River is full during the flood season. Overtopping of the levees during this period could cause a limited amount of flooding; however, the risk of this happening is reduced by the very limited time the Sacramento River is at this stage.[27] Although there is a chance for a seiche on the Sacramento River to cause flooding on the proposed project site, the chance is remote. In addition, the amount of potential flooding is considered limited. Therefore, the potential impacts to the proposed project site resulting from seiche are considered ***less than significant*** and this issue will not be evaluated in the EIR.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. LAND USE AND PLANNING -- Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☒	☐	☐	☐

26 West Sacramento, *City of West Sacramento General Plan Background Report*, Revised and Adopted June 14, 2000, Figure 9-1.

27 West Sacramento, *City of West Sacramento General Plan Background Report*, Revised and Adopted June 14, 2000, pages IX 8 and IX 9.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan? ☐ ☐ ☐ ☒

a. The proposed project would be developed on the site of a former golf course and the site is surrounded on three sides by areas developed with residential uses. The proposed land uses would not hinder or preclude the ability of existing residents to move freely about the area. Therefore, ***no impact*** would occur and this issue will not be evaluated in the EIR.

b. The proposed project is subject to the policies and standards contained in the City's General Plan, the City's Zoning Ordinance, and the regulations contained in the ordinance that created PD-29. A conflict with any of these ordinances regulating land uses to prevent or mitigate an environmental effect due to the land uses proposed by the project could result in a ***potentially significant impact.*** This issue will be evaluated in the EIR.

c. The proposed project would not conflict with any applicable conservation plan or natural community conservation plan. See IVf.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
X. MINERAL RESOURCES -- Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☒	☐
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☒	☐

a., b. The proposed project site is classified Mineral Resource Zone 3 (MRZ-3) by the California Division of Mines and Geology,[28] which means that aggregate deposits of undetermined significance could occur. Lands with a MRZ-3 are not affected by State policies pertaining to the maintenance of and access to regionally significant mineral deposits. The geotechnical report prepared for the proposed project did not indicate that aggregate deposits, or other mineral resources, are located on the project site. For these reasons, the proposed project's impacts to mineral resources would be considered ***less than significant***. This issue will not be evaluated in the EIR.

28 West Sacramento, *City of West Sacramento General Plan Background Report*, Revised and Adopted June 14, 2000, Figure 8-8.

XI. NOISE -- Would the project result in:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration noise levels?	☐	☒	☐	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

a.,c.,d. The proposed Rivers Phase II project would construct 518 residential units and a K-8 school under Scenario A, and 694 residential units under Scenario B on a site that is currently occupied by a former golf course. Construction of the proposed project would temporarily increase the noise in the project area for the duration of the construction period. The noise would be generated by both increased traffic to the site due to construction personnel; increased traffic due to deliveries and removals of materials from the project site; and construction vehicles weighing more, with larger engine sizes and increased number of wheels than personal vehicles. The proposed project site is located in a generally urban, built up area; and therefore, existing residents and students in schools within the project area could be subjected to increased noise during construction of the proposed Rivers Phase II.

Once construction is complete, the occupation of the site by residents and students would increase the amount of ambient noise in the proposed project area. The increased traffic resulting from the residents and the transport of students to and from the school would also increase the amount of noise in the project area.

The proposed project would construct sensitive receptors within a noise impacted area and increase the amount of ambient noise within the project area; therefore, the generation of noise related to the proposed Rivers Phase II project is considered a ***potentially significant impact*** and this issue will be evaluated in the EIR.

b. Vibration is sound radiated through the ground. The rumbling sound caused by the vibration of room surfaces is called groundborne noise.

The background vibration velocity level in residential and educational areas is usually around 50 VdB or lower.[29] The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people. Sources within buildings, such as operation of mechanical equipment, movement of people, or the slamming of doors causes most perceptible indoor vibration. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is rarely perceptible.

The CEQA Guidelines do not define the levels at which groundborne vibration or groundborne noise is considered "excessive." This analysis uses the Federal Railway Administration's vibration impact thresholds for sensitive buildings and institutional land uses. These thresholds are 83 VdB at institutional buildings with primarily daytime use (such as schools).[30]

Construction activities associated with the proposed project have the potential to generate low levels of groundborne vibration for a relatively short term and temporary basis. Construction activities would primarily impact occupied buildings surrounding the project site. Some heavy-duty construction equipment could operate within 25 feet of occupied structures and, therefore, vibration levels could reach up to 87 VdB. Although these levels would not cause any damage to the existing or new structures since they would be well below 100 VdB, they would exceed the thresholds for such use. The primary affect of these vibration levels is that structure inhabitants would notice them and possibly be annoyed when construction activities are occurring. Implementation of Mitigation Measure 10 would require the notification of nearby occupants of the planned construction schedule and also require the developer to limit the hours of construction. Therefore, this impact would be ***less than significant with mitigation incorporated***.

Mitigation Measure 10

> *The project proponent shall incorporate the following language into construction documents:*
>
> *All construction activities shall take place between the hours of 7 a.m. and 6 p.m.*
>
> *Prior to any demolition and construction activity associated with the proposed project, all habited structures located within a radius of 100 feet of the construction sites shall be notified of the planned schedule of construction activities that could generate substantial groundborne vibration.*

The closest sensitive receptors are located adjacent to the proposed project site. Heavy trucks would transport materials to and from the project site during construction that would pass sensitive receptors in the residences and existing schools. These trucks typically generate groundborne vibration velocity levels of around 63 VdB, although the levels could reach 72 VdB

29 United States Department of Transportation, Federal Railroad Administration, *High-Speed Ground Transportation Noise and Vibration Impact Assessment*, December 1998, page 6-5.

30 United States Department of Transportation, Federal Railroad Administration, *High-Speed Ground Transportation Noise and Vibration Impact Assessment*, December 1998, page 7-2.

where trucks pass over bumps in the road.[31] For these reasons, vibration levels would not exceed the identified thresholds of significance for sensitive uses.

It is not anticipated that any of the allowable uses on the project site would cause groundborne vibration perceptible by either other occupants on the project site or occupants of adjacent sites; therefore, the impacts due to groundborne vibration generated during operation of the project would be less than significant.

As discussed above, the primary effect of vibration generated during construction and operation of the proposed project is that site occupants would notice it and possibly be annoyed during construction activities. Implementation of Mitigation Measure 10 would reduce the impact of groundborne vibration to a less-than-significant level by ensuring that the site occupants are notified. This issue will not be evaluated in the EIR.

e., f. As previously noted, the proposed Rivers Phase II project is not located within an airport land use plan. The project would not expose site occupants to excessive noise levels and ***no impact*** would occur. These issues will not be evaluated in EIR.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. POPULATION -- Would the project:				
a) Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through he extension of roads or other infrastructure)?	☒	☐	☐	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

a. The proposed project would increase population associated with the increase in residential units (518 under Scenario A and 694 under Scenario B). Limited roads and other infrastructure would be developed to accommodate proposed project uses. Nevertheless, the propose project could induce population growth which could result in a ***potentially significant impact***. This issue will be evaluated in the EIR.

b.,c. There are currently no residences on the proposed Rivers Phase II site. Therefore, the proposed project would not displace people or existing housing. ***No impact*** would occur and these issues will not be evaluated in the EIR.

31 EIP Associates, *Draft Environmental Impact Report for University Park, Stockton, CA*, Volume 1, Prepared for City of Stockton, June 2003, page 4.6-4.

XIII. PUBLIC SERVICES -- Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service rations, response time or other performance objectives for any of the public services:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Fire protection?	☒	☐	☐	☐
b) Police Protection?	☒	☐	☐	☐
c) Schools?	☒	☐	☐	☐
d) Parks?	☒	☐	☐	☐
e) Other public facilities?	☒	☐	☐	☐

a.,b.,
d.,e. Development of the proposed Rivers Phase II project would result in the construction of 518 new dwelling units and a school under Scenario A and 694 residential units under Scenario B. The City of West Sacramento would provide fire protection, police protection, and park facilities. The increase in residential units and school facility could require that new or expanded facilities be constructed in order to maintain the performance objectives for the provision of fire and police protection, parks, or other public services. This is considered a ***potentially significant impact*** and it will be evaluated in the EIR.

c. Under Scenario A, the WUSD would acquire 11.5 acres of the proposed project site to construct and operate a 600-student K-8 academy. The school would provide capacity for approximately 300 students from the Rivers Phase II development and 300 students from elsewhere in the WUSD. Existing schools in the WUSD would accommodate 9-12 grade students generated by the project. Because no school would be constructed and operated under Scenario B, existing schools would accommodate all students generated by the project. The proposed project could result in ***potentially significant impact*** associated with school facility capacity in the WUSD. This issue will be evaluated in the EIR.

XIV. RECREATION --	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☒	☐	☐	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☒	☐	☐	☐

a., b. See Item XIII d. Impacts to recreational facilities are considered ***potentially significant*** and they will be evaluated in the EIR.

XV. TRANSPORTATION/TRAFFIC -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase on either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☒	☐	☐	☐
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☒	☐	☐	☐
c) Result in a change in traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☒	☐	☐	☐
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e) Result in inadequate emergency access	☐	☐	☒	☐
f) Result in inadequate parking capacity?	☒	☐	☐	☐

g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☒	☐	☐	☐

a.,b.,c. The proposed project would construct residential dwelling units, a 600-student school (under Scenario A only) and an internal road network to provide circulation. The increase in associated population would increase the amount of traffic that could result in changes to the existing circulation pattern and/or increases in the numbers of cars on existing roads so that established levels of service are exceeded. The construction of a school that would have access to Lighthouse Drive could also impact the circulation in the area due to congestion anticipated during the morning drop off and afternoon pickup of students. Therefore, the proposed Rivers Phase II project could result in ***potentially significant*** increases in traffic on existing roadways that could result in level of service violations and/or changes in traffic patterns. These issues will be evaluated in the EIR.

d., e. The proposed project would include construction of additional on-site roads to accommodate internal circulation. All streets constructed as part of the project would be designed according to current City standards. The project would not substantially increase hazards due to design standards and would not result in inadequate emergency access. Therefore, these impacts would be ***less than significant*** and will not be evaluated in the EIR.

f. The proposed project includes residential uses that would increase the demand for parking on- and off-street compared to existing site conditions. In addition, the proposed project under Scenario A includes development of a school that would also increase parking demand on the project site. The City Zoning Ordinance requires adequate off-street parking (two spaces per single family dwelling unit). If the proposed PD-29 text modifications require compliance with the Zoning Ordinance, the applicant would be required to comply. However, the proposed modifications could require a different off-street parking standard for either the detached or attached housing. With respect to on-site parking the applicant would be required to provide one on-site parking space for each single-family unit, including the attached housing. The adequacy of on- and off-site parking for both the residential and school components of the project is considered a ***potentially significant impact*** and this issue will be evaluated in the EIR.

g. The City of West Sacramento General Plan includes policies regarding the promotion of alternative transportation. The proposed project would increase population and the demand for alternative transportation. Therefore, the effect of the increase in demand on alternative transportation is ***potentially significant*** and it will be evaluated in the EIR.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. UTILITIES AND SERVICE SYSTEMS -- Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☒	☐	☐	☐

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☒	☐	☐	☐
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☒	☐	☐	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☒	☐	☐	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☒	☐	☐	☐
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☒	☐	☐	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste.	☒	☐	☐	☐

a.-c.,e. The City of West Sacramento would provide the public utilities for the proposed project. Development of the proposed Rivers Phase II project would result in increased use of the existing facilities that would serve the site for water supply and treatment, wastewater collection and treatment, and storm drainage collection and disposal. While it is anticipated that off-site infrastructure has adequate capacity, the proposed project includes installation of new on-site water distribution lines, wastewater collection lines, and new and modified stormwater collection infrastructure. The adequacy of existing and proposed infrastructure to meet project demand and the potential for proposed infrastructure to result in significant environmental effects is considered a ***potentially significant impact*** and it will be evaluated in the EIR.

d. The City of West Sacramento depends of surface water. Surface water supplies are provided primarily from Sacramento River diversions under agreement between the North Delta Water Agency and the State of California, an appropriative water entitlement (Permit #18150) issued to the City by the State Water Resource Control Board, and a contract with the US Bureau of Reclamation for delivery of Central Valley Project (CVP) supplies. The proposed project would include development of residential and school uses under Scenario A and residential uses under Scenario B that would increase the demand for water supply over current conditions. A Water Supply Assessment is being prepared to assess the adequacy of available water supplies to meet project needs. The increased demand on available water supplies generated by the proposed project is considered a ***potentially significant impact*** and this issue will be evaluated in the EIR based on the findings of the Water Supply Assessment.

f.,g. The proposed project would include development of residential and school uses under Scenario A and residential uses under Scenario B that would increase the amount of solid waste generated over current conditions. Project generated solid waste could reduce the permitted of the Yolo County Landfill. This is a ***potentially significant impact*** and it will be evaluated in the EIR.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. 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 plan or animal or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐
b) 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 probably future projects)?	☒	☐	☐	☐
c) Does the project have environment effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

a.-c. See the above discussions under Items I through XVI.

EARLIER ANALYSES

Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, one or more effects have been adequately analyzed in an earlier EIR or Negative Declaration per Section 15063(c)(3)(D). The effects identified above for this project were within the scope of and adequately analyzed in the following earlier document(s) pursuant to applicable legal standards, and such effects were addressed by mitigation measures based on the earlier analysis. The following earlier analyses were utilized in completing this Initial Study and are available for review in the Community Development Department of the City of West Sacramento, 1110 West Capitol Avenue, West Sacramento, CA 95691 (check all that apply):

(X) General Plan EIR
(SCH #89053005, certified April 1990)

(X) General Plan Update Supplemental EIR
(SCH #99102105, certified June 2000)

( ) Southport Framework Plan EIR
(SCH #91063032, certified October 1994)

( ) Southport Industrial Park General Plan Amendment and Rezoning EIR
(SCH #91083059)

( ) West Sacramento Triangle Specific Plan EIR
(SCH #91083059)

( ) Washington Specific Plan EIR
(SCH #95072087)

CITY OF
WEST SACRAMENTO

CITY HALL
1110 West Capitol Avenue
West Sacramento, CA 95691

City Council
City Manager
City Clerk
Human Resources
(916) 617-4500
Fax (916) 372-8765

Information Technology
(916) 617-4520
Fax (916) 372-8765

Community Development
Planning
Engineering
(916) 617-4645
Fax (916) 371-0845

Building
(916) 617-4683
Fax (916) 371-0845

Parks & Recreation
(916) 617-4620
Fax (916) 372-5329

Redevelopment
Economic Development
(916) 617-4535
Fax (916) 373-5848

Grants & Community Investment
(916) 617-4555
Fax (916) 372-1584

Finance
(916) 617-4575
Fax (916) 373-9006

Utilities
(916) 617-4589
Fax (916) 373-9006

Refuse & Recycling
(916) 617-4590
Fax (916) 373-9006

Fire Administration
(916) 617-4600
Fax (916) 371-5017

POLICE
550 Jefferson Blvd
West Sacramento, CA 95605

Police
(916) 617-4900
Fax (916) 373-2377
Code Enforcement
(916) 617-4927

PUBLIC WORKS
1951 South River Road
West Sacramento, CA 95691

(916) 617-4850
Fax (916) 371-1516

www.ci.west-sacramento.ca.us

NOTICE OF PREPARATION AND SCOPING MEETING

DATE: April 4, 2005

TO: Responsible Agencies, Trustee Agencies, Interested Agencies and Departments

FROM: City of West Sacramento – Community Development Department
Sandra J. White, Senior Planner

SUBJECT: Notice of Preparation of a Draft Environmental Impact Report For the Rivers Phase II Project and Scoping Meeting

Notice of Preparation (NOP): The City of West Sacramento will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project. The project description, location, and the probable environmental effects are contained in this NOP. An Initial Study is attached. Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Scoping Meeting: The City of West Sacramento Community Development Department will hold a scoping meeting for the proposed project pursuant to State CEQA Guidelines Section 15082. The purpose of the scoping meeting is to solicit input from agencies, organizations and individuals to assist the lead agency in determining the scope and content of the EIR. The scoping meeting will be conducted as follows:

Date: Thursday, April 14, 2005

Time: 6:00 to 7:00 p.m.

Location: West Sacramento Civic Center Galleria
1110 West Capitol Avenue
West Sacramento, CA 95691

Please respond to the NOP on or before **May 4, 2005**, by 5:00 p.m. to the attention of Sandra J. White, Community Development Department, 1110 West Capitol Avenue, West Sacramento, CA 95691. We will need the name for a contact person in your agency.

Project Title: Rivers Phase II

Project Applicant, if any: The Grupe Company

Date: 4-4-05

Signature: Sandra J. White

Title: Senior Planner

Telephone: (916) 617-4645

APPENDIX B
Comments Received on NOP

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse and Planning Unit

Arnold Schwarzenegger
Governor

Sean Walsh
Director

RECEIVED
APR 08 2005

Notice of Preparation

April 4, 2005

To: Reviewing Agencies

Re: Rivers Phase II (Mixed Use)
SCH# 2005042018

Attached for your review and comment is the Notice of Preparation (NOP) for the Rivers Phase II (Mixed Use) draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Sandra White
City of West Sacramento
1110 W. Capitol Avenue, 2nd Floor
West Sacramento, CA 95691

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Amy Wightkin for

Scott Morgan
Senior Planner, State Clearinghouse

Attachments
cc: Lead Agency

Document Details Report

State Clearinghouse Data Base

SCH# 2005042018
Project Title Rivers Phase II (Mixed Use)
Lead Agency West Sacramento, City of

Type NOP Notice of Preparation

Description The Rivers Phase II project includes development of approximately 518 single-family homes, an approximately 11-acre K-8 school site, a one acre park, and supporting infrastructure on approximately 68 acres of the approved Lighthouse Marina and Riverbend Development Project area in the City of West Sacramento. If the Washington Unified School District (WUSD) determines that it does not want to construct and operate the proposed school, then the project would construct an additional 176 residential units for a total of 694 units. The proposed project also includes installation of approximately 3,000 lineal feet of bank stabilization along the Sacramento River. Finally, the proposed project includes text amendments to PD-29, approval of a large lot tentative subdivision map, and approval of a Water Supply Assessment.

Lead Agency Contact

Name Sandra White
Agency City of West Sacramento
Phone (916) 617-4645 **Fax**
email
Address 1110 W. Capitol Avenue, 2nd Floor
City West Sacramento **State** CA **Zip** 95691

Project Location

County Yolo
City West Sacramento
Region
Cross Streets East Fountain Drive and Lighthouse Drive
Parcel No. Several
Township **Range** **Section** **Base**

Proximity to:

Highways 80 & 99
Airports
Railways Union Pacific
Waterways Sacramento River
Schools Elkhorn Village,Bryte, Alyce Norman, & Holy Cross Elem. Schools
Land Use Currently developed with a combination of vacant land and a former golf course. Currently Zoned Waterfront PD-29 with a General Plan designation of Riverfront Mixed Use.

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Drainage/Absorption; Flood Plain/Flooding; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Sewer Capacity; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Wildlife; Growth Inducing; Landuse

Reviewing Agencies Resources Agency; Department of Parks and Recreation; Reclamation Board; Department of Water Resources; Department of Fish and Game, Region 2; Department of Health Services; Native American Heritage Commission; Public Utilities Commission; State Lands Commission; California Highway Patrol; Department of Housing and Community Development; Caltrans, District 3; Department of Toxic Substances Control; Regional Water Quality Control Bd., Region 5 (Sacramento)

Date Received 04/04/2005 **Start of Review** 04/04/2005 **End of Review** 05/03/2005

Note: Blanks in data fields result from insufficient information provided by lead agency.

NOP Distribution List

w-

County: Yolo

SCH# 2005042010

Resources Agency

- [ ] **Resources Agency**
  Nadell Gayou
- [ ] **Dept. of Boating & Waterways**
  David Johnson
- [ ] **California Coastal Commission**
  Elizabeth A. Fuchs
- [ ] **Colorado River Board**
  Gerald R. Zimmerman
- [ ] **Dept. of Conservation**
  Roseanne Taylor
- [ ] **California Energy Commission**
  Environmental Office
- [ ] **Dept. of Forestry & Fire Protection**
  Allen Robertson
- [ ] **Office of Historic Preservation**
  Wayne Donaldson
- [ ] **Dept of Parks & Recreation**
  B. Noah Tilghman
  Environmental Stewardship Section
- [ ] **Reclamation Board**
  DeeDee Jones
- [ ] **Santa Monica Mountains Conservancy**
  Paul Edelman
- [ ] **S.F. Bay Conservation & Dev't. Comm.**
  Steve McAdam
- [ ] **Dept. of Water Resources**
  Resources Agency
  Nadell Gayou

Fish and Game

- [ ] **Depart. of Fish & Game**
  Scott Flint
  Environmental Services Division
- [ ] **Fish & Game Region 1**
  Donald Koch
- [ ] **Fish & Game Region 2**
  Banky Curtis
- [ ] **Fish & Game Region 3**
  Robert Floerke
- [ ] **Fish & Game Region 4**
  William Laudermilk
- [ ] **Fish & Game Region 5**
  Don Chadwick
  Habitat Conservation Program
- [ ] **Fish & Game Region 6**
  Gabrina Gatchel
  Habitat Conservation Program
- [ ] **Fish & Game Region 6 I/M**
  Tammy Allen
  Inyo/Mono, Habitat Conservation Program
- [ ] **Dept. of Fish & Game M**
  George Isaac
  Marine Region

Other Departments

- [ ] **Food & Agriculture**
  Steve Shaffer
  Dept. of Food and Agriculture
- [ ] **Depart. of General Services**
  Public School Construction
- [ ] **Dept. of General Services**
  Robert Sleppy
  Environmental Services Section
- [ ] **Dept. of Health Services**
  Veronica Ramerlz
  Dept. of Health/Drinking Water

Independent Commissions,Boards

- [ ] **Coachella Valley Mountains Conservancy**
- [ ] **Delta Protection Commission**
  Debby Eddy
- [ ] **Office of Emergency Services**
  Dennis Castrillo
- [ ] **Governor's Office of Planning & Research**
  State Clearinghouse
- [ ] **Native American Heritage Comm.**
  Debbie Treadway
- [ ] **Public Utilities Commission**
  Ken Lewis
- [ ] **San Gabriel & Lower LA Rivers**
- [ ] **San Joaquin River Conservancy**
- [ ] **State Lands Commission**
  Jean Sarino
- [ ] **Tahoe Regional Planning Agency (TRPA)**
  Cherry Jacques

Business, Trans & Housing

- [ ] **Caltrans - Division of Aeronautics**
  Sandy Hesnard
- [ ] **Caltrans - Planning**
  Terri Pencovic
- [ ] **California Highway Patrol**
  John Olejnik
  Office of Special Projects
- [ ] **Housing & Community Development**
  Lisa Nichols
  Housing Policy Division

Dept. of Transportation

- [ ] **Caltrans, District 1**
  Mike Eagan
- [ ] **Caltrans, District 2**
  Don Anderson
- [ ] **Caltrans, District 3**
  Jeff Pulverman
- [ ] **Caltrans, District 4**
  Tim Sable
- [ ] **Caltrans, District 5**
  David Murray
- [ ] **Caltrans, District 6**
  Marc Birnbaum
- [ ] **Caltrans, District 7**
  Cheryl J. Powell
- [ ] **Caltrans, District 8**
  John Pagano
- [ ] **Caltrans, District 9**
  Gayle Rosander
- [ ] **Caltrans, District 10**
  Tom Dumas
- [ ] **Caltrans, District 11**
  Mario Orso
- [ ] **Caltrans, District 12**
  Bob Joseph

Cal EPA

Air Resources Board

- [ ] Airport Projects
  Jim Lerner
  - [ ] Transportation Projects
    Kurt Karperos
  - [ ] Industrial Projects
    Mike Tollstrup
- [ ] **California Integrated Waste Management Board**
  Sue O'Leary
- [ ] **State Water Resources Control Board**
  Jim Hockenberry
  Division of Financial Assistance
- [ ] **State Water Resources Control Board**
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- [ ] **State Water Resouces Control Board**
  Steven Herrera
  Division of Water Rights
- [ ] **Dept. of Toxic Substances Control**
  CEQA Tracking Center
- [ ] **Department of Pesticide Regulation**

Regional Water Quality Control Board (RWQCB)

- [ ] **RWQCB 1**
  Cathleen Hudson
  North Coast Region (1)
- [ ] **RWQCB 2**
  Environmental Document Coordinator
  San Francisco Bay Region (2)
- [ ] **RWQCB 3**
  Central Coast Region (3)
- [ ] **RWQCB 4**
  Jonathan Bishop
  Los Angeles Region (4)
- [ ] **RWQCB 5S**
  Central Valley Region (5)
  - [ ] **RWQCB 5F**
    Central Valley Region (5)
    Fresno Branch Office
  - [ ] **RWQCB 5R**
    Central Valley Region (5)
    Redding Branch Office
- [ ] **RWQCB 6**
  Lahontan Region (6)
  - [ ] **RWQCB 6V**
    Lahontan Region (6)
    Victorville Branch Office
- [ ] **RWQCB 7**
  Colorado River Basin Region (7)
- [ ] **RWQCB 8**
  Santa Ana Region (8)
- [ ] **RWQCB 9**
  San Diego Region (9)

- [ ] Other _____

Last Updated on 3/11/05

WEST SACRAMENTO POLICE DEPARTMENT
MEMORANDUM

April 5, 2005

TO: **Sandra White, Senior Planner**

FROM: **Dan Drummond, Chief of Police**

SUBJECT: **Notice of Preparation of a Draft Environmental Impact Report For the Rivers Phase II Project and Scoping Meeting**

At your request, the Department has reviewed the Notice of Preparation (NOP) of a Draft Environmental Impact Report (EIR) for the Rivers Phase II Project and Scoping Meeting.

In reference to page 43 of the NOP, XIII. PUBLIC SERVICES, we are in agreement that there will be a potentially significant impact to all public services, including law enforcement. With the proposed development consisting of 518 new dwellings and a school under Scenario A and 694 residential units under Scenario B, maintaining performance objectives of responding to all Priority 1 (emergency) calls for service within 5 minutes or less would be compromised.

As stated in the NOP, an evaluation of staffing, facilities, and equipment to adequately provide public safety needs for the new residents and visitors of this project must be accomplished in the EIR process.

In addition, the evaluation needs to address potential social, educational and other public services this project will demand of the West Sacramento Police Department.

Again, we look forward to participating in the E.I.R. process. Should you have any questions, please do not hesitate to contact me.

Dan Drummond

DAN DRUMMOND
Chief of Police

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA 95814-2922

REPLY TO
ATTENTION OF

April 12, 2005

Regulatory Branch (200500294)

Sandra J. White
City of Sacramento
1110 West Capitol Avenue
West Sacramento, California 95691

Dear Ms. White:

I am responding to your request for comments for the Rivers Phase II project.

The Corps of Engineers' jurisdiction within the study area is under the authority of Section 404 of the Clean Water Act for the discharge of dredged or fill material into waters of the United States. Waters of the United States include, but are not limited to, rivers, perennial or intermittent streams, lakes, ponds, wetlands, vernal pools, marshes, wet meadows, and seeps. Project features that result in the discharge of dredged or fill material into waters of the United States will require Department of the Army authorization prior to starting work.

To ascertain the extent of waters on the project site, the applicant should prepare a wetland delineation, in accordance with the enclosed minimum standards for wetland delineations, and submit it to this office for verification.

The range of alternatives considered in any project design should include alternatives that avoid impacts to wetlands or other waters of the United States. Every effort should be made to avoid project features which require the discharge of dredged or fill material into waters of the United States. In the event it can be clearly demonstrated there are no practicable alternatives to filling waters of the United States, mitigation plans should be developed to compensate for the unavoidable losses resulting from project implementation.

Please refer to identification number 200500294 in any correspondence concerning this project. If you have any questions, please contact William Guthrie at our Delta Office, 1325 J Street, Room 1480, Sacramento, California 95814-2922, email *William.H.Guthrie@usace.army.mil*, or telephone 916-557-5269. You may also use our website: *www.spk.usace.army.mil/regulatory.html*.

Sincerely,

Michael Finan
Chief, Delta Office

Enclosure(s)

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA 95814-2922

REPLY TO
ATTENTION OF

November 30, 2001

Regulatory Branch

To whom it may concern:

To better serve the public, the District has revised its "Minimum Standards for Acceptance of Preliminary Wetlands Delineations". This document is designed to assist private wetland consultants to produce a uniform and consistent quality product. Adherence to these standards will facilitate the District's review of preliminary delineations and provide time savings to all those involved. I am enclosing the standards, which are effective immediately. Any questions or comments can be directed to the Regulatory Branch at the above address.

Art Champ
Chief, Regulatory Branch

Attachment

MINIMUM STANDARDS FOR ACCEPTANCE OF PRELIMINARY WETLANDS DELINEATIONS

November 30, 2001

The Regulatory Branch of the Sacramento District, U.S. Army Corps of Engineers (District), receives numerous requests to perform wetlands delineations for potential applicants for permits under Section 404 of the Clean Water Act. Due to limited staff and resources, the response time can be several months or longer. To expedite this process, the District encourages applicants to use consultants to conduct preliminary wetlands delineations, especially for large and/or complex areas. Preliminary delineations may then be submitted to the District for review and verification.

While accurate delineations by qualified individuals have resulted in a quicker review and response from the District, substandard or inaccurate delineations have resulted in unnecessary time delays for applicants. These delays are due to insufficient, incomplete, or conflicting data, which prevent the District from verifying the proposed wetland boundaries. Such delineations must be returned by the District to the applicant or consultant for revision.

To improve the quality and consistency of delineations, the District has developed minimum standards necessary for accepting a delineation for verification of the jurisdictional boundaries. Any submittal that does not meet these requirements will be returned to the applicant or consultant. All deficiencies must be corrected by the applicant or a consultant prior to re-submittal.

A. MINIMUM REQUIREMENTS

The preliminary wetlands delineation report shall include:

- ☐ A statement that the delineation has been conducted in accordance with the 1987 "Corps of Engineers Wetlands Delineation Manual."
- ☐ A narrative describing the wetlands.
- ☐ Justification for the wetlands boundaries.
- ☐ The total acreage of the project site.
- ☐ Existing field conditions such as season and flood/drought conditions.
- ☐ A discussion of the hydrology source(subsurface or surface, including potential irrigation influence) and drainage gradients.
- ☐ A site location map, preferably outlined on a 7.5-minute USGS quadrangle, along with any other pertinent maps of the site. The map must provide the name of the USGS quadrangle, Section, Township, Range, and UTM or latitude and longitude.
- ☐ Directions to the site.
- ☐ Contact information for the applicant(s) and property owner(s).
- ☐ A discussion of plant communities and habitat types present on the site and a list of the scientific name, common name(s), and indicator status of all plants.
- ☐ Soil descriptions, soil map(s), and a list of hydric soils or soils with hydric inclusions on the site.
- ☐ Any observed and/or documented examples of an interstate or foreign commerce connection. Examples include, but are not limited to:
  - Recreational or other use by interstate or foreign travelers.
  - Sale of fish or shellfish in interstate or foreign commerce.
  - Use by industries, including agriculture, operating in interstate or foreign commerce.
- ☐ A delineation map at an appropriate scale (for most projects, a scale of one inch to 100 or 200 feet).

MINIMUM STANDARDS FOR ACCEPTANCE OF PRELIMINARY WETLANDS DELINEATIONS

The map should not exceed one inch to 400 feet unless there are extenuating circumstances. (Note: map scales must be accurate and in round numbers, any maps using a photographic base must be corrected for distortions, and any overlays must be of identical scale) The map must include:

- The boundary of the entire project area.
- All features which meet the criteria for wetlands or other waters of the United States.
- Color or thatched coding of the different wetlands types present.
- Topography.
- Clearly and accurately identified data point locations and the location and identification number of surveyed or GPS established flags, stakes, or wetland boundaries.
- All waters of the U.S., including but not limited to, interstate waters, tributaries, wetlands, and all other waters such as intrastate lakes, rivers, streams, and mudflats as described in 33 CFR 328.3, must be shown on the delineation map. Those features which meet wetlands criteria or are potential waters of the U.S., but which may be isolated and lacking an interstate or foreign commerce connection or non-jurisdictional for other reasons must still be shown on the map. Any justification for the Corps to make a non-jurisdictional determination should be provided in the report.
- Standard mapping conventions (e.g., north arrow, location map, etc.) and other identifying features which facilitate the correlation of map locations with ground features (e.g., buildings, fence lines, roads, right-of-ways, trees, streams, topographic features, etc.).
- A reference block which identifies the project, the delineators, surveyors, date of initial preparation and date(s) of any revisions.
- Individual numbers or other designations for each water feature identified.
- A table displaying the respective size (in acres) of each water and the cumulative acreage of each type of water.

- Data sheets completely and appropriately filled out. Data forms may be modified from the Corps' standard version, but they must present all essential information necessary to make a wetlands/non-wetlands determination.
- At least one set of paired data points documented for each feature or complex. Additional data forms may be necessary depending on various factors including the size and shape of the wetlands on the site, difficulty in identifying a precise wetlands/uplands boundary, and the width of any transition zones.

Additionally, before the Corps can complete its verification of the delineation, wetland boundaries must be marked with flags or stakes. Flags or stakes must be individually numbered and surveyed by traditional methods or by GPS equipment accurate to less than one meter. The survey data must specify the geographic coordinate system used in referencing the data, including projection and datum (e.g., Latitude-Longitude : NAD-27 or UTM - Zone 10 : NAD83). Data should be provided in a digital geographic information system (GIS) format to expedite review, with ESRI Shapefiles being the preferred format. The Corps also strongly recommends that property boundaries be flagged or staked and surveyed.

Additional information often can expedite a wetland verification. Particularly helpful data includes topographic maps, aerial and ground photographs, and related reports. Expanded narrative reports may also clarify the investigation. However, the Corps emphasizes that these reports should be succinct with only the relevant information presented. Irrelevant, verbose, or perfunctory information will only delay the Corps' evaluation.

MINIMUM STANDARDS FOR ACCEPTANCE OF PRELIMINARY WETLANDS DELINEATIONS

IMPORTANT SOURCES OF INFORMATION

CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL (1987 VERSION)
NATIONAL TECHNICAL INFORMATION SERVICE (NTIS)
ATTN ORDER DEPT SPRINGFIELD VA 22161
703-487-4650 FAX 703-321-8547

WETLANDS PLANTS LISTS (Out-of-print lists available from NTIS above)
US FISH AND WILDLIFE SERVICE
PUBLICATIONS UNIT
1849 C STREET NW
MAIL STOP 130 – WEBB BUILDING
WASHINGTON DC 20240

HYDRIC SOILS OF THE UNITED STATES (Obtain local lists from county or state NRCS offices)
NATIONAL TECHNICAL COMMITTEE FOR HYDRIC SOILS
NATURAL RESOURCE CONSERVATION SERVICE
PO BOX 2890
WASHINGTON DC 20013

MAPPING PRODUCTS AND DIGITAL DATA (National Wetlands Inventory and USGS Topographic Maps)
USGS EARTH SCIENCE INFORMATION CENTER (ESIC)
NATIONAL HEADQUARTERS
507 NATIONAL CENTER
RESTON VA 22092
1-800-USA-MAPS
(703) 648-6045

FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 4.0 (March 1998)
Russell F. Pringle
NRCS, WSI, LSU
104 Sturgis Hall
Baton Rouge, LA 70803-2110

Aerial Photography - National Sources of Photos (additional sources form ESIC above)
ASCS AERIAL PHOTO FIELD OFFICE
PO BOX 30010
SALT LAKE CITY UT 84130
(801) 524-5856

USGS EROS DATA CENTER
SIOUX FALLS SD 57198
(605) 594-6151

National List of Scientific Plant Names
USDA SOIL CONSERVATION SERVICE
OFFICE OF ECOLOGICAL SCIENCES
PO BOX 2890
WASHINGTON DC 20013
(202) 447-2587
Publ No. SCS-TP-159 (1982)

Keys to Soil Taxonomy (1982 ed.)
POCAHONTAS PRESS
832 HUTCHINSON DRIVE
PO DRAWER F
BLACKSBURG VA 24063
(703) 951-0467

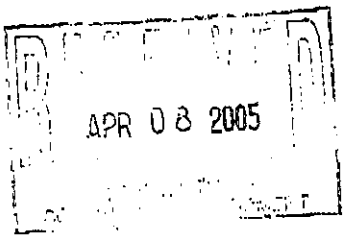
Publication on "Redoximorphic Features for Identifying Aquic Conditions"
Technical Bulletin 301 of the North Carolina Agricultural Research Service (1992)
DEPARTMENT OF AGRICULTURAL COMMUNICATIONS
PO BOX 7603 NORTH CAROLINA STATE UNIVERSITY
RALEIGH NC 27695-7603

STATE OF CALIFORNIA – THE RESOURCES AGENCY

ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF WATER RESOURCES
1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 653-5791

April 6, 2005



Sandra White
City of West Sacramento
1110 W. Capitol Avenue, 2nd Floor
West Sacramento, California 95691

Rivers Phase II (Mixed Use)
State Clearinghouse (SCH) Number: 2005042018

Staff for The Department of Water Resources has reviewed the Notice of Completion provided through the SCH and provides the following comments on behalf of the **State Reclamation Board:**

A portion of the proposed Project (3000 lineal feet of bank stabilization) is located within a regulated stream (Sacramento River) and may impact a Federal and State authorized flood control project over which The Reclamation Board has jurisdiction and exercises authority. Section 8710 of the California Water Code requires that a Board permit must be obtained prior to start of any work, including excavation and construction activities, within floodways, levees, and 10 feet landward of the landside levee toes. A list of streams regulated by the Board is contained in the California Code of Regulations, Title 23, Section 112.

Section 8(b)(2) of the Regulations states that applications for permits submitted to the Board must include a completed environmental questionnaire that accompanies the application and a copy of any environmental documents if they are prepared for the project. For any foreseeable significant environmental impacts, mitigation for such impacts shall be proposed. Applications are reviewed for compliance with the California Environmental Quality Act.

Section 8(b)(4) of the Regulations states that additional information, such as geotechnical exploration, soil testing, hydraulic or sediment transport studies, biological surveys, environmental surveys and other analyses may be required at any time prior to Board action on the application.

For further information on where to send the documentation, please contact me at (916) 574-0373 or ddjones@water.ca.gov.

DeeDee Jones, Chair
Environmental Review Committee

cc: Governor's Office of Planning and Research
State Clearinghouse
1400 Tenth Street, Suite 222
Sacramento, California 95814

DEPARTMENT OF TRANSPORTATION
DISTRICT 3 – Sacramento Area Office
VENTURE OAKS, MS 15
P. O. BOX 942874
SACRAMENTO, CA 94274-0001
PHONE (916) 274-0614
FAX (916) 274-0648
TTY (530) 741-4501

Flex your power!
Be energy efficient!

May 4, 2005

05YOL0014
05-YOL-80 PM 11.20
Rivers Phase II Project
Notice of Preparation
SCH 2005042018

Ms. Sandra White
City of West Sacramento
1110 West Capitol Avenue
West Sacramento, CA 95691

Dear Ms. White,

Thank you for the opportunity to review and comment on the Notice of Preparation for the Rivers Phase II notice of Preparation (NOP). Our comments are as follows:

- Caltrans believes the incremental traffic effects of this project to be considerable when viewed cumulatively with the existing development and other projects being proposed. On March 17, 2005 Caltrans met with the City to discuss the cumulative traffic impacts to the State Highway System due to the development projects in this area. The City is in the process of developing the cumulative study to assess the overall impact of the projects. The Rivers Phase II Project provides to accommodate circulation with the construction of additional roads. This project proposes approximately 518 units, which will generate 372 a.m. peak hour and 471 p.m. peak hour trips. Increased traffic on local roads may contribute to additional impacts to the State facilities. Caltrans would like to work with the City to mitigate potential impacts to the State Highway System; in particular, the potential impacts to the Jefferson Boulevard/US 50 interchange, US 50/Business 80 interchange, and the US 50 mainline.

- Mitigation funds should be requested from the developer on the basis of impacts to the State facilities. Adequate and timely funding should help finance needed improvements to State Highway System.

- California Environmental Quality Act (CEQA) and Public Resources Code Sections 21081.4, 21081.6 and 21081.7 mandate that lead agencies under CEQA provide the California Department of Transportation with information on transportation related mitigation monitoring measures for projects that are of statewide, regional, or area wide significance. The enclosed "Guidelines for Submitting Transportation Information from a Reporting or Monitoring Program to the Department of Transportation" discuss the scope, purpose and legal requirements for mitigation monitoring reporting and submittal, specify the generic content for reports, and explain procedures for the timing, certification and submittal of the required reports. This project has impacts that are of regional or area wide significance. Therefore, the enclosed Mitigation Monitoring Certification Checklist form should be completed and submitted to our office when the mitigation measures are approved, and again when they are completed for all improvements related to the Rivers Phase II Project.

- We recommend this project's design encourage basic livability concepts that encourage and facilitate the use of alternative transportation modes, including bicycles, transit, and pedestrian travel.

Please provide our office with copies of any further action regarding this project. If you have any questions regarding these comments, contact Crystal De Castro at (916) 274-0636.

Sincerely,

Katherine Eastham

KATHERINE EASTHAM, Chief
Office of Transportation Planning – Southwest

Enclosure

GUIDELINES FOR SUBMITTING TRANSPORTATION INFORMATION FROM A REPORTING OR MONITORING PROGRAM TO THE CALIFORNIA DEPARTMENT OF TRANSPORTATION (DEPARTMENT)

INTRODUCTION

The California Environmental Quality Act (CEQA) requires, under Public Resources Code (PRC) Section 21081.6, the adoption of reporting or monitoring programs when public agencies include environmental impact mitigation as a condition of project approval. Reporting or monitoring takes place after project approval to ensure implementation of the project in accordance with mitigation adopted during the CEQA review process.

Assembly Bill 1807 (effective January 1, 2001) amended the PRC in a number of ways. Section 21080.4 was amended to add a requirement that lead agencies submit Notices of Preparation (NOPs) to the Governor's Office of Planning and Research when they determine that an environmental impact report will be required to approve a project.

Section 21081.7 was amended with two additional provisions. The first provision required that transportation information resulting from a reporting or monitoring program adopted by a public agency in accordance with Section 21081.6 be submitted to the Department of Transportation (Department) when a project has impacts that are of statewide, regional, or area-wide significance. The second provision required that the Department adopt guidelines for the submittal of those reporting or monitoring programs.

PURPOSE

The purpose of these guidelines is to establish clear and consistent statewide procedures to be used by both Department District Intergovernmental Review (IGR) Program Coordinators to identify the scope and timing of transportation information needed from lead agencies, and public agencies when submitting transportation information to the Department, in accordance with Section 21081.7.

PROCEDURES A. The District IGR Program Managers and/or Coordinators shall:

1. Prior to implementation of mitigation measures:

   a. Notify the CEQA lead agency by letter during "early consultation," the Notice of Preparation (NOP) stage, or the Initial Study (IS) phase of the CEQA review process that the transportation information included in the reporting or monitoring program will need to be provided to the Department following project mitigation agreement.

   b. Provide the name, address, and telephone number of the District IGR contact to the lead agency.

   c. Provide, as an enclosure to the notification letter, a copy of these "Guidelines" and the Department's "CEQA Lead Agency Checklist/Certification" form. (Part 1 of the form, *Checklist*, is to be signed by the lead agency following project approval, and a copy submitted to the District along with the transportation reporting or monitoring information. Part 2 of the form, *Certification*, is to be signed by the lead agency and the District upon implementation of all agreed-upon mitigation measures.)

2. Following implementation of mitigation measures as identified in Part 1, *Checklist*, of the CEQA Lead Agency Checklist/Certification form, and certification of implementation by the lead agency in Part 2, *Certification*:

   Ensure sign off of Part 2, indicating that the mitigation measures have been implemented.

   1) If the project required encroachment onto a state highway, obtain the District Permit Engineer's signature in Part 2.

   2) If the project did not involve encroachment onto a state highway, the District IGR Coordinator shall sign Part 2.

3) The District IGR Coordinator shall: (a) Retain the original document; (b) forward a copy to the District Permit Engineer (if the Permit Engineer signed Part 2); (c) forward a copy to the Department's Headquarters IGR Program Manager; and, (d) send a copy to the lead agency.

B. The CEQA lead agency shall:

1. Following project approval:

Submit the following information to the Department District IGR contact:

1) Name, address, and telephone number of the CEQA lead agency contact responsible for the mitigation reporting or monitoring program.

2) Location and custodian of the documents or other material, which constitute the record of proceedings upon which the lead agency's decision to approve the project is based.

3) Assurances that the Department can obtain copies of the aforementioned documents and materials, if needed, to clarify details or resolve issues related to the mitigation adopted.

4) Detailed information on impact assessment methods, the type of mitigation, specific location, and implementation schedule for each transportation impact mitigation measure included in the reporting or monitoring program.

5) A copy of the "CEQA Lead Agency Checklist/Certification" form, with Part 1, *Checklist*, signed and dated, and the reporting or monitoring program transportation information attached or enclosed. The CEQA lead agency, at its discretion, may submit the complete reporting or monitoring program with the required transportation information highlighted.

2. Following implementation of mitigation measures:

   a. Sign and date Part 2, *Certification,* of the "CEQA Lead Agency Checklist/Certification" form.

   b. Forward the "CEQA Lead Agency Checklist/Certification" form, with appropriate completion documents attached, to the District IGR contact, certifying that the mitigation measures agreed upon and identified in the reporting or monitoring program have been implemented, and that all other reporting requirements have been adhered to, in accordance with PRC Sections 21081.6 and 21081.7.

APPROVED:

Brian J. Smith 8 July 04
BRIAN J. SMITH Date
Deputy Director
Planning and Modal Programs

L. H. Orcutt 7-9-04
LARRY ORCUTT Date
Acting Deputy Director
Maintenance and Operations

CEQA LEAD AGENCY CHECKLIST/CERTIFICATION *

TRANSPORTATION INFORMATION FROM A REPORTING OR MONITORING PROGRAM

Part 1 - Checklist

Project Name: _____

Lead Agency: _____

Lead Agency Contact (Name, Title, Agency, Address & Phone): _____

_____

State Clearinghouse (SCH) File #/s: _____

Document Type/s: _____

Findings & Approval Date/s: _____

_____

Project Proponent (Name, Title, Company, Address & Phone): _____

_____

For each specific Transportation Related Mitigation Measure associated with this Project, The following information items are included in the attached materials:

Yes	No	
☐	☐	**Location/Custodian Of CEQA Documents, Proceedings, Records**
☐	☐	**Description Of How To Obtain Copies Of Above Documents**
☐	☐	**Mitigation Measure Name & Identifying Number**
☐	☐	**Detailed Description of Measure & its Purpose (attach blueprints if necessary)**
☐	☐	**Measure Location Description, Latitude/Longitude, & Vicinity Map**
☐	☐	**Location of Impacted State Highway Component (County, Route, Postmile)**
☐	☐	**Caltrans Encroachment Permit Number (if one was needed)**
☐	☐	**Copy of Other Agency Permits required for this Measure (if needed)**
☐	☐	**Completion Criteria (including detailed performance objectives)**
☐	☐	**Implementation Schedule**
☐	☐	**Estimated Monetary Value of Completed Measure & % Local Agency Funded**
☐	☐	**Responsible Contractor (Name, Company, Address & Phone)**

The above project mitigation measures will be implemented as indicated in the adopted reporting or monitoring program, and the California Department of Transportation will be notified upon implementation.

_____ _____

CEQA Lead Agency **Date**

Part 2 - Certification

We certify that the agreed upon mitigation measures have been implemented, and all other requirements have been adhered to, in accordance with PRC Sections 21081.6 and 21081.7. Attached: 1. Completion evaluation (including field inspection reports); 2. Photograph of completed measure.

Signature & Date: _____ _____

Name: _____ _____

Title: _____ _____

CEQA Lead Agency **California Department of Transportation**

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* This form is to be used by public agencies to submit their mitigation reporting or monitoring programs to the California Department of Transportation (Department) when a CEQA project has been found to have transportation or circulation impacts that are of statewide, regional, or area-wide significance. Copies of this form, and the Department Guidelines developed pursuant to PRC Section 21081.7, can be downloaded from our website (http://www.dot.ca.gov/ho/tpp/offices/eap/igr_guidelines_procedures.htm). Completed form with attached materials may be post-mailed, e-mailed, or faxed to the appropriate Department District Planning Office, Attention: Intergovernmental Review (IGR) Coordinator. {Form Version 07/2004}

STATE OF CALIFORNIA — ARNOLD SCHWARZENEGGER, *Governor*

CALIFORNIA STATE LANDS COMMISSION
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

PAUL D. THAYER, *Executive Officer*
(916) 574-1800 FAX (916) 574-1810
Relay Service From TDD Phone **1-800-735-2929**
from Voice Phone **1-800-735-2922**

Contact Phone: **(916) 574-1880**
Contact FAX: **(916) 574-1885**

May 4, 2005

File Ref: W 30106
SCH: 2005042018

Ms. Nadell Gayou
The Resources Agency
901 P Street
Sacramento, CA 95814

Ms. Sandra White
Senior Planner
1110 West Capitol Avenue
West Sacramento, CA 95691

Dear Ms. Gayou and White:

Staff of the California State Lands Commission (CSLC) has reviewed the City of West Sacramento's (City) Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the Rivers Phase II Project (Project). The CSLC is a Responsible Agency for that portion of the Project that "includes installation of approximately 3,000 lineal feet of bank stabilization along the Sacramento River" and staff provides the following comments for your consideration.

Jurisdiction

The State acquired sovereign ownership of all tidelands and submerged lands and beds of navigable waterways upon its admission to the United States in 1850. The State holds these lands for the benefit of all the people of the State for statewide Public Trust purposes which include waterborne commerce, navigation, fisheries, water-related recreation, habitat preservation, and open space. The landward boundaries of the State's sovereign interests in areas that are subject to tidal action are generally based upon the ordinary high water marks of these waterways as they last naturally existed. In non-tidal navigable waterways, the State holds a fee ownership in the bed of the waterway between the two ordinary low water marks as they last naturally existed. The entire non-tidal navigable waterway between the ordinary high water marks is subject to the Public Trust. The State's sovereign interests are under the jurisdiction of the State Lands Commission.

Boundary Line Agreement –1991

In 1991, the CSLC and Lighthouse Marina and Riverbend Development entered into a Title Settlement Agreement (Agreement), AD 112, which was subsequently recorded, to: 1) establish a boundary line along the Sacramento River; 2) record appropriate deeds; 3) deed vertical accessways to the Sacramento River; 4) exchange lands and funds to purchase lands; and 5) enter revegetation agreements. Under Paragraph 21 at page 14 of the Agreement, "All the terms, provisions, and conditions herein shall be binding upon and inure to the benefit of the respective heirs, administrators, executors, successors, and assigns of the parties hereto."

One provision of the Agreement applies specifically to the proposed Project, i.e., the 3,000 feet of bank stabilization along the Sacramento River. Specifically, Exhibit M to the Agreement establishes the revegetation requirements and is summarized as follows:

"Lighthouse and the State agree that Lighthouse will revegetate and develop a 15 foot-wide pedestrian/bicycle/emergency access path (along the river). The construction easement area will be planted with native riparian species of trees and scrubs and designed to achieve maximum diversity and support native riparian bird and animal habitat to the maximum extent. The sole exception to vegetating the riparian area will be the construction and maintenance of facilities necessary for recreational use, including and limited to a 15 foot-wide pedestrian, bicycle, and emergency access path, river overview areas, and rest and picnic stops. Prior to planting, Lighthouse will submit a plan for planting and recreation to the State Lands Commission for approval. The plan will detail the specific types of shrub and tree species to be planted and their densities; the location of the path; and the location, design, and density of the picnic, river viewing, and rest areas. Lighthouse will finance the plantings and improvements and maintain them for three years." ("Lighthouse Marina and Riverbend Development Bank Protection and Greenway" EIR (SCH #94123008)

NOP Comments

The NOP contains a brief description of the Bank Stabilization Project at the bottom of page 10, which concludes at the very top of page 11. Section 15082 (a)(1), State CEQA Guidelines, states, in part, "The notice of preparation shall provide the responsible agencies with sufficient information describing the project...to enable the responsible agencies to make a meaningful response." The Project description does not reflect the access, facilities and improvements, described above, required under the 1991 Agreement, and there is presently insufficient detail in the project description provided to enable staff to accurately gauge the nature and extent of the potential impacts of this project component.

For example, the NOP indicates that bank stabilization "...would include construction of a dike behind which would be a vegetative berm." Several questions arise, e.g., what

equipment would be necessary for the construction of the berm, how would such equipment be used, and over what duration of time? What materials would be used to construct the dike and how and where would such material be obtained? Staff has received copies of information regarding the bank stabilization provided directly by the applicant's consultants to the U.S. Army Corps of Engineers (October 2004, and January 2005). However, the limited information within the NOP does not enable staff to determine if the Project, for which the DEIR will be prepared, is the same as described in the referenced information. The extent to which other responsible agencies, e.g., the California Department of Fish and Game and the State Reclamation Board, are aware of the same information is also unknown.

The NOP acknowledges that the CSLC was the Lead Agency for a 1996 EIR for the "Lighthouse Marina and Riverbend Development Bank Protection and Greenway" (SCH #94123008). This EIR analyzed potential impacts within the issue areas of Flood Control and Water Quality, Fish Resources, Vegetation and Wildlife Resources, Land Use, Recreation, Aesthetics, Law Enforcement and Fire Protection, and Cultural Resources. We believe that, at a minimum, these same issues, with respect to the proposed bank stabilization, must be discussed in the proposed DEIR. At present, the approach within the NOP would not have this result, e.g., Section I.a. concludes that Aesthetics will not be evaluated in the EIR, and Section VIII., Hydrology and Water Quality, does not address flood control, river geomorphology, bank erosion or other in-stream hydrologic issues that could be associated with or affect the proposed bank stabilization.

Section VIII a. discusses the disposition of "wastewater" from the project site, but does not reveal how storm water runoff from the proposed Project, other than from construction activities, will be handled. Will such ongoing runoff also be conveyed to the WWTP or transported directly into the Sacramento River? If the latter, how will the discharge points be incorporated into the Bank Stabilization Project?

Section 15082 (a)(1), State CEQA Guidelines, specifies the minimum information required within a NOP, the third item of which is "probable environmental effects of the project". The NOP, e.g., in its discussion of Biological Resources (and others), incorporates the unusual approach of identifying a mitigation measure(s) that, when implemented, would reduce the identified potential impact to "less than significant" and concludes that, accordingly, the issue will not be evaluated in the EIR.

We believe that this approach inappropriately blends the independent functions of the NOP and the EIR. The former is designed to identify "probable" impacts of a proposed project. The EIR is to analyze such impacts in relation to specified significance criteria, identify appropriate mitigation (with appropriate reasoning and justification) to reduce impacts below such criteria and ensure that such mitigation is implemented. The public and responsible and trustee agencies are then able to review the Draft EIR, comment on such analyses and mitigation, and receive a response by the

lead agency to such comments. This process would not occur for specific impact areas subsequent to the NOP in the instant case.

Last, we understand that "The Rivers Project" proposed by Grupe (West Riverview, LLC) affects a much larger area of which the Rivers Phase II Project, described in the NOP, is a component. The Rivers Project proposes construction of 1,139 single family homes, a 12 acre school site, a 2 acre aquatic center, two 1 acre parks, and the stabilization of 3,000 linear feet of the west bank of the Sacramento River. At present, the proposed EIR does not appear to address the "whole of an action" as envisioned by section 15378 of the State CEQA Guidelines. Failure to address the entirety of The Rivers Project at this time will result in an understatement of potential environmental impacts to the area, including the River.

We suggest that the NOP be revised as detailed herein and re-circulated to the agencies that received the current version of the NOP. The City could, pursuant to section 15082 (a)(4), State CEQA Guidelines, begin work on the Draft EIR without waiting for responses to the revised NOP. However, we believe the material included in a revised NOP would result in more comprehensive comments from responsible and trustee agencies and better enable the City to prepare a more appropriate analysis upon which such agencies must depend in their considerations of the proposed Project.

Thank you for this opportunity to provide comments to the NOP. Please contact me at **sanderd@slc.ca.gov** or by telephone at (916) 574-1880 if you have any questions or desire clarification or elaboration of our comments. We would be happy to assist the City to revise the description of the improvements that need to be incorporated into the proposed bank stabilization and look forward to working further with the City and the applicant on this project.

Sincerely,

Dwight E. Sanders

Dwight E. Sanders, Chief
Division of Environmental
Planning and Management

Cc: Paul D. Thayer, Executive Officer
Jim Frey, Senior Staff Counsel
Diane Jones, Division of Land Management
John Briscoe, Stoel Rives, LLP
Alberto Esquivel, Grupe Company
Scott Morgan, OPR

Cathy McEfee

From: White, Sandra [sandra.white@ci.west-sacramento.ca.us]
Sent: Thursday, May 12, 2005 8:52 AM
To: Cathy McEfee
Subject: FW: Project comments- The Rivers phase II

Cathy - comments from Fish & Game.

-----Original Message-----
From: Jenny Marr [mailto:JMarr@dfg.ca.gov]
Sent: Wednesday, May 11, 2005 3:24 PM
To: White, Sandra
Subject: Project comments- The Rivers phase II

Sandra,

I just reviewed the NOP for the **Grupe "The Rivers Phase II" project** and the project will need to comply with the **DFG 1600 regulations** working on the bank of the Sacramento River and for the 2.5 acres of riparian habitat below the Ordinary High Water Mark on the west or right bank of the Sacramento River. A full disclosure of the number, species, and size (diameter at breast height) should be included in the biological analysis for this project as this is necessary to provide an analysis of a mitigation plan that will reduce the impact to below the level of significance.

Additionally, there will need to be protocol level surveys done for Swainson's hawk with incorporation of all the avoidance and minimization measures to prevent take. This is in addtiion to payment into the YOLO JPA habitat fund. In particular, if the trees along the river that will be removed, support raptor nests, the trees may only be removed during the non-breeding, non-nesting season. If impacts to nesting raptors or any other state-listed species is unavoidable or may occur incidental to otherwise approved development the applicant is advised to apply for an **Incidental Take Permit (2081 permit)** in order to be in compliance with the State Endangered Species Act. Early consultation with DFG is advised.

****NEW ADDRESS*****
Jenny C. Marr
Staff Environmental Scientist
California Department of Fish and Game
Habitat Conservation Division
Sacramento Valley Central Sierra Region
1100 Fortress Avenue, Suite 2
Chico, CA 95973
530.895.4267 Phone
530.895.4236 FAX

California Regional Water Quality Control Board

Central Valley Region

Robert Schneider, Chair

Alan C. Lloyd, Ph.D.
Agency Secretary

Arnold Schwarzenegger
Governor

Sacramento Main Office
11020 Sun Center Drive #200, Rancho Cordova, California 95670-6114
Phone (916) 464-3291 • FAX (916) 464-4645
http://www.waterboards.ca.gov/centralvalley

MAY 18 2005

12 May 2005

Sandra White
City of West Sacramento
1110 W. Capitol Avenue, 2nd Floor
West Sacramento, CA 95691

PROPOSED PROJECT REVIEW, CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA), NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT FOR RIVERS PHASE II, STATE CLEARINGHOUSE #2005242018, WEST SACRAMENTO, YOLO COUNTY

As a Responsible Agency, as defined by CEQA, we have reviewed the Notice of Preparation of an Environmental Impact Report for Rivers Phase II. Based on our review, we have the following comments regarding the proposed project.

Storm Water

A NPDES General Permit for Storm Water Discharges Associated with Construction Activities, NPDES No. CAS000002, Order No. 99-28-DWQ is required when a site involves clearing, grading, disturbances to the ground, such as stockpiling, or excavation that results in soil disturbances of one acre or more of total land area. Construction activity that involves soil disturbances on construction sites of less than one acres and is part of a larger common plan of development or sale, also requires permit coverage. Coverage under the General Permit must be obtained prior to construction. More information may be found at http://www.swrcb.ca.gov/stormwtr/construction.html

Post Construction Storm Water Management

Manage storm water to retain the natural flow regime and water quality, including not altering baseline flows in receiving waters, not allowing untreated discharges to occur into existing aquatic resources, not using aquatic resources for detention or transport of flows above current hydrology, duration, and frequency. All storm water flows generated on-site during and after construction and entering surface waters should be pre-treated to reduce oil, sediment, and other contaminants. The local municipality where the proposed project is located may now require post construction storm water Best Management Practices (BMPs) pursuant to the Phase II, SWRCB, Water Quality Order No. 2003 – 0005 – DWQ, NPDES General Permit No. CAS000004, WDRS for Storm Water Discharges from Small Municipal Separate Storm Sewers Systems (MS4). The local municipality may require long-term post-construction BMPs to be incorporated into development and significant redevelopment projects to protect water quality and control runoff flow.

Wetlands and/or stream course alteration

Section 401 of the federal Clean Water Act requires any project that impacts waters of the United States (such as streams and wetlands) to file a 401 Water Quality Certification application with this office. The project proponent must certify the project will not violate state water quality standards. Projects include, but are not limited to, stream crossings, modification of stream banks or stream courses, and the filling or modification of wetlands. If a U.S. Army Corp of Engineers (ACOE) permit is required for the project, then Water Quality Certification must be obtained prior to initiation of project activities. The proponent must follow the ACOE 404(b)(1) Guidance to assure approval of their 401 Water Quality Certification application. The guidelines are as follows:

1. **Avoidance** (Is the project the least environmentally damaging *practicable* alternative?)
2. **Minimization** (Does the project minimize any adverse effects to the impacted wetlands?)
3. **Mitigation** (Does the project mitigate to assure a no net loss of functional values?)

If, after avoidance and minimization guidelines are considered and wetland impacts are still anticipated:

- determine functional losses and gains (both permanent and temporal; both direct and indirect)
- conduct adequate baselines of wetland functions including vegetation, wildlife, hydrology, soils, and water quality
- attempt to create/restore the same wetland type that is impacted, in the same watershed
- work with a regional context to maximize benefits for native fish, wildlife, vegetation, as well as for water quality, and hydrology
- use native species and materials whenever possible
- document all efforts made to avoid the minimize adverse wetland impacts
- be prepared to develop performance criteria and to track those for between 5 to 20 years
- be prepared to show project success based on achieving wetland functions
- if the project fails, be prepared to repeat the same process (via financial assurance), with additional acreage added for temporal losses
- specify how the mitigation project will be maintained in perpetuity and who will be responsible for the maintenance

For more information regarding Water Quality Certification may be found at http://www.waterboards.ca.gov/centralvalley/available_documents/wq_cert/application.pdf

Dewatering Permit

The proponent may be required to file a Dewatering Permit covered under Waste Discharge Requirements General Order for Dewatering and Other Low Threat Discharges to Surface Waters

Permit, Order No. 5-00-175 (NPDES CAG995001) provided they do not contain significant quantities of pollutants and are either (1) four months or less in duration, or (2) the average dry weather discharge does not exceed 0.25 mgd:

a. Well development water
b. Construction dewatering
c. Pump/well testing
d. Pipeline/tank pressure testing
e. Pipeline/tank flushing or dewatering
f. Condensate discharges
g. Water Supply system discharges
h. Miscellaneous dewatering/low threat discharges

Industrial

A NPDES General Permit for Storm Water Discharges Associated with Industrial Activities, NPDES No. CAS000001, Order No. 97-03-DWQ regulates 10 broad categories of industrial activities. The General Industrial Permit requires the implementation of management measures that will achieve the performance standard of best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT). The General Industrial Permit also requires the development of a Storm Water Pollution Prevention Plan (SWPPP) and a monitoring plan. The General Industrial Permit requires that an annual report be submitted each July 1. More information may be found at http://www.swrcb.ca.gov/stormwtr/industrial.html

For more information, please visit the Regional Boards website at http://www.waterboards.ca.gov/centralvalley/ or contact me at 916.464.4683.

DANNAS J. BERCHTOLD
Storm Water Unit
916.464.4683

cc: Scott Morgan, State Clearinghouse, Sacramento

CITY OF WEST SACRAMENTO
MEMORANDUM

To: Sandra White, Senior Planner

From: Mark Collier, Senior Civil Engineer

Date: May 4, 2005

Subject: NOP of DEIR for Rivers II

The Engineering Division has completed its review of the subject document and has the following comments:

Traffic and Circulation:

On the one hand, the document is stating that no off-site traffic improvements are proposed as part of this project. On the other hand, it identifies impacts to off-site traffic improvements as potentially significant. The Engineering Division would like to emphasize the need for an evaluation of impacts to off-site traffic improvements as a part of the EIR.

(Cathy – I discussed this further with Engineering. Page 9 of the IS states that no improvements to off-site roads are proposed as part of the project. Engineering is concerned that pending the result of the traffic study, off-site improvements may be required.)

Water Supply Distribution

Preliminary capacity calculations have not been submitted to the City and the Engineering Division is not comfortable at this time with the adequacy of the system. To the contrary, it is currently understood that the existing system lacks required water storage capacity to serve this project and it is anticipated that construction of a master planned water storage tank will be required of this project.

Preliminary calculations should be included in the EIR and a comprehensive water model analysis will be required prior to improvement plan approval.

Wastewater Collection

Preliminary capacity calculations have not been submitted to the City and the Engineering Division is not comfortable at this time with the adequacy of the system. Preliminary calculations should be included in the EIR and a comprehensive capacity analysis will be required prior to improvement plan approval.

Storm Drain Collection

Preliminary capacity calculations have not been submitted to the City and the Engineering Division is not comfortable at this time with the adequacy of the system. Preliminary calculations should be included in the EIR and a comprehensive capacity analysis will be required prior to improvement plan approval.

The concept of an in-line separator installed for water quality treatment is discouraged by the Public Works Department and Engineering Division due to ongoing operations and maintenance concerns. City standards currently do not allow this alternative. Alternative methods of dealing with water quality treatment are encouraged

WEST SACRAMENTO POLICE DEPARTMENT
MEMORANDUM

April 5, 2005

TO: **Sandra White, Senior Planner**

FROM: **Dan Drummond, Chief of Police**

SUBJECT: **Notice of Preparation of a Draft Environmental Impact Report For the Rivers Phase II Project and Scoping Meeting**

At your request, the Department has reviewed the Notice of Preparation (NOP) of a Draft Environmental Impact Report (EIR) for the Rivers Phase II Project and Scoping Meeting.

In reference to page 43 of the NOP, XIII. PUBLIC SERVICES, we are in agreement that there will be a potentially significant impact to all public services, including law enforcement. With the proposed development consisting of 518 new dwellings and a school under Scenario A and 694 residential units under Scenario B, maintaining performance objectives of responding to all Priority 1 (emergency) calls for service within 5 minutes or less would be compromised.

As stated in the NOP, an evaluation of staffing, facilities, and equipment to adequately provide public safety needs for the new residents and visitors of this project must be accomplished in the EIR process.

In addition, the evaluation needs to address potential social, educational and other public services this project will demand of the West Sacramento Police Department.

Again, we look forward to participating in the E.I.R. process. Should you have any questions, please do not hesitate to contact me.

Dan Drummond

DAN DRUMMOND
Chief of Police

WASHINGTON UNIFIED SCHOOL DISTRICT

930 Westacre Road • West Sacramento, CA 95691
(916) 375-7604 • FAX (916) 375-7629
www.wusd.k12.ca.us

April 22, 2005

Sandra White, Senior Planner
City of West Sacramento
1110 West Capitol Avenue
West Sacramento, CA 95691

Subject: Notice of Preparation of Draft Environmental Impact Report
Rivers Phase II

Dear Ms. White:

Thank you for the opportunity to respond to the proposed project. This is a unique project as respects the Washington Unified School District. The district is currently negotiating with the Grupe Co. for acquisition of approximately 11.5 acres located at the northwest corner of Lighthouse Drive and Fountain Drive. The site would be home to a new school, the district's first K-8 Fundamental Academy. A copy of a recently adopted Initial Planning Phase Report is attached providing more detailed information about the project.

Grupe Co. has agreed to include an analysis of the proposed project in the EIR to allow the district to obtain approval from State regulatory agencies. School site approval processes are principally defined in Title 5, California Code of Regulations. To ensure that the EIR is sufficiently comprehensive to be of use to the district for site approval processes with the State Department of Education, certain statutory requirements contained in the Public Resources Code, Education Code, and CEQA Guidelines must be adequately addressed in the EIR.

Section 15802(b) of the CEQA Guidelines states that upon receiving a Notice of Preparation, a responsible agency "shall provide the lead agency with specific detail about the scope and content of the environmental information related to the responsible agency's area of statutory responsibility which must be included in the draft EIR." The Washington Unified School District is a Responsible Agency, as defined in Public Resources Code §21069 and CEQA Guidelines §§15096, 15381. In *Save San Francisco Bay Assn. V. San Francisco Bay Conservation etc. Com* (1992) 10 Cal.App.4th 908, the court ruled that "CEQA mandates a lead agency to conduct a thorough review of the project in question even though additional review might later be undertaken by other agencies". The court held that a lead agency has a duty to produce comprehensive environmental documents that are of use to, and can be relied upon by other agencies. Accordingly, Washington Unified School District submits these comments to assure that the scope of the Environmental Impact Report includes comprehensive environmental analysis relative to the school site proposed for the

Project, and to ensure that the school site may qualify as approved school sites within the meaning of CEQA and the California Education Code.

Pursuant to Cal. Pub. Resources Code section 21151.8 and CEQA Guidelines §15186, the EIR must include analysis and information needed to determine:

1. Whether the school site is a current or former hazardous waste site or solid waste disposal site, and if so, whether the wastes have been removed;

2. Whether the school site is a hazardous substance release site identified by the State Department of Health Services; and

3. Whether the school site contains one or more pipelines, above or below ground, which carry hazardous substances, acutely hazardous materials, or hazardous wastes.

Also under section 21151.8, the Lead Agency must notify in writing and consult with the administrating agency and with any air pollution control or air quality management district having jurisdiction in the area to identify any facilities within one-forth of a mile of the school sites which might emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste.

Finally, in order to comply with Education Code 17215, the EIR must determine whether either school site is located within two miles, measured by air line, of that point on an airport runway or potential runway included in an airport mater plan that is nearest to the site.

The foregoing requirements are required in order to assure that the EIR will be sufficiently comprehensive to be of use to the school district in determining whether the sites may be approved by the Department of Education and whether, and under what conditions, the sites should be acquired and developed.

Thank you again for the opportunity to comment on the proposed project. If you have any questions, please contact me at 375-7604, Extension 2335.

Sincerely,

Denny Jones, Director
Facilities Planning & Construction

Attachment - K-8 Fundamental Academy
Initial Planning Phase Report

cc: Vicky Dali
Al Esquivel
Steve Belzer
EIP Associates

Washington Unified
School District

Fundamental Academy
Initial Planning Phase Report

March 3, 2005

CHONG | PARTNERS ARCHITECTURE

405 Howard Street, 5th Floor San Francisco CA 94105
415.433.0120 tel 415.433.4568 fax

Table of Contents

Executive Summary

Introduction

This Initial Planning Phase Report summarizes the scope, costs and schedule for the new Fundamental Academy school in The Rivers development.

Overview

The Fundamental Academy is proposed as a K - 8 school for approximately 552 students. The school physically resemble the District's current K - 6 facilities with a focus on academics and citizenship skills. The school will include administration area, a library / media center, a multi-use building with serving kitchen and community room, two kindergarten classrooms, 19 standard classrooms, a science classrooom, ans SDC classroom, and a learning lab. The total building area will be approximately 47,700 square feet.

The project will require all the standard governmental approvals required of new schools, including California Department of Education's (CDE) Office of Public School Construction (OPSC) and the Division of the State Architect (DSA).

Several planning options are included to demonstrate the adequacy of the site for the intended purpose.

The total project costs are estimated to be:

Land Acquistion	$ 1,707,500
Construction	16,463,005
Other Project Costs (Soft Costs)	2,123,926
Total	$ 20,435,670

Funding will be requested from the State is estimated to be approximately $6,327,593, with the remaining funding coming from District sources.

The project schedule anticipates proceeding with the design of this project this immediately following approval of this report. This will allow the school to be availalbe for occupancy prior to the start of school in the Fall of 2007.

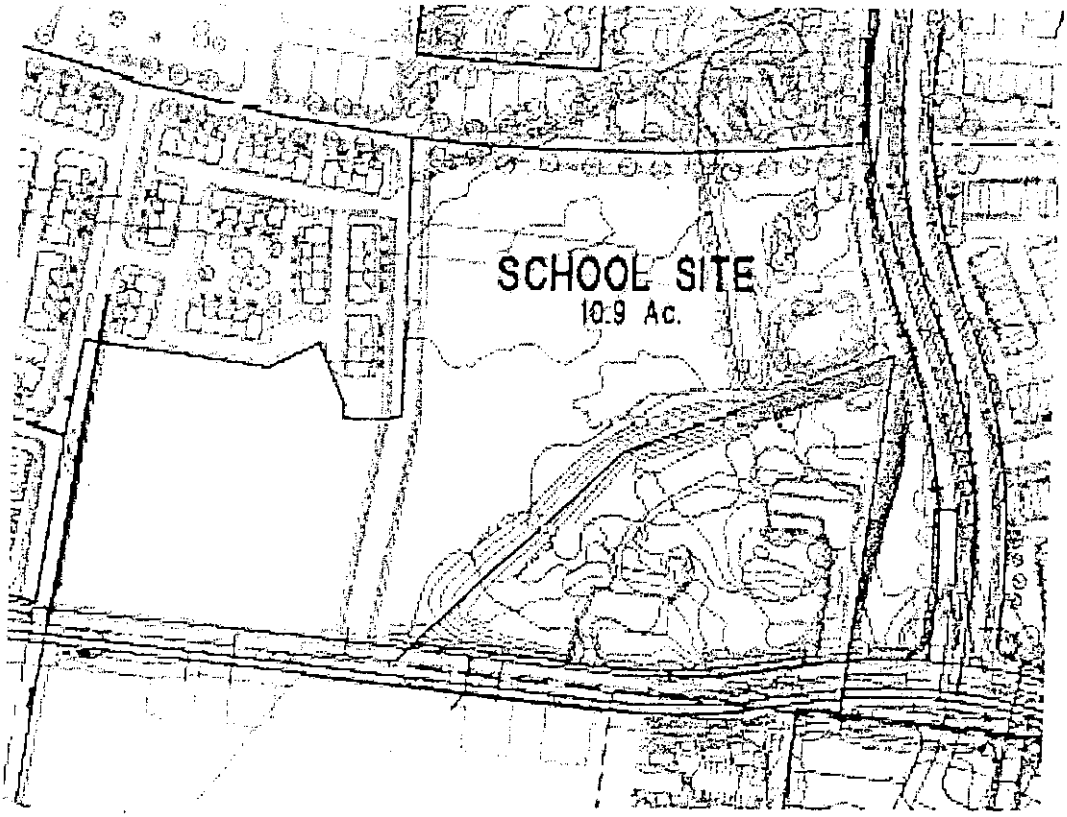
Recommendations

Review and acceptance of this Report by the School Board is recommended.

Project Description

Site Description

The Grupe Development Corporation is in the process of selling the District a 10.9 acre site located at the northwest corner of Lighthouse Drive and Fountain Drive in the The Rivers development. The school site includes a raised knoll with a grove of old growth trees. It is expected that the school's buildings will be constructed in this location.



The project site is slightly smaller than CDE recommendations for a school of this size.

	CDE Recommendations	Available
Developed Building Area	2.13 acres	*2.0* acres
Outdoor Physical Education Area	8.21 acres	*8.0* acres
Parking	0.83 acres	*0.9* acres +.6
Total	11.17 acres	*10.9* acres

The available areas listed above can vary depending on the layout of the campus, number of parking spaces, and the planning and educational needs for the school.

Education Specifications

The District established a Planning Committee to develop the Educational Specfications for this project. The committee met from December, 2003 through November, 2004 to develop the specifics for a K-8 school within the new development.

The School Board has designated that the Fundamental Academy be the District's first K-8 school. There will be 420 students in grades K-6, 120 students in grades 7-8, and 12 SDC students. The school's academic focus will be on basic academics and citizenship skills. Approximately one-half of the students will be from the Rivers Development and the other half will be allocated from the existing eight elementary schools. The Fundamental Academy will physically resemble the District's current K-6 facilities. The Southport Educational Specifications document was the template for the Fundamental Academy Educational Specifications. The inclusion of 7th and 8th graders will require some modifications of the District's typical K-6 schools such as a classroom equipped as a science lab, larger 7th and 8th grade classrooms and a band room adjacent to the stage. The Fundamental Academy will, on opening, include all grades. Pre-school and Daycare are still under discussion. Like the other schools in the District the public will have access to the playing fields and multipurpose room after school hours.

Education Philosophy: The Fundamental Academy will serve students in grades K-8. The mission of the school supports a fundamental academic program, strict student code of conduct, citizenship and civics focus, and required parental involvement and admission criteria. While the fundamental approach is rigorous, learning must also continue to be an enjoyable activity for students, with the use of observation, narrative and hands-on involvement in their learning. The facility will reflect the philosophy of the Fundamental Academy. Students will work individually and in groups and when appropriate will be cross-age instructed. The 7th and 8th grade organization will be a modified self-contained model. Teachers will team at these grade levels with two to three teachers per team with expertise in language arts, social sciences and math/science. There will be skill grouping in math and lab science in a specially equipped science room.

A detailed description of the resulting requirements and guidelines can be found in the Educational Specifications.

Architectural Program

Statement of Design: The school's design will respond to the physical context of the site and surroundings and be constructed with materials and scale appropriate for the important community and public center which this school will become.

The design will be developed with an inclusive approach that considers a wide range of diverse stakeholders from immediate users to the broader community, and creates a functional layout with a strong sense of social responsibility - sustainable design, investment for the long term and fiscally responsible operations of facilities.

The District's agreement with the developer includes language requiring design review by Grupe Development. Consultation with the developer during the design process will occur.

The space requirements developed from the educational specifications process are:

	No. of Spaces	Sq Ft Each	Total Sq Ft
Admin Offices			
Principal Office	1	200	200
Small Office	1	120	120
Secretarial / General Reception	1	280	280
Teacher Workroom	1	500	500
Teacher Lounge	1	700	700
Toilet Rooms	4	120	360
Conference Room	1	300	300
Nurse (Including Toilet)	1	145	145
Admin Storage / Secure Records	1	120	120
Student Waiting / Time-out Area	1	50	50
Large Supply Room	1	120	120
Subtotal			**2,775**
Custodial			
General Storage / Central Receiving	1	500	500
Subtotal			**500**
Library Media Center			
Student Computer Area	1	480	480
Student Group Area	1	480	480
Reading Room	1	900	900
Book Stacks	1	900	900
Circulation Desk / Librarian Work Space	1	240	240
AV Storage	1	120	120
Subtotal			**3,120**

Multi-Use / Kitchen			
Main Activity Room	1	3,650	3,650
Stage	1	750	750
Community Room	1	960	960
PE & General Storage	1	480	480
Food Service	1	680	680
Custodial	1	120	120
Subtotal			**6,640**
Student Toilet Rooms			
Male	3	360	1,080
Female	3	360	1,080
Subtotal			**2,160**
Classrooms			
Kindergarten	2	1,320	2,640
1st Grade	3	960	2,880
2nd Grade	3	960	2,880
3rd Grade	3	960	2,880
4th Grade	2	960	1,920
5th Grade	2	960	1,920
6th Grade	2	960	1,920
7th Grade	2	1,152	2,304
8th Grade	2	1,152	2,304
Science	1	1,350	1,350
Subtotal			**22,998**
Pupil Services			
SDC	1	960	960
Psychologist / Counseling	1	200	200
Speech Therapist	1	180	180

Learning Lab	1	960	960
Subtotal			**2,300**
Subtotal, All Spaces			**40,613**
Covered Walks, Walls, Mechanical / Electrical Closets, etc. 20% of Net			8,123
TOTAL			**48,736**

Architectural

- Exterior wall finishes may include stucco, concrete masonry, brick, or other surface finishes. Wood will be limited for maintenance reasons.
- Low slope roofing will be 4 ply built-up asphalt roofing. High slope roofing will be metal or concrete tile.
- Classrooms will have 16' long whiteboards and tackable wall surfacing on other walls.
- Classrooms and offices will be carpeted. (District standard - Collins & Aikman "Explorer".)
- Hard surface flooring will be vinyl composition tile or sheet vinyl.
- Toilet rooms will have ceramic tile on walls and floors.
- Toilet partitions will be floor-mounted polyethylene.
- Door hardware will meet District standards - Schlage locksets, Von Duprin exit devices, Hager hingers, LCN door closers

Mechanical

- Where consistent with energy conservation measures and budgets, individual mechanical units will be provided for each classroom.
- Administration and offices, classrooms, library, multi-use, and community room will be provided with heating and air conditioning. Other spaces will be provided with heating and vetilation only.
- Systems controls will be tied to the District Allerton energy management system (EMS).

Plumbing

- Plumbing fixtures will meet standards for school construction and District standards, where applicable. Classroom sinks will be ADA compliant. Faucets will be Chicago Faucet.
- Toilets will be wall hung
- Hot water will be provided at administration, science classroom, staff toilets, and multi-use building (kitchen).
- Drinking fountains will be located around the school and specified for institution use. MDF will be used on the exterior, Haws on the interior.

Fire Sprinklers

- The entire school will be protected by a fully automatic fire sprinkler system in accordance with state code requirements.

Electrical systems will include:

- A fully automatic fire alarm system with heat and smoke detectors and complying with state requirements. (Pyrotronics)
- An intrusion (security) alarm system with door contact switches and motion detectors a single control panel in the administration panels and capable of interfacing with district-wide systems.
- Interior lighting complying with Title 24 energy requirements and interconnection with security system and District EMS. Lights will use T8 or T5 flourescent tubes.
- Exterior lighting contolled by photocell, system time switch and District EMS.
- TV cables to all classrooms and media center with interconnection for cable TV use.
- Data cabling to each room with fiber-optic cables between buildings and CAT6 cabling to each data port.
- Intercom, clock, and phone systems to meet District standards. (Clock system - Standard 1460)
- Assistive listening devices required by ADA in multi-use room.

Civil

- Assumes that site will be turned over cleared of all remaining golf course 'features'.
- Grading will be limited to 1' - 2' change in topography.
- 'Normal' building pad preparation is assumed. Following completion of the soils report, impacts to civil and structural design will be analyzed.

Landscaping

- Fields to be hydroseeded over topsoil.
- Complete irrigation system for fields and landscaped areas.
- Paved play areas include 4 -6 basketball or volley ball courts, including goals and standards; and striping for standard games such as four-square, etc.
- Apparatus areas are expected to include two small play structures for kindergarden and two larger structures for grades 1 - 5.

Furniture and Equipment

A complete review a furniture needs has not been completed. A preliminary budget of $600,000 for furniture and equipment is included in the project budget This includes normal classroom and office furniture, library and media center furniture and equipment, multi-use room tables and chairs, science classrom furniture and equipment, food service equipment for an warming kitchen, and basic custodial equipment for the buildings and grounds. Classrooom materials,

such as books and instructional materials, have not been included. Some limited amount of sports equipment may be included in this budget.

Regulatory Requirements

Environmental approvals for the project should be coordinated between the District and the developer.

CDE / OPSC site approval will be required. This process should be started during the design stage of the project.

Construction of school buildings is regulated by DSA. Application and approval of the final drawings is expected to take 4 - 5 months.

Local Fire Marshal approval of the project design will be obtained prior to DSA application. This approval will include requirements for fire hydrants and fire truck acces to the site.

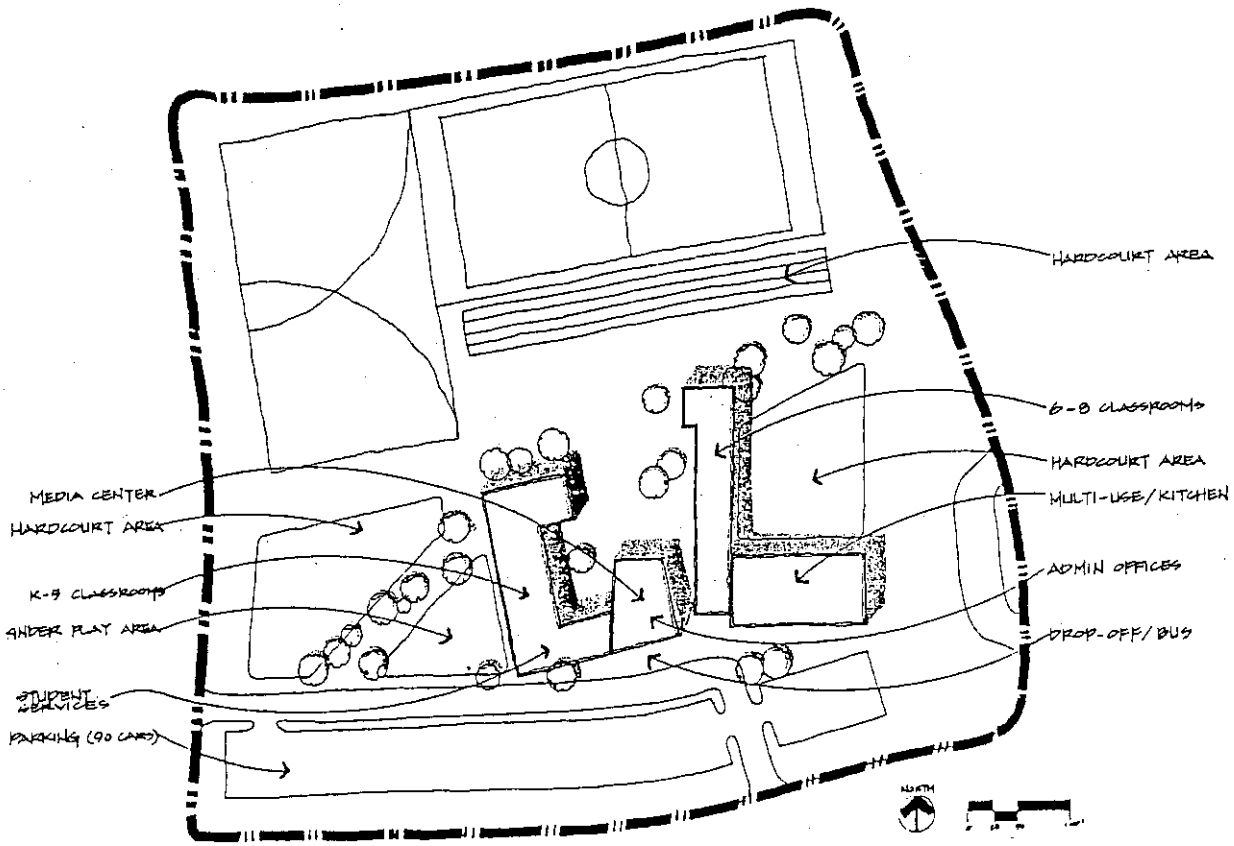
Depending on the development agreement between the developer and the City, approval of curb cuts and other off-site connections may require City approval.

Utility connections will include water, sewer, gas, electrical, and telephone. The process of PG&E application, approval, and engineering design for electrical connection (for example) takes between 6 and 8 months. Utility connections will need to be pursued throughout the design and drawing phases of the project.

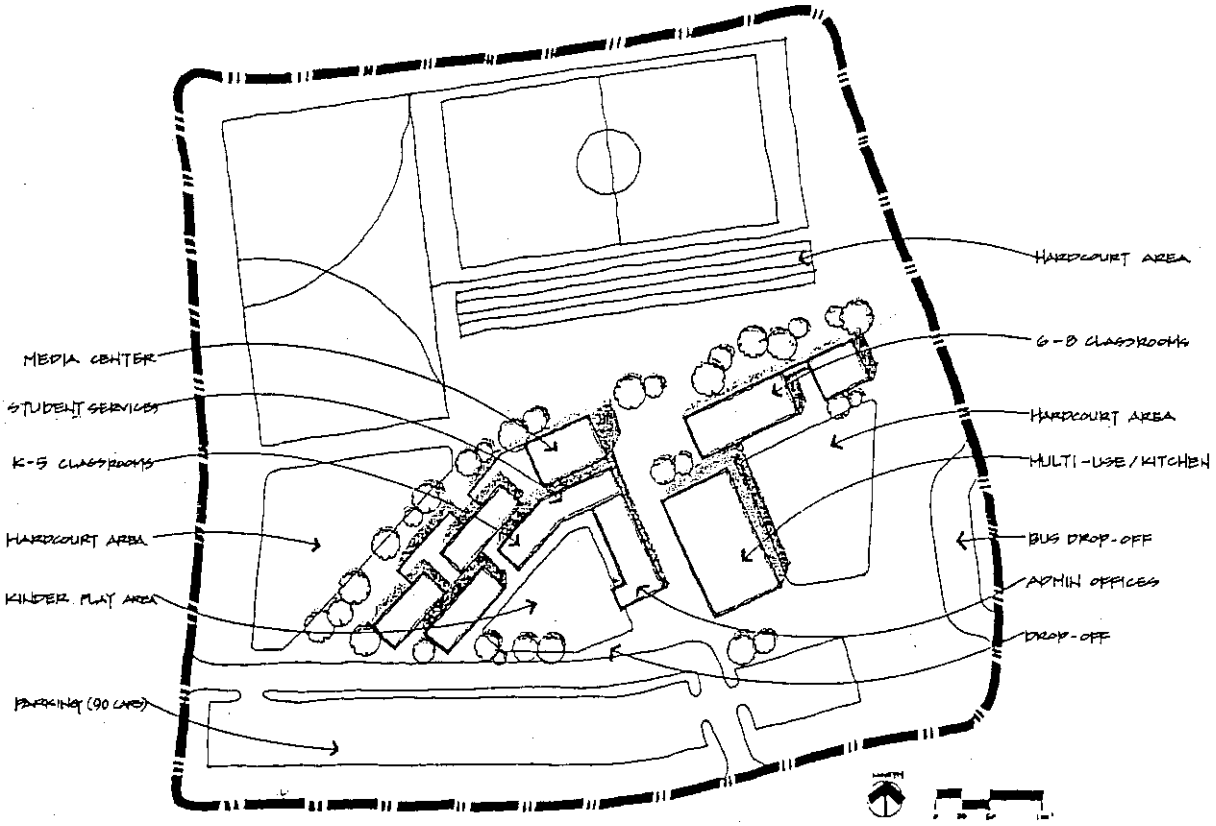
Site Feasibility Studies

Three feasibility studies have been prepared to determine the site's ability to accept the proposed program for the school. These layouts use the topography of the site to provide a school buildings on the "mound" with the level areas to the north used for field space. While many variations can be explored, these options show that a functional layout can be obtained, given the site configuration.

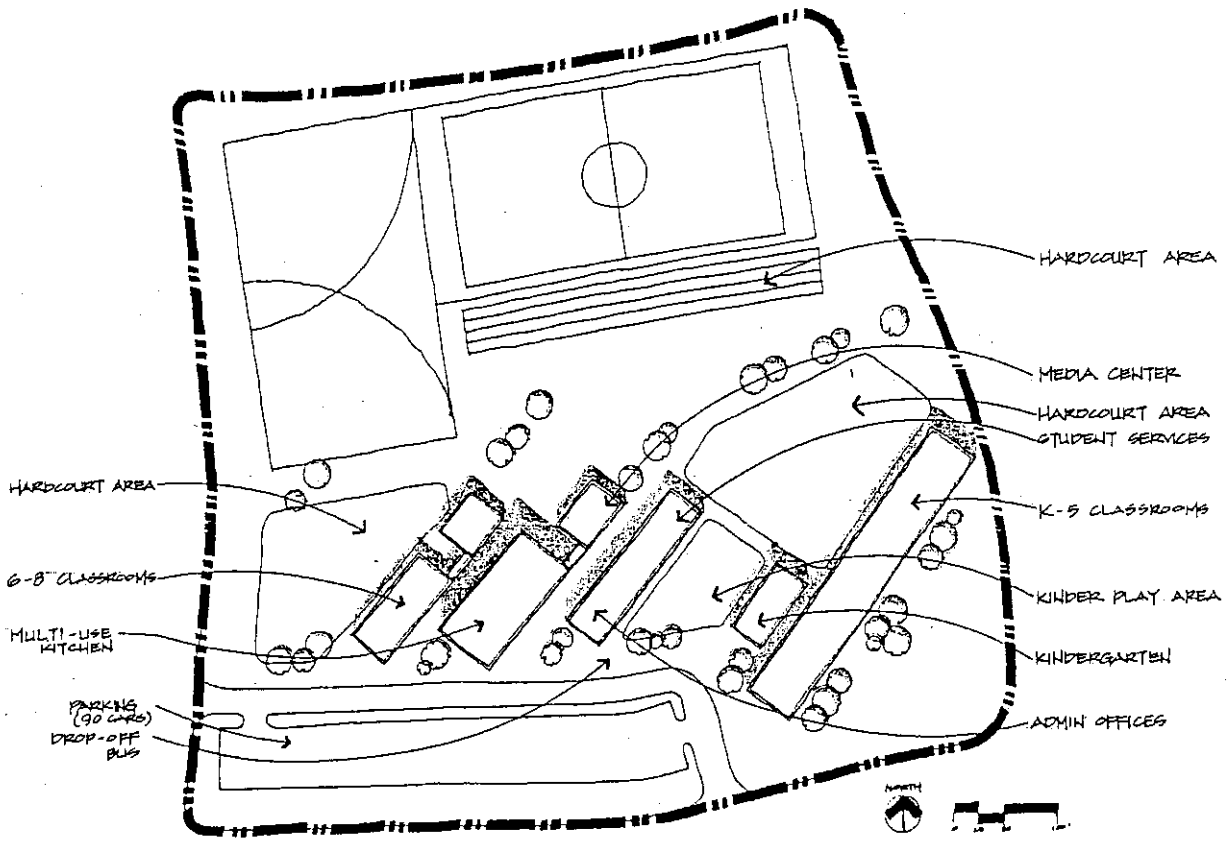
Option 1 (Classrooms around a courtyard, with two-story buildings)



Option 2 (Classrooms on separate levels along the slope)



Option 3 (Single story classrooms)



Costs / Funding

Total Project Budget

Land Acquisition	Subtotal	1,768,000
Construction		
Site (9.9 acres x $6.42/SF)		2,770,074
Offsite Improvements (Street Modifications, etc.)		200,000
Buildings (47,696 SF x $250.54/SF)		11,950,080
Escalation to mid-point of construction (5%)		748,318
Escalation to mid-point of construction (5%)		748,318
	Subtotal	16,463,005
Other Project Costs		
A&E Fee		940,000
Inspection		149,664
Materials Testing		149,664
DSA Plan Check Fee		102,724
CDE Plan Check Fee		11,874
Mitigation Fees		50,000
Connection Fees		100,000
Bid / Advertise / Printing		20,000
Furniture & Equipment		600,000
	Subtotal	2,123,926
Total Project Costs		**20,294,431**

This project budget includes land acquistition costs provided by the District. Site grading and site preparation costs are assumed for 'normal' conditions and our current understanding of the site conditions. These cost may change as additional geotechnical information is obtained.

Funding Sources

State Base Grant	
K-6 = 17 CRs x 25 x $6720	2,856,000
7-8 = 5 CRs x 27 x $6388	907,200
SDC Non-Severe = 1 x 13 x $12875	186,225
Sate Site Acquisition	853,750
State Supplemental	
Fire Code	19,381
Energy Efficience	20,000
Total State	6,327,593
Total Developer Fees	13,966,838
Total Funds	**20,294,431**

The above information on funding sources is based on spreadsheets provided by the District. Chong Partners Architecture has not indepently verified these numbers.

Schedule

The anticipated project schedule shows completion of construction in July, 2007 with occupany of the school set for Fall, 2007. This schedule makes cetain assumptions about District approvals during the design process and about the duration of DSA review. The DSA review period can vary substantially. Following authorization to proceed, this general schedule will need to be expanded to include other agency approvals (enviromental, OPSC), utility connection processes, as well as coordination and other milestones.

Jan 1 – Mar 10, 2005	**Initial Planning Phase** Develop Project Feasibility Report, including budget and project goals
	ACTION
Mar 10	Board Approval of Project Feasibility Report
Mar 10 - April 15, 2005	**Schematic Design Phase** Develop 3 building design concepts; perform cost study; 2 meetings with District / representatives for review / comment
April 1	ACTION District indicates preferred direction of design
	Revew revised building design; 2 meetings with District
April 21	ACTION District approves one building design
April 22 - June 15, 2005	**Design Development Phase**
	Develop 50% submittal; perform cost study; 1 meeting with District
May 15	ACTION District reviews / comments
	Complete 100% submittal; perform cost study; 1 meeting with District
June 15	ACTION District approves with review comments
June 15 - Oct 15, 2005	**Construction Document Phase** (Final Working Drawings and Specifications)
	Develop 50% submittal; perform cost study; 1 meeting with District

Aug 15	ACTION District reviews / comments
	Complete 100% submittal; perform cost study; 1 meeting with District
Oct 15	ACTION District authorizes submitttal to DSA
Oct 21, 2005 - March 21, 2006	**DSA Review**
Oct 21	Submission to DSA
March 21	DSA Approval
April 1 - April 30, 2006	**Bidding**
April 1 & 8	Invitation to Bid
April 4 - 30	Bid Period
April 30	Bid Opening
May 7	Board Authorization of Award to Contractor
May 7, 2006 - July 15, 2007	**Construction**
May 7 - June 21	Contractor Mobilization
June 21 - June 21, 2007	Construction Period
June 21 - July 15	Building Commissioning
July 15, 2007	**Occupancy**
July 15 - August 7	Furniture Move-in
August 7 - August 21	Teacher Move-in
Late August	School Starts

GRUPE

VIA FAX

April 20, 2005

Ms. Sandra White
CITY OF WEST SACRAMENTO
1110 West Capitol Avenue
West Sacramento, CA 95691

Re: The Rivers Phase II - EIR

Dear Sandra:

The following are our comments on the Notice of Preparation for the above referenced project dated April 4, 2005.

1. Page 4. The bank stabilization runs from River Mile 60.5 to 61.3, not 65.3.
2. Page 12. The Corps will also consult with the National Marine Fisheries Service. Also, the California Department of Fish and Game and Reclamation Board should be listed as additional state agencies with regulatory permitting authority for the project (encroachment permit from the Reclamation Board and a streambed alteration agreement from CDFG).
3. Page 19, IV.c). There are no wetlands within the project though there are waters of the United States within the area of the bank stabilization project.
4. Page 20. Although the Corps' consultation letter does say that the action (approval of bank stabilization project) "may affect" VELB, the VELB impacts are not a result of the bank stabilization work, but rather from the project area itself. That said, VELB shrubs were present on the project area site (in the area of the proposed school site), but they have already been transplanted based on coordination with USFWS. The Corps has, however, initiated formal consultation on the VELB.
5. Page 20. It should be noted that, although the Project proposes to develop a portion of the former golf course, 37.5 acres of the former course will remain as open space.

Should you have any questions or require additional information, please call me at (916) 372-2628, ext. 16.

Sincerely,

Alberto Esquivel
Project Manager

THE GRUPE COMPANY
905 Lighthouse Drive, West Sacramento, CA 95605
916/372-2628 • Fax 916/372-3394

APPENDIX C
Original PD-29 Text and Proposed Amendments

ORDINANCE NO. 92-09

AN ORDINANCE OF THE WEST SACRAMENTO CITY COUNCIL AMENDING THE LIGHTHOUSE MARINA PLANNED DEVELOPMENT 29 (PD-29) ZONE TEXT

The City Council of the City of West Sacramento does ordain as follows:

Section 1. Purpose and Authority

The purpose of this ordinance is to amend the City of West Sacramento Planned Development 29 (PD-29) zone text which regulates the land uses, development standards, special regulations, and permit regulations and procedures within the PD-29 zone (Lighthouse Marina development).

Section 2. Findings

A. The proposed zone text amendments are consistent with the City of West Sacramento General Plan and all applicable specific plans.

B. The public health, safety, and general welfare warrant the change of the zone text.

Section 3. Action

The City Council hereby amends the PD-29 zone text of the City of West Sacramento for the Lighthouse Marina development, as identified in Exhibit 1.

Section 4. Severability

If any provision of section of this ordinance is determined to be unenforceable, invalid, or unlawful, such determination shall not affect the enforceability of the remaining provisions of the ordinance.

Section 5. Effective Date and Publication

This ordinance shall take effect 30 days after its adoption, and within 15 days following its passage, shall be published at least once in a paper of general circulation published and circulated in the City of West Sacramento.

PASSED AND ADOPTED by the City Council of the City of West Sacramento this 13 th day of May, 1992 by the following vote:

AYES:
NOES:
ABSENT:

Ray E. Jones, Mayor

ATTEST:

Helen M. Kanowsky, City Clerk

APPROVED AS TO FORM:

Joseph Coomes, Redevelopment Attorney

CODIFY__ UNCODIFY X

RESOLUTION 4-92PC

A RESOLUTION OF THE PLANNING COMMISSION
OF THE CITY OF WEST SACRAMENTO
RECOMMENDING ADOPTION BY THE CITY COUNCIL OF
ORDINANCE 92-08, AMENDING THE LIGHTHOUSE MARINA
PLANNED DEVELOPMENT 29 (PD-29) ZONE TEXT

WHEREAS, on March 19, 1992, the City of West Sacramento Planning Commission conducted a public hearing on the proposal to amend the PD-29 Zone Text for the Lighthouse Marina Project; and

WHEREAS, testimony was presented as to the proposal and its impacts; and

WHEREAS, the Planning Commission has duly considered all information before it; and

WHEREAS, the required findings for recommending approval of the requested Zone Text amendments can be made for the requests, with the exception of amendments relating to riverfront residential side yard setbacks, employee parking, perpendicular signs, building security, and limits on variances; and

WHEREAS, the appropriate environmental documentation for this project, a Mitigated Negative Declaration, has been prepared and processed in accordance with the California Environmental Quality Act; and

NOW, THEREFORE, BE IT RESOLVED, as follows:

1. The City of West Sacramento Planning Commission hereby certifies that it has reviewed and considered the information in the Mitigated Negative Declaration and certifies that the Mitigated Negative Declaration has been completed in compliance with the California Environmental Quality Act.

2. The Planning Commission hereby recommends that the City Council adopt the Mitigated Negative Declaration.

3. The Planning Commission hereby recommends that the City Council adopt Ordinance No. 92-09, amending the PD-29 Zone Text of the City of West Sacramento.

4. The Planning Commission hereby recommends that the consideration by the City Council of an equivalent alternative to the payment of building securities is consistent with the intent of the Planning Commission.

PASSED AND ADOPTED this 19th day of March, 1992, by the following vote:

AYES: Carney, Dunlap, Moore, Pierucci, Tuttle
NOES:
ABSENT: Horel
ABSTAIN: Hart

Rick Hart, Chairman
West Sacramento Planning Commission

Stephen Patek, Secretary

ORDINANCE 89-9

AN ORDINANCE OF THE CITY OF WEST SACRAMENTO
ADOPTING ORDINANCE 89-9 AMENDING ORDINANCE 681.120
WHICH CREATED PLANNED DEVELOPMENT 29 (PD-29)
AS AMENDED BY ORDINANCE 92-9 (MAY 13, 1992)

THE CITY COUNCIL OF THE CITY OF WEST SACRAMENTO, STATE OF CALIFORNIA, DOES HEREBY ORDAIN AS FOLLOWS:

Section One: The Zoning Map of the City of West Sacramento is amended as specified on Exhibit "A," annexed hereto and by reference made a part hereof. The following territory hereby is changed from (R-l) and PD-29, to Planned Development 29 (PD-29) Zone and subsequently annexed into and made a part of PD-29. The legal description of the property affected hereby is attached hereto as Exhibit "B" and incorporated herein by this reference. The detailed development standards applicable to the PD-29 District are set forth in Section 1 through 3, inclusive of this ordinance, which shall apply within the boundaries of the PD-29 Zone as specified herein.

These regulations are divided into several sections for the purpose of establishing the necessary controls regarding:

1. The location of the land uses; public and private facilities, and public and private buildings;

2. Height, bulk and setback limits for such land uses, public and private facilities, and public and private buildings;

3. Location and extent of existing and proposed streets and roads;

4. Standards for population density and building density, including lot sizes and permissible types of construction;

5. Standards for the conservation, development, and utilization of natural resources;

6. Implementation of applicable provisions of open space;

7. Such other measures as may be necessary or convenient to ensure execution of the general plan, of which the Lighthouse Marina Planned Development is a part.

ARTICLE ONE REFERS TO THE GENERAL PURPOSE, INTENT AND APPLICATION.

ARTICLE TWO REFERS TO AND CONTROLS ALL RESIDENTIAL USE AREAS.

ARTICLE THREE REFERS TO AND CONTROLS THE BUSINESS/PROFESSIONAL USE AREA.

ARTICLE FOUR REFERS TO AND CONTROLS ALL COMMERCIAL USE AREAS.

ARTICLE FIVE REFERS TO AND CONTROLS ALL RECREATIONAL USE AREAS.

ARTICLE SIX REFERS TO AND CONTROLS OVERLAY USE AREAS ASSOCIATED WITH PRIMARY USES.

ARTICLE SEVEN REFERS TO SPECIAL REGULATIONS ASSOCIATED WITH ALL USE AREAS.

ARTICLE EIGHT REFERS TO DEVELOPMENT PERMIT REGULATIONS AND PROCEDURES.

ARTICLE ONE: General Purpose, Intent and Application

A. General Purpose

The Lighthouse Marina Land Use Regulations are adopted for the purpose of promoting the health, safety and general welfare of the Lighthouse Marina community. Furthermore, the Lighthouse Marina Land Use Regulations are adopted in order to achieve the following objectives:

1. Implement the intent and purpose of the Lighthouse Marina Planned Development.

2. Provide maximum opportunities for innovative community design and site planning, consistent with orderly development and protection of sensitive and natural resources, with a logical and timely sequence of community and governmental review and input.

3. Improve the visual image and general aesthetics of the Broderick community.

4. Provide for the economic revitalization of a portion of the Redevelopment Area consistent with the City of West Sacramento's approved economic development goals and objectives.

5. Stimulate new development of a mixed, high-quality nature.

6. Create an environment which will encourage a high level of property maintenance.

7. Encourage innovation in design to support the goal of a 24-hour district with mixed structures with residential uses above parking, commercial and/or office floors.

B. Intent

The PD-29 Zoning District is intended to be applied to those existing land parcels and any future land parcels created from these original parcels referenced by Assessor's Parcel Numbers as follows and as indicated on the Yolo County Assessor's rolls for the year ending 1988.

10-530-02, and

14-580-04, 06, 07, 08, and

14-590-25, 29, 32, 36, 37, 47, and

14-630-03, 06, 09, 10, 11, 21, 24, 25, 26, and

14-620-01, 02, 03, 05, 06, and

14-610-01, 02, 04, 05, 08, 09.

.ıe limits to be observed within the PD-29 District shall be in accordance with the hirteen use areas set forth below:

PD-29 RA Residential at up to 4 dwellings per acre

PD-29 RB Residential at up to 6 dwellings per acre

PD-29 RC Residential at up to 12 dwellings per acre

PD-29 RD Residential at up to 22 dwellings per acre

PD-29 RE Residential at up to 38 dwellings per acre

PD-29 RF Residential at up to 62 dwellings per acre

PD-29 CT Tourist Commercial

PD-29 BP Business/Professional Offices

PD-29 CR Retail Commercial

PD-29 CM Marina Commercial

PD-29 RMH Marina/Harbor

PD-29 RGC Golf Course

PD-29 OS Open Space

Development and utilization within each of these areas shall be permitted in accordance with the standards and regulations established herein for each subarea and also in conformance with the Development Standards established for the PD-29 District, as well as the maximum intensities of use as reviewed, analyzed and publicly commented upon in the Environmental Impact Report (E.I.R.)/Environmental Impact Statement (E.I.S.) for PD-29 and as implemented by a Development Agreement (D.A.) and Public Improvement Plan (P.I.P.) and City Service Agreement.

C. Application

The interpretation and application of the Lighthouse Marina Land Use Regulations shall be accomplished in accordance with the following provisions:

1. The land use regulations shall be applied only in the Lighthouse Marina Planned Development Project Area.

2. The City of West Sacramento Zoning Code is auxiliary to the land use regulations of the Lighthouse Marina plan and if any item or issue is not included within the land use regulations, the regulations of the Zoning Code shall be applicable; however, the Zoning Code shall not override any provision of this land use regulation. If there is any ambiguity or uncertainty as to which regulations apply or when they apply, it will be resolved by the Community Development Director.

3. If any portion of these regulations is, for any reason, declared by a court of competent jurisdiction to be invalid or ineffective in whole or in part, such decision shall not affect the validity of the remaining portions thereof. The City Council hereby declares that it would have enacted these regulations and each portion thereof irrespective of the

fact that any one or more portions be declared invalid or ineffective.

4. For the purpose of carrying out the intent and purpose of these regulations, words, phrases and terms are deemed to have the meanings ascribed to them in the City of West Sacramento Zoning Code, unless otherwise provided by these land-use regulations.

5. The provisions of Articles Seven and Eight shall apply to all zones established in Articles Two through Six.

6. The total area in acres of PD-29 shall be based upon final field boundary and title surveys. If there are any discrepancies between the legal description attached here as Exhibit "B" and subsequent surveys, then the subsequent surveys shall take precedent. An increase in acreage does not grant an increase in density or intensities of use for PD-29.

ARTICLE TWO: General Provision for Residential Areas

A variety of residential areas have been established for the purpose of providing diversity and locations in housing types. The following provisions apply to all residentially zoned use areas within the planned development control area:

1. Front setbacks shall be measured from the ultimate public street right- of-way line.

2. All construction and development within the Lighthouse Marina community shall comply with applicable provisions of the Uniform Building Code and other various Mechanical, Electrical, and Housing Codes related thereto, The codes shall prevail in the residential areas where there is any conflict between the said codes and the provisions in this text.

3. Temporary, special community events, such as parades, pageants, community fairs, athletic contests, carnivals and other similar uses, may be permitted in any area in the Lighthouse Marina community by approval of the City Council upon application for the appropriate permit.

4. Any conditions, requirements, or standards, indicated graphically or in writing that are a part of a tentative map, use permit, variance or similar permit entitlements granted by the appropriate authority shall be in conformance with the Lighthouse Marina Planned Development Land Use Regulations. Any use or development not in conformance with such conditions, requirements, or standards shall be in violation of the Lighthouse Marina Planned Development Land Use Regulations.

5. When required by these regulations, a site development permit or use permit for a specific parcel, as appropriate, shall be submitted and approval prior to the issuance of building permit, or any change of use and occupancy permit.

6. In these land use regulations, for all land use areas when more than one description may apply to a given use, the more specific description shall determine if a use is allowed, allowed subject to an approved use permit, allowed subject to an approved site plan, or prohibited.

7. Any amendment to these land use regulations must include an amendment to other sections of the Lighthouse Marina Planned Development Land Use Regulations where applicable.

8. At least twenty-one (21) calendar days prior to official action on any application for a use permit, variance permit, or building permit, the Community Development Director will forward such application to the Lighthouse Marina Architectural Review Board for

their review, recommendations and approval in accordance with Article Eight.

9. Any person, firm or corporation, whether as principal, agent, employee or otherwise, violating any provisions of these regulations shall be guilty of a misdemeanor, and upon conviction thereof shall be punishable by a fine of not more than five hundred dollars ($500.00) or by imprisonment in the County Jail of Yolo County for a term not exceeding six (6) months or by both such fine and imprisonment. Such person, firm or corporation shall be deemed guilty of a separate offense for each and every day during any portion of which any violation of this article is committed, continued or permitted by such person, firm or corporation and shall be punishable as herein provided.

10. Applications for variances to the site development standards of these regulations shall be considered and processed in accordance with the City of West Sacramento Zoning Code.

11. The following standards shall be applied to the construction of all improvements in accordance with this ordinance.

a. Hours of operation: Exterior construction shall take place during the hours of 7 a.m. to 6 p.m.

b. Material storage: No construction material shall be stored or stockpiled within public rights-of-way.

c. Erosion control: Neighboring areas shall be protected from wind or water-related erosion.

d. Parking: Adequate provisions shall be made to restrict construction-crew parking to areas approved by the Architectural Review Board.

12. The densities and intensities of use for each residential sub-area are intended as the maximum allowable. Nothing herein shall preclude a lesser density in any residential sub-area, conditioned upon the adherence to and execution of the site development standards associated with and consistent to the designated residential type and density sub-area most closely related to the proposed residential use. If there is any uncertainty as to which regulations apply, it will be resolved by the Planning Commission.

13. Total residential units are limited to a maximum of 1,881.

14. In order to meet the purpose and intent of PD-29, mixed-use structures with residential uses above parking commercial and/or office floors is encouraged. To this end, the PD-29 RE and RF use areas may be combined with the PD-29 BP/CR/CM/CT use areas. The site development standards for the PD-29 RE, RF, BP, CR, CM and CT use areas are intended to encourage creative design flexibility for a single structure or cluster of structures. Approvals of mixed-use structure(s) proposal(s) will be as outlined in Article Eight.

A. PD-29 RA Single-Family Residential Use Area

1. Purpose and Intent

The PD-29 RA District is established to provide for the development and maintenance of low density single-family residential neighborhoods at up to 4 dwelling units per gross acre. Only those additional uses are permitted that are complementary to and can exist in harmony with a low density residential neighborhood. These regulations carry out the purpose and intent of the low density residential land use categories of the Lighthouse

Marina Planned Development.

2. Zoning Area

The PD-29 RA zone shall be applied in (1) a single depth arc along the existing levee from the westerly property line and (2) within reasonable proximity to the golf course area.

3. Permitted, Accessory and Conditional Uses

a. PD-29 RA Principal Permitted Uses

(1) One single-family dwelling per lot

(2) Such other uses as deemed by the planning Commission to be consistent with the purpose and intent of the zoning area.

b. PD-29 RA Permitted Accessory Uses

(1) Small domestic animals

(2) Rooming and boarding of not more than two (2) persons including household employees

(3) Signs as provided for herein.

(4) Accessory uses customarily a part of the permitted use and clearly incidental and secondary to the permitted use and which do not change the character of the permitted use or affect other properties in the vicinity

(5) Public access easements and associated improvements

(6) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

c. PD-29 RA Conditional Uses

The following conditional uses may be allowed within the PD-29 RA sub-area upon the issuance of a conditional use permit by the Planning Commission.

(1) Neighborhood day use areas

(2) Public access ancillary uses

(3) Public day use areas

(4) Home occupations

(5) Accessory uses to single-family dwellings which are not customarily a part of the permitted use

(6) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

4. Site Development Standards

a. Lot Requirements

(1) Minimum Square Footage: 7,000 Net
(2) Minimum Width: 70'
(3) Minimum Depth: 100'

b. Building Regulations

(1) Setbacks. No improvements of any kind, and no part thereof, shall be constructed, placed, extended or permitted to remain on any site closer to a property line than herein provided.

(a) Front Yard: 20'
(b) Side: *For riverfront lots 1-51,* at least 5' on one side and at least 10' on the other side, with the minimum distances between units being 10' and 20' alternately. *For other RA lots, side setbacks shall be any combination equaling 15', with no less than 5' on any one side.*
(c) Rear: 15'

(2) Setback Exceptions

The following improvements are specifically excluded from these setback provisions:

(a) Roof overhangs, provided such overhangs do not extend more than three (3) feet into any required yard.
(b) Steps, walks, and open arcades which have been specifically approved by the Community Development Director.
(c) Paving and associated curbing except that vehicle parking areas shall not be permitted within fifteen (15) feet of the face of curb.
(d) Fences and screen walls, except that no fence or screen wall shall be placed within the street setback area unless specifically approved by the Community Development Director.
(e) Landscaping.
(f) Planters, not to exceed two (2) feet in height, three and one-half (3 1/2) feet in overall height when planted and maximum 25 percent of public right-of-way frontage, which have been specifically approved by the Community Development Director.
(g) Underground improvements.

(3) Lot Coverage/Building Height

(a) No building site shall be covered with a building or buildings to an extent greater than 50 percent of the area of said site, excepting that an additional 10 percent of the site area may be covered with carports, open arcades, swimming pools, or similar structures if approved by the

Community Development Director. This exception shall not apply to covered storage areas.

(b) Attached accessory buildings shall be considered as a part of the main building.

(c) Building width as limited by setbacks.

(d) Building height: 31' maximum as measured from established grade prior to construction across the foundation.

(e) Second floor square footage: Limited to 75% of ground floor square footage

(f) A minimum of 20 percent of the site area shall be landscaped with living plant material.

c. Fences and Walls, Maximum Height

(1) Within front setback area - none allowed

(2) Within other setback areas - the maximum height shall be six (6) feet, except that this maximum may be exceeded when higher walls are required by the Community Development Director, for the purpose of noise mitigation or health and safety measures.

d. Signs

(1) No billboard or advertising sign or device shall be permitted, other than the following:

(a) Those identifying the subdivision name and not to exceed 25 square feet one side.

(b) Temporary signs offering the premises for sale or lease and not to exceed five (5) square feet one side.

(2) No temporary signs shall be within 10 feet of public right-of-way.

(3) No permanent signage shall be erected unless the size, design and locations of such signs are approved by the Community Development Director.

(4) Freestanding appurtenant signs may be approved by the Community Development Director subject to the following:

(a) Said signs shall not exceed a height of ten (10) feet.

(b) Not more than one freestanding sign shall be allowed for each residential community area.

(c) The signs may deviate somewhat in order to provide a more attractive and more appropriate identification of the subdivision.

e. Parking

(1) All off-street parking shall be provided in accordance with the City of West Sacramento Zoning Code and other applicable Agency requirements.

(2) Recreational vehicles, including motor homes, trailers, and boats, shall be parked in a screened location behind the front-yard setback area.

(3) No commercial vehicles shall be parked in a residential area for more than 48 hours.

f. Landscaping

(1) Every site on which a building shall have been placed shall be landscaped according to plans approved by the Lighthouse Marina Architectural Review Board, which approval shall not be unreasonably withheld. Such landscaping shall cover all areas of the site which may be viewed by the public and shall conform to Lighthouse Marina Design Standards.

(2) Provision for watering and other maintenance facilities shall be provided by the occupant in the vicinity of landscaped areas.

(3) Landscaping in accordance with the approved plan shall be installed in all areas viewed by the public prior to the issuance of necessary occupancy permits and shall be properly maintained by the occupant thereafter.

(4) Fill and excavation shall be minimized on site. Rough construction grade shall be maintained to the maximum extent possible.

B. PD-29 RB Single Family Residential Use Area

1. Purpose and Intent

The PD-29 RB District is established to provide for the development and maintenance of low-density single-family residential neighborhoods at up to 6 dwelling units per gross acre. Only those additional uses are permitted that are complementary to and can exist in harmony with a residential neighborhood. These regulations carry out the purpose and intent of the low-density residential land use categories of the Lighthouse Marina Planned Development Land Use Regulations.

2. Zoning Area

The PD-29 RB zone shall be applied along the inside tier of the levee and within or within reasonable proximity of the golf course.

3. Permitted, Accessory and Conditional Uses

a. PD-29 RB Permitted Uses

(1) One single-family dwelling per lot

(2) As allowed under Article Two, General Provision No. 12.

(3) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

b. PD-29 RB Permitted Accessory Uses

All accessory uses permitted in the PD-29 RA Zone

c. PD-29 RB Conditional Uses

All conditional uses permitted in the PD-29 RA Zone

4. Site Development Standards

a. Lot Requirements

(1) Minimum Square Footage: 5,000 Net

(2) Minimum Width: 60'

(3) Minimum Depth: 80'

b. Building Regulations

(1) Setbacks. No improvements of any kind, and no part thereof, shall be constructed, placed, extended or permitted to remain on any site closer to a property line than herein provided.

(a) Front Yard: 20 feet, except when automatic garage door openers are used and off-street guest parking is provided within 100 feet of unit, in which case setback may be reduced to 10 feet

(b) Side: minimum 5' each side.

(c) Rear: ~~15'~~ 10'

(2) Setback Exceptions. The following improvements are specifically excluded from these setback provisions:

(a) Roof overhangs, provided such overhangs do not extend more than three (3) feet into any required yard

(b) Steps, walks, and open arcades which have been specifically approved by the Community Development Director.

(c) Paving and associated curbing, except that guest vehicle parking areas for more than three (3) vehicles shall not be permitted within fifteen (15) feet of the street right-of-way.

(d) Fences and screen walls, except that no fence or screen wall shall be placed within the street setback area unless specifically approved by the Community Development Director.

(e) Landscaping.

(f) Planters, not to exceed two (2) feet in height, three and one-half (3 1/2) feet in overall height when planted and maximum 25 percent of public right-of way frontage, which have been specifically approved by the Community Development Director.

(g) Underground improvements

(3) Lot Coverage/Building Height

(a) No building site shall be covered with a building or buildings to an extent greater than 70 percent of the area of said site, excepting that an additional 10 per cent of the site area may be covered with carports, open arcades, or similar structures if approved by the Community Development Director. This exception shall not apply to covered storage areas.

(b) Attached accessory buildings shall be considered as a part of the main building.

(c) Building width as limited by setbacks.

(d) Building height: 31' maximum.

(e) Second floor square footage: Limited to 80 percent of ground-floor square footage.

(f) A minimum of 20 percent of the site area shall be landscaped with living plant material.

c. Fences and Walls, Maximum Height

(1) Within front setback area - none allowed.

(2) Within other setback areas - the maximum height shall be six (6) feet, except that this minimum may be exceeded when higher walls are required by the Community Development Director, for the purpose of noise mitigation or health and safety measures.

d. Signs

(1) No billboard or advertising sign or device shall be permitted, other than the following:

(a) Those identifying the subdivision name and not to exceed 25 square feet one side.

(b) Temporary signs offering the premises for sale or lease and not to exceed five (5) square feet one side.

(2) No temporary signs shall be within 10 feet of public right-of-way.

(3) No permanent signage shall be erected unless the size, design and locations of such signs are approved by the Community Development Director.

(4) Freestanding appurtenant signs may be approved by the Community Development Director, subject to the following:

(a) Said signs shall not exceed a height of ten (10) feet.

(b) Not more than one freestanding sign shall be allowed for each residential community area.

(c) The signs may deviate somewhat in order to provide a more attractive and more appropriate identification of the subdivision.

e. Parking

(1) All off-street parking and loading shall be provided in accordance with City of West Sacramento Zoning Code and other applicable Agency requirements.

(2) Recreational vehicles including motor homes, trailers, and boats shall be parked in a screened location behind the front-yard setback area.

(3) No commercial vehicles shall be parked in a residential area for more than 48 hours.

f. Landscaping

(1) Every site on which a building shall have been placed shall be landscaped according to plans approved by the Lighthouse Marina Architectural Review Board, which approval shall not be unreasonably withheld. Such landscaping shall cover all areas of the site which may be viewed by the public and shall conform to Lighthouse Marina Design Standards.

(2) Provision for watering and other maintenance facilities shall be provided by the occupant in the vicinity of landscaped areas.

(3) Landscaping in accordance with the approved plan shall be installed in all areas viewed by the public prior to the issuance of necessary occupancy permits and shall be properly maintained by the occupant thereafter.

(4) Fill and excavation shall be minimized on site. Rough construction grade shall be maintained to the maximum extent possible.

C. PD-29 RC Townhouse Residential Use Area

1. Purpose and Intent

The PD-29 RC District is established to provide for the development and maintenance of residential neighborhoods which are predominantly, but not exclusively, multiple family in character, for townhouse dwellings at up to 12 dwelling units per gross acre. No more than six (6) units shall have contiguous zero lot lines. Only those additional uses are permitted that are complementary to, and can exist in harmony with, a residential neighborhood. These regulations carry out the purpose and intent of the Medium Density Residential land use categories of the Lighthouse Marina Planned Development.

2. Zoning Area

The PD-29 RC zone shall be applied in a selective area within or within reasonable proximity to the golf course.

3. Permitted, Accessory and Conditional Uses

a. PD-29 RC Permitted Uses

(1) One single-family dwelling per lot

(2) As noted in Article Two, General Provision No. 12

(3) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

b. PD-29 RC Permitted Accessory Uses

All accessory uses permitted in the PD-29 RA Zone

c. PD-29 RC Conditional Uses

All conditional uses permitted in the PD-29 RA Zone

4. Site Development Standards

a. Lot Requirements

(1) Minimum Square Footage: 2,800 Net

(2) Minimum Width: 35'

(3) Minimum Depth: 80'

b. Building Regulations

(1) Setbacks: No improvements of any kind, and no part thereof shall be constructed, placed, extended or permitted to remain on any site closer to a property line than herein provided.

(a) Front Yard: 18' unless automatic garage door openers are used in which use setback may be reduced to 10'

(b) Side: None required

(c) Rear: 15'

(2) Setback Exceptions: The following improvements are specifically excluded from these setback provisions:

(a) Roof overhangs, provided such overhangs do not extend more than three (3) feet into any required yard.

(b) Steps, walks, and open arcades which have been specifically approved by the Community Development Director.

(c) Paving and associated curbing, except that guest vehicle parking areas for more than three (3) vehicles shall not be permitted within fifteen (15) feet of the street right-of-way.

(d) Fences and screen walls, except that no fence or screen wall shall be placed within the street setback area unless specifically approved by the Community Development Director.

(e) Landscaping

(f) Planters, not to exceed two (2) feet in height, three and one-half (3 1/2) feet in overall height when planted and maximum 25 percent of public right-of-way frontage, which have been specifically approved by the Community Development Director.

(g) Underground improvements

(3) Lot Coverage/Building Height

(a) No building site shall be covered with a building or buildings to an extent greater than seventy (70) percent of the area of said site, excepting that an additional ten (10) percent of the site area may be covered with open arcades, or similar structures if approved by the Community Development Director This exception shall not apply to covered storage areas.

(b) Attached accessory buildings shall be considered as a part of the main building.

(c) Building width as limited by setbacks.

(d) Building height: 31' maximum

(e) Second floor square footage: Limited to 95% of ground floor square footage

c. Fences and Walls, Maximum Height

(1) Within front setback area - none allowed

(2) Within other setback areas - the maximum height shall be six (6) feet, except that this maximum may be exceed when higher walls are required by the Community Development Director, for the purpose of noise mitigation or health and safety measures.

d. Signs

(1) No billboard or advertising sign or device shall be permitted, other than the following:

(a) Those identifying the subdivision name and not to exceed 25 square feet one side.

(b) Temporary signs offering the premises for sale or lease and not to exceed five (5) square feet one side.

(2) No temporary signs shall be within 10 feet of public right-of-way.

(3) No permanent signage shall be erected unless the size, design and locations of such signs is approved by the Community Development Director.

(4) Freestanding appurtenant signs may be approved by the Community Development Director, subject to the following:

(a) Said signs shall not exceed a height of ten (10) feet.

(b) Not more than one freestanding sign shall be allowed for each residential community area.

(c) The signs may deviate somewhat in order to provide a more attractive and more appropriate identification of the subdivision.

e. Parking

(1) All off-street parking shall be provided in accordance with the City of West Sacramento Zoning Code and other applicable Agency requirements.

f. Landscaping

(1) Every site on which a building shall have been placed shall be landscaped according to plans approved by the Community Development Director, which approval shall not be unreasonably withheld. Such landscaping shall cover a minimum of ten percent of the site.

(2) Provision for watering and other maintenance facilities shall be provided by the occupant in the vicinity of landscaped areas.

(3) Landscaping in accordance with the approved plan shall be installed prior to the issuance of necessary occupancy permits and shall be properly maintained by the occupant thereafter.

D. PD-29 RD Condominium and Apartment Use Area

1. Purpose and Intent

The PD-29 RD District is established to provide for the development and maintenance of residential neighborhoods which are predominantly, but not exclusively, multiple family in character, for condominium and/or apartment dwellings at up to 22 dwelling units per gross acre. Only those additional uses are permitted that are complementary to, and can exist in harmony with, a residential neighborhood. These regulations carry out the purpose and intent of the Medium Density Residential land use categories of the Lighthouse Marina Development.

2. Zoning Area

The PD-29 RD zone shall be applied in the reasonable proximity of the south and east edge of the golf course.

3. Permitted, Accessory and Conditional Uses

a. PD-29 RD Permitted Uses

(1) Multifamily development at up to 22 units an acre with on-site recreational facilities.

(2) As noted in Article Two, General Provision No. 12.

(3) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

b. PD-29 RD Permitted Accessory Uses

(1) Small domestic animals

(2) Rooming and boarding of not more than two (2) persons per unit including household employees

(3) Signs as provided for herein.

(4) Accessory uses customarily a part of and clearly incidental to the permitted use or association use

(5) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

c. PD-29 RD Conditional Uses

The following conditional uses may be allowed within the PD-29 RD sub-area upon the issuance of a conditional use permit by the Planning Commission.

(1) Neighborhood day use areas

(2) Public access ancillary uses

(3) Public day use areas

(4) Concessionary stands intended solely for the use or provisions of association members

(5) Day care centers

(6) Accessory uses not customarily a part of the permitted use or association use

(7) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

4. Site Development Standards

a. General Building Design and Orientation

(1) Large multifamily projects shall incorporate design variation within the project to create a sense of uniqueness and individuality. Large complexes using the same building design, materials, and colors should be avoided.

Design elements which achieve these objectives include: separate clustering of building

groups with extensive open-space and landscape buffering between projects; variation in building elevations and configurations between projects; variation in building heights; use of different building materials or combination of different materials; contrasting color schemes between projects.

(2) The monotony of straight building lines of all units shall be remedied through limiting the size of individual buildings or units, staggering of units, variation of exterior building materials on adjacent units, use of intensive landscaping, or other methods.

(3) Multifamily buildings adjacent to public streets shall be designed and oriented to minimize the likelihood of on-street parking by project residents. Examples of acceptable design and building orientation are:

(a) Minimize location of main entry doors of units facing the public street

(b) Break up long buildings containing many units into smaller building clusters or incorporate a breezeway through midsection of a long building which provides closer access to off-street parking area for residents

(c) Locate off-street parking areas between the public street and building (off-street parking area to be located and screened behind bermed landscape setback area - Section B-4)

(4) All mechanical equipment (including public utility boxes and particularly exterior wall-mounted air conditioning units) shall be attractively screened.

(5) Buildings shall be designed and oriented to reduce overview of private backyards and patio areas of on-site and adjacent developments and windows from second-story units.

(6) Accessory structures shall be compatible in design and materials with main building.

(7) Communal facilities shall be centrally located, where possible.

(8) Recreational facilities shall be located and/or designed so as not to create a nuisance to surrounding units or to impact adjacent properties.

Sufficient setbacks, landscaping and berming between recreation facilities and surrounding units shall be provided to minimize noise and visual conflicts.

(9) Solar heating and cooling of units shall be achieved to the maximum extent possible.

(10) Site planning shall take into account optimum solar orientation of structures.

(11) Site planning shall minimize the incidences of one building shading another.

(12) Private outdoor or garden areas shall be oriented to the south as much as possible.

(13) Roofing materials shall be compatible with architectural style and elevations.

(14) The location of second-story end unit windows shall be varied to provide variety in exterior unit detailing and designed in such a way as to reduce the incidence of overview into private first-floor open-space areas.

(15) A minimum building setback of 50 feet shall be utilized on multiple-family projects from interior and rear property lines abutting existing or future low-density residential developments (five dwelling units per acre) where two-story structures are proposed. A minimum setback of 25 feet shall be required where single-story structures in multiple-family projects abut existing or future low-density development. Low density residential development is defined as 5 dwelling units or less per acre.

(16) All units shall have private exterior areas.

(17) Maximum height 40 feet as measured from established grade prior to construction across the foundation.

(18) Second-story floor area shall not exceed 90 percent of the first-floor area.

b. Off-Street Parking Design Criteria

(1) Off-street parking shall be provided in accordance with the City of West Sacramento Zoning Code and in accordance with other applicable Agency requirements.

(2) For the convenience of tenants and guests, and to encourage the use of off-street rather than curbside parking and parking along private drives, parking spaces shall be located as close as possible to the unit or communal facility it is intended to serve.

(3) To discourage parking on the street and along private on-site drives, physical barriers such as landscaping, berming, or wall segments shall be incorporated into the project design.

(4) Off-street parking shall be screened from the street by live landscaping, undulating earthen berms, low decorative walls or any combination of the above, for the purpose of reducing glare from automobile headlights and automobiles.

(5) Surface parking areas and carport roofing shall be screened from second-story units by trees or lattice and trellis work.

(6) The setback from interior side and rear property lines shall be 10 feet for open stalls and 15 feet for carports. If adjacent to non-residential development, the setback area shall be planted with large, growing evergreen trees to screen adjacent use.

(7) Trees shall be used for screening and shading purposes along the perimeter of the parking areas.

(8) Particularly within large, open lots, deciduous trees should be utilized to provide summer shading and winter sun.

(9) There shall be a ratio of it least one tree for every five parking spaces planted throughout or adjacent to open- and covered-parking areas. Rows of parking stalls, either open or covered, shall be broken up by a tree planting approximately every 10 spaces.

(10) The parking-stall depth shall be reduced by two feet, providing that:

(a) The two feet gained shall be incorporated into adjacent landscaping, or

(b) For angled parking, the triangular space at the head of each stall shall be landscaped as a planter when abutting a sidewalk or incorporated into adjacent landscaped strips.

(11) The more efficient 90 degree parking arrangement shall be utilized when possible, so as to minimize parking lot size.

(12) For the most part, double-loading of parking aisles should be utilized to minimize surfacing devoted to maneuvering area.

c. On-Site Circulation

(1) Minimum pedestrian/vehicle conflict should be sought in driveway/walkway system design.

(2) A display and unit location map shall be installed at each major driveway entrance and any major walkway entrance to the project as an aid to emergency personnel and a convenience to visitors. An auto turnout lane shall be provided adjacent to directory map to eliminate blocking of driveway entrance.

(3) Walkway location shall assure convenient access between parking and dwelling units.

(4) Central pedestrian/bike paths shall provide convenient access to bus stops, green belts and public facilities.

(5) Pedestrian crossings shall be provided at appropriate locations along main drives and shall be accentuated by a change in surface textures.

(6) Walkway connections between buildings and street sidewalks are discouraged if they encourage on-street parking by residents.

d. Bicycle Storage

(1) One bicycle parking facility is required for every ten (10) off-street parking spaces required, excluding developments which provide individually enclosed garages.

(2) Bicycle parking facilities may be Class I, Class II or Class III type facilities.

(3) Bicycle racks and/or lockers shall be provided throughout the development.

e. Landscaped and Open Space

(1) Landscaped materials selected shall be:

(a) Compatible with one another and with existing material on the adjacent site.

(b) Complementary to building design and architectural theme.

(c) Varied in size (one- and five-gallon shrubs, five- and 15-gallon and 24-inch box trees).

(2) Hydroseeding may be allowed provided a 90-day maintenance period is secured in the contract to ensure a healthy weed-free turf at the end of the maintenance period.

(3) Larger specimens of shrubs and trees along the site periphery, particularly along setback areas adjacent to public streets.

(4) Greater intensity of landscaping at the end of buildings when those elevations lack window and door openings or other details that provide adequate visual interest. This is especially significant at the street frontage and interior side and rear property lines and for two-story structures.

(5) Consistency with energy-conservation efforts.

(6) Trees located so as to screen parking areas and private first-floor areas and windows from second-story units.

(7) Undulating landscaped berms located along street frontage.

(8) Deciduous trees shall be utilized along the south and west facing building walls to allow solar access during the winter.

(9) For crime deterrent reasons, shrubs planted below first-floor windows should be of a variety which has thorns and/or prickly leaves.

(10) Provisions for watering and maintenance facilities and/or storage shall be provided by the owner/management in the vicinity of landscaped areas.

f. Trash Enclosures

(1) The walls of the trash enclosure structure shall be constructed of solid masonry material with decorative exterior surface finish comparable to the main residential structures. Split-face concrete block finish is recommended. Brick or tile veneer exterior finish should be avoided.

(2) The trash enclosure structure shall have heavy gauge metal gates and be designed with cane bolts on the doors to secure the gates when in the open position.

(3) The trash enclosure facility shall be designed to allow walk-in access by tenants without having to open the main enclosure gates.

(4) The walls shall be a minimum of six feet in height, more if necessary for adequate screening.

(5) The perimeter of the trash enclosure structure shall be planted with landscaping, including a combination of shrubs and/or climbing evergreen vines.

(6) A concrete apron shall be constructed either in front of the trash enclosure facility or at point of dumpster pickup by the waste removal truck. The location, size and orientation of the concrete apron shall depend on the design capacity of the trash enclosure facility (number of trash dumpsters provided) and the direction of the waste removal truck at point of dumpster pickup.

The minimum dimensions of the concrete apron for a single, two cubic-yard dumpster shall be: width 10' or width of enclosure facility; length 20'. Larger trash enclosure facilities shall require a larger concrete apron, subject to the approval of the City Public Works Department.

Paving material shall consist of 5" aggregate base rock and 6" portland cement paving.

(7) The enclosures shall be adequate in capacity, number, and distribution.

g. Signage

(1) With the exception of the main project identification sign(s), all other signage shall comply with the City Sign Ordinance, or other restrictions noted herein.

(2) A project identification sign is permitted at each major entrance into the complex. The sign shall be a monument type or incorporated into a low-profile, decorative entry wall(s). The height of the monument sign shall not exceed five (5) feet. Area shall not exceed 25 square feet.

(3) The primary material of the monument base or wall shall be decorative masonry such as brick, split-face concrete block, stucco or similar material which complements the design of the main buildings.

(4) Individual letters and project logo are permitted. The signage program shall be subject to the review and approval of the Community Development Director.

(5) No sign shall be closer than ten (10) feet to any property line.

E. PD-29 RE Condominium and Apartment Use Area

1. Purpose and Intent

The PD-29 RE District is established to provide for the development and maintenance of residential neighborhoods which are predominantly, but not exclusively, multiple family in character for condominium and apartment dwellings at up to 38 dwelling units per gross acre. Only those additional uses are permitted that are complementary to, and can exist in harmony with, a residential neighborhood. These regulations carry out the purpose and intent of the High Density Residential land-use categories of the Lighthouse Marina.

2. Zoning Area

The PD-29 RE zone shall be applied along or near the golf course.

3. Permitted, Accessory and Conditional Uses

a. PD-29 RE Permitted Uses

(1) Multifamily development at up to 38 dwelling units per acre, with on-site recreational facilities.

(2) General Provision Nos. 12 and 14, as noted in Article Two.

(3) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

b. PD-29 RE Permitted Accessory Uses

(1) Small domestic animals.

(2) Rooming and boarding of not more than two (2) persons per unit, including household employees

(3) Signs as provided for

(4) Accessory uses customarily a part of the permitted use and clearly incidental and secondary to the permitted use and which do not change the character of the permitted use of affect other properties in the vicinity.

(5) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

c. PD-29 RE Conditional Uses

The following conditional uses may be allowed within the PD-29 RE sub-area upon the issuance of a conditional use permit by the Planning Commission.

(1) Neighborhood day-use areas.

(2) Public access ancillary uses.

(3) Public day-use areas.

(4) Concessionaire stands intended solely for the use or provisions of association members.

(5) Day-care centers.

(6) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

4. Site Development Standards

a. General Building Design and Orientation

(1) Large multifamily projects shall incorporate design variation within the project to create a sense of uniqueness and individuality. Large complexes using the same building design, materials, and colors should be avoided.

Design elements which achieve these objectives include: separate clustering of building groups with extensive open-space and landscape buffering between projects; variation in building elevations and configurations between project; variation in building heights; use of different building materials or combination of different materials; contrasting color schemes between projects.

(2) The monotony of straight building lines of all units shall be remedied through limiting the size of individual buildings or units, staggering of units, variation of exterior building materials on adjacent units, use of intensive landscaping, or other methods.

(3) Multifamily buildings adjacent to public streets shall be designed and oriented to minimize the likelihood of on-street parking by project residents. Examples of acceptable design and building orientation are:

(a) Minimize location of main entry doors of units facing the public street.

(b) Orient ends of building toward public street.

(c) Break up long building containing many units into smaller building clusters or incorporate a breezeway through midsection of a long building which provides closer access to off-street parking area for residents.

(d) Locate off-street parking areas between the public street and building (off-street parking area to be located and screened behind bermed landscape setback area - Section B-4).

(4) All mechanical equipment (including public utility boxes and particularly exterior wall-mounted air-conditioning units) shall be attractively screened.

(5) Buildings shall be designed and oriented to reduce overview of private backyards and patio areas of on-site and adjacent developments and windows from second-story units.

(6) Accessory structures shall be compatible in design and materials with main building.

(7) Communal facilities shall be centrally located, where possible.

(8) Recreational facilities shall be located and/or designed so as not to create a nuisance to surrounding units or to impact adjacent properties. Sufficient setbacks, landscaping and berming between recreation facilities and surrounding units shall be provided to minimize noise and visual conflicts.

(9) Solar heating and cooling of units shall be achieved to the maximum extent possible.

(10) Site planning shall take into account optimum solar orientation of structures.

(11) Site planning shall minimize the incidences of one building shading another.

(12) Private outdoor or garden areas shall be oriented to the south as much as possible.

(13) Roofing materials shall be compatible with architectural style and elevations.

(14) The location of second-story end unit windows shall be varied to provide variety in exterior unit detailing and designed in such a way as to reduce the incidence of overview into private first floor open space areas.

(15) A minimum building setback of 50 feet shall be utilized on multiple-family projects from interior and rear property lines abutting existing or future low-density residential developments where two-story structures are proposed. A minimum setback of 25 feet shall be required where single-story structures in multiple-family projects abut existing or future low-density development.

(16) All units shall have private exterior areas.

(17) Maximum height thirty-two (32) feet as measured form the roof of ground-floor parking to structure eave line.

(18) Second-story floor area shall not exceed ninety (90) percent of the first-floor area. Third-story floor area shall not exceed eighty (80) percent of first floor area.

b. Off-Street Parking Design Criteria

(1) In accordance with the City of West Sacramento Zoning Code and in accordance with other applicable Agency requirements.

(2) For the convenience of tenants and guests, and to encourage the use of off-street rather than curbside parking and parking along private drives, parking spaces shall be located as close as possible to the unit or communal facility it is intended to serve.

(3) To discourage parking on the street and along private on-site drives, physical barriers such as landscaping, berming, or wall segments shall be incorporated into the project design.

(4) Off-street parking shall be screened form the street by live landscaping, undulating earthen berms, low decorative walls or any combination of the above.

(5) Surface parking areas and carport roofing shall be screened from second-story units by trees or lattice and trellis work.

(6) The setback from interior side and rear property lines shall be 10 feet for open stalls and 15 feet for carports. If adjacent to non-residential development, the setback area shall be planted with large, growing evergreen trees to screen adjacent use.

(7) Trees shall be used for screening and shading purposes along the perimeter of the parking areas.

(8) Particularly within large, open lots, deciduous trees should be utilized to provide sunnier shading and winter sun.

(9) There shall be a ratio of at least one tree for every five parking spaces planted throughout or adjacent to open and covered parking areas. Rows of parking stalls, either open or covered, shall be broken up by a tree planting approximately every 10 spaces.

(10) The parking stall depth shall be reduced by two feet.

(a) The two feet gained shall be incorporated into adjacent landscaping.

(b) For angled parking the triangular space at the head of each stall shall be landscaped (as a planter when abutting a sidewalk or incorporated into adjacent landscaped strips).

(11) The more efficient 90-degree parking arrangements shall be utilized when possible, so as to minimize parking lot size.

(12) For the most part, double-loading of parking aisles should be utilized to minimize surfacing devoted to maneuvering area.

(13) Garden-story or ground-floor parking is preferred. Where utilized, it shall be appropriately bermed and landscaped in a manner to screen the lower fifty (50) percent of ground-floor wall.

c. On-Site Circulation

(1) Minimum pedestrian/vehicle conflict should be sought in driveway/walkway system design.

(2) A display and unit location map shall be installed at each major driveway entrance and any major walkway entrance to the project as an aid to emergency personnel and a convenience to visitors. An auto turnout lane shall be provided adjacent to directory map to eliminate blocking of driveway entrance.

(3) Walkway location shall assure convenient access between parking and dwelling units.

(4) Central pedestrian/bike paths shall provide convenient access to bus stops, greenbelts and public facilities.

(5) Pedestrian crossings shall be provided at appropriate locations along main drives and shall be accentuated by a change in surface textures.

(6) Walkway connections between buildings and street sidewalks are discouraged if they encourage on-street parking by residents.

d. Bicycle Storage

(1) One bicycle parking facility is required for every ten (10) off-street parking spaces required, excluding developments which provide individual, enclosed garages.

(2) Bicycle parking facilities may be Class I, Class II or Class III type facilities.

(3) Bicycle racks and/or lockers shall be provided throughout the development.

e. Landscaped and Open Space

(1) Landscaped materials selected shall be:

(a) Compatible with one another and with existing material on the adjacent site.

(b) Complementary to building design and architectural theme.

(c) Varied in size (one- and five-gallon shrubs, five- and 15-gallon and 24-inch box trees).

(2) Lawn areas shall be established by sodding or hydromulching when conditions such as excessive gradient, anticipated seasonal rain, etc., may result in erosion or other problems.

(3) Larger specimens of shrubs and trees along the site periphery, particularly along setback areas adjacent to public streets.

(4) Greater intensity of landscaping at the end of buildings when those elevations lack window and door openings or other details that provide adequate visual interest. This is especially significant at the street frontage and interior side and rear property lines and for two-story structures.

(5) Consistency with energy conservation efforts.

(6) Trees located so as to screen parking areas and private first-floor areas and windows from second-story units.

(7) Undulating landscaped berms located along street frontage.

(8) Deciduous trees shall be utilized along the south and west facing building walls to allow solar access during the winter.

(9) For crime deterrent reasons, shrubs planted below first-floor windows should be of a variety which has thorns and/or prickly leaves.

f. Trash Enclosures

(1) The walls of the trash enclosure structure shall be constructed of solid masonry material with decorative exterior surface finish compatible to the main residential structures. Split-face concrete block finish is recommended. Brick or tile veneer exterior finish should be avoided.

(2) The trash enclosure structure shall have heavy gauge metal gates and be designed with cane bolts on the doors to secure the gates when in the open position.

(3) The trash enclosure facility shall be designed to allow walk-in access by tenants without having to open the main enclosure gates.

(4) The walls shall be a minimum of six feet in height, more if necessary for adequate screening.

(5) The perimeter of the trash enclosure structure shall be planted with landscaping, including a combination of shrubs and/or climbing evergreen vines.

(6) A concrete apron shall be constructed either in front of the trash enclosure facility or at point of dumpster pickup by the waste removal truck. The location, size and orientation of the concrete apron shall depend on the design capacity of the trash enclosure facility (number of trash dumpsters provided) and the direction of the waste removal truck at point of dumpster pickup.

The minimum dimensions of the concrete apron for a single, two cubic yard dumpster shall be: width 10' or width of enclosure facility; length 20'. Larger trash enclosure facilities shall require a larger concrete apron, subject to the approval of the City Public Works Department.

Paving material shall consist of 5" aggregate base rock and 6" portland cement paving.

(7) The enclosures shall be adequate in capacity, number and distribution.

g. Signage

(1) With the exception of the main project identification signs(s), all other signage shall comply with the City Sign Ordinance, or other restrictions noted herein.

(2) A project identification sign is permitted at each major entrance into the complex. The sign shall be a monument type or incorporated into a low profile decorative entry wall(s). The height of the monument sign shall not exceed five (5) feet. Areas shall not exceed twenty-five (25) square feet.

(3) The primary material of the monument base or wall shall be decorative masonry such as brick, split-fact concrete block, stucco or similar material which complements the design of the main buildings.

(4) Individual letters and project logo are permitted. The signage program shall be subject to the review and approval of the Community Development Director.

(5) No sign shall be closer than ten (10) feet to any property line.

F. PD-29 RF Tower Residential Use Area

1. Purpose and Intent

The PD-29 RF District is established to provide for the development and maintenance of residential neighborhoods which are predominantly, but not exclusively, multiple family in character for tower residential units at up to 62 dwelling units per gross acre. Only those additional uses are permitted that are complementary to, and can exist in harmony with, a residential neighborhood. These regulations carry out the purpose and intent of the High Density Residential land use categories of the Lighthouse Marina.

2. Zoning Area

The PD-29 RF zone shall be applied within reasonable proximity east and north and northwest of the marina.

3. Permitted, Accessory and Conditional Uses

a. PD-29 RF Permitted Uses

(1) No more than one single-family dwelling per air space division.

(2) As noted in Article Two, General Provision Nos. 12 and 14.

(3) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

b. PD-29 RF Permitted Accessory Uses

(1) Shall domestic animals.

(2) Rooming and boarding of not more than two (2) persons per unit including household employees.

(3) Signs as provided for.

(4) Accessory uses customarily a part of and clearly incidental and secondary to the principal permitted use or Association use and which do not change the character of the permitted use or affect other properties in the vicinity.

(5) Attached parking structures.

(6) On-site recreation facilities.

(7) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

c. PD-29 RF Conditional Uses

The following conditional uses may be allowed within the PD-29 RF sub-area upon the issuance of a conditional use permit by the Planning Commission.

(1) Detached multi-story parking structures.

(2) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

4. Site Development Standards

a. General Building Design and Orientation

(1) Large multi-story projects shall incorporate design variation within the project to create a sense of uniqueness and individuality.

(2) The monotony of straight building lines shall be remedied through the use of staggered balconies, glass-encased sun porches, angled insets, floor-to-floor stepbacks and other architectural stylizations to enhance the visual appeal of monolithic structures.

(3) All mechanical equipment shall be attractively screened from view not only at grade, but to the extent possible from other adjacent multi-story structures.

(4) Accessory structures shall be compatible in design and materials with main building(s).

(5) Recreational facilities shall be located in a manner to emphasize view and retain a modest level of privacy from adjacent multi-story structures; nuisance and visual conflicts shall additionally be considered.

(6) Communal facilities shall be easily accessible and shall be designed in a manner to emphasize personal safety.

(7) Site planning shall take into account optimum solar orientation of structures. As view orientation may not coincide with the former, detailed architectural design shall consider individual unit solar orientations.

(8) Site planning shall minimize the incidences of one building shading another.

(9) Architectural compatibility with other existing large-scale structures shall be considered.

(10) Pedestrian linkages to primary recreation facilities in the surrounding area are to be encouraged.

(11) Height 50 feet, not including rooftop mechanical equipment, except as noted on Exhibit C for locations where height of 200 feet may be allowed.

b. Off-Street Parking Design Criteria

(1) All off-street parking shall be provided in accordance with Article Seven of this ordinance.

(2) For the convenience of tenants and guests, and to encourage the use of off-street rather than curbside parking and parking along private drives, parking spaces shall be located as close as possible to the unit or communal facility it is intended to serve.

(3) To discourage parking on the street and along private on-site drives, physical barriers such as landscaping, berming, or wall segments shall be incorporated into the project design.

(4) Off-street parking shall be screened from the street by live landscaping, undulating earthen berms, low decorative walls or any combination of the above.

(5) Surface parking areas and top floor parking areas of multi-story parking garages shall be screened from upper-story units by trees or lattice and trellis work, or a combination of these and similar treatments. Such treatment shall cover no less than 50% of the exposed parking area.

(6) For the most part, double-loading of parking aisles should be utilized to minimize surfacing devoted to maneuvering area.

c. On-Site Circulation

(1) Minimum pedestrian/vehicle conflict should be sought in driveway/walkway system design.

(2) A display and unit location map shall be installed at each major driveway entrance and any major walkway entrance to the project as an aid to emergency personnel and a convenience to visitors.

(3) Walkway location shall assure convenient access between parking and dwelling units.

(4) Central pedestrian/bike paths shall provide convenient access to bus stops, greenbelts and public facilities.

(5) Pedestrian crossings shall be provided at appropriate locations along main drives and shall be accentuated by a change in surface textures.

(6) Walkway connections between buildings and street sidewalks are discouraged if they encourage on-street parking by residents.

d. Bicycle Storage

(1) Bicycle storage facilities shall be provided within the development, in a convenient ground-floor location.

(2) One bicycle parking facility is required for every ten (10) off-street parking spaces required, excluding developments which provide individually enclosed garages.

e. Landscaping and Open Space

(1) Landscape materials selected shall be:

(a) Compatible with one another and with existing material on the adjacent site.

(b) Complementary to building design and architectural theme.

(c) Varied in size (one- and five-gallon shrubs, five- and 15-gallon, and 24-inch box trees).

(2) Landscape treatment shall include:

(a) Lawn areas shall be established by sodding; other low ground covers as appropriate.

(b) Larger specimens of shrubs and trees along the site periphery, particularly along setback areas adjacent to public streets.

(c) Greater intensity of landscaping at the end of buildings when those elevations lack window and door openings or other details that provide adequate visual interest. This is especially significant at the street frontage and interior side and rear property lines.

(d) Consistency with energy conservation efforts.

f. Trash Enclosures

(1) The walls of the trash enclosure structure shall be constructed of solid masonry material with decorative exterior surface finish compatible to the main structures.

(2) The trash enclosure structure shall have heavy-gauge metal gates and be designed with cane bolts on the doors to secure the gates when in the open position.

(3) The trash enclosure facility shall be designed to allow walk- in access by tenants without having to open the main enclosure gates.

(4) The walls shall be a minimum of six feet in height, more if necessary for adequate screening.

(5) The perimeter of the trash enclosure structure shall be planted with landscaping, including a combination of shrubs and/or climbing evergreen vines.

(6) A concrete apron shall be constructed either in front of the trash enclosure facility or at point of dumpster pickup by the waste removal truck. The location, size and orientation of the concrete apron shall depend on the design capacity of the trash enclosure facility (number of trash dumpsters provided) and the direction of the waste removal truck at point of dumpster pickup.

The minimum dimensions of the concrete apron for a single, two-cubic-yard dumpster shall be: width 10' or width of enclosure facility; length 20'. Larger trash enclosure facilities shall require a larger concrete apron, subject to the approval of the City Public Works Department.

Paving material shall consist of 5" aggregate base rock and 6" portland cement paving.

(7) The enclosures shall be adequate in capacity, number and distribution.

g. Signage

(1) With the exception of the main project identification sign(s), all other signage shall comply with the stipulation of this text.

(2) A project identification sign is permitted at each major entrance into the complex. The sign shall be a monument type or incorporated into a low-profile decorative entry wall(s). The height of the monument sign shall not exceed five (5) feet. Area should not exceed 25 square feet.

(3) The primary material of the monument base or wall shall be decorative masonry such as brick, split-face concrete block, stucco or similar material which complements the design of the main building.

(4) Individual letters and project logo are permitted. The signage program shall be subject to the review and approval of the Community Development Director.

(5) No sign shall be closer than ten (10) feet to any property line.

(6) As allowed in Article Seven, Item G.4.

ARTICLE THREE: General Provisions for Business/Professional Use Areas

The Business/Professional Use Area is established to provide for office facilities associated with the full-service needs of the Lighthouse Marina Planned Development and the City of West Sacramento. The following provisions apply to all business/professional zoned use areas within the planned development control area.

1. Front setbacks shall be measured from the ultimate public street right-of-way line.

2. All construction and development within the Lighthouse Marina community shall comply with applicable provisions of the Uniform Building Code and other various Mechanical, Electrical, and Commercial Construction Codes related thereto. The codes shall prevail in the business-professional areas, where there is any conflict between the said codes and the provisions in this text.

3. Temporary, special community events, such as parades, pageants, community fairs, athletic contests, carnivals and other similar uses, may be permitted in any area in the Lighthouse Marina community by approval of the City Council upon application for the appropriate permit.

4. Any conditions, requirements, or standards, indicated graphically or in writing that are a part of a tentative map, use permit, variance or similar permit entitlements granted by the appropriate authority shall be in conformance with the Lighthouse Marina Planned Development Land Use Regulations. Any use or development not in conformance with such conditions, requirements, or standards shall be in violation of the Lighthouse Marina Planned Development Land Use Regulations.

5. When required by these regulations, a site development permit or use permit for a specific parcel, as appropriate, shall be submitted and approved prior to the issuance of any precise grading permit, building permit, or any change of use and occupancy permit.

6. In these land use regulations, for all land use areas when more than one description may apply to a given use, the more specific description shall determine if a use is allowed, allowed subject to an approved use permit, allowed subject to an approved site plan, or prohibited.

7. Any amendment to these land use regulations must include an amendment to other appropriate sections of the Lighthouse Marina Planned Development Land Use Regulations, where applicable.

8. At least twenty-one (21) calendar days prior to official action on any application for a use permit, variance permit, or building permit, the Community Development Director will forward such application to the Lighthouse Marina Architectural Review Board for their review, recommendations and approval in accordance with Article Eight.

9. Any person, firm or corporation, whether as principal, agent, employee or otherwise, violating any provisions of these regulations shall be guilty of a misdemeanor, and upon conviction thereof shall be punishable by a fine of not more than five hundred dollars ($500.00) or by imprisonment in the County Jail of Yolo County for a term not exceeding six (6) months or by both such fine and imprisonment. Such person, firm or corporation shall be deemed guilty of a separate offense for each and every day during any portion of which any violation of this article is committed, continued or permitted by such person, firm or corporation and shall be punishable as herein provided.

10. Applications for variances to the site development standards of these regulations shall be considered and processed in accordance with the City of West Sacramento Zoning Code.

11. The total professional office space is limited to a maximum of 200,000 square feet.

12. In order to meet the purpose and intent of PD-29, mixed-use structures with residential uses above parking, commercial and/or office floors is encouraged. To this end, the PD-29 BP use area may be combined with the PD-29 RE/RF and PD-29 CR/CT/CM use areas. The site development standards for the PD-29 BP, RE, RF, CT, CR, and CM use areas are intended to provide creative design flexibility for a single structure or cluster of structures. Approvals of mixed-use structure(s) proposal(s) will be as outlined in Article Eight.

A. PD-29 BP Business Professional Use Area

1. Purpose and Intent

The PD-29 BP District is established to provide for conveniently situated professional offices. Only those additional uses are permitted that are complementary to and can exist in harmony with a business/professional setting.

2. Zoning Area

The PD-29 BP zone shall be applied adjacent or in reasonable proximity to the golf course.

3. Permitted, Accessory and Conditional Uses

a. PD-29 BP Permitted Uses

(1) Professional offices for:

(a) Attorneys, accountants, bookkeepers, auditors

(b) Engineers

(c) Planners

(d) Architects and Building Designers

(e) Landscape Architects

(f) Contractors - all categories

(g) Consultants such as:

- Business consultants

- Agricultural consultants

- Building construction consultants

- Building maintenance consultants

- Chemical recycling consultants

- Computer system consultants and designers freight traffic consultants

- Geophysical companies and consultants Media consultants

- Elevator consultants

(h) Industrial designers and tool designers

(i) Geologists

(j) Arbitrators

(k) Auctioneer offices, but excluding auctioneer rooms

(1) Clothing and fashion design studios

(m) Real estate appraisers

(2) Business offices, retail sales and personal service functions in support of other businesses in the PD-29 Zone and adjoining nearby commercial zones consisting of the following:

(a) Advertising agencies

(b) Broadcast audience research and public opinion-poll companies

- Beeper and paging services

- Broadcasting station (radio and TV) including sales offices and general offices

- Broadcast audience research and public opinion poll companies

- Cable television companies Telegraph and cablegram companies

(c) Business Services:

- Secretarial and clerical office services

- Telephone answering service

- Business and office furniture and machines including sales, rentals and services

- Background music sales and services

- Business systems companies

- Clipping bureaus

- Computing services

- Computerized billing service companies Card access and card indexing systems

- Calculating and statistical services

- Confidential records destruction companies Inventory service firms

- Security patrols
- Electronic data processing tabulating and record-keeping services
- Digital instrumentation systems, equipment and supply companies
- Office-planning services
- Credit reporting and collection agencies
- Pension and profit-sharing plan management companies

(d) Brokerage and investments firms such as:

- Real estate development and management firms (no sales offices)
- Data processing time brokers
- Food, frozen food, fruit and vegetable brokers foreign exchange brokers
- Custom house brokers
- Grain and meat brokers
- Oil and land lease brokers
- Lumber companies and brokers exclusive of product storage yard
- Exporters and importers (no retail sales)
- Manufacturers' sales representatives
- Gasoline and oil marketers and distributors
- Logging and woodchipping companies exclusive of product storage yards.

(e) Publications, graphics and reproductions such as:

- Offices without production and warehousing
- Printing, engraving and stationery sales and services offices without production and warehousing
- Business, periodical and architectural illustrators
- Display builders and designers
- Graphic designers
- Drafting, blueprinting and photo-copying services
- Duplicating and mimeographing services

(f) Research and development, such as:

- Agricultural laboratories, including testing and analysis

- Economic

- Electronics research and development

- Energy conservation research and development

- Oil and gas exploration and development, excluding drilling for oil and gas

- Patent development and marketing

- Marketing analysis, research and consultation

(g) Transportation, such as:

- Freight forwarding and freight consolidating companies

- Freight inspection services

- Courier service

- Package delivery

(h) Government offices which do not provide direct public services except for those governmental agencies related to Port activities.

(i) Surveyors, such as:

- Land surveyors

- Marine surveyors

(j) Personal services:

- Management and business organizations Trade and labor organizations

- Car rental agencies without outside storage Hotel and motel reservation center – phone service only

(k) Technical and vocational schools for industrially related trades:

- Industrial apprentice training schools

- Computer schools

- Drafting

(l) Corporate and regional headquarters.

(3) Additional office uses may be permitted if it is determined by the Planning Commission that they meet the following criteria:

(a) Professional and/or administrative offices involving no retail trade or,

(b) Professional offices limited to those services which are principally offered to business and industrial accounts, or

(c) Offices of firms which provide products or services primarily for business or industrial firms, or

(d) Firms which provide services to individuals of the community, only if those individuals are then capable of supplying services in support of the firms in the surrounding industrial firms.

(4) As noted in Article Three, General Provisions No. 12.

(5) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

b. PD-29 BP Accessory Uses

(1) Attached multi-story parking structures.

(2) Outdoor day-use recreational facilities.

(3) Retail display/showroom and warehousing space up to a maximum of 10% of the gross floor area utilized by any individual tenant. Floor area shall be based only on that office space under the direct control of the individual tenant.

(4) Lobby and service areas for management of the structure.

(5) Outdoor newspaper vending machines.

(6) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

c. PD-29 BP Conditional Uses

The following conditional uses may be allowed within the PD-29 BP sub-area upon issuance of a Conditional Use Permit by the Planning Commission.

(1) A news, food, and/or personal goods concessioner within the lobby of a permitted use.

(2) Detached multi-story parking structures.

(3) Banking service machines.

(4) Day care for children and/or the elderly.

(5) Medical/dental offices for practitioners registered by the State of California, and not intended for primary surgical and/or emergency-treatment uses.

(6) Businesses and services which, by their nature, consistently utilize hazardous materials of a toxic, radioactive, or inflammable nature in the conduct of their business. Examples of such uses include film processing, x-ray labs, and chemical supply companies but do not include uses which are accessory to a permitted use, i.e., a darkroom in an architectural office, provided that these uses are compatible or made compatible with existing uses in the PD 29 Zone.

(7) Photographers and artists catering to industrial clients.

(8) Record and microfilming service.

(9) Medical, dental biological and x-ray laboratories which do not directly serve the public.

(10) Such other uses as directed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

4. Site Development Standards

a. Lot Requirements - no limitations

b. Building Regulations

(1) Setbacks: No improvements of any kind, and no part thereof, shall be constructed, placed, extended or permitted to remain on any site closer to a property line than herein provided.

(a) Front yard: 25' minimum. Additional setbacks equal to 2.5 feet for each additional floor of building height.

(b) Side: Any combination equaling 50', with no less than 25'on any one side

(c) Rear: 25'

(d) Adjacent to residential uses the appropriate yard set-back must equal 10' for each floor of building height or each additional floor must step back in multiples of 10' in addition to standard setback.

(2) Setback Exceptions: The following improvements are specifically excluded from these setback provisions:

(a) Roof overhangs, provided such overhangs do not extend more than three (3) feet into any required yard.

(b) Steps, walks, and open arcades which have been specifically approved by the Community Development Director.

(c) Paving and associated curbing, except that vehicle parking areas shall not be permitted within twenty-five (25) feet of the face of curb.

(d) Fences and screen walls, except that no fence or screen wall shall be placed within the street setback area unless specifically approved by the Community Development Director.

(e) Landscaping

(f) Planters, not to exceed two (2) feet in height, three and one-half (3 1/2) feet in overall height when planted and maximum 25 percent of public right-of-way frontage, which have been specifically approved by the Community Development Director.

(g) Underground improvements

(3) Lot Coverage/Building Height

(a) No building site shall be covered with a building or buildings to an extent greater than 50 percent of the area of said site, excepting that an additional 30 percent of the site area may be covered for the purpose of parking structures, covered arcades, or similar structures if approved by the Community Development Director. This exception shall not apply to covered storage areas or loading docks.

(b) Attached accessory buildings shall be considered as a part of the main building.

(c) Building width as limited by setbacks.

(d) Building height: 50' maximum, except as noted on Exhibit C for locations where height of 200 feet may be allowed.

(e) Coverage bonus percentages may be granted at the rate of one percent of coverage for each percent of accessible outdoor public-oriented space created specifically for use by the general public, such as: plazas, the building lobby, in addition to the entry to mini-park or similar public benefit. In no case shall coverage exceed ninety percent.

c. Fences and Walls, Maximum Height

(1) Within front setback area such use is prohibited.

(2) Within other setback areas - the maximum height shall be six (6) feet, except that this maximum may be exceeded when higher walls are required by the Community Development Director for the purpose of noise mitigation or health and safety measures.

d. Signs

(1) No billboard or advertising sign or device shall be permitted, other than the following:

(a) Those identifying the name of the business or firm occupying the premises; and

(b) Temporary signs offering the premises for sale or lease, any sign visible for more than 90 days is to be considered in violation.

(2) Signs shall conform to setback lines unless specific approval to the contrary is granted by the Community Development Director.

(3) No sign, outdoor advertising or identification on buildings or building sites shall be erected or maintained unless the size, design and locations of such signs is approved by the Community Development Director. Individual tenant signs shall not be displayed on the exterior of building.

(4) Signs which identify the name of the building shall be allowed as long as they do not project above the highest point of the building, are integral with or are attached flat against the building, or are suspended entirely beneath the canopy portion of the building. Animated or moving signs and flashing or oscillating lights, except time and temperature signs, shall be prohibited. The aggregate area of such signs shall not exceed one (1) square foot for each one linear foot of building frontage.

(5) Freestanding appurtenant signs may be approved by the Community Development Director, subject to the following:

(a) Said signs shall not exceed a height of five (5) feet

(b) Not more than one freestanding sign shall be allowed for each commercial or industrial center or group of buildings that have a common parking area.

(c) Said sign shall not have a face area exceeding 25 square feet; however, only one face of a two-faced sign shall be counted in computing its area.

(d). Directional signs

(6) As allowed in Article Seven, Item G.4.

e. Parking

All off-street parking and loading shall be provided in accordance with Article Seven.

f. Landscaping

(1) Every site on which a building shall have been placed shall be landscaped according to plans approved by the Community Development Director, which approval shall not be unreasonably withheld. Such landscaping shall cover a minimum of twenty percent of the site unless bonus percentages are offered as per 4-b-3-(e) of this article, in which case landscaped area may be 10 percent of the site.

(2) Provision for watering and other maintenance facilities shall be provided for. Maintenance for the landscaped area shall be the responsibility of the owner/management.

(3) Landscaping in accordance with the approved plan shall be installed prior to the issuance of necessary occupancy permits and shall be properly maintained by the occupant thereafter.

g. Trash and Storage Areas

All storage of cartons, containers and trash shall be shielded from view by containment within a building or by a wall enclosure not less than six (6) feet in height and, if uncovered, not within forty (40) feet of any residential area.

h. Lighting

All on-site lighting shall be designed and located so as to confine direct rays to the premises.

ARTICLE FOUR: General Provision for Commercial Use Areas

The commercial use areas are established to provide for a variety of facility types to allow for the diverse retail commercial needs of resident, tourist, and boater. The following provisions apply to all commercially zoned use areas within the Lighthouse Marina Planned Development control area.

1. Front setbacks shall be measured from the ultimate public street right-of-way line.

2. All construction and development within the Lighthouse Marina community shall comply with applicable provisions of the Uniform Building Code and other various Mechanical, Electrical, and Housing/Commercial Construction Codes related thereto. The codes shall prevail in commercial areas where there is any conflict between the said codes and the provisions in this text.

3. Temporary, special community events, such as parades, pageants, community fairs, athletic contests, carnivals and other similar uses, may be permitted in any area in the Lighthouse Marina community by approval of the City Council upon application for the appropriate permit.

4. Any conditions, requirements, or standards, indicated graphically or in writing that are a part of a tentative map, use permit, variance or similar permit entitlements granted by the granted by the appropriate authority shall be in conformance with the Lighthouse Marina Planned Development Land Use Regulations. Any use or development not in conformance with such conditions, requirements, or standards shall be in violation of the Lighthouse Marina Planned Development Land Use Regulations.

5. When required by these regulations, a site development permit or use permit for a specific parcel, as appropriate, shall be submitted and approved prior to the issuance of any precise grading permit, building permit, or any change of use and occupancy permit.

6. In these land use regulations, for all land use areas when more than one description may apply to a given use, the more specific description shall determine if a use is allowed, allowed subject to an approved use permit, allowed subject to an approved site plan, or prohibited.

7. Any amendment to these land use regulations must include an amendment to other appropriate sections of the Lighthouse Marina Planned Development Land Use Regulations.

8. At least twenty-one (21) calendar days prior to official action on any application for a use permit, variance permit, or building permit, the Community Development Director will forward such application to the Lighthouse Marina Architectural Review Board for their review, recommendations and approval in accordance with Article Eight.

9. Any person, firm or corporation, whether as principal, agent, employee or otherwise, violating any provisions of these regulations shall be guilty of a misdemeanor, and upon conviction thereof shall be punishable by a fine of not more than five hundred dollars ($500.00) or by imprisonment in the County Jail of Yolo County for a term not exceeding six (6) months or by both such fine and imprisonment. Such person, firm or corporation shall be deemed guilty of a separate offense for each and every day during any portion of which any violation of this article is committed, continued or permitted by such person, firm or corporation and shall be punishable as herein provided.

10. Applications for variances to the site development standards of these regulations shall be considered and processed in accordance with the City of West Sacramento.

11. The total commercial space is limited to 494,000 square feet of hotel-related Commercial convention-related space, retail commercial and marine commercial uses, as well as the necessary square footage for a 500-room hotel facility.

12. In order to meet the purpose and intent of PD-29, mixed-use structures with residential uses above parking, commercial and/or office floors is encouraged. To this end, the PD-29 CT/CR/CM use areas may be combined with the PD-29 BP/RE RF use areas. The site development standards for the PD-29 BP, CM, CR, CT, RE, and refuse areas are intended to provide creative design flexibility for a single structure or cluster of structures. Approvals of mixed-use structure(s) proposal(s) will be as outlined in Article Eight.

A. PD-29 CT Tourist Commercial

1. Purpose and Intent

The PD-29 CT District is established to provide for a recreationally oriented multi-use hotel, convention center and retail core facility in a high/medium/low-rise combination structure(s). Only those additional uses are permitted that are complementary to and can exist in harmony with a tourist commercial/residential facility.

2. Zoning Area

The PD-29 CT zone shall be applied within reasonable proximity to the northerly end of the marina.

3. Permitted, Accessory and Conditional Uses

a. PD-29 CT Permitted Uses

(1) Tourist residential accommodations up to 500 units intended to be rented or leased by the day or week.

(2) As noted in Article Four, General Provision No. 12.

(3) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

b. PD-29 CT Accessory Uses

(1) Kitchens, kitchenettes or wet bar units in up to 10% of the tourist residential units.

(2) Public day-use recreational facilities.

(3) Parking facilities within the same structure as the permitted uses.

(4) Public lobby and sitting areas.

(5) Office, storage, and employee areas intended for the management of the permitted uses.

(6) Public-pedestrian corridors and outdoor passive-use areas.

(7) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

c. PD-29 CT Conditional Uses

The following conditional uses may be allowed within the PD-29 CT sub-area upon issuance of a conditional use permit by the Planning Commission.

(1) Attached or detached convention/meeting facilities up to 50,000 square feet.

(2) Attached or detached restaurant/cafeteria facilities up to six (6) establishments.

(3) Attached or detached retail commercial uses intended to principally serve inhabitants of the permitted use up to 180,000 square feet.

(4) Indoor or outdoor recreation facilities intended to principally serve the inhabitants of the permitted use or owners and employees within one-half mile of the facility.

(5) On-sale liquor establishments up to six (6) establishments.

(6) Detached multi-story parking structures.

(7) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

4. Site Development Standards

a. Lot Requirements - no limitation

b. Building Regulations

(1) Setbacks: No improvements of any kind, and no part thereof shall be constructed, placed, extended or permitted to remain on any site closer to a property line than herein provided.

(a) Front yard: 20'

(b) Side: 20'

(c) Rear: 20'

(2) Setback Exceptions: The following improvements are specifically excluded from these setback provisions:

(a) Roof overhangs provided such overhangs do not extend more than three (3) feet into any required yard.

(b) Steps, walks, and open arcades which have been specifically approved by the Community Development Director.

(c) Paving and associated curbing, except that vehicle parking areas shall not be permitted within twenty-five (25) feet of the public street right-of-way.

(d) Fences and screen walls, except that no fence or screen wall shall be placed within the street setback area unless specifically approved by the Community Development Director.

(e) Landscaping

(f) Planters, not to exceed two (2) feet in height, three and one-half (3 1/2) feet in overall height when planted and maximum 25 percent of public right-of-way frontage, which have been specifically approved by the Community Development Director.

(g) Underground improvements

(3) Lot Coverage/Building Height

(a) No building site shall be covered with a building or buildings to an extent greater than 50 percent of the area of said site, excepting that an additional 30 percent of the site area may be covered for the purpose of parking structures, covered arcades, or similar structures if approved by the Community Development Director. This exception shall not apply to covered storage areas or loading docks.

(b) Attached accessory buildings shall be considered as a part of the main building.

(c) Building width as limited by setbacks.

(4) The space between buildings shall be sufficient to allow the passage of emergency vehicles.

(5) Building height 50 feet maximum, except as noted on Exhibit C for locations where height of 200 feet may be allowed.

(6) Coverage bonus percentages may be granted at the rate of one percent of coverage for each percent of accessible public-oriented space created specifically for use by the general public, such as: plazas, the building lobby, in addition to the entry to mini-park or similar pubic benefit. In no case shall coverage exceed ninety percent.

c. Fences and Walls, Maximum Height

(1) Within front setback area such use is prohibited.

(2) Within other setback areas – the maximum height shall be six (6) feet, except that this maximum may be exceeded where higher walls are required by the Community Development Director for the purpose of noise mitigation or health and safety measures.

d. Signs

(1) No billboard or advertising sign or device shall be permitted, other than the following:

(a) Those identifying the name of the business or firm occupying the premises; and

(b) Temporary signs offering the premises for sale or lease; any sign visible for more than 60 days is to be considered in violation.

(2) Signs shall conform to setback lines unless specific approval to the contrary is granted by the Community Development Director.

(3) No sign or identification on buildings or building sites shall be erected or maintained unless the size, design and locations of such signs is approved by the Community Development Director.

(4) Signs which identify the name of the building shall be allowed as long as they do not project above the highest point of the building, are integral with or are attached flat against the building, or are suspended entirely beneath the canopy portion of the building. Animated or moving signs and flashing or oscillating lights, except time and temperature signs, shall be prohibited. The aggregate area of such signs shall not exceed one (1) square foot for each one linear foot of building frontage on any public street or public pedestrian promenade.

(5) Freestanding appurtenant signs may be approved by the Community Development Director, subject to the following:

(a) Signs shall not exceed a height of ten (10) feet.

(b) Not more than one freestanding sign shall be allowed for each commercial center or group of buildings that have a common parking area.

(c) Said sign shall not have a face area exceeding 25 square feet; however, only one face of a two-faced sign shall be counted in computing its area.

(d) Directional signs

(6) As allowed in Article Seven, Item G.4.

e. Parking

All off-street parking and loading shall be provided in accordance with the City of West Sacramento Zoning Code and other applicable Agency requirements.

f. Landscaping

(1) Every site on which a building shall have been placed shall be landscaped according to plans approved by the Community Development Director, which approval shall not be unreasonably withheld. Such landscaping shall cover a minimum of twenty percent of the site unless bonus percentages are offered as per 4-b-(6) of this article, in which case landscaped area may be 10 percent of the site.

(2) Provision for watering and other maintenance facilities shall be provided for. Maintenance for the landscaped area shall be the responsibility of the owner/management.

(3) Landscaping in accordance with the approved plan shall be installed prior to the issuance of necessary occupancy permits and shall be properly maintained by the occupant thereafter.

g. Trash and Storage Areas

All storage of cartons, containers and trash shall be shielded from view by containment within a building or by a wall enclosure not less than six (6) feet in height and, if uncovered, not within forty (40) feet of any residential area or outdoor public area.

h. Lighting

All on-site lighting shall be designed and located so as to confine direct rays to the premises.

B. PD-29 CR Retail Commercial Use Area

1. Purpose and Intent

The PD-29 CR District is established to provide for the retail shopping needs of the Lighthouse Marina residential community and surrounding neighborhoods.

2. Zoning Area

The PD-29 CR zone shall be applied in the reasonable proximity of the landward side of the marina.

3. Permitted, Accessory and Conditional Uses

a. PD-29 CR Permitted Uses

(1) Indoor retail commercial uses intended to accommodate the buying needs of the general public of the following types of articles either separately or collectively:

(a) Apparel

(b) Apparel accessories

(c) Dry goods

(d) Hardware

(e) Art supplies

(f) Computer hardware and software

(g) Video and audio hardware and software

(h) Jewelry

(i) Timepieces

(j) Residential furniture

(k) Auto supplies

(l) Residential accessories and accent items

(m) Sporting supplies

(n) Floral supplies

(o) Stationery supplies

(p) Book, card, magazine, newspaper sales

(2) Indoor service uses of the following types intended to accommodate the personal service needs of the general public on site, either separately or collectively:

(a) Art galleries

(b) Beauty shops/barber shops

(c) Laundry/dry cleaning services

(d) Repair services for permitted retail commercial uses

(e) Pet grooming

(f) Exercise salons

(g) Travel agencies

(h) Copying services

(i) Banking services

(j) Real estate sales offices

(3) As noted in Article Four, General Provision No. 12.

(4) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

b. PD-29 CR Accessory Uses

(1) Indoor public space.

(2) Outdoor passive recreation areas.

(3) Signs in accordance with PD-29 CR Zone Standards.

(4) Attached multi-story parking structure.

(5) Office and warehousing space in support of the permitted retail commercial use tenant, not to exceed 25% of the gross floor area utilized by any individual tenant. Floor area shall be based only on that retail space under the direct control of the individual tenant.

(6) Office and service areas for the management of a structure.

(7) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

c. PD-29 CR Conditional Uses

The following conditional uses may be allowed within the PD-29 CR sub-area upon issuance of a Conditional Use Permit by the Planning Commission:

(1) Sit-down restaurants and cafes.

(2) Fast-food restaurants.

(3) Delicatessens.

(4) Specialty food stores.

(5) Grocery stores.

(6) On-sale liquor establishments.

(7) Off-sale liquor establishments.

(8) Entertainment arcades.

(9) Live or movie theaters.

(10) Retail convenience stores.

(11) Discount retail commercial establishments.

(12) Business and services which by their nature consistently utilize hazardous materials of a toxic, radioactive, or inflammable nature in the conduct of their business or service.

(13) Gas Station

(14) Uses operating between the hours of 2 a.m. to 7 a.m.

(15) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

4. Site Development Standards

a. Lot Requirements - no limitation

b. Building Regulations

(1) Setbacks: No improvements of any kind, and no part thereof, shall be constructed, placed, extended or permitted to remain on any site closer to a property line than herein provided.

(a) Front Yard: 20'

(b) Side: 20'

(c) Rear: 20'

(d) Between structures: 20'

(2) Setback Exceptions: The following improvements are specifically excluded from these setback provisions:

(a) Roof overhangs, provided such overhangs do not extend more than three (3) feet into any required yard.

(b) Steps, walks, and open arcades which have been specifically approved by the Community Development Director.

(c) Paving and associated curbing, except that vehicle parking areas shall not be permitted within fifteen (15) feet of public right-of-way.

(d) Fences and screen walls, except that no fence or screen wall shall be placed within the street setback area unless specifically approved by the Community Development Director.

(e) Landscaping.

(f) Planters, not to exceed two (2) feet in height, three and one-half (3 1/2) feet in overall height when planted and maximum 25 percent of public right-of-way frontage, which have been specifically approved by the Community Development Director.

(g) Underground improvements.

(3) Lot Coverage/Building Height

(a) No building site shall be covered with a building or buildings to an extent greater than 50 percent of the area of said site, excepting that an additional 30 percent of the site area may be covered with carports, open arcades, or similar structures if approved by the Community Development Director. This exception shall not apply to covered storage areas.

(b) Attached accessory buildings shall be considered as a part of the main building.

(c) Building with as limited by setbacks.

(d) Building height: 50', maximum.

(e) Coverage bonus percentage may be granted at the rate of one percent, of coverage for each percent of accessible public space created for use by the general public.

c. Fences and Walls, Maximum Height

(1) Within front setback area - three and one-half (3 1/2) feet maximum.

(2) Within other set back areas - the maximum height shall be six (6) feet, except that this maximum may be exceeded when higher walls are required by the Community Development Director for the purpose of noise mitigation or health and safety measures.

d. Signs

Signs shall be allowed in accordance with Article Four Section A.4.d.

e. Parking

All off-street parking and loading shall be provided in accordance with Article Seven.

f. Landscaping

(1) Every site on which a building shall have been placed shall be landscaped according to plans approved by the Community Development Director, which approval shall not be unreasonably withheld. Such landscaping shall cover a minimum of twenty percent of the site unless bonus percentages are offered as per 4-b-3-e of this article, in which case landscaped area may be 10 percent of the site.

(2) Provision for watering and other maintenance facilities shall be provided for. Maintenance for the landscaped area shall be the responsibility of the owner/management.

(3) Landscaping in accordance with the approved plan shall be installed prior to the issuance of necessary occupancy permits and shall be properly maintained by the occupant thereafter.

g. Trash and Storage Areas

All storage of cartons, containers and trash shall be shielded from view by containment within a building or by a wall enclosure not less than six (6) feet in height and, if uncovered, not within forty (40) feet of any residential area or outdoor public area.

h. Lighting

All on-site lighting shall be designed and located so as to confine direct rays to the premises.

C. PD-29 CM Marine Commercial Use Area

1. Purpose and Intent

The PD-29 CM District is established to provide facilities to meet the marine-oriented retail needs of both resident and visiting boating

2. Zoning Area

The PD-29 CM zone shall be applied within reasonable proximity to the south and west edges of the marina.

3. Permitted, Accessory and Conditional Uses

a. PD-29 CM Principal Permitted Uses

(1) The operation of a ship's chandlery, including the sale and supply of all items normally provided in a ship's chandlery.

(2) Bait and tackle shop

(3) Boat sales and rentals with necessary dockage space.

(4) Merchandising and service establishments such as a coffee shop, carry-out beverage/food facilities, and snack bar.

(5) The maintenance and operation of a boat and boat supply sales facility.

(6) The maintenance and operation of a complete fueling facility for pleasure boats both afloat and on trailers.

(7) Harbor master office and accompanying residential unit.

(8) Harbor security office, sheriffs' land and water patrol office.

(9) As noted in Article Four, General Provision No. 12.

(10) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

b. PD-29 CM Permitted Accessory Uses

(1) The operation of a boat launching ramp.

(2) A sports-fishing, charter boat concession with necessary office, ticketing and dockage space.

(3) The maintenance and operation of a boat repair shop limited to the alteration, maintenance and repair of the rigging, sails engines and accessories of small craft.

(4) Facilities to accommodate various other merchandising or service businesses for sportsmen, retail provisioning, in conjunction with other merchandising or service businesses for sportsmen; skin diving sales and services.

(5) Bait receivers.

(6) Automobile parking, restroom and shower facilities for boat owners.

(7) The maintenance and operation of a boat and boat supply sales facility.

(8) Public room or rooms for meetings, conferences, etc.

(9) Restaurant and cocktail lounges.

(10) Boat Clubs.

(11) Boat Brokerage.

(12) Marine Insurance.

(13) Signs in accordance with PD-29 CM Zone Standards.

(14) Public day-use area.

(15) Public access ancillary uses.

(16) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

c. PD-29 CM Conditional Uses

Such uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

4. Site Development Standards

a. Lot Requirements - no limitation

b. Building Regulations

(1) Setbacks: No improvements of any kind, and no part thereof, shall be constructed, placed, extended or permitted to remain on any site closer to a property line than herein provided.

(a) Front Yard: 20'

(b) Side: 20'

(c) Rear: 20'

(d) Between structures: 20'

(2) Setback Exceptions: The following improvements are specifically excluded from these setback provisions:

(a) Roof overhangs, provided such overhangs do not extend more than three (3) feet into any required yard.

(b) Steps, walks, and open arcades which have been specifically approved by the Community Development Director.

(c) Paving and associated curbing, except that vehicle parking areas shall not be permitted within fifteen (15) feet of public right-of-way.

(d) Fences and screen walls, except that no fence or screen wall shall be placed within the street setback area unless specifically approved by the Community Development Director.

(e) Landscaping.

(f) Planters, not to exceed two (2) feet in height, three and one-half (3 1/2) feet in overall height when planted and maximum 25 percent of public right-of-way frontage, which have been specifically approved by the Community Development Director.

(g) Underground improvements.

(3) Lot Coverage/Building Height

(a) No building site shall be covered with a building or buildings to an extent greater than 50 percent of the area of said site, excepting that an additional 30 percent of the site area may be covered with carports, open arcades, or similar structures if approved by the Community Development Director. This exception shall not apply to covered storage areas.

(b) Attached accessory buildings shall be considered as a part of the main building.

(c) Building width as limited by setbacks.

(d) Building height: 50', maximum.

(e) Coverage bonus percentage may be granted at the rate of one percent of coverage for each percent of accessible public space created for use by the general public.

c. Fences and Walls, Maximum Height

(1) Within front setback area - three and one-half (3 1/2) feet maximum.

(2) Within other setback areas - the maximum height shall be six (6) feet, except that this maximum may be exceeded when higher walls are required by the Community Development Director for the purpose of noise mitigation or health and safety measures.

d. Signs

Signs shall be allowed in accordance with Article Four Section A.4.d.

e. Parking

All off-street parking and loading shall be provided in accordance with Article Seven.

f. Landscaping

(1) Every site on which a building shall have been placed shall be landscaped according to plans approved by the Community Development Director, which approval shall not be unreasonably withheld. Such landscaping shall cover a minimum of twenty percent of the site unless bonus percentages are offered as per 4-b-3-e of this article, In which case landscaped area may be 10 percent of the site.

(2) Provision for watering and other maintenance facilities shall be provided for. Maintenance for the landscaped area shall be the responsibility of the owner/management.

(3) Landscaping in accordance with the approved plan shall be installed prior to the issuance of necessary occupancy permits and shall be properly maintained by the occupant thereafter.

g. Trash and Storage Areas

All storage of cartons, containers and trash shall be shielded from view by containment within a building or by a wall enclosure not less than six (6) feet in height and, if uncovered, not within forty (40) feet of any residential area or outdoor public area.

h. Lighting

All on-site lighting shall be designed and located so as to confine direct rays to the premises.

ARTICLE FIVE: General Provisions for Recreational Use Areas

A variety of recreational areas have been established in the Lighthouse Marina Planned Development for the purpose of providing diversity in the recreational opportunities available. The following provisions apply to all recreationally zoned use areas:

1. Front setbacks shall be measured from the ultimate public street right-of-way line.

2. All construction and development within the Lighthouse Marina community shall comply with applicable provisions of the Uniform Building Code and other various Mechanical, Electrical, and Housing Codes related thereto. The codes shall prevail where there is any conflict between the said codes and the provisions in this text.

3. Temporary, special community events, such as parades, pageants, community fairs, athletic contests, carnivals and other similar uses, may be permitted in any area in the Lighthouse Marina community by approval of the City Council upon application for the appropriate permit.

4. Any conditions, requirements, or standards, indicated graphically or in writing that are a part of a tentative map, use permit, variance or similar permit entitlements granted by the granted by the appropriate authority shall be in conformance with the Lighthouse Marina Planned Development Land Use Regulations. Any use or development not in conformance with such conditions, requirements, or standards shall be in violation of the Lighthouse Marina Planned Development Land Use Regulations.

5. When required by these regulations, a site development permit or use permit for a specific parcel, as appropriate, shall be submitted and approved prior to the issuance of any precise grading permit, building permit, or any change of use and occupancy permit.

6. In these land use regulations, for all land use areas when more than one description may apply to a given use, the more specific description shall determine if a use is allowed, allowed subject to an approved use permit, allowed subject to an approved site plan, or prohibited.

7. Any amendment to these land use regulations must include an amendment to other appropriate sections of the Lighthouse Marina Planned Development Land Use Regulations.

8. At least twenty-one (21) calendar days prior to official action on any application for a use permit, variance permit, or building permit, the Community Development Director will forward such application to the Lighthouse Marina Architectural Review Board for their review, recommendations and approval in accordance with Article Eight.

9. Any person, firm or corporation, whether as principal, agent, employee or otherwise, violating any provisions of these regulations shall be guilty of a misdemeanor, and upon conviction thereof shall be punishable by a fine of not more than five hundred dollars ($500.00) or by imprisonment in the County Jail of Yolo County for a term not exceeding six (6) months or by both such fine and imprisonment. Such person, firm or corporation shall be deemed guilty of a separate offense for each and every day during any portion of which any violation of this article is committed, continued or permitted by such person, firm or corporation and shall be punishable as herein provided.

10. Applications for variances to the site development standards of these regulations shall be considered and processed in accordance with the City of West Sacramento Zoning Code.

A. PD-29 RMH Recreational Marina/Harbor Use Area

1. Purpose and Intent

The PD-29 RMH District is established for the establishment, improvement and conduct of a marina/harbor and for the development of all marina support services and facilities necessary or convenient for the promotion and accommodation of commerce, navigation and public use. Only those additional uses are permitted that are complementary to, and can exist in harmony with, a marina/harbor.

2. Zoning Area

The PD-29 RHM zone shall be executed within reasonable proximity to the southeast portion of the PD-29 zone to the east of the existing levee.

3. Permitted, Accessory and Conditional Uses

a. PD-29 RMH Principal Permitted Uses

(1) Boat slips and docking facilities

(2) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

b. PD-29 RMH Permitted Accessory Uses

(1) Marine fueling facility.

(2) Boat launching facility.

(3) Convenience docking.

(4) Transient boat berthing.

(5) Harbor Patrol dock.

(6) Sport fishing/charter tour boat landing ticketing office.

(7) Fishweighing station.

(8) Boat storage facilities, pier, anchorages, aids to navigation and public utilities.

(9) Marina waste water pump-out facility.

(10) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

c. PD-29 RMH Conditional Uses

Such uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

4. Site Development Standards

a. Building site area - no limitation

b. Building site width - no limitation

c. Covered boat storage height - Eighteen (18) feet above the 100-year flood elevation maximum permitted as measured at average mean low water level, unless otherwise provided for by an approved site development permit or use permit.

d. Walls and fences as conditionally approved in order to meet public safety and the criteria of this ordinance.

e. Trash and Storage Areas - All storage cartons and trash shall be shielded from view by containment within a building or within an area enclosed by a wall not less than 6 feet in height and, if covered, not within 40 feet of any residential area.

f. Construction of "seawalls," and similar protective devices within the marina shall only be permitted when required to serve river-dependent uses or to protect existing structures or public areas in danger from erosion and when designed to mitigate adverse impacts on local river edge lines.

g. Adequate provisions for safe public access shall be required for each development permit along the shoreline of or within the marina. The amount of access required will be commensurate with the size and type of development.

h. Use of boats as permanent residences shall be limited to a maximum of 10 percent of total available slips. Houseboats shall be prohibited.

i. Use of boats as temporary residences, not to exceed three (3) days, shall not be subject to the restrictions in "i" above.

j. A marina walkway will be provided and integrated with future uses.

k. All on-site lighting shall be designed and located so as to confine direct rays to the premises.

B. PD-29 RGC Recreational Golf Course Use Area

1. Purpose and Intent

The PD-29 RGC District is established for the development of a golf course and all golf-related services and facilities for an 18-hole golf course and associated accessory uses.

2. Zoning and Area

The PD-29 RGC zone shall be executed in the vicinity of the existing Riverbend Golf Course.

3. Permitted, Accessory and Conditional Uses

a. PD-29 RGC Principal Permitted Uses

(1) 18-hole golf course

(2) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

b. PD-29 RGC Permitted Accessory Uses

(1) Golf Pro-Shop

(2) Coffee shop/restaurant/bar

(3) Driving range

(4) Putting green

(5) Vehicular parking

(6) Golf-cart storage and rental

(7) Maintenance yard

(8) Administrative Offices

(9) Related recreational uses, including swimming and racquet sports.

(10) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

c. PD-29 RGC Conditional Uses

Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

4. Site Development Standards

a. Building site area - no limitation

b. Building site width - no limitation

c. Building height - Thirty-one (31) feet maximum permitted unless otherwise provided for by an approved site development permit or use permit.

d. Building site coverage - minimal necessary to provide for accessory uses.

e. Building setbacks - All buildings, structures, and parking facilities shall be set back a minimum of ten (10) feet from all property lines and any public or private street, unless otherwise provided for by an approved site development permit or use permit.

f. All off-street parking and loading shall be provided in accordance with the City of West Sacramento Zoning Code and other applicable Agency requirements.

g. Walls and fences required for safety, security, and aesthetic purposes.

h. Landscaping - As may be required by the conditions of approval for a site development permit or use permit.

i. Trash and Storage Areas - All storage cartons and trash shall be shielded from view by containment within a building or within an area enclosed by a wall not less than 6 feet in height and, if towered, not within 40 feet of any residential area.

j. Signs - as allowed in Article Seven, Item G.4.

C. PD-29 OS Open Space Use Area

1. Purpose and Intent

The OS District is established to provide for uses which serve the outdoor recreational and educational needs of the Lighthouse Marina Neighborhood and surrounding community while protecting resources of notable scenic, natural, geological, or historical value. It is intended that any building structure or other constructed element permitted in this district shall be subordinate to that purpose and intent. A minimum of 27.9 acres + shall be allowed for public open space use.

2. Zoning Area

The PD-29 OS zone shall be implemented in the form of:

a. A linear open space extending the length of the extension of River Bank Road at the south edge of the levee, with the approval of the competent authorities.

b. A scenic riverfront overlook directly across from the County of Sacramento's Discovery Park, providing both visual and physical access to the Sacramento River, and

c. A continuous pedestrian corridor at the edge of or near the Sacramento River.

d. The preservation, enhancement and protection of existing riparian forest along the edge of the Sacramento River.

3. Permitted, Accessory and Conditional Uses

a. Principal Uses Permitted

Any of the following uses are allowed except as provided in other subsections herein.

(1) Parks and playgrounds/pedestrian and bicycle

(2) Trails

(3) Buffer greenbelts

(4) Archaeological sites

(5) River access, public only

(6) Historical or botanical preserves

(7) Horticultural experimentation/arboretum

(8) Scenic overlooks

(9) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

b. Conditional Uses

(1) Any use which the Planning Commission finds consistent with the purpose and intent of the OS District of the Lighthouse Marina Planned Development Concept Plan.

(2) Outdoor commercial recreation

(3) Utility and government uses

(4) Day-use facilities

(5) Seasonal river-oriented commercial activities that further enhance the public experience of the river.

(6) Park concessionaires.

c. Prohibited Uses

The following uses are specifically prohibited in this area, except as provided in other subsections herein:

(1) All uses not listed as allowed under a. or b.

(2) Any use that restricts or limits public access, unless provided for by an approved use permit.

(3) Signs not provided for by an approved use permit or site development permit.

(4) Any use inconsistent with the goals and intentions of Open Space and which would intrude on the execution of such goals and intentions.

4. Site Development Standards

a. Building site area - no limitation

b. Building site width - no limitation

c. Building height - one-story above 100-year floodplain.

d. Building site coverage - shall be minimal amount necessary to shield and protect park concessionaires.

e. Building setbacks - All buildings, structures, and parking facilities shall be set back a minimum of ten (10) feet from all property lines and any public or private street, unless otherwise provided for by an approved site development permit or use permit.

f. Off-street parking per City of West Sacramento Zoning Code.

g. Walls and fences shall not be placed where obstruction to high water flows would occur.

h. Landscaping - As may be required by the conditions of approval for a site development permit or use permit.

i. Trash and Storage Areas - All storage cartons and trash shall be shielded from view by containment within a building or within an area enclosed by a wall not less than 6 feet in height and, if covered, not within 40 feet of any residential area.

j. Construction of "seawalls" and similar protective devices shall only be permitted when required to serve river-dependent uses or to protect existing structures or public areas in danger from erosion and when designed to mitigate adverse impacts on local river edge lines.

k. Adequate provisions for safe public access shall be required for each development permit along the shoreline of or within the marina. The amount of access required will be commensurate with the size and type of development.

l. A riverfront walkway will be provided, and integrated with future uses.

m. All on-site lighting shall be designed and located so as to confine direct rays to the PD-29 OS Zone.

n. Signs - as allowed in Article Seven, Item G.4.

ARTICLE SIX: General Provisions for Overlay Districts

The overlay district is established to provide additional regulations to the established "base" zone.

The intent of the overlay districts is to:

a. Preserve and enhance certain valuable physiographic characteristics;

b. Insure the public safety, health and welfare; and

c. Encourage the desired and intended level of physical design.

A. PD-29 FP Floodplain District

1. Purpose and Intent

The PD-29 FP District is established to provide additional land use regulations to other established districts in the Lighthouse Marina Community with which it is combined or overlaid. These regulations are intended to Prevent loss of life and property caused by floods and to satisfy criteria promulgated by the Federal Insurance Administration for providing flood insurance eligibility to property owners.

2. Overlay Zone Area - All property identified as being in Flood Zone A in FEMA Maps.

3. Permitted, Accessory, Conditional and Prohibited Uses as per "base" zone.

4. Site Development Standards

a. As per "base" zone.

b. As described and enumerated in City of West Sacramento Zoning Code for same such zone.

c. As limited by State and Federal Codes and Regulations.

B. PD-29 FLP Flood Protection Levee Overlay Zone

1. Purpose and Intent

The PD-29 FLP District is established to provide additional land use regulations to other established districts in the Lighthouse Marina community with which it is combined or overlaid. These regulations are intended to prevent loss of life and property caused by floods.

2. Overlay Zone District Boundary - To be determined by final location of all levee and/or flood wall, levee combination areas.

3. PD-29 "FLP" Permitted, Accessory Conditional and Prohibited Uses - As per "base" zone

4. Site Development Standards

a. As per "base" zone

b. As limited by State and Federal Codes and Regulations

ARTICLE SEVEN: Special Regulations

Lighthouse Marina is being created as a planned unit development composed of a variety of land uses intended to provide an interrelated total environment, utilizing a common theme, while encouraging architectural variation.

These development regulations are established for the purpose of achieving a goal of commonalty in detailed development plans for the project area. The duties and responsibilities of the Lighthouse Marina Architectural Review Board are defined in the Covenants, Codes and Restrictions which are to be recorded for the Lighthouse Marina Planned Development.

The Architectural Review Board as well as all governing jurisdictions shall adhere to the following general objectives in reviewing development plans for Lighthouse Marina.

1. To provide adequate natural light, pure air and safety from fire and other dangers.

2. To enhance the value of land and structures within Lighthouse Marina.

3. To minimize congestion due to vehicular and pedestrian circulation within the project area.

4. To preserve and enhance the aesthetic values throughout Lighthouse Marina.

5. To promote public health, safety, comfort, convenience and general welfare.

These objectives are intended as a supplement to existing City Ordinances and the Covenants, Codes and Restrictions to achieve the desired development goals. Amendments to these development guidelines can be adopted by the City of West Sacramento Planning Commission, in conjunction with the Lighthouse Marina Architectural Review Board.

A. General

All the elements of Lighthouse Marina shall be designed to create a desirable environment. Each element shall have a defined internal relationship and be in architectural harmony with other surrounding areas. Living ground cover with permanent irrigation interspersed with tree planting, walkways, rest areas and service facilities will tie together the individual elements throughout the project. Consideration shall be given to preserving existing trees and desirable topographic features.

It shall be the intention of the Community Development Director to achieve the goal, as envisioned for Lighthouse Marina, by encouraging design which will emphasize harmonious relationships between man and his environment.

B. Landscaping

A plan for landscaping and pedestrian circulation shall be established to insure a continuity in design and landscaping patterns. The species, size and spacing of trees and other planting materials shall conform to the approved planting list, which encourages species required minimal irrigation and fertilization.

All landscaping referred to in this section shall be maintained in a neat and orderly fashion.

1. Front-Yard Setback Area: Landscaping in these areas shall consist of an effective combination of trees, ground cover and shrubbery.

2. Side and Rear-Yard Setback Area: All unpaved areas not utilized for parking and storage shall be landscaped utilizing live plant material consisting of ground cover and/or shrubbery and tree material. Undeveloped areas proposed for future expansion development shall be maintained in a weed-free condition but need not be landscaped. Boundary landscaping is required on all interior property lines. Said areas shall be placed along the entire breadth of these property lines or be of sufficient length to accommodate the number of required trees. Trees, equal in number to one (1) tree per twenty-five (25) linear feet of each property line, shall be planted in the above-defined areas in addition to required ground cover and shrub material.

3. Parking Areas: Trees, equal in number to one (1) per each five (5) parking spaces, or equivalent landscaping, shall be provided in the at-grade parking area.

4. Trees: As used in this section, a "tree" shall mean any living native oak tree having at least one trunk of six inches or more in diameter, measured four-and-one-half (4-1/2) feet above the ground or a multi- trunked native oak tree having an aggregate diameter of ten inches or more, measured four-and-one- half (4-1/2) feet above the ground (dbh).

It is recognized that the preservation of trees enhances the natural scenic beauty, sustains the long-term potential increase in property values, which encourages quality development; maintains the original ecology; retains the original tempering effect of extreme temperatures; increases the attractiveness of the City to visitors; helps to reduce soil erosion; and increases the oxygen output of the area, which is needed to combat air pollution.

No person shall trench, grade or fill within the dripline of any tree or destroy, kill or remove any tree unless the appropriate application has been made as defined below. Exemptions from the provisions of this restriction include:

(1) Trees identified on an approved grading permit issued by the Director of Public Works.

(2) Trees shown for removal on an approved site plan where construction cannot take place without the removal of the tree.

(3) Emergency situation for safety reasons.

(4) Public agency directed work within R.O.W.'s, parks, and open space areas.

(5) Other instances in accordance with any adopted Tree Ordinance.

The preservation or removal of trees as a condition of approval of a discretionary project shall be the sole and continuing responsibility of the approving body which granted approval of the project.

Any person desiring to cut down, destroy or remove one or more trees shall make application to the City Manager or his designee not less than ten days prior to the time desired to physically remove the tree. Said application shall contain:

a. A brief statement of the reasons for removal;

b. Consent of the owner or record of the land on which the proposed activity is to occur;

c. A tree survey with the accurate location, number, species, size diameter measured 4-1/2 feet above the ground, approximate heights and approximate canopy diameter) and approximate age (if known) of the tree or trees to be removed;

d. If the project involves other discretionary development, then this survey must be part of the total development plan and must also describe any tree or trees which could be affected by the proposed development; and

e. Any other pertinent information requested.

f. The approving body may mandate any or all of the following control measures to mitigate damage to oak trees caused by land development:

(1) No grade cuts greater than one foot shall occur within the driplines of oak trees, and no grade cuts whatsoever shall occur within five feet of their trunks;

(2) No fill greater than one foot shall be placed within the driplines of oak trees and no fill whatsoever shall be placed within five feet of their trunks;

(3) No trenching whatsoever shall be allowed within the driplines of oak trees. If it is absolutely necessary to install underground utilities within the driplines of an oak tree, the trench shall be authorized by the Director of Public Works.

(4) No irrigation system shall be installed within the driplines of oak tree(s) which may be detrimental to the preservation of the oak tree(s) unless specifically authorized by the Director of Public Works.

(5) Landscaping beneath oak trees may include non-plant materials such as boulders, cobbles, wood chips, etc. The only plant species which shall be planted within the driplines of oak trees are those which are tolerant of the natural semi-arid environs of the trees. Limited drip irrigation.

(6) Major roots two inches or greater in diameter encountered within the tree's dripline in the course of excavation from beneath trees which are not to be removed shall not be cut and shall be kept moist and covered with earth as soon as possible. Roots one inch to two inches in diameter which are severed shall be trimmed and treated with pruning compound and covered with earth as soon as possible.

(7) Support roots that are inside the dripline of the tree shall be protected. The permitted is required to hand-dig in the Vicinity of major trees to prevent root cutting and mangling which may be caused by heavy equipment.

C. Pedestrian Circulation

The schematic plan set forth in "B" of this Article shall include a system of pedestrian and bicycle ways. Plans for the development of each parcel shall include a walkway system as indicated on the schematic plan or on an approved amendment to such schematic plan.

An exhibit shall be approved and included in this schematic plan that indicates the typical treatment of walkway system design if it is to be located in the setback area adjacent to a public street. An exhibit shall be approved and included within this document that indicates typical design requirements for walkway materials, planting, shade structures, benches, light standards, and other elements of the walkway system. Planting shall conform to an approved planting list, which shall also be approved and included within this document.

D. Parking Area Standards

Adequate off-street parking shall be provided to accommodate all parking needs of the site. The intent is to eliminate the need for any on-street parking. Parking requirements as follows or as per City of West Sacramento Zoning Code for uses not specified hereunder.

Required off-street parking shall be provided on the site of the use served, or on a contiguous site. Where parking is provided on other than the site concerned, a recorded document shall be approved by the City Attorney and filed with the Community Development Department and signed by the owners of the alternate site stipulating to the permanent reservation of use of the site for said parking.

The following guide shall be used to determine parking requirements:

1. Office: One (1) space for each 250 square feet of gross floor area.

2. Restaurants, Cafes, and Bars: One (1) space for each 100 square feet of bar area, 1 space for each 300 square feet of food preparation area, and 1 space for each 100 square feet of seating/serving area.

3. Commercial: One (1) space for each two hundred (200) square feet of gross floor area. One (1) loading space for each ten thousand (10,000) square feet of gross floor area.

4. Hotels: One (1) space for each guest room.

5. Multiple Residential: In accordance with zone requirements.

6. Curbs, walls, decorative fences with effective landscaping or similar barrier devices shall be located along the perimeter of parking lots, garages, and storage areas, except at entrances and exits indicated on approved parking plans. Such barriers shall be so designated and located to prevent parked vehicles from extending beyond property lines of parking lots and garages or into yard spaces where parking is prohibited and to protect drainages from parking lots.

7. Curbs and drives shall be constructed in accordance with the current requirements of the City of West Sacramento.

8. Shared parking may be approved where the applicant demonstrates that multiple uses will reduce the actual amount of parking needed.

E. Exterior Lighting

1. Fixture types used shall be compatible and harmonious throughout the entire development and should be in keeping with their specific function and the building types they serve. Fixture type in landscape or walkway areas shall utilize anodized aluminum standards with various mounting heights.

2. Lighting shall be designed in such a manner as to provide safety and comfort for occupants of the development and the general public.

3. Lighting design shall be such as not to produce hazardous and annoying glare to motorists and building occupants or the general public. Indirect lighting is recommended.

4. Recommended maintained illuminances for commercial parking areas shall be 2.0 average footcandles and 0.7 minimum footcandles and for multifamily residential parking areas shall be 1.5 average footcandles and .5 minimum footcandles.

5. All on-site lighting shall be designed and located so as to minimize light trespass to the adjacent premises.

F. Building Standards

1. Exterior Wall Materials

a. The purpose and intent of this section is to encourage, not restrict, the creative and innovative use of materials and methods of construction and to prevent indiscriminate and insensitive use of materials and design.

b. Finish building materials shall be applied to all sides of a building which are visible to the general public and occupants of the same and other buildings.

c. Concrete block exposed to the exterior shall not be acceptable to any purpose or use.

d. The effect of a material used on a building shall be considered in relationship to all other buildings in the development and shall be compatible with other buildings.

2. Colors

a. All colors shall be harmonious and compatible with colors of other buildings in the development and the natural surroundings.

3. Roof Projections

a. Large items such as air conditioning, ventilating, other mechanical equipment shall be screened or enclosed in such manner as to hide such equipment.

b. Projections shall be painted to match roof or building.

4. Garbage, Loading Dock, and Other Services Screening

a. These elements shall be so located as to cause no nuisance to the general public, occupants of the same and other buildings.

b. They shall be located in the most inconspicuous manner possible.

c. All garbage and refuse shall, if not contained and concealed within the building, be concealed by means of a screening wall of a material similar to and compatible with that of the building.

d. These facilities shall be integral with the concept of the building planning and in no way attract attention because of their unplanned character.

5. Mechanical Equipment

a. All mechanical equipment, utility meters and storage tanks shall be located in such a manner so as not to be visible to the general public.

b. If concealment within the building is not possible, then such utility elements shall be concealed by screen.

c. Penthouses and mechanical equipment screening shall be of a design and materials similar to and compatible with those used in the related buildings. These structures may exceed the maximum height limit.

d. Underground utility lines throughout the project shall be required.

e. All mechanical equipment shall be located in such a manner to not to cause nuisance or discomfort from noise, fumes, odors, etc.

6. Exterior Fire Stairs

a. Non-enclosed, exterior fire stairs in no case shall be permitted.

7. Temporary Structures

a. The only temporary structures permitted shall be those attendant to the construction of improvements on the site of a particular parcel or in connection with construction of any public improvements. Such structures will be removed upon the recording of a Notice of Completion for each work of improvement. Additionally, temporary structures for marketing and sales offices are authorized but must be removed upon obtaining of a Certificate of Occupancy of a permanent building, or if such case is not applicable, authorization by Community Development Director to permit such use for every 12 months shall be required.

b. Such structures shall be placed as inconspicuously as possible and cause no inconvenience to the general public.

c. Such structures may include modular units, construction/office trailer or security facilities.

8. Walks and Plaza Materials

Materials selected for walks and plazas shall be related to the materials of the buildings and compatible with walk and path system standards. Surface shall be non-skid finish. Layout and design shall provide maximum comfort and safety to pedestrians. Patterns for plaza paving should have an obvious relationship to the buildings.

G. Sign Regulations

The purpose of the Sign Regulations is to set forth the criteria to be used in evaluating proposals for all signing. This criteria will aid in eliminating excessive and confusing sign displays, preserve and enhance the appearance of Lighthouse Marina, safeguard and enhance property values, and will encourage signs which by their good design are integrated with and are harmonious to the buildings and sites which they occupy.

These sign regulations are intended to complement the City of West Sacramento Sign Ordinance as well as other regulations noted for each zone category. In all cases, the most restrictive requirements will apply.

1. General Requirements

a. In no case shall flashing, moving, or audible signs be permitted.

b. In no case shall the wording of signs describe the products, sold, prices, or any type of advertising except as part of the occupant's trade name or insignia.

c. No signs of any sort shall be permitted on canopy roofs or building roofs.

d. No sign or any portion thereof may project above the building or top of wall upon which it is mounted.

e. No signs perpendicular to the face of the building shall be permitted, where visible from any public right-of-way.

f. All signs in Lighthouse Marina shall be placed flat against the building to which it is attached.

2. Design Requirements

a. The location of signs shall be only as shown on the approved improvement plan.

b. Painted lettering will not be permitted.

c. All electrical signs shall bear the UL label and their installation must comply with all local building and electrical codes.

d. No exposed conduit, tubing, or raceways will be permitted.

e. No exposed neon lighting shall be used on signs, symbols, or decorative elements.

f. All conductors, transformers, and other equipment shall be concealed.

g. All exterior letters or signs exposed to the weather shall be mounted at least three fourths inch (3/4") from the building to permit proper dirt and water drainage.

h. Location of all openings for conduit and sleeves in sign panels of building wall shall be indicated by the sign contractor on drawings. Installation shall be in accordance with the approved drawings.

i. No signmaker's labels or other identification will be permitted on the exposed surface of signs, except those required by local ordinance which shall be located in an inconspicuous location.

3. Miscellaneous Requirements

a. Each occupant in a commercial or business zone will be permitted to place upon each entrance to its premises not more than 144 square inches of gold leaf or decal application, lettering, not to exceed two inches in height, indicating hours of business, emergency telephone numbers, and proprietorship. No other window signs will be allowed.

b. Each occupant who has a non-consumer door for receiving merchandise may have uniformly applied on said door in a location, as directed by the Architectural Review Committee in two inch high block letters the occupant's name and address. Where more than one occupant uses the same door, each name and address shall be applied.

c. Occupants may install street address numbers as the U.S. Post Office requires in the exact location stipulated.

4. Special Signing

a. Floor signs, such as inserts into terrazzo, special tile treatment, etc., will be permitted within the occupant's lease line or property line if approved by the Community Development Director.

b. The provisions of these Sign Regulations, except as otherwise expressly provided herein, shall not be applicable to the identification signs of any large department-type store, and it shall be understood and agreed that those occupants may have their usual identification signs on their buildings; however, there shall be no rooftop signs, or signs which extend above the parapet wall of the roof line of the building to which they are attached. Further, no sign shall be permitted that is flashing, moving or audible or placed perpendicular to the building.

c. Informational and directional signs relating to pedestrian and vehicular flows within the Lighthouse Marina project area shall conform to standards set forth in a master sign program identifying style, color and coordinated graphics to be approved by the Community Development Director prior to issuance of a sign permit for any permanent informational or directional signs.

d. One standard sign denoting the name of the project, the marketing agent, the contractor, architect, and engineer shall be permitted upon the commencement of construction. Said sign shall be permitted until such a time as a final inspection of the building(s) designates said structure(s) fit for occupancy or the tenant is occupying said building(s), whichever occurs first.

e. Upon removal of the sign described in 4.d. above, a sign advertising the sale or lease of the site or building shall be permitted.

f. Permanent directional and identification signs for the Lighthouse Marina project, exceeding one hundred twenty-five (125) square feet (single face) for any one location shall be permitted but subject to use permit.

g. Temporary signs related to seasonal concessions may be granted as procedurally outlined in Item "N" of this Article.

h. Temporary real estate signs for the Lighthouse Marina Project of not more than 100 square feet (single face) for 3 locations shall be permitted subject to Community Development Director's approval.

ARTICLE EIGHT: Development Permit Regulations and Procedures

The objective of the requirement for specific site plans for specific parcels is to provide a logical sequence of community and governmental review and input. Such approved site plans for each area or sub-area are supplements to the Lightouse Marina Land Use Regulations.

The purpose of such site development permits is to provide for review of the detailed final plans of a project with respect to the architectural design, materials, colors, landscaping, and relationship to surrounding uses for an entire project. A site plan may also be approved to establish development standards.

A. Regulations and Procedures

1. The provisions of this ordinance are intended to supercede the requirements of the City of West Sacramento Zoning Code. Where events or circumstances occur which are not cited by this ordinance, the provision found in the previously cited chapters shall be utilized in resolving those events or circumstances.

2. Definitions of words or procedures utilized in this ordinance shall be the same as defined in the City of West Sacramento Zoning Code or clarified through interpretation by the City of West Sacramento Planning Commission or its designee.

3. Approval of Plans - All improvements constructed, placed, altered, maintained or permitted on any land in the PD-29 District shall be required to comply with the requirements of the City of West Sacramento, the Site Plan Approvals.

4. Modifications and Interpretations

a. The Zoning Administrator may approve minor modifications of the development plans or standards of PD-29 pursuant to the authority of West Sacramento Zoning Ordinance. Should the matter involve a modification not determined by the Zoning Administrator to be minor, a change may be granted by the Planning Commission, pursuant to the provisions of the Zoning Ordinance.

b. The Planning Commission may approve the adjustment of specific land uses in location, acreage, density and intensity of use so long as the adjustment is consistent with and no more than the densities and intensities of use specifically itemized in the Development Agreement (D.A.).

c. The site development standards of each land use sub-area of PD-29 are intended to facilitate flexible, creative urban design plans for coordinated mixed-use developments. Land use sub-areas granted ability to participate in mixed-use design strategy (PD-29 RE/RF/BP/CT/CR/CM) shall submit schematic plans in accordance with Article Eight, Section N.

d. Upon the adoption of the schematic master plans by the City Council, the site development standards in Articles Two through Six shall be replaced by the standards set forth in the schematic (master) plan. The limits set for in this section shall supercede that noted in Section K of Article Eight.

B. Review of Subsequent Project Applications

To the intent not prohibited by applicable law or the conditions of approval of any previous entitlement, or terms of a development agreement, the City of West Sacramento shall not accept any application from an applicant or property owner who is in violation of a previous entitlement. All violations must be fully resolved to the satisfaction of the City before additional applications will be accepted. Any rejections of such an application may be appealed by the applicant to the Planning Commission.

C. Creation of Area or Sub-Area

No person shall create a lot or parcel upon which there will exist more than the number of dwelling units or maximum percentage of land coverage permitted by this Ordinance, except that more than such maximums may be created in connection with portions of a subdivision, which subdivision meets such standards as a whole, and the tentative map of which is approved by the City.

D. Protection of Subsequent Buyers

Where a lot or parcel is divided, the person making the division shall calculate the number of dwelling units and land coverage allocatable to each of the resulting lots or parcels and shall note such allocations in the deeds to such resulting lots or parcels and on the lot or parcel map, if any, that is used to record such division.

E. Condominium/Time-Share Conversions

All conversions of residential, commercial, and office uses after the original approval of the project shall be subject to the requirements of the City of West Sacramento Zoning Code. The requirements shall be complied with prior to or in concert with the recordation of any required map.

F. Variances and Modifications

1. Variances from the terms of this Ordinance shall be granted by City of West Sacramento only if it is found that because of special circumstances applicable to the property, including size, shape, topography, location or surroundings, the strict application of the ordinance deprives such property of privileges enjoyed by other property in the vicinity and within the same use district, and the application shows that he cannot make any reasonable use of the property if this Ordinance is applied. Where such conditions are found, the variance permitted shall be the minimum departure from existing regulations necessary to avoid such deprivation of privileges enjoyed by such other property and to facilitate a reasonable use and shall not exceed 10 percent of the allowable standard.

2. The Planning Commission may grant variances and modifications to the land uses densities and intensities consistent with the EIR/EIS and consistent with Article Eight, Item 4. Appeals of decisions may be exercised pursuant to Article Eight.

G. Findings

A final decision on a permit or variance requiring review by the local jurisdiction shall include a statement of law and findings of the fact, separately stated. The statement of law shall specify the applicable statute, plan, or ordinance or rule and whether the statute, plan, ordinance or rule has been complied with. The findings of fact shall specify the items of evidence in the administrative record which support the decision.

H. Burden of Proof

The burden of proof is on the applicant to show an entitlement or an entitlement to a permit or variance pursuant to this Ordinance.

I. Violation of Ordinance

Violation of this ordinance or of the City Code of West Sacramento Zoning shall be a misdemeanor. Each day of violation constitutes a separate offense. Compliance or relief of violations may be sought by the City in either Municipal Court or Superior Court, depending on the degree of violation determined by the City.

1. Stop Order and Revocation of Permits

a. Whenever the City of West Sacramento determines that any permit, approval of subdivision map or maps, whether tentative or final zoning matter, or variance or use permit, or any action being taken thereunder or any action not taken under color of a permit, is in conflict with any ordinance of the City or determines that any such action is in conflict with any rule, regulation or policy of the City, such officer of the agency may issue a stop order which shall prohibit any action thereunder for a period of thirty- five (35) days. Such stop order shall be in writing, shall set forth the violations alleged to exist and may list remedies to be undertaken to correct the violations.

The person receiving such a stop order shall report in writing to the officer or body issuing the order within forty-eight (48) hours the steps proposed to be taken to correct the violations. Such stop order may be extended by the Planning Commission for a period of not to exceed an additional thirty-five (35) days upon opportunity for hearing being extended to the affected parties. During the period of such stop order, the Commission shall review the matter as herein provided. A stop order issued pursuant to this section may be withdrawn by the Planning Commission or by the officer who issued it upon a finding that the circumstances giving rise to the stop order no longer exist. In addition or instead of the measures set forth, the Commission may revoke a permit upon finding violation of the approval or conditions thereto, and may cause to be removed all improvements constructed in reliance upon such permit, with costs to constitute a lien on the property. The Commission may also order restoration of the property.

b. The City may suspend any permit or other approval whenever there has been a false statement or misrepresentation in the application as to any material fact on which the permit was based.

c. The City may suspend a permit or other approval whenever a violation of the provisions of this Ordinance or of Conditions of Approval made pursuant to provisions of this Ordinance are found to exist.

d. The City, after a hearing, may revoke the permit and may cause to be removed all improvement constructed in reliance upon such permit, and may seek reimbursement for all costs incurred. The Agency may also order restoration of the property.

e. Any person may appeal to the City Council the imposition of any Condition of Approval, denial of a permit or other approval or revocation of a permit made by the Agency staff if such appeal is made in writing within fifteen (15) days after receiving notice from the staff to impose conditions or deny permits or other approvals.

J. Determination of Use

Where a combination of permitted, accessory and/or conditional uses are proposed within a single structure, the determination of the principal character of that structure shall be based on the floor area and/or intensity of use of each component. Standards of development shall be based on the requirements of each use.

K. Hazardous Materials

It shall be the responsibility of all applicants for any permitted, accessory, or conditional use to provide in the application for the safe delivery, storage, use and disposal of any hazardous materials to be used in the conduct of that use. Hazardous materials shall include toxic, radioactive and inflammable products. Where disposal involves a public utility, prior written concurrence shall be obtained form that utility. Examples of measure could include a lockable fire-resistant area in a dwelling to shielded fireproof and monitored storage areas in businesses.

L. Lighthouse Marina Planned Unit Development Architectural Review Board

An Architectural Review Board shall be so powered as per specifications in the Covenants, Codes and Restrictions for the Lighthouse Marina Planned Development.

M. Procedures for Approval

Any applications submitted to the Community Development Director shall be submitted in duplicate to the office of the Architectural Review Board for Lighthouse Marina. Approvals, conditional approvals, or disapprovals shall be in writing to the applicant and signed by the technical representative of the Architectural Review Board within thirty (30) days from the date of a completed submission. Application for approval of plans and specifications by the Architectural Review Board shall be by two-phased submissions: (a) Schematic-Preliminary Phase submission and approval; and (b) Construction Documents submission and approval. Submissions must be made in the order indicated and approval of each submission must be obtained from the Board before a subsequent submission on the same project will be considered by the Board. In addition, a review of the completed construction and issuance of a Certificate of Compliance is required for each project. The Community Development Director shall respond to the applicant in writing no later than ten (10) days following receipt of the recommendation of the Board.

Applications for approval of each phase shall contain the following submission and information:

1. Schematic-Plan Phase

   a. Site map showing existing topographic features and proposed building(s) in relation to adjacent and nearby roads and buildings.

   b. Site plan showing proposed grading, driveways, pathways, terraces, property lines, setback lines, proposed parking and storage areas, existing and proposed grades and proposed landscaping. Design development of these items shall be included.

   c. Plans and elevations of building(s) showing major dimensions, cross-sections, and typical wall sections.

   d. Outline specifications and/or site development standards.

   e. Exterior colors and materials of construction.

2. Construction Documents Phase

   a. Complete working drawings including site development plan and landscaping plan. (See Drawing Check List below.)

   b. Specifications.

   c. Exterior colors and materials of construction.

3. Completion of Construction Certificate

   a. Upon notification of the completion of construction, the Architectural Review Board will inspect the property and recommend to the Grantor the issuance of a Certificate of Compliance for the project. This Certificate will be issued by the Grantor under the same terms and conditions as the Estoppel Certificate, which is specified in the Covenants, Codes and Restrictions.

4. Drawing Check List

a. Names and addresses of builder, contractor, developer, etc.

b. Project site plat with dimensions taken from signed record plat.

c. All submissions must include topography showing existing grades/and proposed grades at one foot intervals with spot elevations as required to clarify drawings, also show building corner elevations and floor elevations.

d. Proposed landscaping, including automatic irrigation system.

e. Retaining walls.

f. Street names.

g. Locations and details of temporary and permanent signs.

h. Temporary and permanent fences and wind and water erosion control devices.

i. Temporary and permanent storage and stockpiling areas.

j. Front, side and rear distances from building to property lines.

k. Easements and rights-of-way.

l. Pipes, berms, ditches, swales.

m. Driveways, parking areas, traffic patterns, pathway and lighting, existing and proposed.

n. Locations and details of benches and patios.

o. Exterior storage and screening devices for trash, mechanical equipment and meters.

p. Light poles and transformers.

q. Sewer alignments and location of manholes and inverts.

r. Show existing inlets and top of plate elevations, if any.

s. Mailboxes.

t. Roof projections and screening treatment.

SECTION 2

BASIC PUBLIC IMPROVEMENTS

FINANCING AND TIMING; ENVIRONMENTAL MITIGATIONS

ARTICLE I

PURPOSE AND INTENT: ADOPTION

A. Public Improvements: The purpose and intent of this section is to allow the land development authorized by this ordinance to proceed only if the City Council has approved a Public Improvements Financing and Timing Plan ("Improvements Plan"). The Improvements Plan shall assure the provision and funding of the basic public improvements required to service development of the type, density and intensity authorized by this ordinance. The additional purpose and intent of this section is to authorize use of flexible methods of timing, phasing and financing of such improvements as may hereafter be approved by the City Council.

B. Environmental Mitigations: The additional purpose and intent of this section is to specify the procedure by which detailed environmental mitigations will be incorporated into the project allowed by this ordinance, in conjunction with Federal, State and local agencies with jurisdiction to require specific environmental mitigations.

C. Adoption: The City Council hereby is authorized to approve, by resolution, an Improvements Plan upon a finding that such improvement plan meets the requirements of this Section 2 and, if applicable, Section 3 hereinbelow.

ARTICLE II

REQUIRED PUBLIC IMPROVEMENTS AND ENVIRONMENTAL MITIGATIONS

A. Purpose and Intent: This Article sets forth the categories of basic public improvements which shall be addressed in the Public Improvements Plan required by this Section.

B. Definitions: For purposes of this Section, the following terms shall be defined as follows:

1. Public Improvement: "Public Improvement" shall mean the specific items of construction required by an agency with jurisdiction over the particular improvement in question, as specified in agreements, permits, permit conditions, or other entitlements issued by such agency, and in all cases, shall include sufficient capacity to service the type, density, and intensity of land development authorized by this ordinance.

2. Will Serve Letters: "Will Serve Letters" shall mean a written correspondence between an agency with jurisdiction and the City, indicating that such agency is able to provide the type of Public service or project approval needed by the development authorized by this ordinance, and within the jurisdiction of such agency, subject to such conditions as may be expressed in such correspondence regarding public improvements to be constructed by the developer and dedicated to the agency, or in-lieu fees, or both.

A "will serve letter" may be an agreement between the developer and the agency, a permit or other entitlement issued by the agency, or permit conditions under which the agency will provide the particular public service within the agency's jurisdiction; or, in the alternative, a "will serve letter" may precede the actual agreement, entitlement, permit, or permit condition, and will satisfy this section if it specifies with particularity the details and required timing and phasing of the required public improvements and expresses the agency's satisfaction that prior to the commencement of construction, authorized by Section 1 of this ordinance, such public improvements will be constructed or assured to the satisfaction of such agency.

3. Environmental Mitigations: "Environmental Mitigations" are specific actions required by any agency with jurisdiction to disapprove an agreement, permit or entitlement necessary for the development authorized by Section 1 of this ordinance, for the purpose of mitigating the environmental effects of the development, and but for which such agency would be authorized by law to disapprove such agreement, permit or entitlement.

C. Categories of Public Improvements Required:

1. Sewerage and Water Supply: Sewerage and water supply facilities shall be provided as specified in a will serve letter issued by the City of West Sacramento Department of Public Works or its successor in function.

2. Storm Drainage: Storm drainage facilities shall be provided as specified in a will serve letter issued by the Reclamation District with jurisdiction and/or State Reclamation Board.

3. Fire Protection: Fire Protection facilities shall be provided as specified in a will serve letter issued by the City of West Sacramento Fire Department or its successor in function.

4. Public Schools: Public School facilities, the payment of fees, or a combination of both, shall be provided as specified in a will serve letter by the Washington Unified School District.

5. Housing Relocation: The Plan shall provide for the relocation of all tenants of the Yolo County Housing Authority to be relocated as a consequence of the development through the provision of replacement housing, the payment of fees to a rent subsidy program, or a combination of both, as specified in a will serve letter issued by the Yolo County Housing Authority.

6. Transportation: The Plan shall provide for the creation, expansion or deletion of public streets required to service the development adequately. Such circulation plan shall be jointly developed by the developer and the City of West Sacramento Redevelopment Agency or its successor in function, and the developer's participation therein shall be specified in a "will serve letter" issued by the City of West Sacramento Department of Public Works and Transportation. Such circulation plan shall be approved only if the City Council finds that it is consistent with the Circulation Element of the City of West Sacramento.

In addition, the Plan shall discuss the method of providing public transit services to the area included within PD-29, and shall address the developers' participation therein, to be reflected in a will serve letter issued by the Yolo County Department of Public Works and Transportation.

7. Police Services: The Plan shall include methods to provide adequate security patrol and related functions to be approved by the City Council after consideration of a report by the City of West Sacramento Sheriff's Department or its successor in function.

8. Park: The Plan shall provide for the dedication of the linear public park to run the full length of the waterfront, in the area specified on the maps accompanying this ordinance, and shall provide the method for the on-going financing of on-going operation and maintenance expenses for such park. Such park plan shall be approved by the City Council only if it finds that the design of the park is consistent with the security goal of "safe at night for families" and adequate means to finance on-going operation and maintenance expenses are provided to the satisfaction of the agency which will accept dedication of such park.

D. Categories of Environmental Mitigations Required:

1. Biotic Resources Mitigation Plan: Prior to consideration of the Public Improvements Plan, the City Council shall approve a mitigation plan for the impacts described in the Final Environmental Impact Report dealing with biotic resources (FEIR Section 4.2). Such Plan shall not be approved unless the City Council finds that it complies with the Endangered Species Act; in addition, such plan shall not be approved unless the Board finds that it will avoid or substantially lessen the significant environmental effects identified in the Final EIR and/or that any residual environmental effects not substantially mitigated by the mitigation plan are acceptable due to specific social, economic, or other considerations specifically identified in the City Council's findings regarding the mitigation plan.

The Public Improvements Plan shall include provisions to implement the mitigation plan, specifically including, but not limited to, the financing, planning and phasing of initial and on-going implementation of the mitigation plan.

2. Other Environmental Mitigations: The following environmental mitigations are within the joint jurisdiction of the City and some other permitting or responsible agency in addition to the City. Therefore, such mitigations will be addressed in the various agreements, entitlements, permits and permit conditions to be issued by such other agencies. For this reason, this ordinance does not specify specific mitigation measures, which may be inconsistent with the agreement, entitlement or permit to be issued by such other agencies. Rather, this section is intended to specify a general standard for such environmental mitigations, and to authorize the Public Improvements Plan to address the specifics regarding design, timing, phasing and financing of such mitigations after they are specified by such other agencies.

As to all such environmental issues, the following procedure shall apply:

a. Prior to requesting approval of a Public Improvements Plan, the developer shall obtain either agreements, permits or entitlements, or will serve letters, for all Federal, State and local agencies with jurisdiction to impose environmental mitigations.

b. Changes or alterations shall be incorporated in the project which avoid or substantially mitigate the significant environmental effects identified in the Final EIR. If such changes are required by environmental mitigations imposed by any Federal, State or local agency with jurisdiction, as a condition of such agency's action on the project, such change shall conform to the required mitigation.

c. Prior to approving the Public Improvements Plan, the City Council shall determine whether all environmental effects identified in the FEIR have been avoided or substantially mitigated; as to any residual effects, the City Council shall either require additional mitigation; or, in the alternative, declare that specific economic, social or other considerations render the impacts acceptable.

E. Allocation of Operation and Maintenance Expenses:

The Plan shall provide for the allocation between the City of West Sacramento, the Redevelopment Agency or its successor in function, the developers, end-users of the project and all other responsible agencies for the operation and maintenance expenses of necessary governmental services and facilities, consistently with the will serve letters, agreements, comments or other entitlements issued by such responsible agencies. Such allocation shall be reviewed in light of project-related revenue and benefits as well as project-related costs and burdens.

The Plan shall be accompanied by such revenue source and expenditure studies, bonding capacity studies, or such other studies as required by the City Council to evaluate the fiscal feasibility and risk factors associated with the Plan.

F. Agreements Authorized: If authorized by the City Council, the Public Improvements Plan may, but is not required, to authorize use of agreements regarding the timing, phasing and financing of the public improvements. Such agreements may include a "development agreement" with the City pursuant to Government Code Section 65864, et seq.; and/or "participation agreements" and/or "disposition and development agreements" with the City of West Sacramento Redevelopment Agency or its successor in function as authorized by Health & Safety Code Sections 33380 and 33430, et seq. The Plan shall consider use of assessment district financing, including Mello-Roos district financing, as well as other methods of financing of required public improvements.

G. Additional Improvements: The required basic public improvements listed in this section are in addition to, and not in lieu of, other necessary on- and off-site improvements which may be required as conditions of subdivision maps or other development approvals required by this ordinance.

H. Condition Precedent to Permits: No application shall be approved for development within the PD-29 area until a Public Improvements Plan has been approved. Approval shall be by resolution of the City Council, after review and recommendation by the Planning Commission.

The Public Improvements Plan shall contain the following elements acceptable to the City:

1. The proposed methods of financing the required public improvements;

2. The proposed methods of assuring that financing obligations will be binding upon successors in interest to the developers;

3. The proposed timing and phasing of the construction of the required basic public improvements corresponding to the phasing of development within PD-29;

4. The proposed methods of assuring construction of the required basic public improvements so as to insure that such improvements physically are available so as to serve the needs of development within the PD-29 area;

5. The detailed design of all required environmental mitigations; and

6. The method to assure initial and on-going implementation of such mitigations.

SECTION 3

INITIAL DEVELOPMENT; OPTIONAL

A. City Council Approval of Conditions: A developer within PD-29 may request to subdivide and perform initial development activities within the PD-29 area, prior to completion and acceptance by the City of all public improvements required by the approved Public Improvements Plan. Such request shall describe the initial development activities and any conditions proposed to regulate such activities.

Any initial development request shall be considered as a part of the original Public Improvements Plan, or as an amendment thereto. If the City Council approves the initial development request, it shall specify the conditions regulating such development activities. Such conditions shall, at a minimum, include:

1. That initial development tentative, subdivision or parcel maps shall be conditioned to provide that no final subdivision (or parcel) map shall be approved until the public improvements and environmental mitigations required by the PD-29 Public Improvements Plan, previously approved by the City Council, have been provided or assured to the City's satisfaction.

2. That no building permit shall be issued for any structure approved for initial development unless paved access roads to the construction area of such structure have been constructed and accepted by the Director of the City of West Sacramento Department of Public Works.

3. That no occupancy shall occur in any structure authorized as an initial development pursuant to this section unless:

a. All improvements required for initial developments by the approved Public Improvements Plan have been accepted by the City Council of the City of West Sacramento; and

b. The City has adequate assurance that the required basic public improvements will be constructed in a timely manner in accordance with the approved improvements plan.

B. Planning Commission Action on Initial Developments: Upon approval of initial development conditions by the City Council, the Planning Commission may consider initial land development project applications pursuant to the approved conditions.

The Planning Commission shall impose such conditions upon initial developments as are necessary to assure the consistency of such developments with the Public Improvements Plan.

SECTION 4: All improvements shall be installed, operated and maintained in conformance with the regulations of all agencies and departments of jurisdiction.

SECTION 5: This Ordinance shall take effect and be in force thirty (30) days after its passage, and prior to the expiration of fifteen (15) days after its passage, this Ordinance shall be published once in summary form in a newspaper of general circulation.

PASSED AND ADOPTED by the City Council of the City of West Sacramento, State of California, this 13th day of May, 1992, by the following vote:

AYES:
NOES:
ABSENT:

Ray E. Jones
Mayor

ATTEST:

Helen M. Kanowsky
Deputy City Clerk

APPROVED AS TO FORM:

Joseph Coomes
Redevelopment Attorney

SR

ORDINANCE 89-9

AN ORDINANCE OF THE CITY OF WEST SACRAMENTO ADOPTING ORDINANCE 89-9 AMENDING ORDINANCE 681.120 WHICH CREATED PLANNED DEVELOPMENT 29 (PD-29)

THE CITY COUNCIL OF THE CITY OF WEST SACRAMENTO, STATE OF CALIFORNIA, DOES HEREBY ORDAIN AS FOLLOWS:

Section One: The Zoning Map of the City of West Sacramento is amended as specified on Exhibit "A," annexed hereto and by reference made a part hereof. The following territory hereby is changed from (R-1) and PD-29, to Planned Development 29 (PD-29) Zone and subsequently annexed into and made a part of PD-29. The legal description of the property affected hereby is attached hereto as Exhibit "B" and incorporated herein by this reference. The detailed development standards applicable to the PD-29 District are set forth in Section 1 through 3, inclusive of this ordinance, which shall apply within the boundaries of the PD-29 Zone as specified herein.

These regulations are divided into several sections for the purpose of establishing the necessary controls regarding:

1. The location of the land uses; public and private facilities, and public and private buildings;

2. Height, bulk and setback limits for such land uses, public and private facilities, and public and private buildings;

3. Location and extent of existing and proposed streets and roads;

4. Standards for population density and building density, including lot sizes and permissible types of construction;

5. Standards for the conservation, development, and utilization of natural resources;

6. Implementation of applicable provisions of open space;

7. Such other measures as may be necessary or convenient to ensure execution of the general plan, of which the Lighthouse Marina Planned Development is a part.

ARTICLE ONE REFERS TO THE GENERAL PURPOSE, INTENT AND APPLICATION.

ARTICLE TWO REFERS TO AND CONTROLS ALL RESIDENTIAL USE AREAS.

ARTICLE THREE REFERS TO AND CONTROLS THE BUSINESS/PROFESSIONAL USE AREA.

ARTICLE FOUR REFERS TO AND CONTROLS ALL COMMERCIAL USE AREAS.

ARTICLE FIVE REFERS TO AND CONTROLS ALL RECREATIONAL USE AREAS.

ARTICLE SIX REFERS TO AND CONTROLS OVERLAY USE AREAS ASSOCIATED WITH PRIMARY USES.

ARTICLE SEVEN REFERS TO SPECIAL REGULATIONS ASSOCIATED WITH ALL USE AREAS.

ARTICLE EIGHT REFERS TO DEVELOPMENT PERMIT REGULATIONS AND PROCEDURES.

ARTICLE ONE: General Purpose, Intent and Application

A. General Purpose

The Lighthouse Marina Land Use Regulations are adopted for the purpose of promoting the health, safety and general welfare of the Lighthouse Marina community. Furthermore, the Lighthouse Marina Land Use Regulations are adopted in order to achieve the following objectives:

1. Implement the intent and purpose of the Lighthouse Marina Planned Development.

2. Provide maximum opportunities for innovative community design and site planning, consistent with orderly development and protection of sensitive and natural resources, with a logical and timely sequence of community and governmental review and input.

3. Improve the visual image and general aesthetics of the Broderick community.

4. Provide for the economic revitalization of a portion of the Redevelopment Area consistent with the City of West Sacramento's approved economic development goals and objectives.

5. Stimulate new development of a mixed, high-quality nature.

6. Create an environment which will encourage a high level of property maintenance.

7. Encourage innovation in design to support the goal of a 24-hour district with mixed structures with residential uses above parking, commercial and/or office floors.

B. Intent

The PD-29 Zoning District is intended to be applied to those existing land parcels and any future land parcels created from these original parcels referenced by Assessor's Parcel Numbers as follows and as indicated on the Yolo County Assessor's rolls for the year ending 1988.

10-530-02, and

14-580-04, 06, 07, 08, and

14-590-25, 29, 32, 36, 37, 47, and

14-630-03, 06, 09, 10, 11, 21, 24, 25, 26, and

14-620-01, 02, 03, 05, 06, and

14-610-01, 02, 04, 05, 08, 09.

The limits to be observed within the PD-29 District shall be in accordance with the thirteen use areas set forth below:

PD-29 RA Residential at up to 4 dwellings per acre

PD-29 RB Residential at up to 6 dwellings per acre

PD-29 RC Residential at up to 12 dwellings per acre

PD-29 RD Residential at up to 22 dwellings per acre

PD-29 RE Residential at up to 38 dwellings per acre

PD-29 RF Residential at up to 62 dwellings per acre

PD-29 CT Tourist Commercial

PD-29 BP Business/Professional Offices

PD-29 CR Retail Commercial

PD-29 CM Marina Commercial

PD-29 RMH Marina/Harbor

PD-29 RGC Golf Course

PD-29 OS Open Space

Development and utilization within each of these areas shall be permitted in accordance with the standards and regulations established herein for each subarea and also in conformance with the Development Standards established for the PD-29 District, as well as the maximum intensities of use as reviewed, analyzed and publicly commented upon in the Environmental Impact Report (E.I.R.)/Environmental Impact Statement (E.I.S.) for PD-29 and as implemented by a Disposition and Development Agreement (D.D.A.) and Public Improvement Plan (P.I.P.) and City Service Agreement.

C. Application

The interpretation and application of the Lighthouse Marina Land Use Regulations shall be accomplished in accordance with the following provisions:

1. The land use regulations shall be applied only in the Lighthouse Marina Planned Development Project Area.

2. The City of West Sacramento Zoning Code is auxiliary to the land use regulations of the Lighthouse Marina plan and if any item or issue is not included within the land use regulations, the regulations of the Zoning Code shall be applicable; however, the Zoning Code shall not override any provision of this land use regulation. If there is any ambiguity or uncertainty as to which regulations apply or when they apply, it will be resolved by the Community Development Director.

3. If any portion of these regulations is, for any reason, declared by a court of competent jurisdiction to be invalid or ineffective in whole or in part, such decision shall not affect the validity of the remaining portions thereof. The City Council hereby declares that it would have enacted these regulations and each portion thereof irrespective of the fact that

any one or more portions be declared invalid or ineffective.

4. For the purpose of carrying out the intent and purpose of these regulations, words, phrases and terms are deemed to have the meanings ascribed to them in the City of West Sacramento Zoning Code, unless otherwise provided by these land-use regulations.

5. The provisions of Articles Seven and Eight shall apply to all zones established in Articles Two through Six.

6. The total area in acres of PD-29 shall be based upon final field boundary and title surveys. If there are any discrepancies between the legal description attached here as Exhibit "B" and subsequent surveys, then the subsequent surveys shall take precedent. An increase in acreage does not grant an increase in density or intensities of use for PD-29.

ARTICLE TWO: General Provision for Residential Areas

A variety of residential areas have been established for the purpose of providing diversity and locations in housing types. The following provisions apply to all residentially zoned use areas within the planned development control area:

1. Front setbacks shall be measured from the ultimate public street right- of-way line.

2. All construction and development within the Lighthouse Marina community shall comply with applicable provisions of the Uniform Building Code and other various Mechanical, Electrical, and Housing Codes related thereto, The codes shall prevail in the residential areas where there is any conflict between the said codes and the provisions in this text.

3. Temporary, special community events, such as parades, pageants, community fairs, athletic contests, carnivals and other similar uses, may be permitted in any area in the Lighthouse Marina community by approval of the City Council upon application for the appropriate permit.

4. Any conditions, requirements, or standards, indicated graphically or in writing that are a part of a tentative map, use permit, variance or similar permit entitlements granted by the appropriate authority shall be in conformance with the Lighthouse Marina Planned Development Land Use Regulations. Any use or development not in conformance with such conditions, requirements, or standards shall be in violation of the Lighthouse Marina Planned Development Land Use Regulations.

5. When required by these regulations, a site development permit or use permit for a specific parcel, as appropriate, shall be submitted and approval prior to the issuance of building permit, or any change of use and occupancy permit.

6. In these land use regulations, for all land use areas when more than one description may apply to a given use, the more specific description shall determine if a use is allowed, allowed subject to an approved use permit, allowed subject to an approved site plan, or prohibited.

7. Any amendment to these land use regulations must include an amendment to other sections of the Lighthouse Marina Planned Development Land Use Regulations where applicable.

8. At least twenty-one (21) calendar days prior to official action on any application for a use permit, variance permit, or building permit, the Community Development Director will forward such application to the Lighthouse Marina Architectural Review Board for their review, recommendations and approval in accordance with Article Eight.

9. Any person, firm or corporation, whether as principal, agent, employee or otherwise, violating any provisions of these regulations shall be guilty of a misdemeanor, and upon conviction thereof shall be punishable by a fine of not more than five hundred dollars ($500.00) or by imprisonment in the County Jail of Yolo County for a term not exceeding six (6) months or by both such fine and imprisonment. Such person, firm or corporation shall be deemed guilty of a separate offense for each and every day during any portion of which any violation of this article is committed, continued or permitted by such person, firm or corporation and shall be punishable as herein provided.

10. Applications for variances to the site development standards of these regulations shall be considered and processed in accordance with the City of West Sacramento Zoning Code.

11. The following standards shall be applied to the construction of all improvements in accordance with this ordinance.

a. Hours of operation: Exterior construction shall take place during the hours of 7 a.m. to 6 p.m.

b. Material storage: No construction material shall be stored or stockpiled within public rights-of-way.

c. Erosion control: Neighboring areas shall be protected from wind or water-related erosion.

d. Parking: Adequate provisions shall be made to restrict construction-crew parking to areas approved by the Architectural Review Board.

12. The densities and intensities of use for each residential sub-area are intended as the maximum allowable. Nothing herein shall preclude a lesser density in any residential sub-area, conditioned upon the adherence to and execution of the site development standards associated with and consistent to the designated residential type and density sub-area most closely related to the proposed residential use. If there is any uncertainty as to which regulations apply, it will be resolved by the Planning Commission.

13. Total residential units are limited to a maximum of 1,881.

14. In order to meet the purpose and intent of PD-29, mixed-use structures with residential uses above parking commercial and/or office floors is encouraged. To this end, the PD-29 RE and RF use areas may be combined with the PD-29 BP/CR/CM/CT use areas. The site development standards for the PD-29 RE, RF, BP, CR, CM and CT use areas are intended to encourage creative design flexibility for a single structure or cluster of structures. Approvals of mixed-use structure(s) proposal(s) will be as outlined in Article Eight.

A. PD-29 RA Single-Family Residential Use Area

1. Purpose and Intent

The PD-29 RA District is established to provide for the development and maintenance of low density single-family residential neighborhoods at up to 4 dwelling units per gross acre. Only those additional uses are permitted that are complementary to and can exist in harmony with a low density residential neighborhood. These regulations carry out the purpose and intent of the low density residential land use categories of the Lighthouse Marina Planned Development.

2. Zoning Area

The PD-29 RA zone shall be applied in (1) a single depth arc along the existing levee from the westerly property line and (2) within reasonable proximity to the golf course area.

3. Permitted, Accessory and Conditional Uses

a. PD-29 RA Principal Permitted Uses

(1) One single-family dwelling per lot

(2) Such other uses as deemed by the planning Commission to be consistent with the purpose and intent of the zoning area.

b. PD-29 RA Permitted Accessory Uses

(1) Small domestic animals

(2) Rooming and boarding of not more than two (2) persons including household employees

(3) Signs as provided for herein.

(4) Accessory uses customarily a part of the permitted use and clearly incidental and secondary to the permitted use and which do not change the character of the permitted use or affect other properties in the vicinity

(5) Public access easements and associated improvements

(6) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

c. PD-29 RA Conditional Uses

The following conditional uses may be allowed within the PD-29 RA sub-area upon the issuance of a conditional use permit by the Planning Commission.

(1) Neighborhood day use areas

(2) Public access ancillary uses

(3) Public day use areas

(4) Home occupations

(5) Accessory uses to single-family dwellings which are not customarily a part of the permitted use

(6) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

4. Site Development Standards

a. Lot Requirements

(1) Minimum Square Footage: 7,000 Net

(2) Minimum Width: 70' (3) Minimum Depth: 100'

b. Building Regulations

(1) Setbacks. No improvements of any kind, and no part thereof, shall be constructed, placed, extended or permitted to remain on any site closer to a property line than herein provided.

(a) Front Yard: 20'

(b) Side: any combination equaling 25', with no less than 5' on any one side.

c) Rear: 15'

(2) Setback Exceptions

The following improvements are specifically excluded from these setback provisions:

(a) Roof overhangs, provided such overhangs do not extend more than three (3) feet into any required yard

(b) Steps, walks, and open arcades which have been specifically approved by the Community Development Director.

(c) Paving and associated curbing except that vehicle parking areas shall not be permitted within fifteen (15) feet of the face of curb.

(d) Fences and screen walls, except that no fence or screen wall shall be placed within the street setback area unless specifically approved by the Community Development Director.

(e) Landscaping.

(f) Planters, not to exceed two (2) feet in height, three and one-half (3 1/2) feet in overall height when planted and maximum 25 percent of public right-of-way frontage, which have been specifically approved by the Community Development Director.

(g) Underground improvements.

(3) Lot Coverage/Building Height

(a) No building site shall be covered with a building or buildings to an extent greater than 50 percent of the area of said site, excepting that an additional 10 percent of the site area may be covered with carports, open arcades, swimming pools, or similar structures if approved by the Community Development Director. This exception shall not apply to covered storage areas.

(b) Attached accessory buildings shall be considered as a part of the main building.

(c) Building width as limited by setbacks

(d) Building height: 28' maximum as measured from established grade prior to construction across the foundation

(e) Second floor square footage: Limited to 40% of ground floor square footage.

(f) A minimum of 20 percent of the site area shall be landscaped with living plant material.

c. Fences and Walls, Maximum Height

(1) Within front setback area - none allowed

(2) Within other setback areas - the maximum height shall be six (6) feet, except that this maximum may be exceeded when higher walls are required by the Community Development Director, for the purpose of noise mitigation or health and safety measures.

d. Signs

(1) No billboard or advertising sign or device shall be permitted, other than the following:

(a) Those identifying the subdivision name and not to exceed 25 square feet one side.

(b) Temporary signs offering the premises for sale or lease and not to exceed five (5) square feet one side.

(2) No temporary signs shall be within 10 feet of public right-of-way.

(3) No permanent signage shall be erected unless the size, design and locations of such signs are approved by the Community Development Director.

(4) Freestanding appurtenant signs may be approved by the Community Development Director subject to the following:

(a) Said signs shall not exceed a height of five (5) feet. (10')

(b) Not more than one freestanding sign shall be allowed for each residential community area.

(c) The signs may deviate somewhat in order to provide a more attractive and more appropriate identification of the subdivision.

e. Parking

(1) All off-street parking shall be provided in accordance with the City of West Sacramento Zoning Code and other applicable Agency requirements.

(2) Recreational vehicles, including motor homes, trailers, and boats, shall be parked in a screened location behind the front-yard setback area.

(3) No commercial vehicles shall be parked in a residential area for more than 48 hours.

f. Landscaping

(1) Every site on which a building shall have been placed shall be landscaped according to plans approved by the Lighthouse Marina Architectural Review Board, which approval shall not be unreasonably withheld. Such landscaping shall cover all areas of the site which may be viewed by the public and shall conform to Lighthouse Marina Design Standards.

(2) Provision for watering and other maintenance facilities shall be provided by the

occupant in the vicinity of landscaped areas.

(3) Landscaping in accordance with the approved plan shall be installed in all areas viewed by the public prior to the issuance of necessary occupancy permits and shall be properly maintained by the occupant thereafter.

(4) Fill and excavation shall be minimized on site. Rough construction grade shall be maintained to the maximum extent possible.

B. PD-29 RB Single Family Residential Use Area

1. Purpose and Intent

The PD-29 RB District is established to provide for the development and maintenance of low-density single-family residential neighborhoods at up to 6 dwelling units per gross acre. Only those additional uses are permitted that are complementary to and can exist in harmony with a residential neighborhood. These regulations carry out the purpose and intent of the low-density residential land use categories of the Lighthouse Marina Planned Development Land Use Regulations.

2. Zoning Area

The PD-29 RB zone shall be applied along the inside tier of the levee and within or within reasonable proximity of the golf course.

3. Permitted, Accessory and Conditional Uses

a. PD-29 RB Permitted Uses

(1) One single-family dwelling per lot

(2) As allowed under Article Two, General Provision No. 12.

(3) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

b. PD-29 RB Permitted Accessory Uses

All accessory uses permitted in the PD-29 RA Zone

c. PD-29 RB Conditional Uses

All conditional uses permitted in the PD-29 RA Zone

4. Site Development Standards

a. Lot Requirements

(1) Minimum Square Footage: 5,000 Net

(2) Minimum Width: 60'

(3) Minimum Depth: 80'

b. Building Regulations

(1) Setbacks. No improvements of any kind, and no part thereof, shall be constructed, placed, extended or permitted to remain on any site closer to a property line than herein provided.

(a) Front Yard: 20 feet, except when automatic garage door openers are used and off-street guest parking is provided within 100 feet of unit, in which case setback may be reduced to 10 feet

(b) Side: any combination equaling 15'. (min. 5' each side)

(c) Rear: 15'

(2) Setback Exceptions. The following improvements are specifically excluded from these setback provisions:

(a) Roof overhangs, provided such overhangs do not extend more than three (3) feet into any required yard

(b) Steps, walks, and open arcades which have been specifically approved by the Community Development Director.

(c) Paving and associated curbing, except that guest vehicle parking areas for more than three (3) vehicles shall not be permitted within fifteen (15) feet of the street right-of-way.

(d) Fences and screen walls, except that no fence or screen wall shall be placed within the street setback area unless specifically approved by the Community Development Director.

(e) Landscaping.

(f) Planters, not to exceed two (2) feet in height, three and one-half (3 1/2) feet in overall height when planted and maximum 25 percent of public right-of way frontage, which have been specifically approved by the Community Development Director.

(g) Underground improvements

(3) Lot Coverage/Building Height

(a) No building site shall be covered with a building or buildings to an extent greater than 70 percent of the area of said site, excepting that an additional 10 per cent of the site area may be covered with carports, open arcades, or similar structures if approved by the Community Development Director. This exception shall not apply to covered storage areas.

(b) Attached accessory buildings shall be considered as a part of the main building.

(c) Building width as limited by setbacks

(d) Building height: 28' (31') maximum

(e) Second floor square footage: Limited to 80 percent of ground-floor square footage

(f) A minimum of 20 percent of the site area shall be landscaped with living plant material.

c. Fences and Walls, Maximum Height

(1) Within front setback area - none allowed

(2) Within other setback areas - the maximum height shall be six (6) feet, except that this minimum may be exceeded when higher walls are required by the Community Development Director, for the purpose of noise mitigation or health and safety measures.

d. Signs

(1) No billboard or advertising sign or device shall be permitted, other than the following:

(a) Those identifying the subdivision name and not to exceed 25 square feet one side.

(b) Temporary signs offering the premises for sale or lease and not to exceed five (5) square feet one side.

(2) No temporary signs shall be within 10 feet of public right-of-way.

(3) No permanent signage shall be erected unless the size, design and locations of such signs are approved by the Community Development Director.

(4) Freestanding appurtenant signs may be approved by the Community Development Director, subject to the following:

(a) ~~Said~~ signs shall not exceed a height of five (5) feet. (10')

(b) Not more than one freestanding sign shall be allowed for each residential community area.

(c) The signs may deviate somewhat in order to provide a more attractive and more appropriate identification of the subdivision.

e. Parking

(1) All off-street parking and loading shall be provided in accordance with City of West Sacramento Zoning Code and other applicable Agency requirements.

(2) Recreational vehicles including motor homes, trailers, and boats shall be parked in a screened location behind the front-yard setback area.

(3) No commercial vehicles shall be parked in a residential area for more than 48 hours.

f. Landscaping

(1) Every site on which a building shall have been placed shall be landscaped according to plans approved by the Lighthouse Marina Architectural Review Board, which approval shall not be unreasonably withheld. Such landscaping shall cover all areas of the site which may be viewed by the public and shall conform to Lighthouse Marina Design Standards.

(2) Provision for watering and other maintenance facilities shall be provided by the occupant in the vicinity of landscaped areas.

(3) Landscaping in accordance with the approved plan shall be installed in all areas viewed by the public prior to the issuance of necessary occupancy permits and shall be properly maintained by the occupant thereafter.

(4) Fill and excavation shall be minimized on site. Rough construction grade shall be

maintained to the maximum extent possible.

C. PD-29 RC Townhouse Residential Use Area

1. Purpose and Intent

The PD-29 RC District is established to provide for the development and maintenance of residential neighborhoods which are predominantly, but not exclusively, multiple family in character, for townhouse dwellings at up to 12 dwelling units per gross acre. No more than six (6) units shall have contiguous zero lot lines. Only those additional uses are permitted that are complementary to, and can exist in harmony with, a residential neighborhood. These regulations carry out the purpose and intent of the Medium Density Residential land use categories of the Lighthouse Marina Planned Development.

2. Zoning Area

The PD-29 RC zone shall be applied in a selective area within or within reasonable proximity to the golf course.

3. Permitted, Accessory and Conditional Uses

a. PD-29 RC Permitted Uses

(1) One single-family dwelling per lot

(2) As noted in Article Two, General Provision No. 12

(3) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

b. PD-29 RC Permitted Accessory Uses

All accessory uses permitted in the PD-29 RA Zone

c. PD-29 RC Conditional Uses

All conditional uses permitted in the PD-29 RA Zone

4. Site Development Standards

a. Lot Requirements

(1) Minimum Square Footage: 2,300 Net

(2) Minimum Width: 35'

(3) Minimum Depth: 80'

b. Building Regulations

(1) Setbacks: No improvements of any kind, and no part thereof shall be constructed, placed, extended or permitted to remain on any site closer to a property line than herein provided.

(a) Front Yard: 18' unless automatic garage door openers are used in which use setback may be reduced to 10'

(b) Side: None required

(c) Rear: 15'

(2) Setback Exceptions: The following improvements are specifically excluded from these setback provisions:

(a) Roof overhangs, provided such overhangs do not extend more than three (3) feet into any required yard.

(b) Steps, walks, and open arcades which have been specifically approved by the Community Development Director.

(c) Paving and associated curbing, except that guest vehicle parking areas for more than three (3) vehicles shall not be permitted within fifteen (15) feet of the street right-of-way.

(d) Fences and screen walls, except that no fence or screen wall shall be placed within the street setback area unless specifically approved by the Community Development Director.

(e) Landscaping

(f) Planters, not to exceed two (2) feet in height, three and one-half (3K) feet in overall height when planted and maximum 25 percent of public right-of-way frontage, which have been specifically approved by the Community Development Director.

(g) Underground improvements

(3) Lot Coverage/Building Height

(a) No building site shall be covered with a building or buildings to an extent greater than seventy (70) percent of the area of said site, excepting that an additional ten (10) percent of the site area may be covered with open arcades, or similar structures if approved by the Community Development Director This exception shall not apply to covered storage areas.

(b) Attached accessory buildings shall be considered as a part of the main building.

(c) Building width as limited by setbacks.

(d) Building height: 28' maximum (31)

(e) Second floor square footage: Limited to 95% of ground floor square footage

c. Fences and Walls, Maximum Height

(1) Within front setback area - none allowed

(2) Within other setback areas - the maximum height shall be six (6) feet, except that this maximum may be exceed when higher walls are required by the Community Development Director, for the purpose of noise mitigation or health and safety measures.

d. Signs

(1) No billboard or advertising sign or device shall be permitted, other than the following:

(a) Those identifying the subdivision name and not to exceed 25 square feet one side.

(b) Temporary signs offering the premises for sale or lease and not to exceed five (5) square feet one side.

(2) No temporary signs shall be within 10 feet of public right-of-way.

(3) No permanent signage shall be erected unless the size, design and locations of such signs is approved by the Community Development Director.

(4) Freestanding appurtenant signs may be approved by the Community Development Director, subject to the following:

(a) Said signs shall not exceed a height of five (5) feet.

(b) Not more than one freestanding sign shall be allowed for each residential community area.

(c) The signs may deviate somewhat in order to provide a more attractive and more appropriate identification of the subdivision.

e. Parking

(1) All off-street parking shall be provided in accordance with the City of West Sacramento Zoning Code and other applicable Agency requirements.

f. Landscaping

(1) Every site on which a building shall have been placed shall be landscaped according to plans approved by the Community Development Director, which approval shall not be unreasonably withheld. Such landscaping shall cover a minimum of ten percent of the site.

(2) Provision for watering and other maintenance facilities shall be provided by the occupant in the vicinity of landscaped areas.

(3) Landscaping in accordance with the approved plan shall be installed prior to the issuance of necessary occupancy permits and shall be properly maintained by the occupant thereafter.

D. PD-29 RD Condominium and Apartment Use Area

1. Purpose and Intent

The PD-29 RD District is established to provide for the development and maintenance of residential neighborhoods which are predominantly, but not exclusively, multiple family in character, for condominium and/or apartment dwellings at up to 22 dwelling units per gross acre. Only those additional uses are permitted that are complementary to, and can exist in harmony with, a residential neighborhood. These regulations carry out the purpose and intent of the Medium Density Residential land use categories of the Lighthouse Marina Development.

2. Zoning Area

The PD-29 RD zone shall be applied in the reasonable proximity of the south and east edge of the golf course.

3. Permitted, Accessory and Conditional Uses

a. PD-29 RD Permitted Uses

(1) Multifamily development at up to 22 units an acre with on-site recreational facilities.

(2) As noted in Article Two, General Provision No. 12.

(3) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

b. PD-29 RD Permitted Accessory Uses

(1) Small domestic animals

(2) Rooming and boarding of not more than two (2) persons per unit including household employees

(3) Signs as provided for herein.

(4) Accessory uses customarily a part of and clearly incidental

to the permitted use or association use

(5) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

C. PD-29 RD Conditional Uses

The following conditional uses may be allowed within the PD-29 RA sub-area upon the issuance of a conditional use permit by the Planning Commission.

(1) Neighborhood day use areas

(2) Public access ancillary uses

(3) Public day use areas

(4) Concessionary stands intended solely for the use or provisions of association members

(5) Day care centers

(6) Accessory uses not customarily a part of the permitted use or association use

(7) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

4. Site Development Standards

a. General Building Design and Orientation

(1) Large multifamily projects shall incorporate design variation within the project to create a sense of uniqueness and individuality. Large complexes using the same building design, materials, and colors should be avoided.

Design elements which achieve these objectives include: separate clustering of building

groups with extensive open-space and landscape buffering between projects; variation in building elevations and configurations between projects; variation in building heights; use of different building materials or combination of different materials; contrasting color schemes between projects.

(2) The monotony of straight building lines of all units shall be remedied through limiting the size of individual buildings or units, staggering of units, variation of exterior building materials on adjacent units, use of intensive landscaping, or other methods.

(3) Multifamily buildings adjacent to public streets shall be designed and oriented to minimize the likelihood of on-street parking by project residents. Examples of acceptable design and building orientation are:

(a) Minimize location of main entry doors of units facing the public street

(b) Orient ends of building toward public street OMIT

(c) Break up long buildings containing many units into smaller building clusters or incorporate a breezeway through midsection of a long building which provides closer access to off-street parking area for residents

(d) Locate off-street parking areas between the public street and building (off-street parking area to be located and screened behind bermed landscape setback area - Section B-4)

(4) All mechanical equipment (including public utility boxes and particularly exterior wall-mounted air conditioning units) shall be attractively screened.

(5) Buildings shall be designed and oriented to reduce overview of private backyards and patio areas of on-site and adjacent developments and windows from second-story units.

(6) Accessory structures shall be compatible in design and materials with main building.

(7) Communal facilities shall be centrally located, where possible.

(8) Recreational facilities shall be located and/or designed so as not to create a nuisance to surrounding units or to impact adjacent properties. Sufficient setbacks, landscaping and berming between recreation facilities and surrounding units shall be provided to minimize noise and visual conflicts.

(9) Solar heating and cooling of units shall be achieved to the maximum extent possible.

10) Site planning shall take into account optimum solar orientation of structures.

(11) Site planning shall minimize the incidences of one building shading another.

(12) Private outdoor or garden areas shall be oriented to the south as much as possible.

(13) Roofing materials shall be compatible with architectural style and elevations.

(14) The location of second-story end unit windows shall be varied to provide variety in exterior unit detailing and designed in such a way as to reduce the incidence of overview into private first-floor open-space areas.

(15) A minimum building setback of 50 feet shall be utilized on multiple-family projects.

from interior and rear property lines abutting existing or future low-density residential developments where two-story structures are proposed. A minimum setback of 25 feet shall be required where single-story structures in multiple-family projects abut existing or future low-density development.

(16) All units shall have private exterior areas.

(17) Maximum height 28 feet as measured from established grade prior to construction across the foundation.

(18) Second-story floor area shall not exceed 90 percent of the first-floor area.

b. Off-Street Parking Design Criteria

(1) Off-street parking shall be provided in accordance with the City of West Sacramento Zoning Code and in accordance with other applicable Agency requirements.

(2) For the convenience of tenants and guests, and to encourage the use of off-street rather than curbside parking and parking along private drives, parking spaces shall be located as close as possible to the unit or communal facility it is intended to serve.

(3) To discourage parking on the street and along private on-site drives, physical barriers such as landscaping, berming, or wall segments shall be incorporated into the project design.

(4) Off-street parking shall be screened from the street by live landscaping, undulating earthen berms, low decorative walls or any combination of the above, for the purpose of reducing glare from automobile headlights and automobiles.

(5) Surface parking areas and carport roofing shall be screened from second-story units by trees or lattice and trellis work.

(6) The setback from interior side and rear property lines shall be 10 feet for open stalls and 15 feet for carports. If adjacent to non-residential development, the setback area shall be planted with large, growing evergreen trees to screen adjacent use.

(7) Trees shall be used for screening and shading purposes along the perimeter of the parking areas.

(8) Particularly within large, open lots, deciduous trees should be utilized to provide summer shading and winter sun.

(9) There shall be a ratio of it least one tree for every five parking spaces planted throughout or adjacent to open- and covered-parking areas. Rows of parking stalls, either open or covered, shall be broken up by a tree planting approximately every 10 spaces.

(10) The parking-stall depth shall be reduced by two feet, providing that:

(a) The two feet gained shall be incorporated into adjacent landscaping, or

(b) For angled parking, the triangular space at the head of each stall shall be landscaped as a planter when abutting a sidewalk or incorporated into adjacent landscaped strips.

(11) The more efficient 90 degree parking arrangement shall be utilized when possible, so

as to minimize parking lot size.

(12) For the most part, double-loading of parking aisles should be utilized to minimize surfacing devoted to maneuvering area.

c. On-Site Circulation

(1) Minimum pedestrian/vehicle conflict should be sought in driveway/walkway system design.

(2) A display and unit location map shall be installed at each major driveway entrance and any major walkway entrance to the project as an aid to emergency personnel and a convenience to visitors. An auto turnout lane shall be provided adjacent to directory map to eliminate blocking of driveway entrance.

(3) Walkway location shall assure convenient access between parking and dwelling units.

(4) Central pedestrian/bike paths shall provide convenient access to bus stops, green belts and public facilities.

(5) Pedestrian crossings shall be provided at appropriate locations along main drives and shall be accentuated by a change in surface textures.

(6) Walkway connections between buildings and street sidewalks are discouraged if they encourage on-street parking by residents.

d. Bicycle Storage

(1) One bicycle parking facility is required for every ten (10) (20) off-street parking spaces required, excluding developments which provide individually enclosed garages.

(2) Fifty percent (50%) of the required bicycle parking facilities shall be Class I. The remaining facilities may be Class I, Class II or Class III. Bike facilities may be class I or class II type.

(3) Bicycle racks and (and/or) lockers shall be provided throughout the development.

e. Landscaped and Open Space

(1) Landscaped materials selected shall be:

(a) Compatible with one another and with existing material on the adjacent site.

(b) Complementary to building design and architectural theme.

(c) Varied in size (one- and five-gallon shrubs, five- and 15-gallon and 24-inch box trees).

(2) Lawn areas shall be established by sodding.

(3) Larger specimens of shrubs and trees along the site periphery, particularly along setback areas adjacent to public streets.

(4) Greater intensity of landscaping at the end of buildings when those elevations lack window and door openings or other details that provide adequate visual interest. This is especially significant at the street frontage and interior side and rear property lines and for two-story structures.

(5) Consistency with energy-conservation efforts.

(6) Trees located so as to screen parking areas and private first-floor areas and windows from second-story units.

(7) Undulating landscaped berms located along street frontage.

(8) Deciduous trees shall be utilized along the south and west facing building walls to allow solar access during the winter.

(9) For crime deterrent reasons, shrubs planted below first-floor windows should be of a variety which has thorns and/or prickly leaves.

(10) Provisions for watering and maintenance facilities and/or storage shall be provided by the owner/management in the vicinity of landscaped areas.

f. Trash Enclosures

(1) The walls of the trash enclosure structure shall be constructed of solid masonry material with decorative exterior surface finish comparable to the main residential structures. Split-face concrete block finish is recommended. Brick or tile veneer exterior finish should be avoided.

(2) The trash enclosure structure shall have heavy gauge metal gates and be designed with cane bolts on the doors to secure the gates when in the open position.

(3) The trash enclosure facility shall be designed to allow walk-in access by tenants without having to open the main enclosure gates.

(4) The walls shall be a minimum of six feet in height, more if necessary for adequate screening.

(5) The perimeter of the trash enclosure structure shall be planted with landscaping, including a combination of shrubs and/or climbing evergreen vines.

(6) A concrete apron shall be constructed either in front of the trash enclosure facility or at point of dumpster pickup by the waste removal truck. The location, size and orientation of the concrete apron shall depend on the design capacity of the trash enclosure facility (number of trash dumpsters provided) and the direction of the waste removal truck at point of dumpster pickup.

The minimum dimensions of the concrete apron for a single, two cubic-yard dumpster shall be: width 10' or width of enclosure facility; length 20'. Larger trash enclosure facilities shall require a larger concrete apron, subject to the approval of the City Public Works Department.

Paving material shall consist of 5" aggregate base rock and 6" portland cement paving.

(7) The enclosures shall be adequate in capacity, number, and distribution.

g. Signage

(1) With the exception of the main project identification sign(s), all other signage shall comply with the City Sign Ordinance, or other restrictions noted herein.

(2) A project identification sign is permitted at each major entrance into the complex. The sign shall be a monument type or incorporated into a low-profile, decorative entry wall(s). The height of the monument sign shall not exceed five (5) feet. Area shall not exceed 25 square feet.

(3) The primary material of the monument base or wall shall be decorative masonry such as brick, split-face concrete block, stucco or similar material which complements the design of the main buildings.

(4) Individual letters and project logo are permitted. The signage program shall be subject to the review and approval of the Community Development Director.

(5) No sign shall be closer than ten (10) feet to any property line.

E. PD-29 RE Condominium and Apartment Use Area

1. Purpose and Intent

The PD-29 RE District is established to provide for the development and maintenance of residential neighborhoods which are predominantly, but not exclusively, multiple family in character for condominium and apartment dwellings at up to 38 dwelling units per gross acre. Only those additional uses are permitted that are complementary to, and can exist in harmony with, a residential neighborhood. These regulations carry out the purpose and intent of the High Density Residential land-use categories of the Lighthouse Marina.

2. Zoning Area

The PD-29 RE zone shall be applied along or near the golf course.

3. Permitted, Accessory and Conditional Uses

a. PD-29 RE Permitted Uses

(1) Multifamily development at up to 38 dwelling units per acre, with on-site recreational facilities.

(2) General Provision Nos. 12 and 14, as noted in Article Two.

(3) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

b. PD-29 RE Permitted Accessory Uses

(1) Small domestic animals.

(2) Rooming and boarding of not more than two (2) persons per unit, including household employees

(3) Signs as provided for

(4) Accessory uses customarily a part of the permitted use and clearly incidental and secondary to the permitted use and which do not change the character of the permitted use of affect other properties in the vicinity.

(5) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

C. PD-29 RE Conditional Uses

The following conditional uses may be allowed within the PD-29 RE sub-area upon the issuance of a conditional use permit by the Planning Commission.

(1) Neighborhood day-use areas.

(2) Public access ancillary uses.

(3) Public day-use areas.

(4) Concessionaire stands intended solely for the use or provisions of association members.

(5) Day-care centers.

(6) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

4. Site Development Standards

a. General Building Design and Orientation

(1) Large multifamily projects shall incorporate design variation within the project to create a sense of uniqueness and individuality. Large complexes using the same building design, materials, and colors should be avoided.

Design elements which achieve these objectives include: separate clustering of building groups with extensive open-space and landscape buffering between projects; variation in building elevations and configurations between project; variation in building heights; use of different building materials or combination of different materials; contrasting color schemes between projects.

(2) The monotony of straight building lines of all units shall be remedied through limiting the size of individual buildings or units, staggering of units, variation of exterior building materials on adjacent units, use of intensive landscaping, or other methods.

(3) Multifamily buildings adjacent to public streets shall be designed and oriented to minimize the likelihood of on-street parking by project residents. Examples of acceptable design and building orientation area:

(a) Minimize location of main entry doors of units facing the public street.

(b) Orient ends of building toward public street.

(c) Break up long building containing many units into smaller building clusters or incorporate a breezeway through midsection of a long building which provides closer access to off-street parking area for residents.

(d) Locate off-street parking areas between the public street and building (off-street parking area to be located and screened behind bermed landscape setback area - Section B-4).

(4) All mechanical equipment (including public utility boxes and particularly exterior wall-mounted air-conditioning units) shall be attractively screened.

(5) Buildings shall be designed and oriented to reduce overview of private backyards and patio areas of on-site and adjacent developments and windows from second-story units.

(6) Accessory structures shall be compatible in design and materials with main building.

(7) Communal facilities shall be centrally located, where possible.

(8) Recreational facilities shall be located and/or designed so as not to create a nuisance to surrounding units or to impact adjacent properties. Sufficient setbacks, landscaping and berming between recreation facilities and surrounding units shall be provided to minimize noise and visual conflicts.

(9) Solar heating and cooling of units shall be achieved to the maximum extent possible.

(10) Site planning shall take into account optimum solar orientation of structures.

(11) Site planning shall minimize the incidences of one building shading another.

(12) Private outdoor or garden areas shall be oriented to the south as much as possible.

(13) Roofing materials shall be compatible with architectural style and elevations.

(14) The location of second-story end unit windows shall be varied to provide variety in exterior unit detailing and designed in such a way as to reduce the incidence of overview into private first floor open space areas.

(15) A minimum building setback of 50 feet shall be utilized on multiple-family projects from interior and rear property lines abutting existing or future low-density residential developments where two-story structures are proposed. A minimum setback of 25 feet shall be required where single-story structures in multiple-family projects abut existing or future low-density development.

(16) All units shall have private exterior areas.

(17) Maximum height thirty-two (32) feet as measured form the roof of ground-floor parking to structure eave line.

(18) Second-story floor area shall not exceed ninety (90) percent of the first-floor area. Third-story floor area shall not exceed eighty (80) percent of first floor area.

b. Off-Street Parking Design Criteria

(1) In accordance with the City of West Sacramento Zoning Code and in accordance with other applicable Agency requirements.

(2) For the Convenience of tenants and guests, and to encourage the use of off-street rather than curbside parking and parking along private drives, parking spaces shall be located as close as possible to the unit or communal facility is intended to serve.

(3) To discourage parking on the street and along private on-site drives, physical barriers such as landscaping, berming, or wall segments shall be incorporated into the project design.

(4) Off-street parking shall be screened form the street by live landscaping, undulating earthen berms, low decorative walls or any combination of the above.

(5) Surface parking areas and carport roofing shall be screened from second-story units by

trees or lattice and trellis work.

(6) The setback from interior side and rear property lines shall be 10 feet for open stalls and 15 feet for carports. If adjacent to non-residential development, the setback area shall be planted with large, growing evergreen trees to screen adjacent use.

(7) Trees shall be used for screening and shading purposes along the perimeter of the parking areas.

(8) Particularly within large, open lots, deciduous trees should be utilized to provide sunnier shading and winter sun.

(g) There shall be a ratio of at least one tree for every five parking spaces planted throughout or adjacent to open and covered parking areas. Rows of parking stalls, either open or covered, shall be broken up by a tree planting approximately every 10 spaces.

(10) The parking stall depth shall be reduced by two feet.

(a) The two feet gained shall be incorporated into adjacent landscaping.

(b) For angled parking the triangular space at the head of each stall shall be landscaped (as a planter when abutting a sidewalk or incorporated into adjacent landscaped strips).

(11) The more efficient 90-degree parking arrangements shall be utilized when possible, so as to minimize parking lot size.

(12) For the most part, double-loading of parking aisles should be utilized to minimize surfacing devoted to maneuvering area.

(13) Garden-story or ground-floor parking is preferred. Where utilized, it shall be appropriately bermed and landscaped in a manner to screen the lower fifty (50) percent of ground-floor wall.

C. On-Site Circulation

(1) Minimum pedestrian/vehicle conflict should be sought in driveway/walkway system design.

(2) A display and unit location map shall be installed at each major driveway entrance and any major walkway entrance to the project as an aid to emergency personnel and a convenience to visitors. An auto turnout lane shall be provided ajacent to directory map to eliminate blocking of driveway entrance.

(3) Walkway location shall assure convenient access between parking and dwelling units.

(4) Central pedestrian/bike paths shall provide convenient access to bus stops, greenbelts and public facilities.

(5) Pedestrian crossings shall be provided at appropriate locations along main drives and shall be accentuated by a change in surface textures.

(6) Walkway connections between buildings and street sidewalks are discouraged if they encourage on-street parking by residents.

d. Bicycle Storage

(1) One bicycle parking facility is required for every ten (10) off-street parking spaces required, excluding developments which provide individual, enclosed garages.

(2) Fifty percent (50%) of the required bicycle parking facilities shall be Class I. The remaining facilities may be Class I, Class II or Class III.

(3) Bicycle racks and lockers shall be provided throughout the development.

e. Landscaped and Open Space

(1) Landscaped materials selected shall be:

(a) Compatible with one another and with existing material on the adjacent site.

(b) Complementary to building design and architectural theme.

(c) Varied in size (one- and five-gallon shrubs, five- and 15-gallon and 24-inch box trees).

(2) Lawn areas shall be established by sodding or hydromulching when conditions such as excessive gradient, anticipated seasonal rain, etc., may result in erosion or other problems.

(3) Larger specimens of shrubs and trees along the site periphery, particularly along setback areas adjacent to public streets.

(4) Greater intensity of landscaping at the end of buildings when those elevations lack window and door openings or other details that provide adequate visual interest. This is especially significant at the street frontage and interior side and rear property lines and for two-story structures.

(5) Consistency with energy conservation efforts.

(6) Trees located so as to screen parking areas and private first-floor areas and windows from second-story units.

(7) Undulating landscaped berms located along street frontage.

(8) Deciduous trees shall be utilized along the south and west facing building walls to allow solar access during the winter.

(9) For crime deterrent reasons, shrubs planted below first-floor windows should be of a variety which has thorns and/or prickly leaves.

f. Trash Enclosures

(1) The walls of the trash enclosure structure shall be constructed of solid masonry material with decorative exterior surface finish compatible to the main residential structures. Split-face concrete block finish is recommended. Brick or tile veneer exterior finish should be avoided.

(2) The trash enclosure structure shall have heavy gauge metal gates and be designed with cane bolts on the doors to secure the gates when in the open position.

(3) The trash enclosure facility shall be designed to allow walk-in access by tenants without having to open the main enclosure gates.

(4) The walls shall be a minimum of six feet in height, more if necessary for adequate screening.

(5) The perimeter of the trash enclosure structure shall be planted with landscaping, including a combination of shrubs and/or climbing evergreen vines.

(6) A concrete apron shall be constructed either in front of the trash enclosure facility or at point of dumpster pickup by the waste removal truck. The location, size and orientation of the concrete apron shall depend on the design capacity of the trash enclosure facility (number of trash dumpsters provided) and the direction of the waste removal truck at point of dumpster pickup.

The minimum dimensions of the concrete apron for a single, two cubic yard dumpster shall be: width 10' or width of enclosure facility; length 20'. Larger trash enclosure facilities shall require a larger concrete apron, subject to the approval of the City Public Works Department.

Paving material shall consist of 5" aggregate base rock and 6" portland cement paving.

(7) The enclosures shall be adequate in capacity, number and distribution.

g. Signage

(1) With the exception of the main project identification signs(s), all other signage shall comply with the City Sign Ordinance, or other restrictions noted herein.

(2) A project identification sign is permitted at each major entrance into the complex. The sign shall be a monument type or incorporated into a low profile decorative entry wall(s). The height of the monument sign shall not exceed five (5) feet. Areas shall not exceed twenty-five (25) square feet.

(3) The primary material of the monument base or wall shall be decorative masonry such as brick, split-fact concrete block, stucco or similar material which complements the design of the main buildings.

(4) Individual letters and project logo are permitted. The signage program shall be subject to the review and approval of the Community Development Director.

(5) No sign shall be closer than ten (10) feet to any property line.

F. PD-29 RF Tower Residential Use Area

1. Purpose and Intent

The PD-29 RF District is established to provide for the development and maintenance of residential neighborhoods which are predominantly, but not exclusively, multiple family in character for tower residential units at up to 62 dwelling units per gross acre. Only those additional uses are permitted that are complementary to, and can exist in harmony with, a residential neighborhood. These regulations carry out the purpose and intent of the High Density Residential land use categories of the Lighthouse Marina.

2. Zoning Area

The PD-29 RF zone shall be applied within reasonable proximity east and north and northwest of the marina.

3. Permitted, Accessory and Conditional Uses

a. PD-29 RF Permitted Uses

(1) No more than one single-family dwelling per air space division.

(2) As noted in Article Two, General Provision Nos. 12 and 14.

(3) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

b. PD-29 RF Permitted Accessory Uses

(1) Shall domestic animals.

(2) Rooming and boarding of not more than two (2) persons per unit including household employees.

(3) Signs as provided for.

(4) Accessory uses customarily a part of and clearly incidental and secondary to the principal permitted use or Association use and which do not change the character of the permitted use or affect other properties in the vicinity.

(5) Attached parking structures.

(6) On-site recreation facilities.

(7) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

c. PD-29 RF Conditional Uses

The following conditional uses may be allowed within the PD-29 RF sub-area upon the issuance of a conditional use permit by the Planning Commission.

(1) Detached multi-story parking structures.

(2) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

4. Site Development Standards

a. General Building Design and Orientation

(1) Large multi-story projects shall incorporate design variation within the project to create a sense of uniqueness and individuality.

(2) The monotony of straight building lines shall be remedied through the use of staggered balconies, glass-encased sun porches, angled insets, floor-to-floor stepbacks and other architectural stylizations to enhance the visual appeal of monolithic structures.

(3) All mechanical equipment shall be attractively screened from view not only at grade, but to the extent possible from other adjacent multi-story structures.

(4) Accessory structures shall be compatible in design and materials with main building(s).

(5) Recreational facilities shall be located in a manner to emphasize view and retain a modest level of privacy from adjacent multi-story structures; nuisance and visual conflicts shall additionally be considered.

(6) Communal facilities shall be easily accessible and shall be designed in a manner to emphasize personal safety.

(7) Site planning shall take into account optimum solar orientation of structures. As view orientation may not coincide with the former, detailed architectural design shall consider individual unit solar orientations.

(8) Site planning shall minimize the incidences of one building shading another.

(9) Architectural compatibility with other existing large-scale structures shall be considered.

(10) Pedestrian linkages to primary recreation facilities in the surrounding area are to be encouraged.

(11) Height 50 feet, not including rooftop mechanical equipment, except as noted on Exhibit C for locations where height of 200 feet may be allowed.

b. Off-Street Parking Design Criteria

(1) All off-street parking shall be provided in accordance with the City of West Sacramento Zoning Code and other applicable Agency requirements.

(2) For the convenience of tenants and guests, and to encourage the use of off-street rather than curbside parking and parking along private drives, parking spaces shall be located as close as possible to the unit or communal facility it is intended to serve.

(3) To discourage parking on the street and along private on-site drives, physical barriers such as landscaping, berming, or wall segments shall be incorporated into the project design.

(4) Off-street parking shall be screened from the street by live landscaping, undulating earthen berms, low decorative walls or any combination of the above.

(5) Surface parking areas and top floor parking areas of multi-story parking garages shall be screened from upper-story units by trees or lattice and trellis work, or a combination of these and similar treatments. Such treatment shall cover no less than 50% of the exposed parking area.

(6) For the most part, double-loading of parking aisles should be utilized to minimize surfacing devoted to maneuvering area.

C. On-Site Circulation

(1) Minimum pedestrian/vehicle conflict should be sought in driveway/walkway system design.

(2) A display and unit location map shall be installed at each major driveway entrance and any major walkway entrance to the project as an aid to emergency personnel and a convenience to visitors.

(3) Walkway location shall assure convenient access between parking and dwelling units.

(4) Central pedestrian/bike paths shall provide convenient access to bus stops, greenbelts and public facilities.

(5) Pedestrian crossings shall be provided at appropriate locations along main drives and shall be accentuated by a change in surface textures.

(6) Walkway connections between buildings and street sidewalks are discouraged if they encourage on-street parking by residents.

d. Bicycle Storage

(1) Bicycle storage facilities shall be provided within the development, in a convenient ground-floor location.

(2) One bicycle parking facility is required for every ten (10) (20) off-street parking spaces required, excluding developments which provide individually enclosed garages.

e. Landscaping and Open Space

(1) Landscape materials selected shall be:

(a) Compatible with one another and with existing material on the adjacent site.

(b) Complementary to building design and architectural theme.

(c) Varied in size (one- and five-gallon shrubs, five- and 15-gallon, and 24-inch box trees).

(2) Landscape treatment shall include:

(a) Lawn areas shall be established by sodding; other low ground covers as appropriate.

(b) Larger specimens of shrubs and trees along the site periphery, particularly along setback areas adjacent to public streets.

(c) Greater intensity of landscaping at the end of buildings when those elevations lack window and door openings or other details that provide adequate visual interest. This is especially significant at the street frontage and interior side and rear property lines.

(d) Consistency with energy conservation efforts.

f. Trash Enclosures

(1) The walls of the trash enclosure structure shall be constructed of solid masonry material with decorative exterior surface finish compatible to the main structures.

(2) The trash enclosure structure shall have heavy-gauge metal gates and be designed with cane bolts on the doors to secure the gates when in the open position.

(3) The trash enclosure facility shall be designed to allow walk- in access by tenants without having to open the main enclosure gates.

(4) The walls shall be a minimum of six feet in height, more if necessary for adequate screening.

(5) The perimeter of the trash enclosure structure shall be planted with landscaping, including a combination of shrubs and/or climbing evergreen vines.

(6) A concrete apron shall be constructed either in front of the trash enclosure facility or at point of dumpster pickup by the waste removal truck. The location, size and orientation of the concrete apron shall depend on the design capacity of the trash enclosure facility (number of trash dumpsters provided) and the direction of the waste removal truck at point of dumpster pickup.

The minimum dimensions of the concrete apron for a single, two-cubic-yard dumpster shall be: width 10' or width of enclosure facility; length 20'. Larger trash enclosure facilities shall require a larger concrete apron, subject to the approval of the City Public Works Department.

Paving material shall consist of 5" aggregate base rock and 6" portland cement paving.

(7) The enclosures shall be adequate in capacity, number and distribution.

g. Signage

(1) With the exception of the main project identification sign(s), all other signage shall comply with the stipulation of this text.

(2) A project identification sign is permitted at each major entrance into the complex. The sign shall be a monument type or incorporated into a low-profile decorative entry wall(s). The height of the monument sign shall not exceed five (5) feet. Area should not exceed 25 square feet.

(3) The primary material of the monument base or wall shall be decorative masonry such as brick, split-face concrete block, stucco or similar material which complements the design of the main building.

(4) Individual letters and project logo are permitted. The signage program shall be subject to the review and approval of the Community Development Director.

(5) No sign shall be closer than ten (10) feet to any property line.

(6) As allowed in Article Seven, Item G.4.

ARTICLE THREE: General Provisions for Business/Professional Use Areas

The Business/Professional Use Area is established to provide for office facilities associated with the full-service needs of the Lighthouse Marina Planned Development and the City of West Sacramento. The following provisions apply to all business/professional zoned use areas within the planned development control area.

1. Front setbacks shall be measured from the ultimate public street right-of-way line.

2. All construction and development within the Lighthouse Marina community shall comply with applicable provisions of the Uniform Building Code and other various Mechanical, Electrical, and Commercial Construction Codes related thereto. The codes shall prevail in the business-professional areas, where there is any conflict between the said codes and the provisions in this text.

3. Temporary, special community events, such as parades, pageants, community fairs, athletic contests, carnivals and other similar uses, may be permitted in any area in the Lighthouse Marina community by approval of the City Council upon application for the

appropriate permit.

4. Any conditions, requirements, or standards, indicated graphically or in writing that are a part of a tentative map, use permit, variance or similar permit entitlements granted by the granted by the appropriate authority shall be in conformance with the Lighthouse Marina Planned Development Land Use Regulations. Any use or development not in conformance with such conditions, requirements, or standards shall be in violation of the Lighthouse Marina Planned Development Land Use Regulations.

5. When required by these regulations, a site development permit or use permit for a specific parcel, as appropriate, shall be submitted and approved prior to the issuance of any precise grading permit, building permit, or any change of use and occupancy permit.

6. In these land use regulations, for all land use areas when more than one description may apply to a given use, the more specific description shall determine if a use is allowed, allowed subject to an approved use permit, allowed subject to an approved site plan, or prohibited.

7. Any amendment to these land use regulations must include an amendment to other appropriate sections of the Lighthouse Marina Planned Development Land Use Regulations, where applicable.

8. At least twenty-one (21) calendar days prior to official action on any application for a use permit, variance permit, or building permit, the Community Development Director will forward such application to the Lighthouse Marina Architectural Review Board for their review, recommendations and approval in accordance with Article Eight.

g. Any person, firm or corporation, whether as principal, agent, employee or otherwise, violating any provisions of these regulations shall be guilty of a misdemeanor, and upon conviction thereof shall be punishable by a fine of not more than five hundred dollars ($500.00) or by imprisonment in the County Jail of Yolo County for a term not exceeding six (6) months or by both such fine and imprisonment. Such person, firm or corporation shall be deemed guilty of a separate offense for each and every day during any portion of which any violation of this article is committed, continued or permitted by such person, firm or corporation and shall be punishable as herein provided.

10. Applications for variances to the site development standards of these regulations shall be considered and processed in accordance with the City of West Sacramento Zoning Code.

11. The total professional office space is limited to a maximum of 200,000 square feet.

12. In order to meet the purpose and intent of PD-29, mixed-use structures with residential uses above parking, commercial and/or office floors is encouraged. To this end, the PD-29 BP use area may be combined with the PD-29 RE/RF and PD-29 CR/CT/CM use areas. The site development standards for the PD-29 BP, RE, RF, CT, CR, and CM use areas are intended to provide creative design flexibility for a single structure or cluster of structures. Approvals of mixed-use structure(s) proposal(s) will be as outlined in Article Eight.

A. PD-29 BP Business Professional Use Area

1. Purpose and Intent

The PD-29 BP District is established to provide for conveniently situated professional offices. Only those additional uses are permitted that are complementary to and can exist in harmony with a business/professional setting.

2. Zoning Area

The PD-29 BP zone shall be applied adjacent or in reasonable proximity to the golf course.

3. Permitted, Accessory and Conditional Uses

a. PD-29 BP Permitted Uses

(1) Professional offices for:

(a) Attorneys, accountants, bookkeepers, auditors

(b) Engineers

(c) Planners

(d) Architects and Building Designers

(e) Landscape Architects

(f) Contractors - all categories

(g) Consultants such as:

- Business consultants
- Agricultural consultants
- Building construction consultants
- Building maintenance consultants
- Chemical recycling consultants
- Computer system consultants and designers freight traffic consultants
- Geophysical companies and consultants Media consultants
- Elevator consultants

(h) Industrial designers and tool designers

(i) Geologists

(j) Arbitrators

(k) Auctioneer offices, but excluding auctioneer rooms

(l) Clothing and fashion design studios

(m) Real estate appraisers

(2) Business offices, retail sales and personal service functions in support of other businesses in the PD-29 Zone and adjoining nearby commercial zones consisting of the following:

(a) Advertising agencies

(b) Broadcast audience research and public opinion-poll companies

- Beeper and paging services
- Broadcasting station (radio and TV) including sales offices and general offices
- Broadcast audience research and public opinion poll companies
- Cable television companies Telegraph and cablegram companies

(c) Business Services:

- Secretarial and clerical office services
- Telephone answering service
- Business and office furniture and machines including sales, rentals and services
- Background music sales and services
- Business systems companies
- Clipping bureaus
- Computing services
- Computerized billing service companies Card access and card indexing systems
- Calculating and statistical services
- Confidential records destruction companies Inventory service firms
- Security patrols
- Electronic data processing tabulating and record-keeping services
- Digital instrumentation systems, equipment and supply companies
- Office-planning services
- Credit reporting and collection agencies
- Pension and profit-sharing plan management companies

(d) Brokerage and investments firms such as:

- Real estate development and management firms (no sales offices)
- Data processing time brokers
- Food, frozen food, fruit and vegetable brokers foreign exchange brokers

- Custom house brokers
- Grain and meat brokers
- Oil and land lease brokers
- Lumber companies and brokers exclusive of product storage yard
- Exporters and importers (no retail sales)
- Manufacturers' sales representatives
- Gasoline and oil marketers and distributors
- Logging and woodchipping companies exclusive of product storage yards.

(e) Publications, graphics and reproductions such as:

- Offices without production and warehousing
- Printing, engraving and stationery sales and services offices without production and warehousing
- Business, periodical and architectural illustrators
- Display builders and designers
- Graphic designers
- Drafting, blueprinting and photo-copying services
- Duplicating and mimeographing services

(f) Research and development, such as:

- Agricultural laboratories, including testing and analysis
- Economic
- Electronics research and development
- Energy conservation research and development
- Oil and gas exploration and development, excluding drilling for oil and gas
- Patent development and marketing
- Marketing analysis, research and consultation

(g) Transportation, such as:

- Freight forwarding and freight consolidating companies
- Freight inspection services

- Courier service

- Package delivery

(h) Government offices which do not provide direct public services except for those governmental agencies related to Port activities

(i) Surveyors, such as:

- Land surveyors

- Marine surveyors

(j) Personal services:

- Management and business organizations Trade and labor organizations

- Car rental agencies without outside storage Hotel and motel reservation center – phone service only

(k) Technical and vocational schools for industrially related trades:

- Industrial apprentice training schools

- Computer schools

- Drafting

(l) Corporate and regional headquarters.

(3) Additional office uses may be permitted if it is determined by the Planning Commission that they meet the following criteria:

(a) Professional and/or administrative offices involving no retail trade or,

(b) Professional offices limited to those services which are principally offered to business and industrial accounts, or

(c) Offices of firms which provide products or services primarily for business or industrial firms, or

(d) Firms which provide services to individuals of the community, only if those individuals are then capable of supplying services in support of the firms in the surrounding industrial firms.

(4) As noted in Article Three, General Provisions No. 12.

(5) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

b. PD-29 BP Accessory Uses

(1) Attached multi-story parking structures.

(2) Outdoor day-use recreational facilities.

(3) Retail display/showroom and warehousing space up to a maximum of 10% of the gross floor area utilized by any individual tenant. Floor area shall be based only on that office space under the direct control of the individual tenant.

(4) Lobby and service areas for management of the structure.

(5) Outdoor newspaper vending machines.

(6) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

c. PD-29 BP Conditional Uses

The following conditional uses may be allowed within the PD-29 BP sub-area upon issuance of a Conditional Use Permit by the Planning Commission.

(1) A news, food, and/or personal goods concessioner within the lobby of a permitted use.

(2) Detached multi-story parking structures.

(3) Banking service machines.

(4) Day care for children and/or the elderly.

(5) Medical/dental offices for practitioners registered by the State of California, and not intended for primary surgical and/or emergency-treatment uses.

(6) Businesses and services which, by their nature, consistently utilize hazardous materials of a toxic, radioactive, or inflammable nature in the conduct of their business. Examples of such uses include film processing, x-ray labs, and chemical supply companies but do not include uses which are accessory to a permitted use, i.e., a darkroom in an architectural office, provided that these uses are compatible or made compatible with existing uses in the PD 29 Zone.

(7) Photographers and artists catering to industrial clients.

(8) Record and microfilming service.

(9) Medical, dental biological and x-ray laboratories which do not directly serve the public.

(10) Such other uses as directed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

4. Site Development Standards

a. Lot Requirements - no limitations

b. Building Regulations

(1) Setbacks: No improvements of any kind, and no part thereof, shall be constructed, placed, extended or permitted to remain on any site closer to a property line than herein provided.

(a) Front yard: 60'

(b) Side: Any combination equaling 100', with no less than 25'on any one side

(c) Rear: 25'

(d) Adjacent to residential uses the appropriate yard set-back must equal 20' for each floor of building height or each additional floor must step back in multiples of 20' in addition to standard setback.

(2) Setback Exceptions: The following improvements are specifically excluded from these setback provisions:

(a) Roof overhangs, provided such overhangs do not extend more than three (3) feet into any required yard.

(b) Steps, walks, and open arcades which have been specifically approved by the Community Development Director.

(c) Paving and associated curbing, except that vehicle parking areas shall not be permitted within twenty-five (25) feet of the face of curb.

(d) Fences and screen walls, except that no fence or screen wall shall be placed within the street setback area unless specifically approved by the Community Development Director.

(e) Landscaping

(f) Planters, not to exceed two (2) feet in height, three and one-half (3 1/2) feet in overall height when planted and maximum 25 percent of public right-of-way frontage, which have been specifically approved by the Community Development Director.

(g) Underground improvements

(3) Lot Coverage/Building Height

(a) No building site shall be covered with a building or buildings to an extent greater than 50 percent of the area of said site, excepting that an additional 30 percent of the site area may be covered for the purpose of parking structures, covered arcades, or similar structures if approved by the Community Development Director. This exception shall not apply to covered storage areas or loading docks.

(b) Attached accessory buildings shall be considered as a part of the main building.

(c) Building width as limited by setbacks.

(d) Building height: 50' maximum, except as noted on Exhibit C for locations where height of 200 feet may be allowed.

(e) Coverage bonus percentages may be granted at the rate of one percent of coverage for each percent of accessible outdoor public-oriented space created specifically for use by the general public, such as: plazas, the building lobby, in addition to the entry to mini-park or similar public benefit. In no case shall coverage exceed ninety percent.

C. Fences and Walls, Maximum Height

(1) Within front setback area such use is prohibited.

(2) Within other setback areas - the maximum height shall be six (6) feet, except that this maximum may be exceeded when higher walls are required by the Community

Development Director for the purpose of noise mitigation or health and safety measures.

d. Signs

(1) No billboard or advertising sign or device shall be permitted, other than the following:

(a) Those identifying the name of the business or firm occupying the premises; and

(b) Temporary signs offering the premises for sale or lease, any sign visible for more than 90 days is to be considered in violation.

(2) Signs shall conform to setback lines unless specific approval to the contrary is granted by the Community Development Director.

(3) No sign, outdoor advertising or identification on buildings or building sites shall be erected or maintained unless the size, design and locations of such signs is approved by the Community Development Director. Individual tenant signs shall not be displayed on the exterior of building.

(4) Signs which identify the name of the building shall be allowed as long as they do not project above the highest point of the building, are integral with or are attached flat against the building, or are suspended entirely beneath the canopy portion of the building. Animated or moving signs and flashing or oscillating lights, except time and temperature signs, shall be prohibited. The aggregate area of such signs shall not exceed one (1) square foot for each one linear foot of building frontage.

(5) Freestanding appurtenant signs may be approved by the Community Development Director, subject to the following:

(a) Said signs shall not exceed a height of five (5) feet

(b) Not more than one freestanding sign shall be allowed for each commercial or industrial center or group of buildings that have a common parking area.

(c) Said sign shall not have a face area exceeding 25 square feet; however, only one face of a two-faced sign shall be counted in computing its area.

(d) Directional signs

(6) As allowed in Article Seven, Item G.4.

e. Parking:

Article 7

All off-street parking and loading shall be provided in accordance with the City of West Sacramento Zoning Code and other applicable Agency requirements.

f. Landscaping

(1) Every site on which a building shall have been placed shall be landscaped according to plans approved by the Community Development Director, which approval shall not be unreasonably withheld. Such landscaping shall cover a minimum of twenty percent of the site unless bonus percentages are offered as per 4-b-3-(e) of this article, in which case landscaped area may be 10 percent of the site.

(2) Provision for watering and other maintenance facilities shall be provided for. Maintenance for the landscaped area shall be the responsibility of the owner/management.

(3) Landscaping in accordance with the approved plan shall be installed prior to the issuance of necessary occupancy permits and shall be properly maintained by the occupant thereafter.

g. Trash and Storage Areas

All storage of cartons, containers and trash shall be shielded from view by containment within a building or by a wall enclosure not less than six (6) feet in height and, if uncovered, not within forty (40) feet of any residential area.

h. Lighting

All on-site lighting shall be designed and located so as to confine direct rays to the premises.

ARTICLE FOUR: General Provision for Commercial Use Areas

The commercial use areas are established to provide for a variety of facility types to allow for the diverse retail commercial needs of resident, tourist, and boater. The following provisions apply to all commercially zoned use areas within the Lighthouse Marina Planned Development control area.

1. Front setbacks shall be measured from the ultimate public street right-of-way line.

2. All construction and development within the Lighthouse Marina community shall comply with applicable provisions of the Uniform Building Code and other various Mechanical, Electrical, and Housing/Commercial Construction Codes related thereto. The codes shall prevail in commercial areas where there is any conflict between the said codes and the provisions in this text.

3. Temporary, special community events, such as parades, pageants, community fairs, athletic contests, carnivals and other similar uses, may be permitted in any area in the Lighthouse Marina community by approval of the City Council upon application for the appropriate permit.

4. Any conditions, requirements, or standards, indicated graphically or in writing that are a part of a tentative map, use permit, variance or similar permit entitlements granted by the granted by the appropriate authority shall be in conformance with the Lighthouse Marina Planned Development Land Use Regulations. Any use or development not in conformance with such conditions, requirements, or standards shall be in violation of the Lighthouse Marina Planned Development Land Use Regulations.

5. When required by these regulations, a site development permit or use permit for a specific parcel, as appropriate, shall be submitted and approved prior to the issuance of any precise grading permit, building permit, or any change of use and occupancy permit.

6. In these land use regulations, for all land use areas when more than one description may apply to a given use, the more specific description shall determine if a use is allowed, allowed subject to an approved use permit, allowed subject to an approved site plan, or prohibited.

7. Any amendment to these land use regulations must include an amendment to other appropriate sections of the Lighthouse Marina Planned Development Land Use Regulations.

8. At least twenty-one (21) calendar days prior to official action on any application for a use permit, variance permit, or building permit, the Community Development Director will forward such application to the Lighthouse Marina Architectural Review Board for their review, recommendations and approval in accordance with Article Eight.

9. Any person, firm or corporation, whether as principal, agent, employee or otherwise, violating any provisions of these regulations shall be guilty of a misdemeanor, and upon conviction thereof shall be punishable by a fine of not more than five hundred dollars ($500.00) or by imprisonment in the County Jail of Yolo County for a term not exceeding six (6) months or by both such fine and imprisonment. Such person, firm or corporation shall be deemed guilty of a separate offense for each and every day during any portion of which any violation of this article is committed, continued or permitted by such person, firm or corporation and shall be punishable as herein provided.

10. Applications for variances to the site development standards of these regulations shall be considered and processed in accordance with the City of West Sacramento.

11. The total commercial space is limited to 494,000 square feet of hotel-related Commercial convention-related space, retail commercial and marine commercial uses, as well as the necessary square footage for a 500-room hotel facility.

12. In order to meet the purpose and intent of PD-29, mixed-use structures with residential uses above parking, commercial and/or office floors is encouraged. To this end, the PD-29 CT/CR/CM use areas may be combined with the PD-29 BP/RE RF use areas. The site development standards for the PD-29 BP, CM, CR, CT, RE, and refuse areas are intended to provide creative design flexibility for a single structure or cluster of structures. Approvals of mixed-use structure(s) proposal(s) will be as outlined in Article Eight.

A. PD-29 CT Tourist Commercial

1. Purpose and Intent

The PD-29 CT District is established to provide for a recreationally oriented multi-use hotel, convention center and retail core facility in a high/medium/low-rise combination structure(s). Only those additional uses are permitted that are complementary to and can exist in harmony with a tourist commercial/residential facility.

2. Zoning Area

Tho PD-29 CT zone shall be applied within reasonable proximity to the northerly end of the marina.

3. Permitted, Accessory and Conditional Uses

a. PD-29 CT Permitted Uses

(1) Tourist residential accommodations up to 500 units intended to be rented or leased by the day or week.

(2) As noted in Article Four, General Provision No. 12.

(3) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

b. PD-29 CT Accessory Uses

(1) Kitchens, kitchenettes or wet bar units in up to 10% of the tourist residential units.

(2) Public day-use recreational facilities.

(3) Parking facilities within the same structure as the permitted uses.

(4) Public lobby and sitting areas.

(5) Office, storage, and employee areas intended for the management of the permitted uses.

(6) Public-pedestrian corridors and outdoor passive-use areas.

(7) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

c. PD-29 CT Conditional Uses

The following conditional uses may be allowed within the PD-29 CT sub-area upon issuance of a conditional use permit by the Planning Commission.

(1) Attached or detached convention/meeting facilities up to 50,000 square feet.

(2) Attached or detached restaurant/cafeteria facilities up to six (6) establishments.

(3) Attached or detached retail commercial uses intended to principally serve inhabitants of the permitted use up to 180,000 square feet.

(4) Indoor or outdoor recreation facilities intended to principally serve the inhabitants of the permitted use or owners and employees within one-half mile of the facility.

(5) On-sale liquor establishments up to six (6) establishments.

(6) Detached multi-story parking structures.

(7) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

4. Site Development Standards

a. Lot Requirements - no limitation

b. Building Regulations

(1) Setbacks: No improvements of any kind, and no part thereof shall be constructed, placed, extended or permitted to remain on any site closer to a property line than herein provided.

(a) Front yard: 20'

(b) Side: 20'

(c) Rear: 20'

(2) Setback Exceptions: The following improvements are specifically excluded from these

setback provisions:

(a) Roof overhangs provided such overhangs do not extend more than three (3) feet into any required yard.

(b) Steps, walks, and open arcades which have been specifically approved by the Community Development Director.

(c) Paving and associated curbing, except that vehicle parking areas shall not be permitted within twenty-five (25) feet of the public street right-of-way.

(d) Fences and screen walls, except that no fence or screen wall shall be placed within the street setback area unless specifically approved by the Community Development Director.

(e) Landscaping

(f) Planters, not to exceed two (2) feet in height, three and one-half (3 1/2) feet in overall height when planted and maximum 25 percent of public right-of-way frontage, which have been specifically approved by the Community Development Director.

(g) Underground improvements

(3) Lot Coverage/Building Height

(a) No building site shall be covered with a building or buildings to an extent greater than 50 percent of the area of said site, excepting that an additional 30 percent of the site area may be covered for the purpose of parking structures, covered arcades, or similar structures if approved by the Community Development Director. This exception shall not apply to covered storage areas or loading docks.

(b) Attached accessory buildings shall be considered as a part of the main building.

(c) Building width as limited by setbacks.

(4) The space between buildings shall be sufficient to allow the passage of emergency vehicles.

(5) Building height 50 feet maximum, except as noted on Exhibit C for locations where height of 200 feet may be allowed.

(6) Coverage bonus percentages may be granted at the rate of one percent of coverage for each percent of accessible public-oriented space created specifically for use by the general public, such as: plazas, the building lobby, in addition to the entry to mini-park or similar pubic benefit. In no case shall coverage exceed ninety percent.

C. Fences and Walls, Maximum Height

(1) Within front setback area such use is prohibited.

(2) Within other setback areas -- the maximum height shall be six (6) feet, except that this maximum may be exceeded where higher walls are required by the Community Development Director for the purpose of noise mitigation or health and safety measures.

d. Signs

(1) No billboard or advertising sign or device shall be permitted, other than the following:

(a) Those identifying the name of the business or firm occupying the premises; and

(b) Temporary signs offering the premises for sale or lease; any sign visible for more than 60 days is to be considered in violation.

(2) Signs shall conform to setback lines unless specific approval to the contrary is granted by the Community Development Director.

(3) No sign or identification on buildings or building sites shall be erected or maintained unless the size, design and locations of such signs is approved by the Community Development Director.

(4) Signs which identify the name of the building shall be allowed as long as they do not project above the highest point of the building, are integral with or are attached flat against the building, or are suspended entirely beneath the canopy portion of the building. Animated or moving signs and flashing or oscillating lights, except time and temperature signs, shall be prohibited. The aggregate area of such signs shall not exceed one (1) square foot for each one linear foot of building frontage on any public street or public pedestrian promenade.

(5) Freestanding appurtenant signs may be approved by the Community Development Director, subject to the following:

(a) Signs shall not exceed a height of five (5) feet

(b) Not more than one freestanding sign shall be allowed for each commercial center or group of buildings that have a common parking area

(c) Said sign shall not have a face area exceeding 25 square feet; however, only one face of a two-faced sign shall be counted in computing its area.

(d) Directional signs

(6) As allowed in Article Seven, Item G.4.

e. Parking

All off-street parking and loading shall be provided in accordance with the City of West Sacramento Zoning Code and other applicable Agency requirements.

f. Landscaping

(1) Every site on which a building shall have been placed shall be landscaped according to plans approved by the Community Development Director, which approval shall not be unreasonably withheld. Such landscaping shall cover a minimum of twenty percent of the site unless bonus percentages are offered as per 4-b-(6) of this article, in which case landscaped area may be 10 percent of the site.

(2) Provision for watering and other maintenance facilities shall be provided for. Maintenance for the landscaped area shall be the responsibility of the owner/management.

(3) Landscaping in accordance with the approved plan shall be installed prior to the issuance of necessary occupancy permits and shall be properly maintained by the occupant thereafter.

g. Trash and Storage Areas

All storage of cartons, containers and trash shall be shielded from view by containment within a building or by a wall enclosure not less than six (6) feet in height and, if uncovered, not within forty (40) feet of any residential area or outdoor public area.

h. Lighting

All on-site lighting shall be designed and located so as to confine direct rays to the premises.

B. PD-29 CR Retail Commercial Use Area

1. Purpose and Intent

The PD-29 CR District is established to provide for the retail shopping needs of the Lighthouse Marina residential community and surrounding neighborhoods.

2. Zoning Area

The PD-29 CR zone shall be applied in the reasonable proximity of the landward side of the marina.

3. Permitted, Accessory and Conditional Uses

a. PD-29 CR Permitted Uses

(1) Indoor retail commercial uses intended to accommodate the buying needs of the general public of the following types of articles either separately or collectively:

(a) Apparel

(b) Apparel accessories

(c) Dry goods

(d) Hardware

(e) Art supplies

(f) Computer hardware and software

(g) Video and audio hardware and software

(h) Jewelry

(i) Timepieces

(j) Residential furniture

(k) Auto supplies

(l) Residential accessories and accent items

(m) Sporting supplies

(n) Floral supplies

(o) Stationery supplies

(p) Book, card, magazine, newspaper sales

(2) Indoor service uses of the following types intended to accommodate the personal service needs of the general public on site, either separately or collectively:

(a) Art galleries

(b) Beauty shops/barber shops

(c) Laundry/dry cleaning services

(d) Repair services for permitted retail commercial uses

(e) Pet grooming

(f) Exercise salons

(g) Travel agencies

(h) Copying services

(i) Banking services

(j) Real estate sales offices

(3) As noted in Article Four, General Provision No. 12.

(4) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

b. PD-29 CR Accessory Uses

(1) Indoor public space.

(2) Outdoor passive recreation areas.

(3) Signs in accordance with PD-29 CR Zone Standards.

(4) Attached multi-story parking structure.

(5) Office and warehousing space in support of the permitted retail commercial use tenant, not to exceed 25% of the gross floor area utilized by any individual tenant. Floor area shall be based only on that retail space under the direct control of the individual tenant.

(6) Office and service areas for the management of a structure.

(7) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

C. PD-29 CR Conditional Uses

The following conditional uses may be allowed within the PD-29 CR sub-area upon

issuance of a Conditional Use Permit by the Planning Commission:

(1) Sit-down restaurants and cafes.

(2) Fast-food restaurants.

(3) Delicatessens.

(4) Specialty food stores.

(5) Grocery stores.

(6) On-sale liquor establishments.

(7) Off-sale liquor establishments.

(8) Entertainment arcades.

(9) Live or movie theaters.

(10) Retail convenience stores.

(11) Discount retail commercial establishments.

(12) Business and services which by their nature consistently utilize hazardous materials of a toxic, radioactive, or inflammable nature in the conduct of their business or service.

(13) Gas Station

(14) Uses operating between the hours of 2 a.m. to 7 a.m.

(15) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

4. Site Development Standards

a. Lot Requirements - no limitation

b. Building Regulations

(1) Setbacks: No improvements of any kind, and no part thereof, shall be constructed, placed, extended or permitted to remain on any site closer to a property line than herein provided.

(a) Front Yard: 20'

(b) Side: 20'

(c) Rear: 20'

(d) Between structures: 20'

(2) Setback Exceptions: The following improvements are specifically excluded from these setback provisions:

(a) Roof overhangs, provided such overhangs do not extend more than three (3) feet into

any required yard.

(b) Steps, walks, and open arcades which have been specifically approved by the Community Development Director.

(c) Paving and associated curbing, except that vehicle parking areas shall not be permitted within fifteen (15) feet of public right-of-way.

(d) Fences and screen walls, except that no fence or screen wall shall be placed within the street setback area unless specifically approved by the Community Development Director.

(e) Landscaping.

(f) Planters, not to exceed two (2) feet in height, three and one-half (3 1/2) feet in overall height when planted and maximum 25 percent of public right-of-way frontage, which have been specifically approved by the Community Development Director.

(g) Underground improvements.

(3) Lot Coverage/Building Height

(a) No building site shall be covered with a building or buildings to an extent greater than 50 percent of the area of said site, excepting that an additional 30 percent of the site area may be covered with carports, open arcades, or similar structures if approved by the Community Development Director. This exception shall not apply to covered storage areas.

(b) Attached accessory buildings shall be considered as a part of the main building.

(c) Building with as limited by setbacks.

(d) Building height: 50', maximum.

(e) Coverage bonus percentage may be granted at the rate of one percent, of coverage for each percent of accessible public space created for use by the general public.

C. Fences and Walls, Maximum Height

(1) Within front setback area - three and one-half (3 1/2) feet maximum.

(2) Within other set back areas - the maximum height shall be six (6) feet, except that this maximum may be exceeded when higher walls are required by the Community Development Director for the purpose of noise mitigation or health and safety measures.

d. Signs

Signs shall be allowed in accordance with Article Four Section A.4.d.

e. Parking

All off-street parking and loading shall be provided in accordance with Article I the City of West Sacramento Zoning Code and other applicable Agency requirements.

f. Landscaping

(1) Every site on which a building shall have been placed shall be landscaped according to plans approved by the Community Development Director, which approval shall not be

unreasonably withheld. Such landscaping shall cover a minimum of twenty percent of the site unless bonus percentages are offered as per 4-b-3-e of this article, in which case landscaped area may be 10 percent of the site.

(2) Provision for watering and other maintenance facilities shall be provided for. Maintenance for the landscaped area shall be the responsibility of the owner/management.

(3) Landscaping in accordance with the approved plan shall be installed prior to the issuance of necessary occupancy permits and shall be properly maintained by the occupant thereafter.

g. Trash and Storage Areas

All storage of cartons, containers and trash shall be shielded from view by containment within a building or by a wall enclosure not less than six (6) feet in height and, if uncovered, not within forty (40) feet of any residential area or outdoor public area.

h. Lighting

All on-site lighting shall be designed and located so as to confine direct rays to the premises.

C. PD-29 CM Marine Commercial Use Area

1. Purpose and Intent

The PD-29 CM District is established to provide facilities to meet the marine- oriented retail needs of both resident and visiting boating

2. Zoning Area

The PD-29 CM zone shall be applied within reasonable proximity to the south and west edges of the marina.

3. Permitted, Accessory and Conditional Uses

a. PD-29 CM Principal Permitted Uses

(1) The operation of a ship's chandlery, including the sale and supply of all items normally provided in a ship's chandlery.

(2) Bait and tackle shop

(3) Boat sales and rentals with necessary dockage space.

(4) Merchandising and service establishments such as a coffee shop, carry-out beverage/food facilities, and snack bar.

(5) The maintenance and operation of a boat and boat supply sales facility.

(6) The maintenance and operation of a complete fueling facility for pleasure boats both afloat and on trailers.

(7) Harbor master office and accompanying residential unit.

(8) Harbor security office, sheriffs' land and water patrol office.

(9) As noted in Article Four, General Provision No. 12.

(10) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

b. PD-29 CM Permitted Accessory Uses

(1) The operation of a boat launching ramp.

(2) A sports-fishing, charter boat concession with necessary office, ticketing and dockage space.

(3) The maintenance and operation of a boat repair shop limited to the alteration, maintenance and repair of the rigging, sails engines and accessories of small craft.

(4) Facilities to accommodate various other merchandising or service businesses for sportsmen, retail provisioning, in conjunction with other merchandising or service businesses for sportsmen; skin diving sales and services.

(5) Bait receivers.

(6) Automobile parking, restroom and shower facilities for boat owners.

(7) The maintenance and operation of a boat and boat supply sales facility.

(8) Public room or rooms for meetings, conferences, etc.

(9) Restaurant and cocktail lounges.

(10) Boat Clubs.

(11) Boat Brokerage.

(12) Marine Insurance.

(13) Signs in accordance with PD-29 CM Zone Standards.

(14) Public day-use area.

(15) Public access ancillary uses.

(16) Such other uses as deemed by the Planning Commission to be consistentwith the purpose and intent of the zoning area.

C. PD-29 CM Conditional Uses

Such uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

4. Site Development Standards

a. Lot Requirements - no limitation

b. Building Regulations

(1) Setbacks: No improvements of any kind, and no part thereof, shall be constructed, placed, extended or permitted to remain on any site closer to a property line than herein provided.

(a) Front Yard: 20'

(b) Side: 20'

(c) Rear: 20'

(d) Between structures: 20'

(2) Setback Exceptions: The following improvements are specifically excluded from these setback provisions:

(a) Roof overhangs, provided such overhangs do not extend more than three (3) feet into any required yard.

(b) Steps, walks, and open arcades which have been specifically approved by the Community Development Director.

(c) Paving and associated curbing, except that vehicle parking areas shall not be permitted within fifteen (15) feet of public right-of-way.

(d) Fences and screen walls, except that no fence or screen wall shall be placed within the street setback area unless specifically approved by the Community Development Director.

(e) Landscaping.

(f) Planters, not to exceed two (2) feet in height, three and one-half (3 1/2) feet in overall height when planted and maximum 25 percent of public right-of-way frontage, which have been specifically approved by the Community Development Director.

(g) Underground improvements.

(3) Lot Coverage/Building Height

(a) No building site shall be covered with a building or buildings to an extent greater than 50 percent of the area of said site, excepting that an additional 30 percent of the site area may be covered with carports, open arcades, or similar structures if approved by the Community Development Director. This exception shall not apply to covered storage areas.

(b) Attached accessory buildings shall be considered as a part of the main building.

(c) Building width as limited by setbacks.

(d) Building height: 50', maximum.

(e) Coverage bonus percentage may be granted at the rate of one percent of coverage for each percent of accessible public space created for use by the general public.

c. Fences and Walls, Maximum Height

(1) Within front setback area - three and one-half (3 1/2) feet maximum.

(2) Within other setback areas - the maximum height shall be six (6) feet, except that this

maximum may be exceeded when higher walls are required by the Community Development Director for the purpose of noise mitigation or health and safety measures.

d. Signs

Signs shall be allowed in accordance with Article Four Section A.4.d.

e. Parking

All off-street parking and loading shall be provided in accordance with Article 7 the City of West Sacramento Zoning Code and other applicable Agency requirements.

f. Landscaping

(1) Every site on which a building shall have been placed shall be landscaped according to plans approved by the Community Development Director, which approval shall not be unreasonably withheld. Such landscaping shall cover a minimum of twenty percent of the site unless bonus percentages are offered as per 4-b-3-e of this article, in which case landscaped area may be 10 percent of the site.

(2) Provision for watering and other maintenance facilities shall be provided for. Maintenance for the landscaped area shall be the responsibility of the owner/management.

(3) Landscaping in accordance with the approved plan shall be installed prior to the issuance of necessary occupancy permits and shall be properly maintained by the occupant thereafter.

g. Trash and Storage Areas

All storage of cartons, containers and trash shall be shielded from view by containment within a building or by a wall enclosure not less than six (6) feet in height and, if uncovered, not within forty (40) feet of any residential area or outdoor public area.

h. Lighting

All on-site lighting shall be designed and located so as to confine direct rays to the premises.

ARTICLE FIVE: General Provisions for Recreational Use Areas

A variety of recreational areas have been established in the Lighthouse Marina Planned Development for the purpose of providing diversity in the recreational opportunities available. The following provisions apply to all recreationally zoned use areas:

1. Front setbacks shall be measured from the ultimate public street right-of-way line.

2. All construction and development within the Lighthouse Marina community shall comply with applicable provisions of the Uniform Building Code and other various Mechanical, Electrical, and Housing Codes related thereto. The codes shall prevail where there is any conflict between the said codes and the provisions in this text.

3. Temporary, special community events, such as parades, pageants, community fairs, athletic contests, carnivals and other similar uses, may be permitted in any area in the Lighthouse Marina community by approval of the City Council upon application for the appropriate permit.

4. Any conditions, requirements, or standards, indicated graphically or in writing that are a part of a tentative map, use permit, variance or similar permit entitlements granted by the granted by the appropriate authority shall be in conformance with the Lighthouse Marina Planned Development Land Use Regulations. Any use or development not in conformance with such conditions, requirements, or standards shall be in violation of the Lighthouse Marina Planned Development Land Use Regulations.

5. When required by these regulations, a site development permit or use permit for a specific parcel, as appropriate, shall be submitted and approved prior to the issuance of any precise grading permit, building permit, or any change of use and occupancy permit.

6. In these land use regulations, for all land use areas when more than one description may apply to a given use, the more specific description shall determine if a use is allowed, allowed subject to an approved use permit, allowed subject to an approved site plan, or prohibited.

7. Any amendment to these land use regulations must include an amendment to other appropriate sections of the Lighthouse Marina Planned Development Land Use Regulations.

8. At least twenty-one (21) calendar days prior to official action on any application for a use permit, variance permit, or building permit, the Community Development Director will forward such application to the Lighthouse Marina Architectural Review Board for their review, recommendations and approval in accordance with Article Eight.

9. Any person, firm or corporation, whether as principal, agent, employee or otherwise, violating any provisions of these regulations shall be guilty of a misdemeanor, and upon conviction thereof shall be punishable by a fine of not more than five hundred dollars ($500.00) or by imprisonment in the County Jail of Yolo County for a term not exceeding six (6) months or by both such fine and imprisonment. Such person, firm or corporation shall be deemed guilty of a separate offense for each and every day during any portion of which any violation of this article is committed, continued or permitted by such person, firm or corporation and shall be punishable as herein provided.

10. Applications for variances to the site development standards of these regulations shall be considered and processed in accordance with the City of West Sacramento Zoning Code.

A. PD-29 RMH Recreational Marina/Harbor Use Area

Purpose and Intent

1. The PD-29 RMH District is established for the establishment, improvement and conduct of a marina/harbor and for the development of all marina support services and facilities necessary or convenient for the promotion and accommodation of commerce, navigation and public use. Only those additional uses are permitted that are complementary to, and can exist in harmony with, a marina/harbor.

2. Zoning Area

The PD-29 RHM zone shall be executed within reasonable proximity to the southeast portion of the PD-29 zone to the east of the existing levee.

3. Permitted, Accessory and Conditional Uses

a. PD-29 RMH Principal Permitted Uses

(1) Boat slips and docking facilities

(2) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

b. PD-29 RMH Permitted Accessory Uses

(1) Marine fueling facility.

(2) Boat launching facility.

(3) Convenience docking.

(4) Transient boat berthing.

(5) Harbor Patrol dock.

(6) Sport fishing/charter tour boat landing ticketing office.

(7) Fishweighing station.

(8) Boat storage facilities, pier, anchorages, aids to navigation and public utilities.

(9) Marina waste water pump-out facility.

(10) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

c. C. PD-29 RMH Conditional Uses

Such uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

4. Site Development Standards

a. Building site area - no limitation

b. Building site width - no limitation

c. Covered boat storage height - Eighteen (18) feet above the 100-year flood elevation maximum permitted as measured at average mean low water level, unless otherwise provided for by an approved site development permit or use permit.

d. Covered boat slip site coverage - Ten (10) percent of total available slips may be covered unless otherwise provided for by an approved site development permit or use permit.

e. Walls and fences as conditionally approved in order to meet public safety and the criteria of this ordinance.

f. Trash and Storage Areas - All storage cartons and trash shall be shielded from view by containment within a building or within an area enclosed by a wall not less than 6 feet in height and, if covered, not within 40 feet of any residential area.

g. Construction of "seawalls," and similar protective devices within the marina shall only be permitted when required to serve river-dependent uses or to protect existing structures or public areas in danger from erosion and when designed to mitigate adverse impacts on local river edge lines.

h. Adequate provisions for safe public access shall be required for each development permit along the shoreline of or within the marina. The amount of access required will be commensurate with the size and type of development.

i. Use of boats as permanent residences shall be limited to a maximum of 10 percent of total available slips. Houseboats shall be prohibited.

j. Use of boats as temporary residences, not to exceed three (3) days, shall not be subject to the restrictions in "i" above.

k. A marina walkway will be provided and integrated with future uses.

l. All on-site lighting shall be designed and located so as to confine direct rays to the premises.

B. PD-29 RGC Recreational Golf Course Use Area

1. Purpose and Intent

The PD-29 RGC District is established for the development of a golf course and all golf-related services and facilities for an 18-hole golf course and associated accessory uses.

2. Zoning and Area

The PD-29 RGC zone shall be executed in the vicinity of the existing Riverbend Golf Course.

3. Permitted, Accessory and Conditional Uses

a. PD-29 RGC Principal Permitted Uses

(1) 18-hole golf course

(2) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

b. PD-29 RGC Permitted Accessory Uses

(1) Golf Pro-Shop

(2) Coffee shop/restaurant/bar

(3) Driving range

(4) Putting green

(5) Vehicular parking

(6) Golf-cart storage and rental

(7) Maintenance yard

(8) Administrative Offices

(9) Related recreational uses, including swimming and racquet sports.

(10) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

C. PD-29 RGC Conditional Uses

Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

4. Site Development Standards

a. Building site area - no limitation

b. Building site width - no limitation

c. Building height - Twenty-eight (28) feet maximum permitted unless otherwise provided for by an approved site development permit or use permit.

d. Building site coverage - minimal necessary to provide for accessory uses.

e. Building setbacks - All buildings, structures, and parking facilities shall be set back a minimum of ten (10) feet from all property lines and any public or private street, unless otherwise provided for by an approved site development permit or use permit.

f. All off-street parking and loading shall be provided in accordance with the City of West Sacramento Zoning Code and other applicable Agency requirements.

g. Walls and fences required for safety, security, and aesthetic purposes.

h. Landscaping - As may be required by the conditions of approval for a site development permit or use permit.

i. Trash and Storage Areas - All storage cartons and trash shall be shielded from view by containment within a building or within an area enclosed by a wall not less than 6 feet in height and, if towered, not within 40 feet of any residential area.

j. Signs - as allowed in Article Seven, Item G.4.

C. PD-29 OS Open Space Use Area

1. Purpose and Intent

The OS District is established to provide for uses which serve the outdoor recreational and educational needs of the Lighthouse Marina Neighborhood and surrounding community while protecting resources of notable scenic, natural, geological, or historical value. It is intended that any building structure or other constructed element permitted in this district shall be subordinate to that purpose and intent. A minimum of 27.9 acres + shall be allowed for public open space use.

2. Zoning Area

The PD-29 OS zone shall be implemented in the form of:

a. A mini park along the north edge of the marina.

b. A linear open space extending the length of the extension of River Bank Road at the south edge of the levee. add: with the approval of the competent author

c. A scenic riverfront overlook directly across from the County of Sacramento's Discovery Park, providing both visual and physical access to the Sacramento River, and

d. A continuous pedestrian corridor at the edge of or near the Sacramento River.

e. The preservation, enhancement and protection of existing riparian forest along the edge of the Sacramento River.

3. Permitted, Accessory and Conditional Uses

a. Principal Uses Permitted

Any of the following uses are allowed except as provided in other subsections herein.

(1) Parks and playgrounds/pedestrian and bicycle

(2) Trails

(3) Buffer greenbelts

(4) Archaeological sites

(5) River access, public only

(6) Historical or botanical preserves

(7) Horticultural experimentation/arboretum

(8) Scenic overlooks

(9) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

b. Conditional Uses

(1) Any use which the Planning Commission finds consistent with the purpose and intent of the OS District of the Lighthouse Marina Planned Development Concept Plan.

(2) Outdoor commercial recreation

(3) Utility and government uses

(Q) Day-use facilities

(5) Seasonal river-oriented commercial activities that further enhance the public experience of the river.

(6) Park concessionaires.

C. Prohibited Uses

The following uses are specifically prohibited in this area, except as provided in other subsections herein:

(1) All uses not listed as allowed under a. or b.

(2) Any use that restricts or limits public access, unless provided for by an approved use permit.

(3) Signs not provided for by an approved use permit or site development permit.

(4) Any use inconsistent with the goals and intentions of Open Space and which would intrude on the execution of such goals and intentions.

4. Site Development Standards

a. Building site area - no limitation

b. Building site width - no limitation

c. Building height - one-story above 100-year floodplain.

d. Building site coverage - shall be minimal amount necessary to shield and protect park concessionaires.

e. Building setbacks - All buildings, structures, and parking facilities shall be set back a minimum of ten (10) feet from all property lines and any public or private street, unless otherwise provided for by an approved site development permit or use permit.

f. Off-street parking per City of West Sacramento Zoning Code.

g. Walls and fences shall not be placed where obstruction to high water flows would occur.

h. Landscaping - As may be required by the conditions of approval for a site development permit or use permit.

i. Trash and Storage Areas - All storage cartons and trash shall be shielded from view by containment within a building or within an area enclosed by a wall not less than 6 feet in height and, if covered, not within 40 feet of any residential area.

j. Construction of "seawalls" and similar protective devices shall only be permitted when required to serve river-dependent uses or to protect existing structures or public areas in danger from erosion and when designed to mitigate adverse impacts on local river edge lines.

k. Adequate provisions for safe public access shall be required for each development permit along the shoreline of or within the marina. The amount of access required will be commensurate with the size and type of development.

l. A riverfront walkway will be provided, and integrated with future uses.

m. All on-site lighting shall be designed and located so as to confine direct rays to the PD-29 OS Zone.

n. Signs - as allowed in Article Seven, Item G.4.

ARTICLE SIX: General Provisions for Overlay Districts

1. The overlay district is established to provide additional regulations to the established "base" zone.

2. The intent of the overlay districts is to:

a. Preserve and enhance certain valuable physiographic characteristics;

b. Insure the public safety, health and welfare; and

c. Encourage the desired and intended level of physical design.

A. PD-29 FP Floodplain District

1. Purpose and Intent

The PD-29 FP District is established to provide additional land use regulations to other established districts in the Lighthouse Marina Community with which it is combined or overlaid. These regulations are intended to Prevent loss of life and property caused by floods and to satisfy criteria promulgated by the Federal Insurance Administration for providing flood insurance eligibility to property owners.

2. Overlay Zone Area

All property identified as being in Flood Zone A in FEMA Maps. 3. Permitted, Accessory, Conditional and Prohibited Uses

As per "base" zone

4. Site Development Standards

a. As per "base" zone

b. As described and enumerated in City of West Sacramento Zoning Code for same such zone.

C. As limited by State and Federal Codes and Regulations.

B. PD-29 FLP Flood Protection Levee Overlay Zone

1. Purpose and Intent

The PD-29 FLP District is established to provide additional land use regulations to other established districts in the Lighthouse Marina community with which it is combined or overlaid. These regulations are intended to prevent loss of life and property caused by floods.

2. Overlay Zone District Boundary

To be determined by final location of all levee and/or flood wall, levee combination areas.

3. PD-29 "FLP" Permitted, Accessory Conditional and Prohibited Uses

a. As per "base" zone

4. Site Development Standards

a. As per "base" zone

b. As limited by State and Federal Codes and Regulations

ARTICLE SEVEN: Special Regulations

Lighthouse Marina is being created as a planned unit development composed of a variety of land uses intended to provide an interrelated total environment, utilizing a common theme, while encouraging architectural variation.

These development regulations are established for the purpose of achieving a goal of commonality in detailed development plans for the project area. The duties and responsibilities of the Lighthouse Marina Architectural Review Board are defined in the Covenants, Codes and Restrictions which are to be recorded for the Lighthouse Marina Planned Development.

The Architectural Review Board as well as all governing jurisdictions shall adhere to the following general objectives in reviewing development plans for Lighthouse Marina.

1. To provide adequate natural light, pure air and safety from fire and other dangers.

2. To enhance the value of land and structures within Lighthouse Marina.

3. To minimize congestion due to vehicular and pedestrian circulation within the project area.

4. To preserve and enhance the aesthetic values throughout Lighthouse Marina.

5. To promote public health, safety, comfort, convenience and general welfare.

These objectives are intended as a supplement to existing City Ordinances and the Covenants, Codes and Restrictions to achieve the desired development goals. Amendments to these development guidelines can be adopted by the City of West Sacramento Planning Commission, in conjunction with the Lighthouse Marina Architectural Review Board.

A. General

All the elements of Lighthouse Marina shall be designed to create a desirable environment. Each element shall have a defined internal relationship and be in architectural harmony with other surrounding areas. Living ground cover with permanent irrigation interspersed with tree planting, walkways, rest areas and service facilities will tie together the individual elements throughout the project. Consideration shall be given to preserving existing trees and desirable topographic features.

It shall be the intention of the Community Development Director to achieve the goal, as envisioned for Lighthouse Marina, by encouraging design which will emphasize harmonious relationships between man and his environment.

B. Landscaping

A plan for landscaping and pedestrian circulation shall be established to insure a continuity in design and landscaping patterns. The species, size and spacing of trees and other planting materials shall conform to the approved planting list, which encourages species

required minimal irrigation and fertilization.

All landscaping referred to in this section shall be maintained in a neat and orderly fashion.

1. Front-Yard Setback Area: Landscaping in these areas shall consist of an effective combination of trees, ground cover and shrubbery.

2. Side and Rear-Yard Setback Area: All unpaved areas not utilized for parking and storage shall be landscaped utilizing live plant material consisting of ground cover and/or shrubbery and tree material. Undeveloped areas proposed for future expansion development shall be maintained in a weed-free condition but need not be landscaped. Boundary landscaping is required on all interior property lines. Said areas shall be placed along the entire breadth of these property lines or be of sufficient length to accommodate the number of required trees. Trees, equal in number to one (1) tree per twenty-five (25) linear feet of each property line, shall be planted in the above-defined areas in addition to required ground cover and shrub material.

3. Parking Areas: Trees, equal in number to one (1) per each five (5) parking spaces, or equivalent landscaping, shall be provided in the parking area.

4. Trees: As used in this section, a "tree" shall mean any living native oak tree having at at grade least one trunk of six inches or more in diameter, measured four-and-one-half (4-1/2) feet above the ground or a multi- trunked native oak tree having an aggregate diameter of ten inches or more, measured four-and-one- half (4-1/2) feet above the ground (dbh).

It is recognized that the preservation of trees enhances the natural scenic beauty, sustains the long-term potential increase in property values, which encourages quality development; maintains the original ecology; retains the original tempering effect of extreme temperatures; increases the attractiveness of the City to visitors; helps to reduce soil erosion; and increases the oxygen output of the area, which is needed to combat air pollution.

No person shall trench, grade or fill within the dripline of any tree or destroy, kill or remove any tree unless the appropriate application has been made as defined below. Exemptions from the provisions of this restriction include:

(1) Trees identified on an approved grading permit issued by the Director of Public Works.

(2) Trees shown for removal on an approved site plan where construction cannot take place without the removal of the tree.

(3) Emergency situation for safety reasons.

(4) Public agency directed work within R.O.W.'s, parks, and open space areas.

(5) Other instances in accordance with any adopted Tree Ordinance.

The preservation or removal of trees as a condition of approval of a discretionary project shall be the sole and continuing responsibility of the approving body which granted approval of the project.

Any person desiring to cut down, destroy or remove one or more trees shall make application to the City Manager or his designee not less than ten days prior to the time desired to physically remove the tree. Said application shall contain:

a. A brief statement of the reasons for removal;

b. Consent of the owner or record of the land on which the proposed activity is to occur;

c. A tree survey with the accurate location, number, species, size diameter measured 4-1/2 feet above the ground, approximate heights and approximate canopy diameter) and approximate age (if known) of the tree or trees to be removed;

d. If the project involves other discretionary development, then this survey must be part of the total development plan and must also describe any tree or trees which could be affected by the proposed development; and

e. Any other pertinent information requested.

f. The approving body may mandate any or all of the following control measures to mitigate damage to oak trees caused by land development:

(1) No grade cuts greater than one foot shall occur within the driplines of oak trees, and no grade cuts whatsoever shall occur within five feet of their trunks;

(2) No fill greater than one foot shall be placed within the driplines of oak trees and no fill whatsoever shall be placed within five feet of their trunks;

(3) No trenching whatsoever shall be allowed within the driplines of oak trees. If it is absolutely necessary to install underground utilities within the driplines of an oak tree, the trench shall be authorized by the Director of Public Works.

(4) No irrigation system shall be installed within the driplines of oak tree(s) which may be detrimental to the preservation of the oak tree(s) unless specifically authorized by the Director of Public Works.

(5) Landscaping beneath oak trees may include non-plant materials such as boulders, cobbles, wood chips, etc. The only plant species which shall be planted within the driplines of oak trees are those which are tolerant of the natural semi-arid environs of the trees. Limited drip irrigation.

(6) Major roots two inches or greater in diameter encountered within the tree's dripline in the course of excavation from beneath trees which are not to be removed shall not be cut and shall be kept moist and covered with earth as soon as possible. Roots one inch to two inches in diameter which are severed shall be trimmed and treated with pruning compound and covered with earth as soon as possible.

(7) Support roots that are inside the dripline of the tree shall be protected. The permitted is required to hand-dig in the Vicinity of major trees to prevent root cutting and mangling which may be caused by heavy equipment.

C. Pedestrian Circulation

The schematic plan set forth in "B" of this Article shall include a system of pedestrian and bicycle ways. Plans for the development of each parcel shall include a walkway system as indicated on the schematic plan or on an approved amendment to such schematic plan.

An exhibit shall be approved and included in this schematic plan that indicates the typical treatment of walkway system design if it is to be located in the setback area adjacent to a public street. An exhibit shall be approved and included within this document that indicates typical design requirements for walkway materials, planting, shade structures,

benches, light standards, and other elements of the walkway system. Planting shall conform to an approved planting list, which shall also be approved and included within this document.

D. Parking Area Standards

Adequate off-street parking shall be provided to accommodate all parking needs of the site. The intent is to eliminate the need for any on-street parking. Parking requirements as follows or as per City of West Sacramento Zoning Code shall be used, whichever is more restrictive.

Required off-street parking shall be provided on the site of the use served, or on a contiguous site. Where parking is provided on other than the site concerned, a recorded document shall be approved by the City Attorney and filed with the Community Development Department and signed by the owners of the alternate site stipulating to the permanent reservation of use of the site for said parking.

The following guide shall be used to determine parking requirements:

1. Office: One (1) space for each 200 square feet of gross floor area. The parking requirement may be lowered to one (1) space for each 250 square feet of gross floor area upon review and approval of the Zoning Administrator based on actual user profile.

2. Restaurants, Cafes, and Bars: One (1) space for each three (3) seats plus one (1) space for each 1.1 employees on the largest shift.

3. Commercial: One (1) space for each two hundred (200) square feet of gross floor area. One (1) loading space for each ten thousand (10,000) square feet of gross floor area.

4. Hotels: One (1) space for each guest unit plus employee parking on a demonstrated formula.

5. Multiple Residential: In accordance with zone requirements.

6. Curbs, walls, decorative fences with effective landscaping or similar barrier devices shall be located along the perimeter of parking lots, garages, and storage areas, except at entrances and exits indicated on approved parking plans. Such barriers shall be so designated and located to prevent parked vehicles from extending beyond property lines of parking lots and garages or into yard spaces where parking is prohibited and to protect drainages from parking lots.

7. Curbs and drives shall be constructed in accordance with the current requirements of the City of West Sacramento.

E. Exterior Lighting

1. Fixture types used shall be compatible and harmonious throughout the entire development and should be in keeping with their specific function and the building types they serve. Fixture type in landscape or walkway areas shall utilize anodized aluminum standards with various mounting heights.

2. Lighting shall be designed in such a manner as to provide safety and comfort for occupants of the development and the general public.

3. Lighting design shall be such as not to produce hazardous and annoying glare to

motorists and building occupants or the general public. Indirect lighting is recommended.

4. Recommended maintained illuminances for commercial parking areas shall be 2.0 average footcandles and 0.7 minimum footcandles and for multifamily residential parking areas shall be 1.5 average footcandles and .5 minimum footcandles.

5. All on-site lighting shall be designed and located so as to minimize light trespass to the adjacent premises.

F. Building Standards

1. Exterior Wall Materials

a. The purpose and intent of this section is to encourage, not restrict, the creative and innovative use of materials and methods of construction and to prevent indiscriminate and insensitive use of materials and design.

b. Finish building materials shall be applied to all sides of a building which are visible to the general public and occupants of the same and other buildings.

c. Concrete block exposed to the exterior shall not be acceptable to any purpose or use.

d. The effect of a material used on a building shall be considered in relationship to all other buildings in the development and shall be compatible with other buildings.

2. Colors

a. All colors shall be harmonious and compatible with colors of other buildings in the development and the natural surroundings.

3. Roof Projections

a. Large items such as air conditioning, ventilating, other mechanical equipment shall be screened or enclosed in such manner as to hide such equipment.

b. Projections shall be painted to match roof or building.

4. Garbage, Loading Dock, and Other Services Screening

a. These elements shall be so located as to cause no nuisance to the general public, occupants of the same and other buildings.

b. They shall be located in the most inconspicuous manner possible.

c. All garbage and refuse shall, if not contained and concealed within the building, be concealed by means of a screening wall of a material similar to and compatible with that of the building.

d. These facilities shall be integral with the concept of the building planning and in no way attract attention because of their unplanned character.

5. Mechanical Equipment

a. All mechanical equipment, utility meters and storage tanks shall be located in such a

manner so as not to be visible to the general public.

b. If concealment within the building is not possible, then such utility elements shall be concealed by screen.

c. Penthouses and mechanical equipment screening shall be of a design and materials similar to and compatible with those used in the related buildings. These structures may exceed the maximum height limit.

d. Underground utility lines throughout the project shall be required.

e. All mechanical equipment shall be located in such a manner to not to cause nuisance or discomfort from noise, fumes, odors, etc.

6. Exterior Fire Stairs

a. Non-enclosed, exterior fire stairs in no case shall be permitted.

7. Temporary Structures

a. The only temporary structures permitted shall be those attendant to the construction of improvements on the site of a particular parcel or in connection with construction of any public improvements. Such structures will be removed upon the recording of a Notice of Completion for each work of improvement. Additionally, temporary structures for marketing and sales offices are authorized but must be removed upon obtaining of a Certificate of Occupancy of a permanent building.

b. Such structures shall be placed as inconspicuously as possible and cause no inconvenience to the general public.

c. Such structures may include modular units, construction/office trailer or security facilities.

8. Walks and Plaza Materials

Materials selected for walks and plazas shall be related to the materials of the buildings and compatible with walk and path system standards. Surface shall be non-skid finish. Layout and design shall provide maximum comfort and safety to pedestrians. Patterns for plaza paving should have an obvious relationship to the buildings.

G. Sign Regulations

The purpose of the Sign Regulations is to set forth the criteria to be used in evaluating proposals for all signing. This criteria will aid in eliminating excessive and confusing sign displays, preserve and enhance the appearance of Lighthouse Marina, safeguard and enhance property values, and will encourage signs which by their good design are integrated with and are harmonious to the buildings and sites which they occupy.

These sign regulations are intended to complement the City of West Sacramento Sign Ordinance as well as other regulations noted for each zone category. In all cases, the most restrictive requirements will apply.

1. General Requirements

a. In no case shall flashing, moving, or audible signs be permitted.

b. In no case shall the wording of signs describe the products sold, prices, or any type of advertising except as part of the occupant's trade name or insignia.

C. No signs of any sort shall be permitted on canopy roofs or building roofs.

d. No sign or any portion thereof may project above the building or top of wall upon which it is mounted.

e. No signs perpendicular to the face of the building shall be permitted.

f. All signs in Lighthouse Marina shall be placed flat against the building to which it is attached.

2. Design Requirements

a. The location of signs shall be only as shown on the approved improvement plan.

b. Painted lettering will not be permitted.

c. All electrical signs shall bear the UL label and their installation must comply with all local building and electrical codes.

d. No exposed conduit, tubing, or raceways will be permitted.

e. No exposed neon lighting shall be used on signs, symbols, or decorative elements.

f. All conductors, transformers, and other equipment shall be concealed.

g. All exterior letters or signs exposed to the weather shall be mounted at least three fourths inch (3/4") from the building to permit proper dirt and water drainage.

h. Location of all openings for conduit and sleeves in sign panels of building wall shall be indicated by the sign contractor on drawings. Installation shall be in accordance with the approved drawings.

i. No signmaker's labels or other identification will be permitted on the exposed surface of signs, except those required by local ordinance which shall be located in an inconspicuous location.

3. Miscellaneous Requirements

a. Each occupant in a commercial or business zone will be permitted to place upon each entrance to its premises not more than 144 square inches of gold leaf or decal application, lettering, not to exceed two inches in height, indicating hours of business, emergency telephone numbers, and proprietorship. No other window signs will be allowed.

b. Each occupant who has a non-consumer door for receiving merchandise may have uniformly applied on said door in a location, as directed by the Architectural Review Committee in two inch high block letters the occupant's name and address. Where more than one occupant uses the same door, each name and address shall be applied.

C. Occupants may install street address numbers as the U.S. Post Office requires in the exact location stipulated.

4. Special Signing

a. Floor signs, such as inserts into terrazzo, special tile treatment, etc., will be permitted within the occupant's lease line or property line if approved by the Community Development Director.

b. The provisions of these Sign Regulations, except as otherwise expressly provided herein, shall not be applicable to the identification signs of any large department-type store, and it shall be understood and agreed that those occupants may have their usual identification signs on their buildings; however, there shall be no rooftop signs, or signs which extend above the parapet wall of the roof line of the building to which they are attached. Further, no sign shall be permitted that is flashing, moving or audible or placed perpendicular to the building.

c. Informational and directional signs relating to pedestrian and vehicular flows within the Lighthouse Marina project area shall conform to standards set forth in a master sign program identifying style, color and coordinated graphics to be approved by the Community Development Director prior to issuance of a sign permit for any permanent informational or directional signs.

d. One standard sign denoting the name of the project, the marketing agent, the contractor, architect, and engineer shall be permitted upon the commencement of construction. Said sign shall be permitted until such a time as a final inspection of the building(s) designates said structure(s) fit for occupancy or the tenant is occupying said building(s), whichever occurs first.

e. Upon removal of the sign described in 4.d. above, a sign advertising the sale or lease of the site or building shall be permitted.

f. Permanent directional and identification signs for the Lighthouse Marina project, exceeding one hundred twenty-five (125) square feet (single face) for any one location shall be permitted but subject to use permit.

g. Temporary signs related to seasonal concessions may be granted as procedurally outlined in Item "N" of this Article.

ADD Temp real estate sign - 150 SF for 2 locations permitte with CDD approva

ARTICLE EIGHT: Development Permit Regulations and Procedures

The objective of the requirement for specific site plans for specific parcels is to provide a logical sequence of community and governmental review and input. Such approved site plans for each area or sub-area are supplements to the Lighthouse Marina Land Use Regulations.

The purpose of such site development permits is to provide for review of the detailed final plans of a project with respect to the architectural design, materials, colors, landscaping, and relationship to surrounding uses for an entire project. A site plan may also be approved to establish development standards.

A. Regulations and Procedures

1. The provisions of this ordinance are intended to supercede the requirements of the City of West Sacramento Zoning Code. Where events or circumstances occur which are not cited by this ordinance, the provision found in the previously cited chapters shall be utilized in resolving those events or circumstances.

2. Definitions of words or procedures utilized in this ordinance shall be the same as defined in the City of West Sacramento Zoning Code or clarified through interpretation by the City of West Sacramento Planning Commission or its designee.

3. Approval of Plans

All improvements constructed, placed, altered, maintained or permitted on any land in the PD-29 District shall be required to comply with the requirements of the City of West Sacramento, the Site Plan Approvals.

4. Modifications and Interpretations

a. The Zoning Administrator may approve minor modifications of the development plans or standards of PD-29 pursuant to the authority of West Sacramento Zoning Ordinance. Should the matter involve a modification not determined by the Zoning Administrator to be minor, a change may be granted by the Planning Commission, pursuant to the provisions of the Zoning Ordinance.

b. The Planning Commission may approve the adjustment of specific land uses in location, acreage, density and intensity of use so long as the adjustment is consistent with and no more than the densities and intensities of use specifically itemized in the Disposition Development Agreement (D.D.A.).

C. The site development standards of each land use sub-area of PD-29 are intended to facilitate flexible, creative urban design plans for coordinated mixed-use developments. Land use sub-areas granted ability to participate in mixed-use design strategy (PD-29 RE/RF/BP/CT/CR/CM) shall submit schematic plans in accordance with Article Eight, Section N.

d. Upon the adoption of the schematic master plans by the City Council, the site development standards in Articles Two through Six shall be replaced by the standards set forth in the schematic (master) plan. The limits set for in this section shall supercede that noted in Section K of Article Eight.

B. Security for Construction of Permanent Buildings ← Propose deletion

1. Security shall be deposited with the Agency for all projects for which an Agency permit is required pursuant to this ordinance. The purpose of this security shall be to guarantee the applicant's compliance with the permit and ordinance conditions and the satisfactory completion of required improvements such as construction in accordance to approved plans, landscaping, revegetation, land coverage standards, and public works standards. Security, unless otherwise agreed to by the Developer and the City Planning Commission, shall be as follows:

a. Residential Construction

The amount of security required to guarantee compliance with the conditions of approval, including construction according to plans, shall be 10 percent of the estimated cost of the project but not less than $100.00.

b. All Other Construction

(1) The amount of security required to guarantee the satisfactory completion of required non-residential, as stated above, shall be in the amount of 100 percent of the landscaping, revegetation and/or slope protection

(2) The amount of security required to guarantee compliance with this ordinance and conditions of approval shall be one percent of the estimated cost of the particular project, but not less than $100.00.

2. The security shall be in the form of a cash deposit, irrevocable letter of credit, certificate of deposit, assigned passbook account, or such other security acceptable to the city. Any interest gained from an irrevocable letter of credit, certificate of deposit, or assigned passbook account shall accrue to the applicant or their designee. No interest shall accrue from a cash deposit (including personal and cashier's checks).

3. The security referred to in this section shall be on deposit with the Agency prior to the commencement of any physical work on the particular project.

4. The security shall remain on file with the Agency for the periods indicated below unless specifically called by the Planning Commission for noncompliance. In the event of noncompliance, the security can be called by the Planning Commission before the prescribed period, or following inspection of the site for a refund at any point after the prescribed period. In no event will a release be authorized prior to the establishment of any designated landscaping or revegetation. Any forfeiture of a security shall be made by the Planning Commission in a public hearing and after due notice and opportunity to correct deficiencies. Due notice and opportunity shall be based on the type and growing season circumstances of the deficiency.

a. Improvement securities: Said security shall be called or released upon satisfactory completion of the required work not to exceed five years unless a prior release schedule has been agreed upon for engineering improvements prior to the start of physical work. In no event will landscaping and revegetation portions of securities be refunded prior to three growing seasons after the completion of the physical work on the project.

b. Compliance securities: Said security shall be called or released upon satisfactory completion of the required work not to exceed six months beyond the notification to the Agency of compliances with all nonphysical conditions unless a prior release schedule has been incorporated into the original Agency approval.

c. RD-29 RA, RB and RC securities: Said security shall be called or released upon satisfactory completion of the required work not to exceed three years unless a prior release schedule has been agreed upon by the Planning Commission. In no event will any portion of the security intended to insure compliance with landscaping or revegetation provisions be released prior to the third growing season.

5. All interest accrued to the City from security accounts and any principal forfeited to the City from called securities shall be utilized by the City for the public good on public or nonprofit lands. Public good shall be determined by the Planning Commission on a yearly basis in December and shall be available to City agencies, tax-supported agencies within the City, and nonprofit organizations, based on the following criteria without regard to order, but with regard to need and perceived benefit to the City's citizens:

a. Insufficient funds for a project or meaningful share of a project.

b. Contribution required to further a mitigation measure required by the PD-29 approval at any level.

c. Funds can further a recognized need within the City of West Sacramento community.

d. Funds can further a recognized need within the boundaries of the Redevelopment Agency.

e. Funds can further a recognized environmental or recreational need of the City in

general.

f. There are no proposals this year of overall value and concern to the Agency to warrant allocation of funds.

6. Any forfeiture does not release the owners, heirs or successors from the compliance with the sections of this ordinance or other applicable statutes.

7. Any forfeiture decision by the Planning Commission is subject to appeal to the City Council within five (5) working days from the Commission's oral decisions.

C. Review of Subsequent Project Applications

To the entent not prohibited by applicable law or the conditions of approval of any previous entitlement, or terms of a development agreement, the City of West Sacramento shall not accept any application from an applicant or property owner who is in violation of a previous entitlement. All violations must be fully resolved to the satisfaction of the City before additional applications will be accepted. Any rejections of such an application may be appealed by the applicant to the Planning Commission.

D. Creation of Area or Sub-Area

No person shall create a lot or parcel upon which there will exist more than the number of dwelling units or maximum percentage of land coverage permitted by this Ordinance, except that more than such maximums may be created in connection with portions of a subdivision, which subdivision meets such standards as a whole, and the tentative map of which is approved by the City.

E. Protection of Subsequent Buyers

Where a lot or parcel is divided, the person making the division shall calculate the number of dwelling units and land coverage allocatable to each of the resulting lots or parcels and shall note such allocations in the deeds to such resulting lots or parcels and on the lot or parcel map, if any, that is used to record such division.

F. Condominium/Time-Share Conversions

All conversions of residential, commercial, and office uses after the original approval of the project shall be subject to the requirements of the City of West Sacramento Zoning Code. The requirements shall be complied with prior to or in concert with the recordation of any required map.

G. Variances and Modifications

1. Variances from the terms of this Ordinance shall be granted by City of West Sacramento only if it is found that because of special circumstances applicable to the property, including size, shape, topography, location or surroundings, the strict application of the ordinance deprives such property of privileges enjoyed by other property in the vicinity and within the same use district, and the application shows that he cannot make any reasonable use of the property if this Ordinance is applied. Where such conditions are found, the variance permitted shall be the minimum departure from existing regulations necessary to avoid such deprivation of privileges enjoyed by such other property and to facilitate a reasonable use and shall not exceed 10 percent of the allowable standard.

2. The Planning Commission may grant variances and modifications to the land uses densities and intensities consistent with the EIR/EIS and consistent with Article Eight,

Item 4. Appeals of decisions may be exercised pursuant to Article Eight.

H. Findings

A final decision on a permit or variance requiring review by the local jurisdiction shall include a statement of law and findings of the fact, separately stated. The statement of law shall specify the applicable statute, plan, or ordinance or rule and whether the statute, plan, ordinance or rule has been complied with. The findings of fact shall specify the items of evidence in the administrative record which support the decision.

I. Burden of Proof

The burden of proof is on the applicant to show an entitlement or an entitlement to a permit or variance pursuant to this Ordinance.

J. Violation of Ordinance

Violation of this ordinance or of the City Code of West Sacramento Zoning shall be a misdemeanor. Each day of violation constitutes a separate offense. Compliance or relief of violations may be sought by the City in either Municipal Court or Superior Court, depending on the degree of violation determined by the City.

2. Stop Order and Revocation of Permits

a. Whenever the City of West Sacramento determines that any permit, approval of subdivision map or maps, whether tentative or final zoning matter, or variance or use permit, or any action being taken thereunder or any action not taken under color of a permit, is in conflict with any ordinance of the City or determines that any such action is in conflict with any rule, regulation or policy of the City, such officer of the agency may issue a stop order which shall prohibit any action thereunder for a period of thirty- five (35) days. Such stop order shall be in writing, shall set forth the violations alleged to exist and may list remedies to be undertaken to correct the violations. The person receiving such a stop order shall report in writing to the officer or body issuing the order within forty-eight (48) hours the steps proposed to be taken to correct the violations. Such stop order may be extended by the Planning Commission for a period of not to exceed an additional thirty-five (35) days upon opportunity for hearing being extended to the affected parties. During the period of such stop order, the Commission shall review the matter as herein provided. A stop order issued pursuant to this section may be withdrawn by the Planning Commission or by the officer who issued it upon a finding that the circumstances giving rise to the stop order no longer exist. In addition or instead of the measures set forth, the Commission may revoke a permit upon finding violation of the approval or conditions thereto, and may cause to be removed all improvements constructed in reliance upon such permit, with costs to constitute a lien on the property. The Commission may also order restoration of the property.

b. The City may suspend any permit or other approval whenever there has been a false statement or misrepresentation in the application as to any material fact on which the permit was based.

c. The City may suspend a permit or other approval whenever a violation of the provisions of this Ordinance or of Conditions of Approval made pursuant to provisions of this Ordinance are found to exist.

d. The City, after a hearing, may revoke the permit and may cause to be removed all improvement constructed in reliance upon such permit, and may seek reimbursement for all costs incurred. The Agency may also order restoration of the property.

e. Any person may appeal to the City Council the imposition of any Condition of Approval, denial of a permit or other approval or revocation of a permit made by the Agency staff if such appeal is made in writing within fifteen (15) days after receiving notice from the staff to impose conditions or deny permits or other approvals.

K. Determination of Use

Where a combination of permitted, accessory and/or conditional uses are proposed within a single structure, the determination of the principal character of that structure shall be based on the floor area and/or intensity of use of each component. Standards of development shall be based on the requirements of each use.

L. Hazardous Materials

It shall be the responsibility of all applicants for any permitted, accessory, or conditional use to provide in the application for the safe delivery, storage, use and disposal of any hazardous materials to be used in the conduct of that use. Hazardous materials shall include toxic, radioactive and inflammable products. Where disposal involves a public utility, prior written concurrence shall be obtained form that utility. Examples of measure could include a lockable fire-resistant area in a dwelling to shielded fireproof and monitored storage areas in businesses.

M. Lighthouse Marina Planned Unit Development Architectural Review Board

An Architectural Review Board shall be so powered as per specifications in the Covenants, Codes and Restrictions for the Lighthouse Marina Planned Development.

N. Procedures for Approval

Any applications submitted to the Community Development Director shall be submitted in duplicate to the office of the Architectural Review Board for Lighthouse Marina. Approvals, conditional approvals, or disapprovals shall be in writing to the applicant and signed by the technical representative of the Architectural Review Board within thirty (30) days from the date of a completed submission. Application for approval of plans and specifications by the Architectural Review Board shall be by two-phased submissions: (a) Schematic-Preliminary Phase submission and approval; and (b) Construction Documents submission and approval. Submissions must be made in the order indicated and approval of each submission must be obtained from the Board before a subsequent submission on the same project will be considered by the Board. In addition, a review of the completed construction and issuance of a Certificate of Compliance is required for each project. The Community Development Director shall respond to the applicant in writing no later than ten (10) days following receipt of the recommendation of the Board.

Applications for approval of each phase shall contain the following submission and information:

1. Schematic-Plan Phase

a. Site map showing existing topographic features and proposed building(s) in relation to adjacent and nearby roads and buildings.

b. Site plan showing proposed grading, driveways, pathways, terraces, property lines, setback lines, proposed parking and storage areas, existing and proposed grades and proposed landscaping. Design development of these items shall be included.

c. Plans and elevations of building(s) showing major dimensions, cross-sections, and typical wall sections.

d. Outline specifications and/or site development standards.

e. Exterior colors and materials of construction.

2. Construction Documents Phase

a. Complete working drawings including site development plan and landscaping plan. (See Drawing Check List below.)

b. Specifications.

c. Exterior colors and materials of construction.

3. Completion of Construction Certificate

a. Upon notification of the completion of construction, the Architectural Review Board will inspect the property and recommend to the Grantor the issuance of a Certificate of Compliance for the project. This Certificate will be issued by the Grantor under the same terms and conditions as the Estoppel Certificate, which is specified in the Covenants, Codes and Restrictions.

4. Drawing Check List

a. Names and addresses of builder, contractor, developer, etc.

b. Project site plat with dimensions taken from signed record plat.

c. All submissions must include topography showing existing grades/and proposed grades at one foot intervals with spot elevations as required to clarify drawings, also show building corner elevations and floor elevations.

d. Proposed landscaping, including automatic irrigation system.

e. Retaining walls.

f. Street names.

g. Locations and details of temporary and permanent signs.

h. Temporary and permanent fences and wind and water erosion control devices.

i. Temporary and permanent storage and stockpiling areas.

j. Front, side and rear distances from building to property lines.

k. Easements and rights-of-way.

l. Pipes, berms, ditches, swales.

m. Driveways, parking areas, traffic patterns, pathway and lighting, existing and proposed.

n. Locations and details of benches and patios.

o. Exterior storage and screening devices for trash, mechanical equipment and meters.

p. Light poles and transformers.

q. Sewer alignments and location of manholes and inverts.

r. Show existing inlets and top of plate elevations, if any.

s. Mailboxes.

t. Roof projections and screening treatment.

SECTION 2

BASIC PUBLIC IMPROVEMENTS

FINANCING AND TIMING; ENVIRONMENTAL MITIGATIONS

ARTICLE I

PURPOSE AND INTENT: ADOPTION

A. Public Improvements: The purpose and intent of this section is to allow the land development authorized by this ordinance to proceed only if the City Council has approved a Public Improvements Financing and Timing Plan ("Improvements Plan"). The Improvements Plan shall assure the provision and funding of the basic public improvements required to service development of the type, density and intensity authorized by this ordinance. The additional purpose and intent of this section is to authorize use of flexible methods of timing, phasing and financing of such improvements as may hereafter be approved by the City Council.

B. Environmental Mitigations: The additional purpose and intent of this section is to specify the procedure by which detailed environmental mitigations will be incorporated into the project allowed by this ordinance, in conjunction with Federal, State and local agencies with jurisdiction to require specific environmental mitigations.

C. Adoption: The City Council hereby is authorized to approve, by resolution, an Improvements Plan upon a finding that such improvement plan meets the requirements of this Section 2 and, if applicable, Section 3 hereinbelow.

ARTICLE II

REQUIRED PUBLIC IMPROVEMENTS AND ENVIRONMENTAL MITIGATIONS

A. Purpose and Intent: This Article sets forth the categories of basic public improvements which shall be addressed in the Public Improvements Plan required by this Section.

B. Definitions: For purposes of this Section, the following terms shall be defined as follows:

1. Public Improvement: "Public Improvement" shall mean the specific items of construction required by an agency with jurisdiction over the particular improvement in question, as specified in agreements, permits, permit conditions, or other entitlements issued by such agency, and in all cases, shall include sufficient capacity to service the type, density, and intensity of land development authorized by this ordinance.

2. Will Serve Letters: "Will Serve Letters" shall mean a written correspondence between an agency with jurisdiction and the City, indicating that such agency is able to provide the type of Public service or project approval needed by the development authorized by this ordinance, and within the jurisdiction of such agency, subject to such conditions as may be expressed in such correspondence regarding public improvements to be constructed by the developer and dedicated to the agency, or in-lieu fees, or both. A "will serve letter" may be an agreement between the developer and the agency, a permit or other entitlement issued by the agency, or permit conditions under which the agency will provide the particular public service within the agency's jurisdiction; or, in the alternative, a "will serve letter" may precede the actual agreement, entitlement, permit, or permit condition, and will satisfy this section if it specifies with particularity the details and required timing and phasing of the required public improvements and expresses the agency's satisfaction that prior to the commencement of construction, authorized by Section 1 of this ordinance, such public improvements will be constructed or assured to the satisfaction of such agency.

3. Environmental Mitigations: "Environmental Mitigations" are specific actions required by any agency with jurisdiction to disapprove an agreement, permit or entitlement necessary for the development authorized by Section 1 of this ordinance, for the purpose of mitigating the environmental effects of the development, and but for which such agency would be authorized by law to disapprove such agreement, permit or entitlement.

C. Categories of Public Improvements Required:

1. Sewerage and Water Supply: Sewerage and water supply facilities shall be provided as specified in a will serve letter issued by the City of West Sacramento Department of Public Works or its successor in function.

2. Storm Drainage: Storm drainage facilities shall be provided as specified in a will serve letter issued by the Reclamation District with jurisdiction and/or State Reclamation Board.

3. Fire Protection: Fire Protection facilities shall be provided as specified in a will serve letter issued by the City of West Sacramento Fire Department or its successor in function.

4. Public Schools: Public School facilities, the payment of fees, or a combination of both, shall be provided as specified in a will serve letter by the Washington Unified School District.

5. Housing Relocation: The Plan shall provide for the relocation of all tenants of the Yolo County Housing Authority to be relocated as a consequence of the development through the provision of replacement housing, the payment of fees to a rent subsidy program, or a combination of both, as specified in a will serve letter issued by the Yolo County Housing Authority.

6. Transportation: The Plan shall provide for the creation, expansion or deletion of public streets required to service the development adequately. Such circulation plan shall be jointly developed by the developer and the City of West Sacramento Redevelopment Agency or its successor in function, and the developer's participation therein shall be specified in a "will serve letter" issued by the City of West Sacramento Department of Public Works and Transportation. Such circulation plan shall be approved only if the City Council finds that it is consistent with the Circulation Element of the City of West Sacramento.

In addition, the Plan shall discuss the method of providing public transit services to the area included within PD-29, and shall address the developers' participation therein, to be reflected in a will serve letter issued by the Yolo County Department of Public Works and Transportation.

7. Police Services: The Plan shall include methods to provide adequate security patrol and related functions to be approved by the City Council after consideration of a report by the City of West Sacramento Sheriff's Department or its successor in function.

8. Parks:

a. The Plan shall provide for the dedication of the linear public park to run the full length of the waterfront, in the area specified on the maps accompanying this ordinance, and shall provide the method for the on-going financing of on-going operation and maintenance expenses for such park. Such park plan shall be approved by the City Council only if it finds that the design of the park is consistent with the security goal of "safe at night for families" and adequate means to finance on-going operation and maintenance expenses are provided to the satisfaction of the agency which will accept dedication of such park.

b. The Plan shall also provide for an inland park which meets the requirements of the City of West Sacramento Parks and Recreation Department or its successor in function; provided, however, that such park shall be provided through the City of West Sacramento Redevelopment Agency, or its successor in function, and the Plan shall specify the contribution of PD-29 to such inland park.

D. Categories of Environmental Mitigations Required:

1. Biotic Resources Mitigation Plan: Prior to consideration of the Public Improvements Plan, the City Council shall approve a mitigation plan for the impacts described in the Final Environmental Impact Report dealing with biotic resources (FEIR Section 4.2). Such Plan shall not be approved unless the City Council finds that it complies with the Endangered Species Act; in addition, such plan shall not be approved unless the Board finds that it will avoid or substantially lessen the significant environmental effects identified in the Final EIR and/or that any residual environmental effects not substantially mitigated by the mitigation plan are acceptable due to specific social, economic, or other considerations specifically identified in the City Council's findings regarding the mitigation plan.

The Public Improvements Plan shall include provisions to implement the mitigation plan, specifically including, but not limited to, the financing, planning and phasing of initial and on-going implementation of the mitigation plan.

2. Other Environmental Mitigations: The following environmental mitigations are within the joint jurisdiction of the City and some other permitting or responsible agency in addition to the City. Therefore, such mitigations will be addressed in the various agreements, entitlements, permits and permit conditions to be issued by such other agencies. For this reason, this ordinance does not specify specific mitigation measures, which may be inconsistent with the agreement, entitlement or permit to be issued by such other agencies. Rather, this section is intended to specify a general standard for such environmental mitigations, and to authorize the Public Improvements Plan to address the specifics regarding design, timing, phasing and financing of such mitigations after they are specified by such other agencies.

As to all such environmental issues, the following procedure shall apply:

a. Prior to requesting approval of a Public Improvements Plan, the developer shall obtain either agreements, permits or entitlements, or will serve letters, fro all Federal, State and local agencies with jurisdiction to impose environmental mitigations.

b. Changes or alterations shall be incorporated in the project which avoid or substantially mitigate the significant environmental effects identified in the Final EIR. If such changes are required by environmental mitigations imposed by any Federal, State or local agency with jurisdiction, as a condition of such agency's action on the project, such change shall conform to the required mitigation.

c. Prior to approving the Public Improvements Plan, the City Council shall determine whether all environmental effects identified in the FEIR have been avoided or substantially mitigated; as to any residual effects, the City Council shall either require additional mitigation; or, in the alternative, declare that specific economic, social or other considerations render the impacts acceptable.

E. Allocation of Operation and Maintenance Expenses:

1. The Plan shall provide for the allocation between the City of West Sacramento, the Redevelopment Agency or its successor in function, the developers, end-users of the project and all other responsible agencies for the operation and maintenance expenses of necessary governmental services and facilities, consistently with the will serve letters, agreements, comments or other entitlements issued by such responsible agencies. Such allocation shall be reviewed in light of project-related revenue and benefits as well as project-related costs and burdens.

The Plan shall be accompanied by such revenue source and expenditure studies, bonding capacity studies, or such other studies as required by the City Council to evaluate the fiscal feasibility and risk factors associated with the Plan.

F. Agreements Authorized: If authorized by the City Council, the Public Improvements Plan may, but is not required, to authorize use of agreements regarding the timing, phasing and financing of the public improvements. Such agreements may include a "development agreement" with the City pursuant to Government Code Section 65864, et seq.; and/or "participation agreements" and/or "disposition and development agreements" with the City of West Sacramento Redevelopment Agency or its successor in function as authorized by Health & Safety Code Sections 33380 and 33430, et seq. The Plan shall consider use of assessment district financing, including Mello-Roos district financing, as well as other methods of financing of required public improvements.

G. Additional Improvements: The required basic public improvements listed in this section are in addition to, and not in lieu of, other necessary on- and off-site improvements which may be required as conditions of subdivision maps or other development approvals required by this ordinance.

H. Condition Precedent to Permits: No application shall be approved for development within the PD-29 area until a Public Improvements Plan has been approved. Approval shall be by resolution of the City Council, after review and recommendation by the Planning Commission.

The Public Improvements Plan shall contain the following elements acceptable to the City:

1. The proposed methods of financing the required public improvements;

2. The proposed methods of assuring that financing obligations will be binding upon successors in interest to the developers;

3. The proposed timing and phasing of the construction of the required basic public improvements corresponding to the phasing of development within PD-29;

4. The proposed methods of assuring construction of the required basic public improvements so as to insure that such improvements physically are available so as to serve the needs of development within the PD-29 area;

5. The detailed design of all required environmental mitigations; and

6. The method to assure initial and on-going implementation of such mitigations.

SECTION 3

INITIAL DEVELOPMENT; OPTIONAL

A. City Council Approval of Conditions: A developer within PD-29 may request to subdivide and perform initial development activities within the PD-29 area, prior to completion and acceptance by the City of all public improvements required by the approved Public Improvements Plan. Such request shall describe the initial development activities and any conditions proposed to regulate such activities.

Any initial development request shall be considered as a part of the original Public Improvements Plan, or as an amendment thereto. If the City Council approves the initial development request, it shall specify the conditions regulating such development activities. Such conditions shall, at a minimum, include:

1. That initial development tentative, subdivision or parcel maps shall be conditioned to provide that no final subdivision (or parcel) map shall be approved until the public improvements and environmental mitigations required by the PD-29 Public Improvements Plan, previously approved by the City Council, have been provided or assured to the City's satisfaction.

2. That no building permit shall be issued for any structure approved for initial development unless paved access roads to the construction area of such structure have been constructed and accepted by the Director of the City of West Sacramento Department of Public Works.

3. That no occupancy shall occur in any structure authorized as an initial development pursuant to this section unless:

a. All improvements required for initial developments by the approved Public Improvements Plan have been accepted by the City Council of the City of West Sacramento; and

b. The City has adequate assurance that the required basic public improvements will be constructed in a timely manner in accordance with the approved improvements plan.

B. Planning Commission Action on Initial Developments: Upon approval of initial development conditions by the City Council, the Planning Commission may consider initial land development project applications pursuant to the approved conditions.

The Planning Commission shall impose such conditions upon initial developments as are necessary to assure the consistency of such developments with the Public Improvements Plan.

SECTION 4: All improvements shall be installed, operated and maintained in conformance with the regulations of all agencies and departments of jurisdiction.

SECTION 5: This Ordinance shall take effect and be in force thirty (30) days after its passage, and prior to the expiration of fifteen (15) days after its passage, this Ordinance shall be published once in summary form in a newspaper of general circulation.

PASSED AND ADOPTED by the City Council of the City of West Sacramento, State of California, this 14th day of June, 1989, by the following vote:

AYES: Jones, Potnick, Kristoff, McGowan, Martinez
NOES: None
ABSENT: None

Fidel A. Martinez
Mayor

ATTEST:

Helen M. Kanowsky
Deputy City Clerk

APPROVED AS TO FORM:

Joseph Coomes
Redevelopment Attorney

(25sb:pd-29)

Draft of Proposed Amendments as of 12/15/04

ORDINANCE 89-9

AN ORDINANCE OF THE CITY OF WEST SACRAMENTO ADOPTING ORDINANCE 89-9 AMENDING ORDINANCE 681.120 WHICH CREATED PLANNED DEVELOPMENT 29 (PD-29) AS AMENDED BY ORDINANCE 92-9 (MAY 13, 1992)

THE CITY COUNCIL OF THE CITY OF WEST SACRAMENTO, STATE OF CALIFORNIA, DOES HEREBY ORDAIN AS FOLLOWS:

Section One: The Zoning Map of the City of West Sacramento is amended as specified on Exhibit "A," annexed hereto and by reference made a part hereof. The following territory hereby is changed from (R-l) and PD-29, to Planned Development 29 (PD-29) Zone and subsequently annexed into and made a part of PD-29. The legal description of the property affected hereby is attached hereto as Exhibit "B" and incorporated herein by this reference. The detailed development standards applicable to the PD-29 District are set forth in Section 1 through 3, inclusive of this ordinance, which shall apply within the boundaries of the PD-29 Zone as specified herein.

These regulations are divided into several sections for the purpose of establishing the necessary controls regarding:

1. The location of the land uses; public and private facilities, and public and private buildings;
2. Height, bulk and setback limits for such land uses, public and private facilities, and public and private buildings;
3. Location and extent of existing and proposed streets and roads;
4. Standards for population density and building density, including lot sizes and permissible types of construction;
5. Standards for the conservation, development, and utilization of natural resources;
6. Implementation of applicable provisions of open space;
7. Such other measures as may be necessary or convenient to ensure execution of the general plan, of which Tthe ~~Lighthouse Marina~~Rivers Planned Development is a part.

ARTICLE ONE REFERS TO THE GENERAL PURPOSE, INTENT AND APPLICATION.
ARTICLE TWO REFERS TO AND CONTROLS ALL RESIDENTIAL USE AREAS.
ARTICLE THREE REFERS TO AND CONTROLS THE BUSINESS/PROFESSIONAL USE AREA
ARTICLE FOUR REFERS TO AND CONTROLS ALL COMMERCIAL USE AREAS.
ARTICLE FIVE REFERS TO AND CONTROLS ALL RECREATIONAL USE AREAS.
ARTICLE SIX REFERS TO AND CONTROLS OVERLAY USE AREAS ASSOCIATED WITH PRIMARY USES.
ARTICLE SEVEN REFERS TO SPECIAL REGULATIONS ASSOCIATED WITH ALL USE AREAS.
ARTICLE EIGHT REFERS TO DEVELOPMENT PERMIT REGULATIONS AND PROCEDURES.

ARTICLE ONE: General Purpose, Intent and Application

A. General Purpose

The ~~Lighthouse Marina~~Rivers Land Use Regulations are adopted for the purpose of promoting the health, safety and general welfare of Tthe ~~Lighthouse Marina~~Rivers Community. Furthermore, Tthe ~~Lighthouse Marina~~Rivers Land Use Regulations are adopted in order to achieve the following objectives:

1. Implement the intent and purpose of t~~T~~The ~~Lighthouse Marina~~Rivers Planned Development.
2. Provide maximum opportunities for innovative community design and site planning, consistent with

orderly development and protection of sensitive and natural resources, with a logical and timely sequence of community and governmental review and input.

3. Improve the visual image and general aesthetics of the Broderick community.
4. Provide for the economic revitalization of a portion of the Redevelopment Area consistent with the City of West Sacramento's approved economic development goals and objectives.
5. Stimulate new development of a mixed, high-quality nature.
6. Create an environment which will encourage a high level of property maintenance.
7. Encourage innovation in design to support the goal of a 24-hour district with mixed structures with residential uses above parking, commercial and/or office floors.

B. Intent

The PD-29 Zoning District is intended to be applied to those existing land parcels and any future land parcels created from these original parcels referenced by Assessor's Parcel Numbers as follows and as indicated on the Yolo County Assessor's rolls for the year ending 1988.

10-530-02, and
14-580-04, 06, 07, 08, and
14-590-25, 29, 32, 36, 37, 47, and
14-630-03, 06, 09, 10, 11, 21, 24, 25, 26, and
14-620-01, 02, 03, 05, 06, and
14-610-01, 02, 04, 05, 08, 09.

The limits to be observed within the PD-29 District shall be in accordance with the thirteen use areas set forth below:

PD-29 RA Residential at up to 4 dwellings per acre
PD-29 RB Residential at up to 6 dwellings per acre
PD-29 RC Residential at up to 12 dwellings per acre
PD-29 RD Residential at up to 22 dwellings per acre
PD-29 RE Residential at up to 38 dwellings per acre
PD-29 RF Residential at up to 62 dwellings per acre
PD-29 CT Tourist Commercial
PD-29 BP Business/Professional Offices
PD-29 CR Retail Commercial
PD-29 CM Marina Commercial
PD-29 RMH Marina/Harbor
PD-29 RGC Golf Course
PD-29 OS Open Space

Development and utilization within each of these areas shall be permitted in accordance with the standards and regulations established herein for each subarea and also in conformance with the Development Standards established for the PD-29 District, as well as the minimum intensities of use as reviewed, analyzed and publicly commented upon in the Environmental Impact Report (E.I.R.)/Environmental Impact Statement (E.I.S.) for PD-29 or any portion of The Rivers Project and as implemented by any applicable Development Agreement (DA.), ~~and~~ Public Improvement Plan (PIP) and/or City Service Agreement.

C. Application

The interpretation and application of ~~t~~The ~~Lighthouse Marina~~Rivers Land Use Regulations shall be

accomplished in accordance with the following provisions:

1. The land use regulations shall be applied only in ~~t~~The ~~Lighthouse Marina~~Rivers Planned Development Project Area.
2. The City of West Sacramento Zoning Code is auxiliary to the land use regulations of ~~t~~The ~~Lighthouse Marina~~Rivers plan and if any item or issue is not included within the land use regulations, the regulations of the Zoning Code shall be applicable; however, the Zoning Code shall not override any provision of this land use regulation. If there is any ambiguity or uncertainty as to which regulations apply or when they apply, it will be resolved by the Community Development Director.
3. If any portion of these regulations is, for any reason, declared by a court of competent jurisdiction to be invalid or ineffective in whole or in part, such decision shall not affect the validity of the remaining portions thereof. The City Council hereby declares that it would have enacted these regulations and each portion thereof irrespective of the fact that any one or more portions be declared invalid or ineffective.
4. For the purpose of carrying out the intent and purpose of these regulations, words, phrases and terms are deemed to have the meanings ascribed to them in the City of West Sacramento Zoning Code, unless otherwise provided by these land-use regulations.
5. The provisions of Articles Seven and Eight shall apply to all zones established in Articles Two through Six.
6. The total area in acres of PD-29 shall be based upon final field boundary and title surveys. If there are any discrepancies between the legal description attached here as Exhibit “B” and subsequent surveys, then the subsequent surveys shall take precedent. An increase in acreage does not grant an increase in density or intensities of use for PD-29.

ARTICLE TWO: General Provision for Residential Areas

A variety of residential areas have been established for the purpose of providing diversity and locations in housing types. The following provisions apply to all residentially zoned use areas within the planned development control area:

1. Front setbacks shall be measured from the ultimate public street right-of-way line.
2. All construction and development within ~~t~~The ~~Lighthouse Marina~~Rivers community shall comply with applicable provisions of the Uniform Building Code and other various Mechanical, Electrical, and Housing Codes related thereto. The codes shall prevail in the residential areas where there is any conflict between the said codes and the provisions in this text.
3. Temporary, special community events, such as parades, pageants, community fairs, athletic contests, carnivals and other similar uses, may be permitted in any area in ~~t~~The ~~Lighthouse Marina~~Rivers community by approval of the City Council upon application for the appropriate permit.
4. Any conditions, requirements, or standards, indicated graphically or in writing that are a part of a tentative map, use permit, variance or similar permit entitlements granted by the appropriate authority shall be in conformance with ~~t~~The ~~Lighthouse Marina~~Rivers Planned Development Land Use Regulations. Any use or development not in conformance with such conditions, requirements, or standards shall be in violation of ~~t~~The ~~Lighthouse Marina~~Rivers Planned Development Land Use Regulations.
5. When required by these regulations, a site development permit or use permit for a specific parcel, as appropriate, shall be submitted and approv~~al~~ed prior to the issuance of building permit, or any change of use and occupancy permit.
6. In these land use regulations, for all land use areas when more than one description may apply to a given use, the more specific description shall determine if a use is allowed, allowed subject to an approved use permit, allowed subject to an approved site plan, or prohibited.
7. Any amendment to these land use regulations must include an amendment to other sections of ~~t~~The ~~Lighthouse Marina~~Rivers Planned Development Land Use Regulations where applicable.

8. At least twenty-one (21) calendar days prior to official action on any application for a use permit, variance permit, or building permit, the Community Development Director will forward such application to ~~t~~The ~~Lighthouse Marina~~Rivers ~~Architectural Review Board~~Design Review Committee for ~~their~~its review, recommendations and approval in accordance with Article Eight.
9. Any person, firm or corporation, whether as principal, agent, employee or otherwise, violating any provisions of these regulations shall be guilty of a misdemeanor, and upon conviction thereof shall be punishable by a fine of not more than five hundred dollars ($500.00) or by imprisonment in the County Jail of Yolo County for a term not exceeding six (6) months or by both such fine and imprisonment. Such person, firm or corporation shall be deemed guilty of a separate offense for each and every day during any portion of which any violation of this article is committed, continued or permitted by such person, firm or corporation and shall be punishable as herein provided.
10. Applications for variances to the site development standards of these regulations shall be considered and processed in accordance with the City of West Sacramento Zoning Code.
11. The following standards shall be applied to the construction of all improvements in accordance with this ordinance.
    a. Hours of operation: Exterior construction shall take place during the hours of 7 a.m. to 6 p.m.
    b. Material storage: No construction material shall be stored or stockpiled within public rights-of-way.
    c. Erosion control: Neighboring areas shall be protected from wind or water-related erosion.
    d. Parking: Adequate provisions shall be made to restrict construction crew parking to areas approved by the ~~Architectural Review Board~~Design Review Committee.
12. The densities and intensities of use for each residential sub-area are intended as the maximum allowable. Except as otherwise specified in the regulations for each sub-area, n~~N~~othing herein shall preclude a lesser density in any residential sub-area conditioned upon the adherence to and execution of the site development standards associated with and consistent to the designated residential type and density sub-area most closely related to the proposed residential use. If there is any uncertainty as to which regulations apply, it will be resolved by the Planning Commission.
13. Total residential units are limited to a maximum of 1,881.
14. In order to meet the purpose and intent of PD-29, mixed-use structures with residential uses above parking commercial and/or office floors is encouraged. To this end, the FD-29 RE and RF use areas may be combined with the PD-29 BP/CR/CM/CT use areas. The site development standards for the PD-29 RE, RF, BP, CR, CM and CT use areas are intended to encourage creative design flexibility for a single structure or cluster of structures. Approvals of mixed-use structure(s) proposal(s) will be as outlined in Article Eight.

A. PD-29 RA Single-Family Residential Use Area

1. Purpose and Intent. The PD-29 RA District is established to provide for the development and maintenance of low density single-family residential neighborhoods at up to 4 dwelling units per gross acre. Only those additional uses are permitted that are complementary to and can exist in harmony with a low density residential neighborhood. These regulations carry out the purpose and intent of the low density residential land use categories of T~~t~~he ~~Lighthouse Marina~~Rivers Planned Development.
2. Zoning Area. The PD-29 RA zone shall be applied ~~in (1) a single depth arc along the existing levee from the westerly property line and (2) within reasonable proximity to the golf course area~~ in the areas as shown in Exhibit "__".
3. Permitted, Accessory and Conditional Uses
    a. PD-29 RA Principal Permitted Uses
        (1) One single-family dwelling per lot
        (2) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

b. PD-29 RA Permitted Accessory Uses
   (1) Small domestic animals
   (2) Rooming and boarding of not more than two (2) persons including household employees
   (3) Signs as provided for herein.
   (4) Accessory uses customarily a part of the permitted use and clearly incidental and secondary to the permitted use and which do not change the character of the permitted use or affect other properties in the vicinity
   (5) Public access easements and associated improvements
   (6) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

c. PD-29 RA Conditional Uses. The following conditional uses may be allowed within the PD-29 RA sub-area upon the issuance of a conditional use permit by the Planning Commission.
   (1) Neighborhood day use areas
   (2) Public access ancillary uses
   (3) Public day use areas
   (4) Home occupations
   (5) Accessory uses to single-family dwellings which are not customarily a part of the permitted use
   (6) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

4. Site Development Standards
   a. Lot Requirements
      (1) Minimum Square Footage: 7,000 Net
      (2) Minimum Width: 70’
      (3) Minimum Depth: 100’
   b. Building Regulations
      (1) Setbacks. No improvements of any kind, and no part thereof, shall be constructed, placed, extended or permitted to remain on any site closer to a property line than herein provided.
         (a) Front Yard: 20’
         (b) Side: For riverfront lots 1-51, at least 5’ on one side and at least 10’ on the other side, with the minimum distances between units being 10’ and 20’ alternately. For other RA lots, side setbacks should be any combination equaling 15, with no less than 5’ on any one side.
         (c) Rear: 15’
      (2) Setback Exceptions. The following improvements are specifically excluded from these setback provisions:
         (a) Roof overhangs, provided such overhangs do not extend more than three (3) feet into any required yard.
         (b) Steps, walks, and open arcades which have been specifically approved by the Community Development Director.
         (c) Paving and associated curbing except that vehicle parking areas shall not be permitted within fifteen (15) feet of the face of curb.
         (d) Fences and screen walls, except that no fence or screen wall shall be placed within the Street setback area unless specifically approved by the Community Development Director.
         (e) Landscaping.
         (f) Planters, not to exceed two (2) feet in height, three and one-half (3 1/2) feet in overall height when planted and maximum 25 percent of public right-of-way frontage, which have

been specifically approved by the Community Development Director.

(g) Underground improvements.

(3) Lot Coverage/Building Height

(a) No building site shall be covered with a building or buildings to an extent greater than 50 percent of the area of said site, excepting that an additional 10 percent of the site area may be covered with carports, open arcades, swimming pools, or similar structures if approved by the Community Development Director. This exception shall not apply to covered storage areas.

(b) Attached accessory buildings shall be considered as a part of the main building.

(c) Building width as limited by setbacks.

(d) Building height: 31' maximum as measured from established grade prior to construction across the foundation

(e) Second floor square footage: Limited to 75% of ground floor square footage

(f) A minimum of 20 percent of the site area shall be landscaped with living plant material.

c. Fences and Walls, Maximum Height

(1) Within front setback area - none allowed

(2) Within other setback areas - the maximum height shall be six (6) feet, except that this maximum may be exceeded when higher walls are required by the Community Development Director, for the purpose of noise mitigation or health and safety measures.

d. Signs

(1) No billboard or advertising sign or device shall be permitted, other than the following:

(a) Those identifying the subdivision name and not to exceed 25 square feet one side.

(b) Temporary signs offering the premises for sale or lease and not to exceed five (5) square feet one side.

(2) No temporary signs shall be within 10 feet of public tight-of-way.

(3) No permanent signage shall be erected unless the size, design and locations of such signs are approved by the Community Development Director.

(4) Freestanding appurtenant signs may be approved by the Community Development Director subject to the following:

(a) Said signs shall not exceed a height of ten (10) feet.

(b) Not more than one freestanding sign shall be allowed for each residential community area.

(c) The signs may deviate somewhat in order to provide a more attractive and more appropriate identification of the subdivision.

e. Parking

(1) All off-street parking shall be provided in accordance with the City of West Sacramento Zoning Code and other applicable Agency requirements.

(2) Recreational vehicles, including motor homes, trailers, and boats, shall be parked in a screened location behind the front-yard setback area.

(3) No commercial vehicles shall be parked in a residential area for more than 48 hours.

f. Landscaping

(1) Every site on which a building shall have been placed shall be landscaped according to plans approved by Tthe ~~Lighthouse Marina~~Rivers ~~Architectural Review Board~~Design Review Committee, which approval shall not be unreasonably withheld. Such landscaping shall cover all areas of the site which may be viewed by the public and shall conform to The~~Lighthouse Marina~~Rivers Design ~~Standard~~Guidelines.

(2) Provision for watering and other maintenance facilities shall be provided by the occupant in the

vicinity of landscaped areas.

(3) Landscaping in accordance with the approved plan shall be installed in all areas viewed by the public prior to the issuance of necessary occupancy permits and shall be properly maintained by the occupant thereafter.

(4) Fill and excavation shall be minimized on site. Rough construction grade shall be maintained to the maximum extent possible.

B. PD-29 RB Single Family Residential Use Area

1. Purpose and Intent. The PD-29 RB District is established to provide for the development and maintenance of low-density single-family residential neighborhoods at up to 6 dwelling units per gross acre. Only those additional uses are permitted that are complementary to and can exist in harmony with a residential neighborhood. These regulations carry out the purpose and intent of the low-density residential land use categories of ~~t~~The ~~Lighthouse Marina~~Rivers Planned Development Land Use Regulations.
2. Zoning Area. The PD-29 RB zone shall be applied in the areas as shown in Exhibit "__".~~along the inside tier of the levee and within or within reasonable proximity of the golf course.~~
3. Permitted, Accessory and Conditional Uses
   a. FD-29 RB Permitted Uses
      (1) One single-family dwelling per lot
      (2) As allowed under Article Two, General Provision No. 12.
      (3) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.
   b. PD-29 RB Permitted Accessory Uses. All accessory uses permitted in the PD-29 RA Zone
   c. PD-29 RB Conditional Uses. All conditional uses permitted in the PD-29 RA Zone
4. Site Development Standards
   a. Lot Requirements
      (1) Minimum Square Footage: 5,000 Net
      (2) Minimum Width: 60'
      (3) Minimum Depth: 80'
   b. Building Regulations
      (1) Setbacks. No improvements of any kind, and no part thereof, shall be constructed, placed, extended or permitted to remain on any site closer to a property line than herein provided.
         (a) Front Yard: ~~2~~10 feet. ~~, except when automatic garage door openers are used and off-street guest parking is provided within 100 feet of unit, in which case setback may be reduced to 10 feet~~Garage doors shall be a minimum of 18 feet from the street right-of-way.
         (b) Side: minimum 5' each side.
         (c) Rear: 1~~5~~0'
      (2) Setback Exceptions. The following improvements are specifically excluded from these setback provisions:
         (a) Roof overhangs, provided such overhangs do not extend more than three (3) feet into any required yard
         (b) Steps, walks, and open arcades which have been specifically approved by the Community Development Director.
         (c) Paving and associated curbing, except that guest vehicle parking areas for more than three (3) vehicles shall not be permitted within fifteen (15) feet of the street right-of-way.
         (d) Fences and screen wails, except that no fence or screen wall shall be placed within the street

setback area unless specifically approved by the Community Development Director.

(e) Landscaping.

(f) Planters, not to exceed two (2) feet in height, three and one-half (3 1/2) feet in overall height when planted and maximum 25 percent of public right-of way frontage, which have been specifically approved by the Community Development Director.

(g) Underground improvements

(3) Lot Coverage/Building Height

(a) No building site shall be covered with a building or buildings to an extent greater than 70 percent of the area of said site, excepting that an additional 10 percent of the site area may be covered with carports, open arcades, or similar structures if approved by the Community Development Director. This exception shall not apply to covered storage are as.

(b) Attached accessory buildings shall be considered as a part of the main building.

(c) Building width as limited by setbacks.

(d) Building height: 31' maximum.

(e) Second floor square footage: Limited to 80 percent of ground-floor square footage

(f) A minimum of 20 percent of the site area shall be landscaped with living plant material.

c. Fences and Walls, Maximum Height

(1) Within front setback area - none allowed.

(2) Within other setback areas - the maximum height shall be six (6) feet, except that this minimum may be exceeded when higher walls are required by the Community Development Director, for the purpose of noise mitigation or health and safety measures.

d. Signs

(1) No billboard or advertising sign or device shall be permitted, other than the following:

(a) Those identifying the subdivision name and not to exceed 25 square feet one side

(b) Temporary signs offering the premises for sale or lease and not to exceed five (5) square feet one side.

(2) No temporary signs shall be within 10 feet of public right-of-way.

(3) No permanent signage shall be erected unless the size, design and locations of such signs are approved by the Community Development Director.

(4) Freestanding appurtenant signs may be approved by the Community Development Director, subject to the following:

(a) Said signs shall not exceed a height of ten (10) feet

(b) Not more than one freestanding sign shall be allowed for each residential community area.

(c) The signs may deviate somewhat in order to provide a more attractive and more appropriate identification of the subdivision.

e. Parking

(1) All off-street parking and loading shall be provided in accordance with City of West Sacramento Zoning Code and other applicable Agency requirements.

(2) Recreational vehicles including motor homes, trailers, and boats shall be parked in a screened location behind the front-yard setback area.

(3) No commercial vehicles shall be parked in a residential area for more than 48 hours.

f. Landscaping

(1) Every site on which a building shall have been placed shall be landscaped according to plans approved by ~~t~~The ~~Lighthouse Marina~~Rivers ~~Architectural Review Board~~Design Review Committee, which approval shall not be unreasonably withheld. Such landscaping shall cover

all areas of the site which may be viewed by the public and shall conform to The~~Lighthouse Marina~~Rivers Design Guideline~~Standard~~s.

(2) Provision for watering and other maintenance facilities shall be provided by the occupant in the vicinity of landscaped areas.

(3) Landscaping in accordance with the approved plan shall be installed in all areas viewed by the public prior to the issuance of necessary occupancy permits and shall be properly maintained by the occupant thereafter.

(4) Fill and excavation shall be minimized on site. Rough construction grade shall be maintained to the maximum extent possible.

C. PD-29 RC ~~Townhouse~~ Residential Use Area

1. Purpose and Intent. The PD-29 RC District is established to provide for the development and maintenance of higher density single family residential neighborhoods ~~which are predominantly, but not exclusively, multiple family in character, for townhouse dwellings~~ at up to 12 dwelling units per gross acre. No more than six (6) units shall have contiguous zero lot lines. Only those additional uses are permitted that are complementary to, and can exist in harmony with, a residential neighborhood. These regulations carry out the purpose and intent of the Medium Density Residential land use categories of T~~t~~he ~~Lighthouse Marina~~Rivers Planned Development.

~~2.~~Zoning Area. The PD-29 RC zone shall be applied in the areas as shown in Exhibit "__".~~a selective area within or within reasonable proximity to the golf course.~~

2. Permitted, Accessory and Conditional Uses

a. PD-29 RC Permitted Uses

(1) One single-family dwelling per lot

(2) As noted in Article Two, General Provision No. 12

(3) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

b. PD-29 RC Permitted Accessory Uses. All accessory uses permitted in the PD-29 RA Zone

c. PD-29 RC Conditional Uses. All conditional uses permitted in the PD-29 RA Zone

~~4.~~3. Site Development Standards

a. Lot Requirements

(1) Minimum Square Footage: 2,800 Net

(2) Minimum Width: 35'

(3) Minimum Depth: 80'

b. Building Regulations

(1) Setbacks: No improvements of any kind, and no part thereof shall be constructed, placed, extended or permitted to remain on any site closer to a property line than herein provided.

(a) Front Yard: 18' unless automatic garage door openers are used in which case setback may be reduced to 10'

(b) Side: None required

(c) Rear: 15'

(2) Setback Exceptions: The following improvements are specifically excluded from these setback provisions:

(a) Roof overhangs, provided such overhangs do not extend more than three (3) feet into any required yard.

(b) Steps, walks, and open arcades which have been specifically approved by the Community Development Director.

(c) Paving and associated curbing, except that guest vehicle parking areas for more than three (3) vehicles shall not be permitted within fifteen (15) feet of the street right-of-way.

(d) Fences and screen walls, except that no fence or screen wall shall be placed within the street setback area unless specifically approved by the Community Development Director.

(e) Landscaping

(f) Planters, not to exceed two (2) feet in height, three and one-half (31/2) feet in overall height when planted and maximum 25 percent of public right-of-way frontage, which have been specifically approved by the Community Development Director.

(g) Underground improvements

(3) Lot Coverage/Building Height

(a) No building site shall be covered with a building or buildings to an extent greater than seventy (70) percent of the area of said site, excepting that an additional ten (10) percent of the site area may be covered with open arcades, or similar structures if approved by the Community Development Director This exception shall not apply to covered storage areas.

(b) Attached accessory buildings shall be considered as a part of the main building.

(c) Building width as limited by setbacks.

(d) Building height: 31’ maximum

(e) Second floor square footage: Limited to 95% of ground floor square footage

c. Fences and Walls, Maximum Height

(1) Within front setback area - none allowed

(2) Within other setback areas - the maximum height shall be six (6) feet, except that this maximum may be exceed when higher walls are required by the Community Development Director, for the purpose of noise mitigation or health and safety measures.

d. Signs

(1) No billboard or advertising sign or device shall be permitted, other than the following:

(a) Those identifying the subdivision name and not to exceed 25 square feet one side.

(b) Temporary signs offering the premises for sale or lease and not to exceed five (5) square feet one side

(2) No temporary signs shall be within 10 feet of public right-of-way.

(3) No permanent signage shall be erected unless the size, design and locations of such signs is approved by the Community Development Director.

(4) Freestanding appurtenant signs may be approved by the Community Development Director, subject to the following:

(a) Said signs shall not exceed a height of ten (10) feet.

(b) Not more than one freestanding sign shall be allowed for each residential community area.

(c) The signs may deviate somewhat in order to provide a more attractive and more appropriate identification of the subdivision

e. Parking

(1) All off-street parking shall be provided. in accordance with the City of West Sacramento Zoning Code and other applicable Agency requirements.

(2) Recreational vehicles including motor homes, trailers, and boats shall be parked in a screened location behind the front-yard setback area.

(3) No commercial vehicles shall be parked in a residential area for more than 48 hours.

f. Landscaping

(1) Every site on which a building shall have been placed shall be landscaped according to plans

approved by the Community Development Director, which approval shall not be unreasonably withheld. Such landscaping shall cover a minimum of ten percent of the site.

(2) Provision for watering and other maintenance facilities shall be provided by the occupant in the vicinity of landscaped areas.

(3) Landscaping in accordance with the approved plan shall be installed prior to the issuance of necessary occupancy permits and shall be properly maintained by the occupant thereafter.

D. PD-29 RC-A Residential Use Area

4. Purpose and Intent. The PD-29 RC-A District is established to provide for the development and maintenance of higher density single family residential neighborhoods at up to 12 dwelling units per gross acre. Only those additional uses are permitted that are complementary to, and can exist in harmony with, a residential neighborhood. These regulations carry out the purpose and intent of the Medium Density Residential land use categories of The Rivers Planned Development.

5. Zoning Area. The PD-29 RC-A zone shall be applied in the areas as shown in Exhibit "__".Permitted, Accessory and Conditional Uses

   a. PD-29 RC-A Permitted Uses

      (1) One single-family dwelling per lot

      (2) Park and recreational facilities

      (3) School facilities

      (4) As noted in Article Two, General Provision No. 12

      (5) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

   b. PD-29 RC-A Permitted Accessory Uses. All accessory uses permitted in the PD-29 RA Zone

   c. PD-29 RC-A Conditional Uses. All conditional uses permitted in the PD-29 RA Zone

6. Site Development Standards

   a. Lot Requirements

      (1) Minimum Square Footage: 2,500 Net

      (2) Minimum Width: 35'

      (3) Minimum Depth: 70'

   b. Building Regulations

      (1) Setbacks: No improvements of any kind, and no part thereof shall be constructed, placed, extended or permitted to remain on any site closer to a property line than herein provided.

         (a) Front Yard: 18' unless i) automatic garage door openers are used in which case setback may be reduced to 10' or ii) garage is located at the rear in which case setback may be reduced to 10' for living area, 7' for a porch, and 3' for a courtyard

         (b) Side: None required

         (c) Rear: 15' unless garage is located at the rear in which case setback may be reduced to 4'.

      (2) Setback Exceptions: The following improvements are specifically excluded from these setback provisions:

         (a) Roof overhangs, provided such overhangs do not extend more than three (3) feet into any required yard.

         (b) Steps, walks, and open arcades which have been specifically approved by the Community Development Director.

         (c) Paving and associated curbing, except that guest vehicle parking areas for more than three (3) vehicles shall not be permitted within fifteen (15) feet of the street right-of-way.

         (d) Fences and screen walls, except that no fence or screen wall shall be placed within the street

setback area unless specifically approved by the Community Development Director.

(e) Landscaping

(f) Planters, not to exceed two (2) feet in height, three and one-half (31/2) feet in overall height when planted and maximum 25 percent of public right-of-way frontage, which have been specifically approved by the Community Development Director.

(g) Underground improvements

(3) Lot Coverage/Building Height

(a) No building site shall be covered with a building or buildings to an extent greater than seventy (70) percent of the area of said site, excepting that an additional ten (10) percent of the site area may be covered with open arcades, or similar structures if approved by the Community Development Director This exception shall not apply to covered storage areas.

(b) Attached accessory buildings shall be considered as a part of the main building.

(c) Building width as limited by setbacks.

(d) Building height: 31' maximum

(e) Second floor square footage: Limited to 95% of ground floor square footage

c. Fences and Walls, Maximum Height

(1) Within front setback area – 3' maximum

(2) Within other setback areas - the maximum height shall be six (6) feet, except that this maximum may be exceed when higher walls are required by the Community Development Director, for the purpose of noise mitigation or health and safety measures.

d. Signs

(1) No billboard or advertising sign or device shall be permitted, other than the following:

(a) Those identifying the subdivision name and not to exceed 25 square feet one side.

(b) Temporary signs offering the premises for sale or lease and not to exceed five (5) square feet one side

(2) No temporary signs shall be within 10 feet of public right-of-way.

(3) No permanent signage shall be erected unless the size, design and locations of such signs is approved by the Community Development Director.

(4) Freestanding appurtenant signs may be approved by the Community Development Director, subject to the following:

(a) Said signs shall not exceed a height of ten (10) feet.

(b) Not more than one freestanding sign shall be allowed for each residential community area.

(c) The signs may deviate somewhat in order to provide a more attractive and more appropriate identification of the subdivision

e. Parking

(1) A minimum of two (2) off-street parking spaces per unit shall be provided.

(2) Recreational vehicles including motor homes, trailers, and boats shall be parked in a screened location behind the front-yard setback area.

(3) No commercial vehicles shall be parked in a residential area for more than 48 hours.

f. Landscaping

(1) Every site on which a building shall have been placed shall be landscaped according to plans approved by the Community Development Director, which approval shall not be unreasonably withheld. Such landscaping shall cover a minimum of ten percent of the site.

(2) Provision for watering and other maintenance facilities shall be provided by the occupant in the vicinity of landscaped areas.

(3) Landscaping in accordance with the approved plan shall be installed prior to the issuance of necessary occupancy permits and shall be properly maintained by the occupant thereafter.

~~D.~~E. PD-29 RD Condominium and Apartment Use Area

1. Purpose and Intent. The PD-29 RD District is established to provide for the development and maintenance of residential neighborhoods ~~which are predominantly, but not exclusively, multiple family in character, for~~of condominium, common interest and/or apartment dwellings at up to 22 dwelling units per gross acre. Only those additional uses are permitted that are complementary to, and can exist in harmony with, a residential neighborhood. These regulations carry out the purpose and intent of the Medium Density Residential land use categories of ~~t~~The ~~Lighthouse Marina~~Rivers Development

~~2.~~Zoning Area. The PD-29 RD zone shall be applied in the areas as shown in Exhibit "__".~~in the reasonable proximity of the south and east edge of the golf course.~~

2. Permitted, Accessory and Conditional Uses
   a. PD-29 RD Permitted Uses
      (1) Single family and Multifamily development at up to 22 units an acre ~~with on-site recreational facilities~~.
      (2) Park and recreational facilities
      (3) School facilities
      ~~(2)~~(4) As noted in Article Two, General Provision No. 12.
      ~~(3)~~(5) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.
   b. PD-29 RD Permitted Accessory Uses
      (1) Small domestic animals
      (2) Rooming and boarding of not more than two (2) persons per unit including household employees
      (3) Signs as provided for herein.
      (4) Accessory uses customarily a part of and clearly incidental to the permitted use or association use
      (5) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.
   c. PD-29 RD Conditional Uses. The following conditional uses may be allowed within the PD-29 RD sub-area upon the issuance of a conditional use permit by the Planning Commission.
      (1) Neighborhood day use areas
      (2) Public access ancillary uses
      (3) Public day use areas
      (4) Concessionary stands intended solely for the use or provisions of association members
      (5) Day care centers
      (6) Accessory uses not customarily a part of the permitted use or association use
      (7) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.

~~4.~~3. Site Development Standards
   a. General Building Design and Orientation
      (1) Large multi-unit~~family~~ projects shall incorporate design variation within the project to create a sense of uniqueness and individuality. Large complexes using the same building design, materials, and colors should be avoided. Design elements which achieve these objectives include: separate clustering of building groups with extensive open-space and landscape

buffering between projects; variation in building elevations and configurations between projects; variation in building heights; use of different building materials or combination of different materials; contrasting color schemes between projects.

(2) The monotony of straight building lines of all units shall be remedied through limiting the size of individual buildings or units, staggering of units, variation of exterior building materials on adjacent units, use of intensive landscaping, or other methods.

(3) ~~Multifamily buildings adjacent to public streets shall be designed and oriented to minimize the likelihood of on-street parking by project residents.~~ Examples of acceptable design and building orientation are:

~~(a)Minimize location of main entry doors of units facing the public street~~

~~(b)~~(a) Break up long buildings containing many units into smaller building clusters or incorporate a breezeway through midsection of a long building which provides closer access to off-street parking area for residents

~~(c)~~(b) Locate off-street planting areas between the public street and building off-street parking area to be located and screened behind bermed landscape setback area - Section B-4)

(4) All mechanical equipment (including public utility boxes and particularly exterior wall-mounted air conditioning units) shall be attractively screened.

~~(5)Buildings shall be designed and oriented to reduce overview of private backyards and patio areas of on-site and adjacent developments and windows from second-story units.~~

~~(6)~~(5) Accessory structures shall be compatible in design and materials with main building.

~~(7)~~(6) Communal facilities shall be centrally located, where possible.

~~(8)~~(7) Recreational facilities shall be located and/or designed so as not to create a nuisance to surrounding units or to impact adjacent properties. Sufficient setbacks, landscaping and berming between recreation facilities and surrounding units shall be provided to minimize noise and visual conflicts.

~~(9)~~(8) Solar heating and cooling of units shall be achieved to the maximum extent possible.

~~(10)~~(9) Site planning shall take into account optimum solar orientation of structures.

~~(11)~~(10) Site planning shall minimize the incidences of one building shading another.

~~(12)~~(11) Private outdoor or garden areas shall be oriented to the south as much as possible.

~~(13)~~(12) Roofing materials shall be compatible with architectural style and elevations.

~~(14)~~(13) The location of second-story end unit windows shall be varied to provide variety in exterior unit detailing and designed in such a way as to reduce the incidence of overview into private first-floor open-space areas

~~(15)~~(14) A minimum building setback of 50 feet shall be utilized on multiple-family projects from interior and rear property lines abutting existing or future low-density residential developments (five dwelling units per acre) where two-story structures are proposed. A minimum setback of 25 feet shall be required where single-story structures in multiple-family projects abut existing or future low-density development Low density residential development is defined as 5 dwelling units or less per acre.

~~(16)~~(15) All units shall have private exterior areas.

~~(17)~~(16) Maximum height 40 feet as measured from established grade prior to construction across the foundation.

~~(18)Second-story floor area shall not exceed 90 percent of the first-floor area.~~

b. Off-Street Parking Design Criteria

(1) Off-street parking shall be provided at a ratio of 2 spaces per dwelling unit plus one space per 4 units as guest parking with a minimum of one space for the exclusive use of the occupant of each unit. ~~in accordance with the City of West Sacramento Zoning Code and in accordance with~~

~~other applicable Agency requirements.~~

(2) For the convenience of tenants and guests, ~~and to encourage the use of off-street rather than curbside parking and parking along private drives,~~ parking spaces shall be located as close as possible to the unit or communal facility it is intended to serve.

(3) ~~To discourage parking on the street and along private on-site drives, physical barriers such as landscaping, berming, or wall segments shall be incorporated into the project design.~~

(4) Off-street parking shall be screened from the street by live landscaping, undulating earthen berms, low decorative walls or any combination of the above, for the purpose of reducing glare from automobile headlights and automobiles.

(5) Surface parking areas and carport roofing shall be screened from second-story units by trees or lattice and trellis work.

(6) The setback from interior side and rear property lines shall be 10 feet for open stalls and 15 feet for carports. If adjacent to non-residential development, the setback area shall be planted with large, growing evergreen trees to screen adjacent use.

(7) Trees shall be used for screening and shading purposes along the perimeter of the parking areas.

(8) Particularly within large, open lots, deciduous trees should be utilized to provide summer shading and winter sun.

(9) There shall be a ratio of at least one tree for every five parking spaces planted throughout or adjacent to open and covered-parking areas. Rows of parking stalls, either open or covered, shall be broken up by a tree planting approximately every 10 spaces.

(10) The parking-stall depth shall be reduced by two feet, providing that:

(a) The two feet gained shall be incorporated into adjacent landscaping, or

(b) For angled parking, the triangular space at the head of each stall shall be landscaped as a planter when abutting a sidewalk or incorporated into adjacent landscaped strips.

(11) The more efficient 90 degree parking arrangement shall be utilized when possible, so as to minimize parking lot size.

(12) For the most part, double-loading of parking aisles should be utilized to minimize surfacing devoted to maneuvering area.

c. On-Site Circulation

(1) Minimum pedestrian/vehicle conflict should be sought in driveway/walkway system design.

(2) A display and unit location map shall be installed at each major driveway entrance and any major walkway entrance to the project as an aid to emergency personnel and a convenience to visitors. An auto turnout lane shall be provided adjacent to directory map to eliminate blocking of driveway entrance.

(3) Walkway location shall assure convenient access between parking and dwelling units.

(4) Central pedestrian/bike paths shall provide convenient access to bus stops, green belts and public facilities.

(5) Pedestrian crossings shall be provided at appropriate locations along main drives and shall be accentuated by a change in surface textures.

(6) ~~Walkway connections between buildings and street sidewalks are discouraged if they encourage on-street parking by residents.~~

d. Bicycle Storage

(1) One bicycle parking facility is required for every ten (10) off-street parking spaces required, excluding developments which provide individually enclosed garages.

(2) Bicycle parking facilities may be Class I, Class II or Class III type facilities.

(3) Bicycle racks and/or lockers shall be provided throughout the development.

e. Landscaped and Open Space

(1) Landscaped materials selected shall be:

(a) Compatible with one another and with existing material on the adjacent site.

(b) Complementary to building design and architectural theme.

(c) Varied in size (one- and five-gallon shrubs, five- and 15-gallon and 24-inch box trees).

(2) Hydroseeding may be allowed provided a 90-day maintenance period is secured in the contract to ensure a healthy weed-free turf at the end of the maintenance period.

(3) Larger specimens of shrubs and trees along the site periphery, particularly along setback areas adjacent to public streets.

(4) Greater intensity of landscaping shall be provided at the end of buildings when those elevations lack window and door openings or other details that provide adequate visual interest. This is especially significant at the street frontage and interior side and rear property lines and for two-story structures.

(5) Landscaping shall be ~~C~~consisten~~t~~t~~cy~~ with energy-conservation efforts.

(6) Trees shall be located so as to screen parking areas and private first-floor areas and windows from second-story units.

(7) Undulating landscaped berms are encouraged ~~located~~ along street frontage.

(8) Deciduous trees shall be utilized along the south and west facing building walls to allow solar access during the winter.

(9) For crime deterrent reasons, shrubs planted below first-floor windows should be of a variety which has thorns and/or prickly leaves.

(10) Provisions for watering and maintenance facilities and/or storage shall be provided by the owner/management in the vicinity of landscaped areas.

f. Trash Enclosures

(1) The walls of the trash enclosure structure shall be constructed of solid masonry material with decorative exterior surface finish comparable to the main residential structures. Split-face concrete block finish is recommended. Brick or tile veneer exterior finish should be avoided.

(2) The trash enclosure structure shall have heavy gauge metal gates and be designed with cane bolts on the doors to secure the gates when in the open position.

(3) The trash enclosure facility shall be designed to allow walk-in access by tenants without having to open the main enclosure gates.

(4) The walls shall be a minimum of six feet in height, ~~more~~higher if necessary for adequate screening.

(5) The perimeter of the trash enclosure structure shall be planted with landscaping, including a combination of shrubs and/or climbing evergreen vines.

(6) A concrete apron shall be constructed either in front of the trash enclosure facility or at point of dumpster pickup by the waste removal truck. The location, size and orientation of the concrete apron shall depend on the design capacity of the trash enclosure facility (number of trash dumpsters provided) and the direction of the waste removal truck at point of dumpster pickup. The minimum dimensions of the concrete apron for a single, two cubic-yard dumpster shall be: width 10’ or width of enclosure facility, length 20’. Larger trash enclosure facilities shall require a larger concrete apron, subject to the approval of the City Public Works Department. Paving material shall consist of 5” aggregate base rock and 6” ~~p~~Portland cement paving.

(7) The enclosures shall be adequate in capacity, number, and distribution.

g. Signage

(1) With the exception of the main project identification sign(s), all other signage shall comply with the City Sign Ordinance, or other restrictions noted herein.

(2) A project identification sign is permitted at each major entrance into the complex. The sign shall be a monument type or incorporated into a low-profile, decorative entry wall(s). The height of the monument sign shall not exceed five (5) feet. Area shall not exceed 25 square feet.

(3) The primary material of the monument base or wall shall be decorative masonry such as brick, split-face concrete block, stucco or similar material which complements the design of the main buildings.

(4) Individual letters and project logo are permitted. The signage program shall be subject to the review and approval of the Community Development Director.

(5) No sign shall be closer than ten (10) feet to any property line.

~~E.~~F. PD-29 RE Condominium and Apartment Use Area

1. Purpose and Intent. The PD-29 RE District is established to provide for the development and maintenance of residential neighborhoods ~~which are predominantly, but not exclusively, multiple family in character for~~of condominium and apartment dwellings at up to 38 dwelling units per gross acre. Only those additional uses are permitted that are complementary to, and can exist in harmony with, a residential neighborhood. These regulations carry out the purpose and intent of the High Density Residential land-use categories of ~~t~~The ~~Lighthouse Marina~~Rivers.
2. Zoning Area. The PD-29 RE zone shall be applied in areas as shown in Exhibit "" ~~along or near the golf course~~.
3. Permitted, Accessory and Conditional Uses
   a. PD-29 RE Permitted Uses
      (1) Single family and ~~M~~multifamily development at up to 38 dwelling units per acre~~, with onsite recreational facilities~~.
      (2) Park and recreational facilities.
      (3) School facilities.
      ~~(2)~~(4) General Provision Nos. 12 and 14, as noted in Article Two.
      ~~(3)~~(5) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.
   b. PD-29 RE Permitted Accessory Uses
      (1) Small domestic animals.
      (2) Rooming and boarding of not more than two (2) persons per unit, including household employees
      (3) Signs as provided for herein
      (4) Accessory uses customarily a part of the permitted use and clearly incidental and secondary to the permitted use and which do not change the character of the permitted use of affect other properties in the vicinity.
      (5) Such other uses as deemed by the Planning Commission to be consistent with the purpose and intent of the zoning area.
   c. PD-29 RE Conditional Uses. The following conditional uses may be allowed within the PD 29 RE sub-area upon the issuance of a conditional use permit by the Planning Commission.
      (1) Neighborhood day-use areas.
      (2) Public access ancillary uses.
      (3) Public day-use areas.
      (4) Concessionaire stands intended solely for the use or provisions of association members.
      (5) Day-care centers.
      (6) Such other uses as deemed by the Planning Commission to be consistent with the purpose and

intent of the zoning area.

4. Site Development Standards

a. General Building Design and Orientation

(1) Large multi-unit~~family~~ projects shall incorporate design variation within the project to create a sense of uniqueness and individuality. Large complexes using the same building design, materials, and colors should be avoided. Design elements which achieve these objectives include: separate clustering of building groups with extensive open-space and landscape buffering between projects; variation in building elevations and configurations between project; variation in building heights; use of different building materials or combination of different materials; contrasting color schemes between projects.

(2) The monotony of straight building lines of all units shall be remedied through limiting the size of individual buildings or units, staggering of units, variation of exterior building materials on adjacent units, use of intensive landscaping, or other methods.

~~(3)Multifamily buildings adjacent to public streets shall be designed and oriented to minimize the likelihood of on-street parking by project residents. Examples of acceptable design and building orientation are:~~

~~(a)Minimize location of main entry doors of units facing the public street~~

~~(b)~~(a)~~Orient ends of building toward public street.~~

~~(c)~~(b)Break up long building containing many units into smaller building clusters or incorporate a breezeway through midsection of a long building which provides closer access to off-street parking area for residents.

~~(d)~~(c)Locate off-street parking areas between the public street and building (off-street parking area to be located and screened behind bermed landscape setback area - Section B-4).

~~(4)~~(3) All mechanical equipment (including public utility boxes and particularly exterior wall-mounted air-conditioning units) shall be attractively screened.

~~(5)Buildings shall be designed and oriented to reduce overview of private backyards and patio areas of on-site and adjacent developments and windows from second-story units.~~

~~(6)~~(4) Accessory structures shall be compatible in design and materials with main building.

~~(7)~~(5) Communal facilities shall be centrally located, where possible.

~~(8)~~(6) Recreational facilities shall be located and/or designed so as not to create a nuisance to surrounding units or to impact adjacent properties. Sufficient setbacks, landscaping and berming between recreation facilities and surrounding units shall be provided to minimize noise and visual conflicts.

~~(9)~~(7) Solar heating and cooling of units shall be achieved to the maximum extent possible.

~~(10)~~(8) Site planning shall take into account optimum solar orientation of structures.

~~(11)~~(9) Site planning shall minimize the incidences of one building shading another.

~~(12)~~(10) Private outdoor or garden areas shall be oriented to the south as much as possible.

~~(13)~~(11) Roofing materials shall be compatible with architectural style and elevations.

~~(14)~~(12) The location of second-story end unit windows shall be varied to provide variety in exterior unit detailing and designed in such a way as to reduce the incidence of overview into private first floor open space areas.

~~(15)~~(13) A minimum building setback of 50 feet shall be utilized on multiple-family projects from interior and rear property lines abutting existing or future low-density residential developments where two-story structures are proposed. A minimum setback of 25 feet shall be required where single-story structures in multiple-family projects abut existing or future low- density development.

~~(16)~~(14) All units shall have private exterior areas.

~~(17)~~(15) Maximum height thirty-two (32) feet as measured from the roof of ground-floor parking to structure eave line.

~~(18)~~(16) ~~Second-story floor area shall not exceed ninety (90) percent of the first-floor area. Third-story floor area shall not exceed eighty (80) percent of first floor area.~~

b. 0ff-Street Parking Design Criteria

(1) Off-street parking shall be provided at a ratio of 2 spaces per dwelling unit plus one space per 4 units as guest parking with a minimum of one space for the exclusive use of the occupant of each unit.~~In accordance with the City of West Sacramento Zoning Code and in accordance with other applicable Agency requirements.~~

(2) For the convenience of tenants and guests, and to encourage the use of off-street rather than curbside parking and parking along private drives, parking spaces shall be located as close as possible to the unit or communal facility it is intended to serve.

(3) To discourage parking on the street and along private on-site drives, physical barriers such as landscaping, berming, or wall segments shall be incorporated into the project design.

(4) Off-street parking shall be screened form the street by live landscaping, undulating earthen berms, low decorative walls or any combination of the above.

(5) Surface parking areas and carport roofing shall be screened from second-story units by trees or lattice and trellis work.

(6) The setback from interior side and rear property lines shall be 10 feet for open stalls and 15 feet for carports. If adjacent to non-residential development, the setback area shall be planted with large, growing evergreen trees to screen adjacent use.

(7) Trees shall be used for screening and shading purposes along the perimeter of the parking areas.

(8) Particularly within large, open lots, deciduous tees should be utilized to provide sunnier shading and winter sum

(9) There shall be a ratio of at least one tree for every five parking spaces planted throughout or adjacent to open and covered parking areas. Rows of parking stalls, either open or covered, shall be broken up by a tee planting approximately every 10 spaces.

(10) The parking stall depth shall be reduced by two feet

(a) The two feet gained shall be incorporated into adjacent landscaping.

(b) For angled parking the triangular space at the head of each stall shall be landscaped (as a planter when abutting a sidewalk or incorporated into adjacent landscaped snips).

(11) The more efficient 90-degree parking arrangements shall be utilized when possible, so as to minimize parking lot size.

(12) For the most part, double-loading of parking aisles should be utilized to minimize surfacing devoted to maneuvering area.

(13) Garden-story or ground-floor parking is preferred. Where utilized, it shall be appropriately bermed and landscaped in a manner to screen the lower fifty (50) percent of ground-floor wall.

c. On-Site Circulation

(1) Minimum pedestrian/vehicle conflict should be sought in driveway/walkway system design.

(2) A display and unit location map shall be installed at each major driveway entrance and any major walkway entrance to the project as an aid to emergency personnel and a convenience to visitors. An auto turnout lane shall be provided adjacent to directory map to eliminate blocking of driveway entrance.

(3) Walkway location shall assure convenient access between parking and dwelling units.

(4) Central pedestrian/bike paths shall provide convenient access to bus stops, greenbelts and public facilities.

(5) Pedestrian crossings shall be provided at appropriate locations along main drives and shall be

accentuated by a change in surface textures.

(6) Walkway connections between buildings and street sidewalks are discouraged if they encourage on-street parking by residents.

d. Bicycle Storage

(1) One bicycle parking facility is required for every ten (10) off-street parking spaces required, excluding developments which provide individual, enclosed garages.

(2) Bicycle parking facilities may be Class I, Class II or Class III type facilities.

(3) Bicycle racks and/or lockers shall be provided throughout the development

e. Landscaped and Open Space

(1) Landscaped materials selected shall be:

(a) Compatible with one another and with existing material on the adjacent site.

(b) Complementary to building design and architectural theme.

(c) Varied in size (one- and five-gallon shrubs, five- and 15-gallon and 24-inch box trees).

(2) Lawn areas shall be established by sodding or hydromulching when conditions such as excessive gradient, anticipated seasonal rain, etc., may result in erosion or other problems.

(3) Larger specimens of shrubs and trees along the site periphery, particularly along setback areas adjacent to public streets.

(4) Greater intensity of landscaping at the end of buildings when those elevations lack window and door openings or other details that provide adequate visual interest This is especially significant at the street frontage and interior side and rear property lines and for two-story structures.

(5) Consistency with energy conservation efforts.

(6) Trees located so as to screen parking areas and private first-floor areas and windows from second-story units.

(7) Undulating landscaped berms located along street frontage.

(8) Deciduous trees shall be utilized along the south and west facing building walls to allow solar access during the winter.

(9) For crime deterrent reasons, shrubs planted below first-floor windows should be of a variety which has thorns and/or prickly leaves.

f. Trash Enclosures

(1) The walls of the trash enclosure structure shall be constructed of solid masonry material with decorative exterior surface finish compatible to the main residential structure. Split-face concrete block finish is recommended. Brick or tile veneer exterior finish should be avoided.

(2) The trash enclosure structure shall have heavy gauge metal gates and be designed with cane bolts on the doors to secure the gates when in the open position.

(3) The trash enclosure facility shall be designed to allow walk-in access by tenants without having to open the main enclosure gates.

(4) The walls shall be a minimum of six feet in height, more if necessary for adequate screening.

(5) The perimeter of the trash enclosure structure shall be planted with landscaping, including a combination of shrubs and/or climbing evergreen vines

(6) A concrete apron shall be constructed either in front of the trash enclosure facility or at point of dumpster pickup by the waste removal truck. The location, size and orientation of the concrete apron shall depend on the design capacity of the trash enclosure facility (number of trash dumpsters provided) and the direction of the waste removal truck at point of dumpster pickup. The minimum dimensions of the concrete apron for a single, two cubic yard dumpster shall be: width 10’ or width of enclosure facility; length 20’. Larger trash enclosure facilities shall require a larger concrete apron, subject to the approval of the City Public Works Department.

Paving material shall consist of 5" aggregate base rock and 6" portland cement paving.

(7) The enclosures shall be adequate in capacity, number and distribution.

g. Signage

(1) With the exception of the main project identification signs(s), all other signage shall comply with the City Sign Ordinance, or other restrictions noted herein.

(2) A project identification sign is permitted at each major entrance into the complex. The sign shall be a monument type or incorporated into a low profile decorative entry wall(s). The height of the monument sign shall not exceed five (5) feet. Areas shall not exceed twenty-five (25) square feet.

(3) The primary material of the monument base or wall shall be decorative masonry such as brick, split-fact concrete block, stucco or similar material which complements the design of the main buildings.

(4) Individual letters and project logo are permitted. The signage program shall be subject to the review and approval of the Community Development Director.

(5) No sign shall be closer than ten (10) feet to any property line.

ARTICLE SEVEN: Special Regulations

The ~~Lighthouse Marina~~Rivers is being created as a planned unit development composed of a variety of land uses intended to provide an interrelated total environment, utilizing a common theme, while encouraging architectural variation.

These development regulations are established for the purpose of achieving a goal of commonalty in detailed development plans for the project area. The duties and responsibilities of T~~t~~he ~~Lighthouse Marina~~Rivers ~~Architectural Review Board~~Design Review Committee are defined in the ~~Covenants, Codes and Restrictions~~Community Charter which ~~are~~is to be recorded for T~~t~~he ~~Lighthouse Marina~~Rivers Planned Development.

The ~~Architectural Review Board~~Design Review Committee as well as all governing jurisdictions shall adhere to the following general objectives in reviewing development plans for The ~~Lighthouse Marina~~Rivers.

1. To provide adequate natural light, pure air and safety from fire and other dangers.
2. To enhance the value of land and structures within The~~Lighthouse Marina~~Rivers.
3. To minimize congestion due to vehicular and pedestrian circulation within the project area.
4. To preserve and enhance the aesthetic values throughout The ~~Lighthouse Marina~~Rivers.
5. To promote public health, safety, comfort, convenience and general welfare.

These objectives are intended as a supplement to existing City Ordinances and the ~~Covenants, Codes and Restrictions~~Community Charter to achieve the desired development goals. Amendments to these development guidelines can be adopted by the City of West Sacramento Planning Commission, in conjunction with the ~~Lighthouse Marina~~Rivers ~~Architectural Review Board~~Design Review Committee.

A. General

All the elements of The ~~Lighthouse Marina~~Rivers shall be designed to create a desirable environment. Each element shall have a defined internal relationship and be in architectural harmony with other surrounding areas. Living ground cover with permanent irrigation interspersed with tree planting, walkways, rest areas and service facilities will tie together the individual elements throughout the project. Consideration shall be given to preserving existing trees and desirable topographic features.

It shall be the intention of the Community Development Director to achieve the goal, as envisioned for The

~~Lighthouse Marina~~Rivers, by encouraging design which will emphasize harmonious relationships between man and his environment.

B. Landscaping

A plan for landscaping and pedestrian circulation shall be established to insure a continuity in design and landscaping patterns. The species, size and spacing of trees and other planting materials shall conform to the approved planting list, which encourages species required minimal irrigation and fertilization. All landscaping referred to in this section shall be maintained in a neat and orderly fashion.

1. Front-Yard Setback Area: Landscaping in these areas shall consist of an effective combination of trees, ground cover and shrubbery.
2. Side and Rear-Yard Setback Area: All unpaved areas not utilized for planting and storage shall be landscaped utilizing live plant material consisting of ground cover and/or shrubbery and tree material. Undeveloped areas proposed for future expansion development shall be maintained in a weed-free condition but need not be landscaped. Boundary landscaping is required on all interior property lines. Said areas shall be placed along the entire breadth of these property lines or be of sufficient length to accommodate the number of required trees. Trees, equal in number to one (1) tree per twenty-five (25) linear feet of each property line, shall be planted in the above-defined areas in addition to required ground cover and shrub material.
3. Parking Areas: Trees, equal in number to one (1) per each five (5) parking spaces, or equivalent landscaping, shall be provided in the at-grade planting area.

~~4.~~Trees: Any regulated activity affecting Street Trees, Landmark Trees and Heritage Trees as such terms are defined in the City's Tree Ordinance shall be done in compliance with the Tree Ordinance.~~As used in this section, a "tree" shall mean any living native oak tree having at least one trunk of six inches or more in diameter, measured four-and-one-half (4-1/2) feet above the ground or a multi-trunked native oak tree having an aggregate diameter of ten inches or more, measured four-and-one- half (4-1/2) feet above the ground (dbh).~~

~~a.It is recognized that the preservation of trees enhances the natural scenic beauty, sustains the long term potential increase in property values, which encourages quality development; maintains the original ecology; retains the original tempering effect of extreme temperatures; increases the attractiveness of the City to visitors; helps to reduce soil erosion; and increases the oxygen output of the area, which is needed to combat air pollution.~~

~~b.No person shall trench, grade or fill within the dripline of any tree or destroy, kill or remove any tree unless the appropriate application has been made as defined below. Exemptions from the provisions of this restriction include:~~

~~(1)Trees identified on an approved grading permit issued by the Director of Public Works.~~

~~(2)Trees shown for removal on an approved site plan where construction cannot take place without the removal of the tree.~~

~~(3)Emergency situation for safety reasons.~~

~~(4)Public agency directed work within R.O.W.'s, parks, and open space areas.~~

~~(5)Other instances in accordance with any adopted Tree Ordinance.~~

~~5.The preservation or removal of trees as a condition of approval of a discretionary project shall be the sole and continuing responsibility of the approving body which granted approval of the project.~~

~~6.Any person desiring to cut down, destroy or remove one or more trees shall make application to the City Manager or his designee not less than ten days prior to the time desired to physically remove the tree. Said application shall contain:~~

~~a.A brief statement of the reasons for removal;~~

~~b.Consent of the owner or record of the land on which the proposed activity is to occur;~~

~~c.A tree survey with the accurate location, number, species, size diameter measured 4-1/2 feet above the ground, approximate heights and approximate canopy diameter) and approximate age (if known) of the tree or trees to be removed;~~

~~d.If the project involves other discretionary development, then this survey must be part of the total development plan and must also describe any tree or trees which could be affected by the proposed development; and~~

~~e.Any other pertinent information requested.~~

~~f.The approving body may mandate any or all of the following control measures to mitigate damage to oak trees caused by land development:~~

~~(1)No grade cuts greater than one foot shall occur within the driplines of oak trees, and no grade cuts whatsoever shall occur within five feet of their trunks;~~

~~(2)No fill greater than one foot shall be placed within the driplines of oak trees and no fill whatsoever shall be placed within five feet of their trunks;~~

~~(3)No trenching whatsoever shall be allowed within the driplines of oak trees. If it is absolutely necessary to install underground utilities within the driplines of an oak tree, the trench shall be authorized by the Director of Public Works.~~

~~(4)No irrigation system shall be installed within the driplines of oak tree(s) which may be detrimental to the preservation of the oak tree(s) unless specifically authorized by the Director of Public Works.~~

~~(5)Landscaping beneath oak trees may include non-plant materials such as boulders, cobbles, wood chips, etc. The only plant species which shall be planted within the driplines of oak trees are those which are tolerant of the natural semi-arid environs of the trees. Limited drip irrigation.~~

~~(6)Major roots two inches or greater in diameter encountered within the tree's dripline in the course of excavation from beneath trees which are not to be removed shall not be cut and shall be kept moist and covered with earth as soon as possible. Roots one inch to two inches in diameter which are severed shall be trimmed and treated with pruning compound and covered with earth as soon as possible.~~

~~(7)~~(1) ~~Support roots that are inside the dripline of the tree shall be protected. The permittee is required to hand-dig in the Vicinity of major trees to prevent root cutting and mangling which may be caused by heavy equipment.~~

C. Pedestrian Circulation

The schematic plan set forth in "B" of this Article shall include a system of pedestrian and bicycle ways. Plans for the development of each parcel shall include a walkway system as indicated on the schematic plan or on an approved amendment to such schematic plan. An exhibit shall be approved and included in this schematic plan that indicates the typical treatment of walkway system design if it is to be located in the setback area adjacent to a public street. An exhibit shall be approved and included within this document that indicates typical design requirements for walkway materials, planting, shade structures, benches, light standards, and other elements of the walkway system. Planting shall conform to an approved planting list, which shall also be approved and included within this document.

D. Parking Area Standards

Adequate off-street parking shall be provided to accommodate all parking needs of the site. The intent is to eliminate the need for any on-street parking. Parking requirements as follows or as per City of West Sacramento Zoning Code for uses not specified hereunder.

Required off-street parking shall be provided on the site of the use served, or on a contiguous site. Where parking is provided on other than the site concerned, a recorded document shall be approved by the City Attorney and filed with the Community Development Department and signed by the owners of the alternate site stipulating to the permanent reservation of use of the site for said parking.

The following guide shall be used to determine parking requirements:

1. Office: One (1) space for each 250 square feet of gross floor area.
2. Restaurants, Cafes, and Bars: One (1) space for each 100 square feet of bar area, 1 space for each 300 square feet of food preparation area, and 1 space for each 100 square feet of seating/serving area.
3. Commercial: One (1) space for each two hundred (200) square feet of gross floor area. One (1) loading space for each ten thousand (10,000) square feet of gross floor area.
4. Hotels: One (I) space for each guest room.
5. ~~Multiple~~ Residential: ~~In accordance with zone requirements.~~As described in each residential land use area of the PD 29.
6. Curbs, walls, decorative fences with effective landscaping or similar barrier devices shall be located along the perimeter of parking lots, garages, and storage areas, except at entrances and exits indicated on approved parking plans. Such barriers shall be so designated and located to prevent parked vehicles from extending beyond property lines of parking lots and garages or into yard spaces where parking is prohibited and to protect drainages from parking lots.
7. Curbs and drives shall be constructed in accordance with the current requirements of the City of West Sacramento.
8. Shared parking may be approved where the applicant demonstrates that multiple uses will reduce the actual amount of parking needed.

E. Exterior Lighting

1. Fixture types used shall be compatible and harmonious throughout the entire development and should be in keeping with their specific function and the building types they serve. Fixture type in landscape or walkway areas shall utilize anodized aluminum standards with various mounting heights.
2. Lighting shall be designed in such a manner as to provide safety and comfort for occupants of the development and the general public.
3. Lighting design shall be such as not to produce hazardous and annoying glare to motorists and building occupants or the general public. Indirect lighting is recommended.
4. Recommended maintained illuminances for commercial parking areas shall be 2.0 average footcandles and 0.7 minimum footcandles and for multifamily residential parking areas shall be 1.5 average footcandles and .5 minimum footcandles.
5. All on-site lighting shall be designed and located so as to minimize light trespass to the adjacent premises.

F. Building Standards

1. Exterior Wall Materials
   a. The purpose and intent of this section is to encourage, not restrict, the creative and innovative use of materials and methods of construction and to prevent indiscriminate and insensitive use of materials and design.
   b. Finish building materials shall be applied to all sides of a building which are visible to the general public and occupants of the same and other buildings.
   c. Concrete block exposed to the exterior shall not be acceptable to any purpose or use.
   d. The effect of a material used on a building shall be considered in relationship to all other buildings in the development and shall be compatible with otter buildings.
2. Colors. All colors shall be harmonious and compatible with colors of other buildings in the development and the natural surroundings.
3. Roof Projections

a. Large items such as air conditioning, ventilating, other mechanical equipment shall be screened or enclosed in such manner as to hide such equipment.
b. Projections shall be painted to match roof or building.

4. Garbage, Loading Dock, and Other Services Screening
   a. These elements shall be so located as to cause no nuisance to the general public, occupants of the same and other buildings.
   b. They shall be located in the most inconspicuous mariner possible.
   c. All garbage and refuse shall, if not contained and concealed within the building, be concealed by means of a screening wall of a material similar to and compatible with that of the building.
   d. These facilities shall be integral with the concept of the building planning and in no way attract attention because of their unplanned character.
5. Mechanical Equipment
   a. All mechanical equipment, utility meters and storage tanks shall be located in such a manner so as not to be visible to the general public.
   b. If concealment within the building is not possible, then such utility elements shall be concealed by screen.
   c. Penthouses and mechanical equipment screening shall be of a design and materials similar to and compatible with those used in the related buildings. These structures may exceed the maximum height limit.
   d. Underground utility lines throughout the project shall be required.
   e. All mechanical equipment shall be located in such a manner to not to cause nuisance or discomfort from noise, fumes, odors, etc.
6. Exterior Fire Stairs. Non-enclosed, exterior fire stairs in no case shall be permitted.
7. Temporary Structures
   a. The only temporary structures permitted shall be those attendant to the construction of improvements on the site of a particular parcel or in connection with construction of any public improvements. Such structures will be removed upon the recording of a Notice of Completion for each work of improvement. Additionally, temporary structures for marketing and sales offices are authorized but must be removed upon obtaining of a Certificate of Occupancy of a permanent building, or if such case is not applicable, authorization by Community Development Director to permit such use for every 12 months shall be required.
   b. Such structures shall be placed as inconspicuously as possible and cause no inconvenience to the general public.
   c. Such structures may include modular units, construction/office trailer or security facilities.
8. Walks and Plaza Materials. Materials selected for walks and plazas shall be related to the materials of the buildings and compatible with walk and path system standards. Surface shall be non-skid finish. Layout and design shall provide maximum comfort and safety to pedestrians. Patterns for plaza paving should have an obvious relationship to the buildings.

G. Sign Regulations

The purpose of the Sign Regulations is to set forth the criteria to be used in evaluating proposals for all signing. This criteria will aid in eliminating excessive and confusing sign displays, preserve and enhance the appearance of The ~~Lighthouse Marina~~Rivers, safeguard and enhance property values, and will encourage signs which by their good design are integrated with and are harmonious to the buildings and sites which they occupy.

These sign regulations are intended to complement the City of West Sacramento Sign Ordinance as well as other regulations noted for each zone category. In all cases, the most restrictive requirements will apply.

1. General Requirements

a. In no case shall flashing, moving, or audible signs be permitted.

b. In no case shall the wording of signs describe the products, sold, prices, or any type of advertising except as part of the occupant's place name or insignia.

c. No signs of any sort shall be permitted on canopy roofs or building roofs.

d. No sign or any portion thereof may project above the building or top of wall upon which it is mounted.

e. No signs perpendicular to the face of the building shall be permitted, where visible from any public right-of-way.

f. All signs in The ~~Lighthouse Marina~~Rivers shall be placed flat against the building to which ~~it~~they ~~is~~are attached.

2. Design Requirements

a. The location of signs shall be only as shown on the approved improvement plan.

b. Painted lettering will not be permitted.

c. All electrical signs shall bear the UL label and their installation must comply with all local building and electrical codes.

d. No exposed conduit, tubing, or raceways will be permitted.

e. No exposed neon lighting shall be used on signs, symbols, or decorative elements.

f. All conductors, transformers, and other equipment shall be concealed.

g. All exterior letters or signs exposed to the weather shall be mounted at least three fourths inch (3/4") from the building to permit proper dirt and water drainage.

h. Location of all openings for conduit and sleeves in sign panels of building walls shall be indicated by the sign contractor on drawings. Installation shall be in accordance with the approved drawings.

i. No signmaker's labels or other identification will be permitted on the exposed surface of signs, except those required by local ordinance which shall be located in an inconspicuous location.

3. Miscellaneous Requirements

a. Each occupant in a commercial or business zone will be permitted to place upon each entrance to its premises not more than 144 square inches of gold leaf or decal application, lettering, not to exceed two inches in height, indicating hours of business, emergency telephone numbers, and proprietorship. No other window signs will be allowed.

b. Each occupant who has a non-consumer door for receiving merchandise may have uniformly applied on said door in a location, as directed by the ~~Architectural~~ Design Review Committee in two inch high block letters the occupant's name and address. Where more than one occupant uses the same door, each name and address shall be applied.

c. Occupants may install street address numbers as the U.S. Post Office requires in the exact location stipulated.

4. Special Signing

a. Floor signs, such as inserts into terrazzo, special tile treatment, etc., will be permitted within the occupant's lease line or property line if approved by the Community Development Director.

b. The provisions of these Sign Regulations, except as otherwise expressly provided herein, shall not be applicable to the identification signs of any large department-type store, and it shall be understood and agreed that those occupants may have their usual identification signs on their buildings; however, there shall be no rooftop signs, or signs which extend above the parapet wall of the roof line of the building to which they are attached. Further, no sign shall be permitted that is flashing, moving or audible or placed perpendicular to the building.

c. Informational and directional signs relating to pedestrian and vehicular flows within ~~t~~The ~~Lighthouse Marina~~Rivers project area shall conform to standards set forth in a master sign program

identifying style, color and coordinated graphics to be approved by the Community Development Director prior to issuance of a sign permit for any permanent informational or directional signs.

d. One standard sign denoting the name of the project, the marketing agent, the contractor, architect, and engineer shall be permitted upon the commencement of construction. Said sign shall be permitted until such a time as a final inspection of the building(s) designates sad structure(s) fit for occupancy or the tenant is occupying said building(s), whichever occurs first.

e. Upon removal of the sign described in 4.d. above, a sign advertising the sale or lease of the site or building shall be permitted.

f. Permanent directional and identification signs for ~~t~~The ~~Lighthouse Marina~~Rivers project, exceeding one hundred twenty-five (125) square feet (single face) for any one location shall be permitted but subject to use permit.

g. Temporary signs related to seasonal concessions may be granted as procedurally outlined in Item "N" of this Article.

h. Temporary real estate signs for T~~t~~he ~~Lighthouse Marina~~Rivers Project of not more than 100 square feet (single face) for 3 locations shall be permitted subject to Community Development Director's approval.

ARTICLE EIGHT: Development Permit Regulations and Procedures

The objective of the requirement for specific site plans for specific parcels is to provide a logical sequence of community and governmental review and input. Such approved site plans for each area or sub-area are supplements to ~~t~~The ~~Lighthouse Marina~~Rivers Land Use Regulations.

The purpose of such site development permits is to provide for review of the detailed final plans of a project with respect to the architectural design, materials, colors, landscaping, and relationship to surrounding uses for an entire project. A site plan may also be approved to establish development standards.

A. Regulations and Procedures

1. The provisions of this ordinance are intended to supercede the requirements of the City of West Sacramento Zoning Code. Where events or circumstances occur which are not cited by this ordinance, the provision found in the previously cited chapters shall be utilized in resolving those events or circumstances.
2. Definitions of words or procedures utilized in this ordinance shall be the same as defined in the City of West Sacramento Zoning Code or clarified through interpretation by the City of West Sacramento Planning Commission or its designee.
3. Approval of Plans - All improvements constructed, placed, altered, maintained or permitted on any land in the PD-29 District shall be required to comply with the requirements of the City of West Sacramento, the Site Plan Approvals.
4. Modifications and Interpretations
   a. The Zoning Administrator may approve minor modifications of the development plans or standards of PD-29 pursuant to the authority of West Sacramento Zoning Ordinance. Should the matter involve a modification not determined by the Zoning Administrator to be minor, a change may be granted by the Planning Commission, pursuant to the provisions of the Zoning Ordinance.
   b. ~~The Planning Commission may approve the adjustment of specific land uses in location, acreage, density and intensity of use so long as the adjustment is consistent with and no more than the densities and intensities of use specifically itemized in the Development Agreement (D.A.).~~
   c. The site development standards of each land use sub-area of PD-29 are intended to facilitate flexible, creative urban design plans for coordinated mixed-use developments. Land use sub-areas

granted ability to participate in mixed-use design strategy (PD-29 RE/RF/BP/CT/CR/CM) shall submit schematic plans in accordance with Article Eight, Section N.

d. Upon the adoption of the schematic master plans by the City Council, the site development standards in Articles Two through Six shall be replaced by the standards set forth in the schematic (master) plan. The limits set for in this section shall supercede that noted in Section K of Article Eight.

B. Review of Subsequent Project Applications

To the intent not prohibited by applicable law or the conditions of approval of any previous entitlement, or terms of a development agreement, the City of West Sacramento shall not accept any application from an applicant or property owner who is in violation of a previous entitlement All violations must be fully resolved to the satisfaction of the City before additional applications will be accepted. Any rejections of such an application may be appealed by the applicant to the Planning Commission.

C. Creation of Area or Sub-Area

No person shall create a lot or parcel upon which there will exist more than the number of dwelling units or maximum percentage of land coverage permitted by this Ordinance, except that more than such maximums may be created in connection with portions of a subdivision, which subdivision meets such standards as a whole, and the tentative map of which is approved by the City.

D. Protection of Subsequent Buyers

Where a lot or parcel is divided, the person making the division shall calculate the number of dwelling units and land coverage allocable to each of the resulting lots or parcels and shall note such allocations in the deeds to such resulting lots or parcels and on the lot or parcel map, if any, that is used to record such division.

E. Condominium/Time-Share Conversions

All conversions of residential, commercial, and office uses after the original approval of the project shall be subject to the requirements of the City of West Sacramento Zoning Code. The requirements shall be complied with prior to or in concert with the recordation of any required map.

F. Variances and Modifications

1. Variances from the terms of this Ordinance shall be granted by City of West Sacramento only if it is found that because of special circumstances applicable to the property, including size, shape, topography, location or surroundings, the strict application of the ordinance deprives such property of privileges enjoyed by other property in the vicinity and within the same use district, and the application shows that be cannot make any reasonable use of the property if this Ordinance is applied. Where such conditions are found, the variance permitted shall be the minimum departure from existing regulations necessary to avoid such deprivation of privileges enjoyed by such other property and to facilitate a reasonable use and shall not exceed 10 percent of the allowable standard.
2. The Planning Commission may grant variances and modifications to the land uses densities and intensities consistent with the EIR/EIS and consistent with Article Eight, Item 4. Appeals of decisions may be exercised pursuant to Article Eight.

G. Findings

A final decision on a permit or variance requiring review by the local jurisdiction shall include a statement of law and findings of the fact, separately stated. The statement of law shall specify the applicable statute, plan, or ordinance or rule and whether the statute, plan, ordinance or rule has been complied with. The findings of fact shall specify the items of evidence in the administrative record which support the decision.

H. Burden of Proof

The burden of proof is on the applicant to show an entitlement or an entitlement to a permit or variance pursuant to this Ordinance.

I. Violation of Ordinance

Violation of this ordinance or of the City Code of West Sacramento Zoning shall be a misdemeanor. Each day of violation constitutes a separate offense. Compliance or relief of violations may be sought by the City in either Municipal Court or Superior Court, depending on the degree of violation determined by the City.

1. Stop Order and Revocation of Permits
    a. Whenever the City of West Sacramento determines that any permit, approval of subdivision map or maps, whether tentative or final zoning matter, or variance or use permit, or any action being taken thereunder or any action not taken, under color of a permit, is in conflict with any ordinance of the City or determines that any such action is in conflict with any rule, regulation or policy of the City, such officer of the agency may issue a stop order which shall prohibit any action thereunder for a period of thirty-five (35) days. Such stop order shall be in writing, shall set forth the violations alleged to exist and may list remedies to be undertaken to correct the violations.

    The person receiving such a stop order shall report in writing to the officer or body issuin2 the order within forty-eight (48) hours the steps proposed to be taken to correct the violations. Such stop order may be extended by the Planning Commission for a period of not to exceed an additional thirty-five (35) days upon opportunity for hearing being extended to the affected parties. During the period of such stop order, the Commission shall review the matter as herein provided. A stop order issued pursuant to this section may be withdrawn by the Planning Commission or by the officer who issued it upon a finding that the circumstances giving rise to the stop order no longer exist. In addition or instead of the measures set forth, the Commission may revoke a permit upon finding violation of the approval or conditions thereto, and may cause to be removed all improvements constructed in reliance upon such permit, with costs to constitute a lien on the property. The Commission may also order restoration of the property.

    b. The City may suspend any permit or other approval whenever there has been a false statement or misrepresentation in the application as to any material fact on which the permit was based.

    c. The City may suspend a permit or other approval whenever a violation of the provisions of this Ordinance or of Conditions of Approval made pursuant to provisions of this Ordinance are found to exist.

    d. The City, after a hearing, may revoke the permit and may cause to be removed all improvement constructed in reliance upon such permit, and may seek reimbursement for all costs incurred. The Agency may also order restoration of the property.

    e. Any person may appeal to the City Council the imposition of any Condition of Approval, denial of a permit or other approval or revocation of a permit made by the Agency staff if such appeal is made in writing within fifteen (15) days after receiving notice from the staff to impose conditions or deny permits or other approvals.

J. Determination of Use

Where a combination of permitted, accessory and/or conditional uses are proposed within a single structure, the determination of the principal character of that structure shall be based on the floor area and/or intensity of use of each component Standards of development shall be based on the requirements of each use.

K. Hazardous Materials

It shall be the responsibility of all applicants for any permitted, accessory, or conditional use to provide in the application for the safe delivery, storage, use and disposal of any hazardous materials to be used in the conduct of that use. Hazardous materials shall include toxic, radioactive and inflammable products. Where disposal involves a public utility, prior written concurrence shall be obtained from that utility. Examples of measure

could include a lockable fire-resistant area in a dwelling to shielded fireproof and monitored storage areas in businesses.

L. The ~~Lighthouse Marina~~Rivers Planned Unit Development ~~Architectural Review Board~~Design Review Committee

The~~An Architectural Review Board~~Design Review Committee shall be so powered as per specifications in the ~~Covenants, Codes and Restrictions~~Community Charter for T~~t~~he ~~Lighthouse Marina~~Rivers Planned Development

M. Procedures for Approval

Any applications submitted to the Community Development Director shall be submitted in duplicate to the office of the ~~Architectural Review Board~~Design Review Committee for The ~~Lighthouse Marina~~Rivers. Approvals, conditional approvals, or disapprovals shall be in writing to the applicant and signed by the technical representative of the ~~Architectural Review Board~~Design Review Committee within thirty (30) days from the date of a completed submission. Application for approval of plans and specifications by the ~~Architectural Review Board~~Design Review Committee shall be by two-phased submissions: (a) Schematic-Preliminary Phase submission and approval; and (b) Construction Documents submission and approval. Submissions must be made in the order indicated and approval of each submission must be obtained from the Committee~~Board~~ before a subsequent submission on the same project will be considered by the Committee~~Board~~. In addition, a review of the completed construction and issuance of a Certificate of Compliance is required for each project. The Community Development Director shall respond to the applicant in writing no later than ten (10) days following receipt of the recommendation of the Committee~~Board~~.

Applications for approval of each phase shall contain the following submission and information:

1. Schematic-Plan Phase
    a. Site map showing existing topographic features and proposed building(s) in relation to adjacent and nearby roads and buildings.
    b. Site plan showing proposed grading, driveways, pathways, terraces, property lines, setback lines, proposed parking and storage areas, existing and proposed grades and proposed landscaping. Design development of these items shall be included.
    c. Plans and elevations of building(s) showing major dimensions, cross-sections, typical wall sections.
    d. Outline specifications and/or site development standards.
    e. Exterior colors and materials of construction.
2. Construction Documents Phase
    a. Complete working drawings including site development plan and landscaping plan. (See Drawing Check List below.)
    b. Specifications.
    c. Exterior colors and materials of construction.
3. Completion of Construction Certificate
    a. Upon notification of the completion of construction, the ~~Architectural Review Board~~Design Review Committee will inspect the property and recommend to the Grantor the issuance of a Certificate of Compliance for the project This Certificate will be issued by the Grantor under the same terms and conditions as the Estoppel Certificate, which is specified in the ~~Covenants, Codes and Restrictions~~Community Charter.
4. Drawing Check List
    a. Names and addresses of builder, contractor, developer, etc.
    b. Project site plat with dimensions taken from signed record plat.
    c. Al1 submissions must include topography showing existing grades/and proposed grades at one foot intervals with spot elevations as required to clarify drawings, also show building corner elevations and floor elevations.

d. Proposed landscaping, including automatic irrigation system.
e. Retaining walls.
f. Street names.
g. Locations and details of temporary and permanent signs.
h. Temporary and permanent fences and wind and water erosion control devices.
i. Temporary and permanent storage and stockpiling areas.
j. Front, side and rear distances from building to property lines.
k. Easements and rights-of-way.
l. Pipes, berms, ditches, swales.
m. Driveways, panting areas, traffic patterns, pathway and lighting, existing and proposed.
n. Locations and details of benches and patios.
o. Exterior storage and screening devices for trash, mechanical equipment and meters.
p. Light poles and transformers.
q. Sewer alignments and location of manholes and inverts.
r. Show existing inlets and top of plate elevations, if any.
s. Mailboxes.
t. Roof projections and screening treatment.

APPENDIX D
CALINE/URBEMIS Outputs

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 11006-00
Project Title: The Rivers Phase II

Background Information

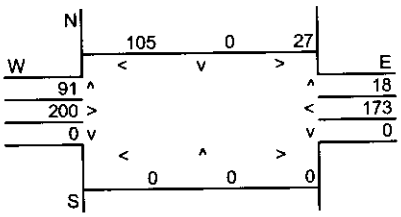
Nearest Air Monitoring Station measuring CO:	Sacramento - T Street
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	4.3
Persistence Factor:	0.6
Analysis Year:	2008

Roadway Data

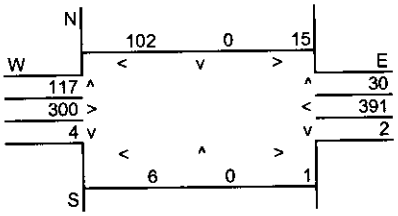
Intersection: Douglas/Sacramento
Analysis Condition: Existing Traffic Volumes

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Douglas	At Grade	2	10	10
East-West Roadway:	Sacramento	At Grade	2	10	10

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	241	N-S Road:	264
E-W Road:	569	E-W Road:	920

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	241	7.65	0.05	0.04	0.03
East-West Road	7.6	5.7	4.0	569	7.65	0.33	0.25	0.17
P.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	264	7.65	0.05	0.04	0.03
East-West Road	7.6	5.7	4.0	920	7.65	0.53	0.40	0.28

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.4	0.6	4.7
50 Feet from Roadway Edge	0.3	0.4	4.6
100 Feet from Roadway Edge	0.2	0.3	4.5

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 11006-00
Project Title: The Rivers Phase II

Background Information

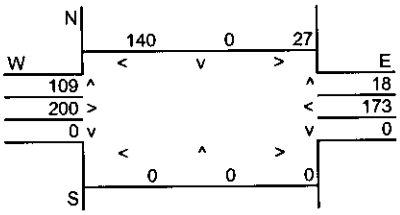
Nearest Air Monitoring Station measuring CO:	Sacramento - T Street
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	4.3
Persistence Factor:	0.6
Analysis Year:	2008

Roadway Data

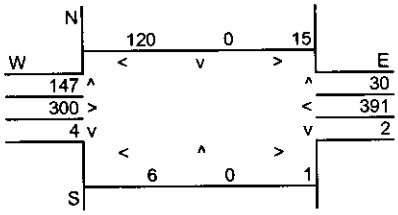
Intersection: Douglas/Sacramento
Analysis Condition: Scenario A

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Douglas	At Grade	2	10	10
East-West Roadway:	Sacramento	At Grade	2	10	10

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	294	N-S Road:	312
E-W Road:	622	E-W Road:	968

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	294	7.65	0.06	0.05	0.04
East-West Road	7.6	5.7	4.0	622	7.65	0.36	0.27	0.19
P.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	312	7.65	0.06	0.05	0.04
East-West Road	7.6	5.7	4.0	968	7.65	0.56	0.42	0.30

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.4	0.6	4.7
50 Feet from Roadway Edge	0.3	0.5	4.6
100 Feet from Roadway Edge	0.2	0.3	4.5

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 11006-00
Project Title: The Rivers Phase II

Background Information

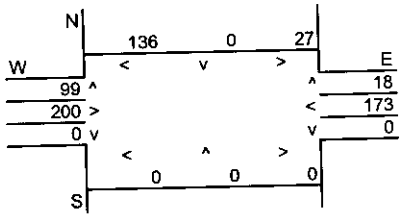
Nearest Air Monitoring Station measuring CO:	Sacramento - T Street
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	4.3
Persistence Factor:	0.6
Analysis Year:	2008

Roadway Data

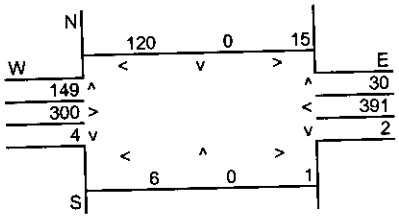
Intersection: Douglas/Sacramento
Analysis Condition: Scenario B

		No. of	Average Speed	
	Roadway Type	Lanes	A.M.	P.M.
North-South Roadway:	At Grade	2	10	10
East-West Roadway:	At Grade	2	10	10

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	280	N-S Road:	314
E-W Road:	608	E-W Road:	970

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

	A_1	A_2	A_3	B	C			
	Reference CO Concentrations			Traffic	Emission	Estimated CO Concentrations		
Roadway	25 Feet	50 Feet	100 Feet	Volume	Factors[2]	25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	280	7.65	0.06	0.05	0.04
East-West Road	7.6	5.7	4.0	608	7.65	0.35	0.26	0.19
P.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	314	7.65	0.06	0.05	0.04
East-West Road	7.6	5.7	4.0	970	7.65	0.56	0.42	0.30

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.4	0.6	4.7
50 Feet from Roadway Edge	0.3	0.5	4.6
100 Feet from Roadway Edge	0.2	0.3	4.5

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 11006-00
Project Title: The Rivers Phase II

Background Information

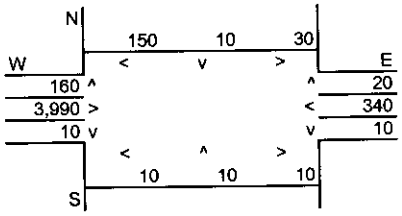
Nearest Air Monitoring Station measuring CO:	Sacramento - T Street
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	4.3
Persistence Factor:	0.6
Analysis Year:	2008

Roadway Data

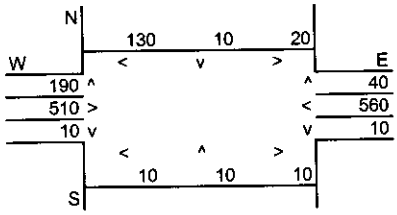
Intersection: Douglas/Sacramento
Analysis Condition: 2025 No Project

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Douglas	At Grade	2	5	5
East-West Roadway:	Sacramento	At Grade	2	5	5

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	380	N-S Road:	400
E-W Road:	4,660	E-W Road:	1,410

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	380	9.53	0.10	0.08	0.06
East-West Road	7.6	5.7	4.0	4,660	9.53	3.37	2.53	1.78
P.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	400	9.53	0.10	0.08	0.06
East-West Road	7.6	5.7	4.0	1,410	9.53	1.02	0.77	0.54

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	3.5	1.1	6.4
50 Feet from Roadway Edge	2.6	0.8	5.9
100 Feet from Roadway Edge	1.8	0.6	5.4

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 11006-00
Project Title: The Rivers Phase II

Background Information

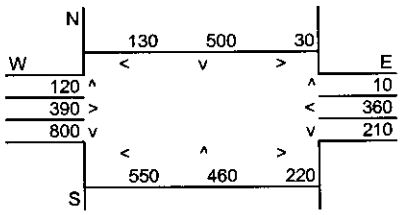
Nearest Air Monitoring Station measuring CO:	Sacramento - T Street
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	4.3
Persistence Factor:	0.6
Analysis Year:	2025

Roadway Data

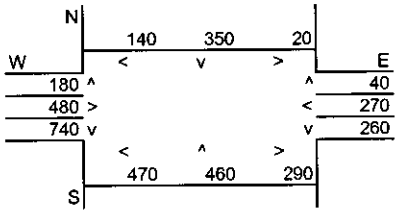
Intersection: Kegle/Jefferson/Sacramento
Analysis Condition: 2025 No Project

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Kegle/Jefferson	At Grade	4	5	10
East-West Roadway:	Sacramento	At Grade	6	5	10

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

	A.M.	P.M.
N-S Road:	2,740	2,570
E-W Road:	2,350	2,280

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	7.0	5.4	3.8	2,740	2.09	0.40	0.31	0.22
East-West Road	2.3	2.0	1.7	2,350	2.09	0.11	0.10	0.08
P.M. Peak Traffic Hour								
North-South Road	7.0	5.4	3.8	2,570	1.77	0.32	0.25	0.17
East-West Road	2.3	2.0	1.7	2,280	1.77	0.09	0.08	0.07

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.5	0.4	4.6
50 Feet from Roadway Edge	0.4	0.3	4.6
100 Feet from Roadway Edge	0.3	0.2	4.5

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 11006-00
Project Title: The Rivers Phase II

Background Information

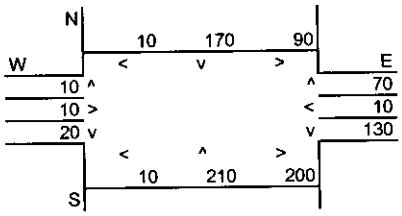
Nearest Air Monitoring Station measuring CO:	Sacramento - T Street
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	4.3
Persistence Factor:	0.6
Analysis Year:	2008

Roadway Data

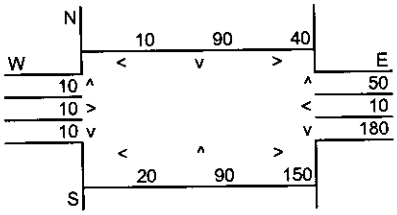
Intersection: Kegle/Lighthouse/Pierce
Analysis Condition: 2025 No Project

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Kegle	At Grade	2	20	20
East-West Roadway:	Lighthouse/Pierce	At Grade	2	20	20

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	740	N-S Road:	540
E-W Road:	510	E-W Road:	440

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	7.6	5.7	4.0	740	5.48	0.31	0.23	0.16
East-West Road	2.7	2.2	1.7	510	5.48	0.08	0.06	0.05
P.M. Peak Traffic Hour								
North-South Road	7.6	5.7	4.0	540	5.48	0.22	0.17	0.12
East-West Road	2.7	2.2	1.7	440	5.48	0.07	0.05	0.04

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.4	0.3	4.5
50 Feet from Roadway Edge	0.3	0.2	4.5
100 Feet from Roadway Edge	0.2	0.2	4.4

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 11006-00
Project Title: The Rivers Phase II

Background Information

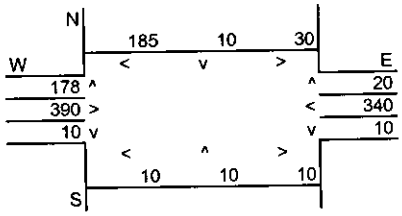
Nearest Air Monitoring Station measuring CO:	Sacramento - T Street
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	4.3
Persistence Factor:	0.6
Analysis Year:	2025

Roadway Data

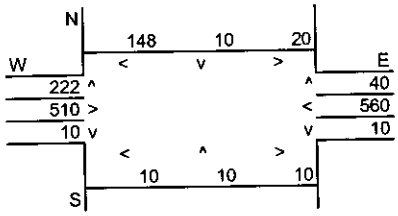
Intersection: Douglas/Sacramento
Analysis Condition: 2025 Scenario A

		No. of	Average Speed	
	Roadway Type	Lanes	A.M.	P.M.
North-South Roadway: Douglas	At Grade	2	5	5
East-West Roadway: Sacramento	At Grade	2	5	5

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	433	N-S Road:	450
E-W Road:	1,113	E-W Road:	1,460

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

	A_1	A_2	A_3	B	C			
	Reference CO Concentrations			Traffic	Emission	Estimated CO Concentrations		
Roadway	25 Feet	50 Feet	100 Feet	Volume	Factors[2]	25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	433	2.09	0.02	0.02	0.02
East-West Road	7.6	5.7	4.0	1,113	2.09	0.18	0.13	0.09
P.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	450	2.09	0.03	0.02	0.02
East-West Road	7.6	5.7	4.0	1,460	2.09	0.23	0.17	0.12

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.2	0.3	4.5
50 Feet from Roadway Edge	0.2	0.2	4.4
100 Feet from Roadway Edge	0.1	0.1	4.4

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 11006-00
Project Title: The Rivers Phase II

Background Information

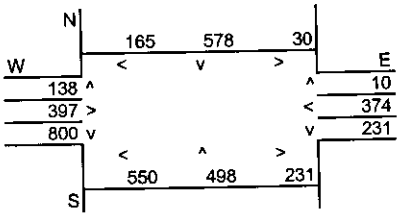
Nearest Air Monitoring Station measuring CO:	Sacramento - T Street
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	4.3
Persistence Factor:	0.6
Analysis Year:	2025

Roadway Data

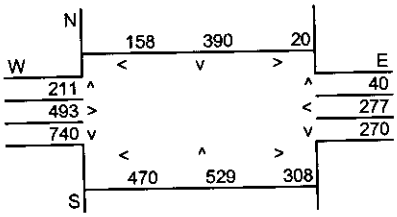
Intersection: Kegle/Jefferson/Sacramento
Analysis Condition: 2025 Scenario A

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Kegle/Jefferson	At Grade	4	5	5
East-West Roadway:	Sacramento	At Grade	6	5	5

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	2,888	N-S Road:	2,707
E-W Road:	2,424	E-W Road:	2,349

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	7.0	5.4	3.8	2,888	2.09	0.42	0.33	0.23
East-West Road	2.3	2.0	1.7	2,424	2.09	0.12	0.10	0.09
P.M. Peak Traffic Hour								
North-South Road	7.0	5.4	3.8	2,707	2.09	0.40	0.31	0.21
East-West Road	2.3	2.0	1.7	2,349	2.09	0.11	0.10	0.08

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.5	0.5	4.6
50 Feet from Roadway Edge	0.4	0.4	4.6
100 Feet from Roadway Edge	0.3	0.3	4.5

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 11006-00
Project Title: The Rivers Phase II

Background Information

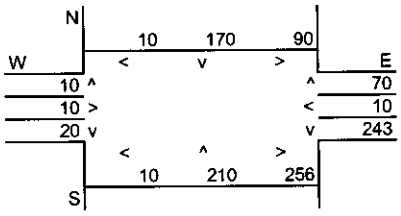
Nearest Air Monitoring Station measuring CO:	Sacramento - T Street
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	4.3
Persistence Factor:	0.6
Analysis Year:	2025

Roadway Data

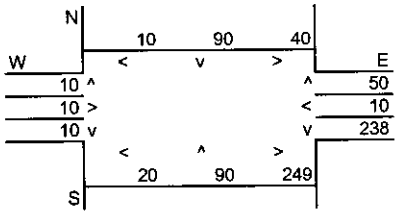
Intersection: Kegle/Lighthouse/Pierce
Analysis Condition: 2025 Scenario A

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Kegle	At Grade	2	5	20
East-West Roadway:	Lighthouse/Pierce	At Grade	2	5	20

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	909	N-S Road:	697
E-W Road:	679	E-W Road:	597

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	7.6	5.7	4.0	909	2.09	0.14	0.11	0.08
East-West Road	2.7	2.2	1.7	679	2.09	0.04	0.03	0.02
P.M. Peak Traffic Hour								
North-South Road	7.6	5.7	4.0	697	1.37	0.07	0.05	0.04
East-West Road	2.7	2.2	1.7	597	1.37	0.02	0.02	0.01

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.2	0.1	4.4
50 Feet from Roadway Edge	0.1	0.1	4.4
100 Feet from Roadway Edge	0.1	0.1	4.4

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 11006-00
Project Title: The Rivers Phase II

Background Information

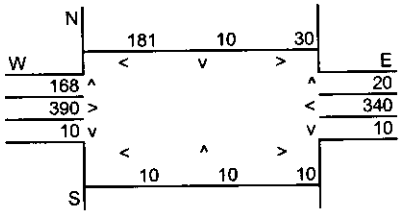
Nearest Air Monitoring Station measuring CO:	Sacramento - T Street
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	4.3
Persistence Factor:	0.6
Analysis Year:	2025

Roadway Data

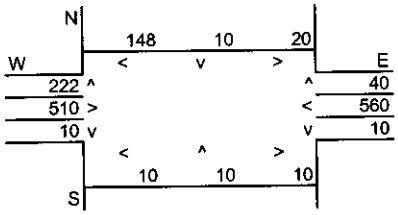
Intersection: Douglas/Sacramento
Analysis Condition: 2025 Scenario B

		No. of	Average Speed	
	Roadway Type	Lanes	A.M.	P.M.
North-South Roadway:	Douglas			
	At Grade	2	5	5
East-West Roadway:	Sacramento			
	At Grade	2	5	5

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	419	N-S Road:	450
E-W Road:	1,099	E-W Road:	1,460

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

	A_1	A_2	A_3	B	C			
	Reference CO Concentrations			Traffic	Emission	Estimated CO Concentrations		
Roadway	25 Feet	50 Feet	100 Feet	Volume	Factors[2]	25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	419	2.09	0.02	0.02	0.01
East-West Road	7.6	5.7	4.0	1,099	2.09	0.17	0.13	0.09
P.M. Peak Traffic Hour								
North-South Road	2.7	2.2	1.7	450	2.09	0.03	0.02	0.02
East-West Road	7.6	5.7	4.0	1,460	2.09	0.23	0.17	0.12

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.2	0.3	4.5
50 Feet from Roadway Edge	0.1	0.2	4.4
100 Feet from Roadway Edge	0.1	0.1	4.4

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 11006-00
Project Title: The Rivers Phase II

Background Information

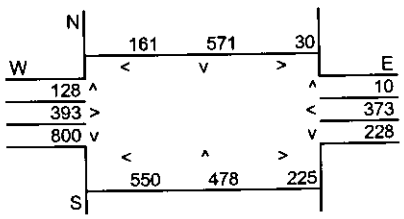
Nearest Air Monitoring Station measuring CO:	Sacramento - T Street
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	4.3
Persistence Factor:	0.6
Analysis Year:	2025

Roadway Data

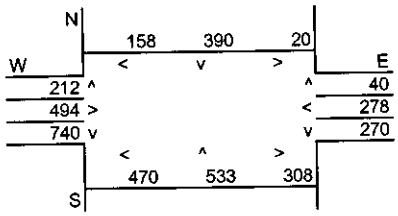
Intersection: Kegle/Jefferson/Sacramento
Analysis Condition: 2025 Scenario B

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Kegle/Jefferson	At Grade	4	5	5
East-West Roadway:	Sacramento	At Grade	6	5	5

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	2,852	N-S Road:	2,711
E-W Road:	2,405	E-W Road:	2,352

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	7.0	5.4	3.8	2,852	2.09	0.42	0.32	0.23
East-West Road	2.3	2.0	1.7	2,405	2.09	0.12	0.10	0.09
P.M. Peak Traffic Hour								
North-South Road	7.0	5.4	3.8	2,711	2.09	0.40	0.31	0.21
East-West Road	2.3	2.0	1.7	2,352	2.09	0.11	0.10	0.08

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.5	0.5	4.6
50 Feet from Roadway Edge	0.4	0.4	4.6
100 Feet from Roadway Edge	0.3	0.3	4.5

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

SIMPLIFIED CALINE4 CARBON MONOXIDE ANALYSIS

Project Number: 11006-00
Project Title: The Rivers Phase II

Background Information

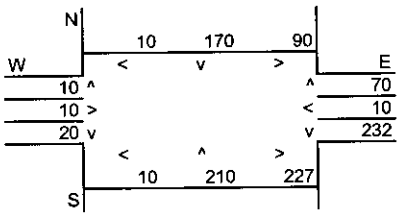
Nearest Air Monitoring Station measuring CO:	Sacramento - T Street
Background 1-hour CO Concentration (ppm):	0.0
Background 8-hour CO Concentration (ppm):	4.3
Persistence Factor:	0.6
Analysis Year:	2025

Roadway Data

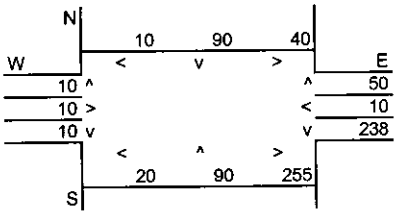
Intersection: Kegle/Lighthouse/Pierce
Analysis Condition: 2025 Scenario B

		Roadway Type	No. of Lanes	Average Speed A.M.	Average Speed P.M.
North-South Roadway:	Kegle	At Grade	2	5	20
East-West Roadway:	Lighthouse/Pierce	At Grade	2	5	20

A.M. Peak Hour Traffic Volumes



P.M. Peak Hour Traffic Volumes



Highest Traffic Volumes (Vehicles per Hour)

N-S Road:	869	N-S Road:	703
E-W Road:	639	E-W Road:	603

Roadway CO Contributions and Concentrations

Emissions = (A x B x C) / 100,000[1]

Roadway	A_1 Reference CO Concentrations 25 Feet	A_2 50 Feet	A_3 100 Feet	B Traffic Volume	C Emission Factors[2]	Estimated CO Concentrations 25 Feet	50 Feet	100 Feet
A.M. Peak Traffic Hour								
North-South Road	7.6	5.7	4.0	869	2.09	0.14	0.10	0.07
East-West Road	2.7	2.2	1.7	639	2.09	0.04	0.03	0.02
P.M. Peak Traffic Hour								
North-South Road	7.6	5.7	4.0	703	1.37	0.07	0.05	0.04
East-West Road	2.7	2.2	1.7	603	1.37	0.02	0.02	0.01

[1] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).
[2] Emission factors from EMFAC2002 (2003).

Total Roadway CO Concentrations

Peak Hour Emissions = North-South Concentration + East-West Concentration + Background 1-hour Concentration[2]
8-Hour Emissions = ((Highest Peak Hour Concentration - Background 1-hour Concentration) x Persistence Factor) + Background 8-hour Concentration[2]

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
25 Feet from Roadway Edge	0.2	0.1	4.4
50 Feet from Roadway Edge	0.1	0.1	4.4
100 Feet from Roadway Edge	0.1	0.1	4.4

[2] Methodology from Bay Area Air Quality Management District *BAAQMD CEQA Guidelines* (1996).

URBEMIS 2002 For Windows 7.5.0

File Name: P:\Projects - WP Only\11006-00 Rivers II\ADEIR 2\appendicies\URBEMIS\Bank Stabilization.url
Project Name: Bank Stabilization
Project Location: Lower Sacramento Valley Air Basin
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

Construction Start Month and Year: June, 2006
Construction Duration: 3
Total Land Use Area to be Developed: 1 acres
Maximum Acreage Disturbed Per Day: 0.2 acres
Single Family Units: 0 Multi-Family Units: 0
Retail/Office/Institutional/Industrial Square Footage: 0

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2006***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	2.00	-	2.00
Off-Road Diesel	9.35	65.80	73.51	-	2.88	2.88	0.00
On-Road Diesel	1.08	17.90	3.98	0.31	0.54	0.46	0.08
Worker Trips	0.09	0.10	1.83	0.00	0.00	0.00	0.00
Maximum lbs/day	10.52	83.80	79.32	0.31	5.42	3.34	2.08
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Bldg Const Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max lbs/day all phases	10.52	83.80	79.32	0.31	5.42	3.34	2.08

Phase 3 - Building Construction Assumptions: Phase Turned OFF

Phase 2 - Site Grading Assumptions
Start Month/Year for Phase 2: Jun '06
Phase 2 Duration: 3 months
On-Road Truck Travel (VMT): 758
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Cranes	190	0.430	8.0
1	Off Highway Trucks	417	0.490	8.0
1	Rubber Tired Dozers	352	0.590	8.0
1	Tractor/Loaders/Backhoes	79	0.465	8.0

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

Changes made to the default values for Area

Changes made to the default values for Operations

URBEMIS 2002 For Windows 7.5.0

File Name: P:\Projects - WP Only\11006-00 Rivers II\ADEIR 2\appendicies\URBEMIS\Scenario A Constructic
Project Name: Construction Scenario A
Project Location: Lower Sacramento Valley Air Basin
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

Construction Start Month and Year: May, 2006
Construction Duration: 36
Total Land Use Area to be Developed: 67.9 acres
Maximum Acreage Disturbed Per Day: 31.6 acres
Single Family Units: 626 Multi-Family Units: 0
Retail/Office/Institutional/Industrial Square Footage: 39050

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2006***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	316.00	-	316.00
Off-Road Diesel	34.56	252.01	264.93	-	11.17	11.17	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.34	0.40	7.33	0.00	0.03	0.01	0.02
Maximum lbs/day	34.90	252.41	272.26	0.00	327.20	11.18	316.02
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	158.57	1,229.25	1,157.22	-	55.60	55.60	0.00
Bldg Const Worker Trips	3.03	1.82	38.52	0.01	0.45	0.03	0.42
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	161.60	1,231.07	1,195.74	0.01	56.05	55.63	0.42
Max lbs/day all phases	161.60	1,231.07	1,195.74	0.01	371.65	55.63	316.02
*** 2007***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	158.57	1,175.29	1,195.89	-	50.84	50.84	0.00
Bldg Const Worker Trips	2.82	1.71	36.20	0.01	0.45	0.03	0.42
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	161.38	1,177.00	1,232.09	0.01	51.29	50.87	0.42
Max lbs/day all phases	161.38	1,177.00	1,232.09	0.01	51.29	50.87	0.42
*** 2008***							

Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	158.57	1,121.32	1,233.18	-	46.09	46.09	0.00
Bldg Const Worker Trips	2.59	1.60	33.74	0.00	0.45	0.03	0.42
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	161.16	1,122.92	1,266.92	0.00	46.54	46.12	0.42
Max lbs/day all phases	161.16	1,122.92	1,266.92	0.00	46.54	46.12	0.42

*** 2009***

Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	158.57	1,068.84	1,271.85	-	43.32	43.32	0.00
Bldg Const Worker Trips	2.36	1.47	31.12	0.00	0.45	0.03	0.42
Arch Coatings Off-Gas	820.01	-	-	-	-	-	-
Arch Coatings Worker Trips	2.36	1.47	31.12	0.00	0.45	0.03	0.42
Asphalt Off-Gas	1.23	-	-	-	-	-	-
Asphalt Off-Road Diesel	9.50	56.81	80.18	-	1.76	1.76	0.00
Asphalt On-Road Diesel	0.17	3.17	0.61	0.01	0.07	0.07	0.00
Asphalt Worker Trips	0.04	0.03	0.54	0.00	0.01	0.00	0.01
Maximum lbs/day	994.21	1,131.78	1,415.42	0.01	46.07	45.22	0.85
Max lbs/day all phases	994.21	1,131.78	1,415.42	0.01	46.07	45.22	0.85

Phase 1 - Demolition Assumptions: Phase Turned OFF

Phase 2 - Site Grading Assumptions
Start Month/Year for Phase 2: May '06
Phase 2 Duration: 4 months
On-Road Truck Travel (VMT): 0
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Crawler Tractors	143	0.575	8.0
2	Graders	174	0.575	8.0
2	Off Highway Tractors	255	0.410	8.0
2	Off Highway Trucks	417	0.490	8.0
2	Other Equipment	190	0.620	8.0
2	Rough Terrain Forklifts	94	0.475	8.0
3	Rubber Tired Dozers	352	0.590	8.0
1	Rubber Tired Loaders	165	0.465	8.0
1	Tractor/Loaders/Backhoes	79	0.465	8.0

Phase 3 - Building Construction Assumptions
Start Month/Year for Phase 3: Sep '06

Phase 3 Duration: 32 months
Start Month/Year for SubPhase Building: Sep '06
SubPhase Building Duration: 32 months
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
26	Concrete/Industrial saws	84	0.730	8.0
53	Other Equipment	190	0.620	8.0
26	Rough Terrain Forklifts	94	0.475	8.0

Start Month/Year for SubPhase Architectural Coatings: Jan '09
SubPhase Architectural Coatings Duration: 3.2 months
Start Month/Year for SubPhase Asphalt: Mar '09
SubPhase Asphalt Duration: 1.6 months
Acres to be Paved: 16.5
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Graders	174	0.575	8.0
1	Off Highway Trucks	417	0.490	8.0
1	Pavers	132	0.590	8.0
1	Paving Equipment	111	0.530	8.0
2	Rollers	114	0.430	8.0

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

Phase 2 mitigation measure Soil Disturbance: Apply soil stabilizers to inactive areas
has been changed from off to on.
Phase 2 mitigation measure Soil Disturbance: Replace ground cover in disturbed areas quickly
has been changed from off to on.
Phase 2 mitigation measure Soil Disturbance: Water exposed surfaces - 3x daily
has been changed from off to on.
Phase 2 mitigation measure Off-Road Diesel Exhaust: Use lean-NOx catalyst
has been changed from off to on.
Phase 2 mitigation measure On-Road Diesel Exhaust: Use lean-NOx catalyst
has been changed from off to on.
Phase 2 mitigation measure Stockpiles: Cover all stock piles with tarps
has been changed from off to on.
Phase 2 mitigation measure Unpaved Roads: Water all haul roads 2x daily
has been changed from off to on.
Phase 2 mitigation measure Unpaved Roads: Reduce speed on unpaved roads to < 15 mph
has been changed from off to on.
Phase 3 mitigation measure Off-Road Diesel Exhaust: Use lean-NOx catalyst
has been changed from off to on.
Phase 3 mitigation measure Off-Road Diesel Exhaust: Use lean-NOx catalyst
has been changed from off to on.
Phase 3 mitigation measure On-Road Diesel Exhaust: Use lean-NOx catalyst
has been changed from off to on.

Changes made to the default values for Area

Changes made to the default values for Operations

The double counting internal work trip limit changed from to 108.1.
The double counting shopping trip limit changed from to 54.05.
The double counting other trip limit changed from to 415.85.

URBEMIS 2002 For Windows 7.5.0

File Name: P:\Projects - WP Only\11006-00 Rivers II\ADEIR 2\appendicies\URBEMIS\Scenario B Constructic
Project Name: Construction Scenario B
Project Location: Lower Sacramento Valley Air Basin
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

Construction Start Month and Year: May, 2006
Construction Duration: 36
Total Land Use Area to be Developed: 67.9 acres
Maximum Acreage Disturbed Per Day: 31.6 acres
Single Family Units: 802 Multi-Family Units: 0
Retail/Office/Institutional/Industrial Square Footage: 39050

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2006***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	316.00	-	316.00
Off-Road Diesel	34.56	252.01	264.93	-	11.17	11.17	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.34	0.40	7.33	0.00	0.03	0.01	0.02
Maximum lbs/day	34.90	252.41	272.26	0.00	327.20	11.18	316.02
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	202.57	1,569.16	1,479.18	-	70.94	70.94	0.00
Bldg Const Worker Trips	3.86	2.32	49.05	0.01	0.57	0.04	0.53
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	206.42	1,571.48	1,528.23	0.01	71.51	70.98	0.53
Max lbs/day all phases	206.42	1,571.48	1,528.23	0.01	387.00	70.98	316.02
*** 2007***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	202.57	1,500.36	1,528.41	-	64.86	64.86	0.00
Bldg Const Worker Trips	3.59	2.18	46.11	0.01	0.57	0.04	0.53
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	206.15	1,502.55	1,574.52	0.01	65.43	64.90	0.53
Max lbs/day all phases	206.15	1,502.55	1,574.52	0.01	65.43	64.90	0.53
*** 2008***							

Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	202.57	1,431.57	1,575.88	-	58.78	58.78	0.00
Bldg Const Worker Trips	3.30	2.03	42.97	0.01	0.57	0.04	0.53
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	205.87	1,433.60	1,618.85	0.01	59.35	58.82	0.53
Max lbs/day all phases	205.87	1,433.60	1,618.85	0.01	59.35	58.82	0.53

*** 2009***

Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	202.57	1,364.76	1,625.11	-	55.27	55.27	0.00
Bldg Const Worker Trips	3.00	1.87	39.63	0.01	0.57	0.04	0.53
Arch Coatings Off-Gas	1,044.78	-	-	-	-	-	-
Arch Coatings Worker Trips	3.00	1.87	39.63	0.01	0.57	0.04	0.53
Asphalt Off-Gas	1.23	-	-	-	-	-	-
Asphalt Off-Road Diesel	9.50	56.81	80.18	-	1.76	1.76	0.00
Asphalt On-Road Diesel	0.17	3.17	0.61	0.01	0.07	0.07	0.00
Asphalt Worker Trips	0.04	0.03	0.54	0.00	0.01	0.00	0.01
Maximum lbs/day	1,264.28	1,428.50	1,785.70	0.03	58.25	57.18	1.07
Max lbs/day all phases	1,264.28	1,428.50	1,785.70	0.03	58.25	57.18	1.07

Phase 1 - Demolition Assumptions: Phase Turned OFF

Phase 2 - Site Grading Assumptions
Start Month/Year for Phase 2: May '06
Phase 2 Duration: 4 months
On-Road Truck Travel (VMT): 0
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Crawler Tractors	143	0.575	8.0
2	Graders	174	0.575	8.0
2	Off Highway Tractors	255	0.410	8.0
2	Off Highway Trucks	417	0.490	8.0
2	Other Equipment	190	0.620	8.0
2	Rough Terrain Forklifts	94	0.475	8.0
3	Rubber Tired Dozers	352	0.590	8.0
1	Rubber Tired Loaders	165	0.465	8.0
1	Tractor/Loaders/Backhoes	79	0.465	8.0

Phase 3 - Building Construction Assumptions
Start Month/Year for Phase 3: Sep '06

Phase 3 Duration: 32 months
Start Month/Year for SubPhase Building: Sep '06
SubPhase Building Duration: 32 months
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
34	Concrete/Industrial saws	84	0.730	8.0
67	Other Equipment	190	0.620	8.0
34	Rough Terrain Forklifts	94	0.475	8.0

Start Month/Year for SubPhase Architectural Coatings: Jan '09
SubPhase Architectural Coatings Duration: 3.2 months
Start Month/Year for SubPhase Asphalt: Mar '09
SubPhase Asphalt Duration: 1.6 months
Acres to be Paved: 16.5
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Graders	174	0.575	8.0
1	Off Highway Trucks	417	0.490	8.0
1	Pavers	132	0.590	8.0
1	Paving Equipment	111	0.530	8.0
2	Rollers	114	0.430	8.0

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

Phase 2 mitigation measure Soil Disturbance: Apply soil stabilizers to inactive areas
has been changed from off to on.
Phase 2 mitigation measure Soil Disturbance: Replace ground cover in disturbed areas quickly
has been changed from off to on.
Phase 2 mitigation measure Soil Disturbance: Water exposed surfaces - 3x daily
has been changed from off to on.
Phase 2 mitigation measure Off-Road Diesel Exhaust: Use lean-NOx catalyst
has been changed from off to on.
Phase 2 mitigation measure On-Road Diesel Exhaust: Use lean-NOx catalyst
has been changed from off to on.
Phase 2 mitigation measure Stockpiles: Cover all stock piles with tarps
has been changed from off to on.
Phase 2 mitigation measure Unpaved Roads: Water all haul roads 2x daily
has been changed from off to on.
Phase 2 mitigation measure Unpaved Roads: Reduce speed on unpaved roads to < 15 mph
has been changed from off to on.
Phase 3 mitigation measure Off-Road Diesel Exhaust: Use lean-NOx catalyst
has been changed from off to on.
Phase 3 mitigation measure Off-Road Diesel Exhaust: Use lean-NOx catalyst
has been changed from off to on.
Phase 3 mitigation measure On-Road Diesel Exhaust: Use lean-NOx catalyst
has been changed from off to on.

Changes made to the default values for Area

Changes made to the default values for Operations

The double counting internal work trip limit changed from to 108.1.
The double counting shopping trip limit changed from to 54.05.
The double counting other trip limit changed from to 415.85.

URBEMIS 2002 For Windows 7.5.0

File Name: P:\Projects - WP Only\11006-00 Rivers II\ADEIR 2\appendicies\URBEMIS\Scenario A Operational
Project Name: Scenario A Operational (new)
Project Location: Lower Sacramento Valley Air Basin
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

AREA SOURCE EMISSION ESTIMATES (Summer Pounds per Day, Unmitigated)

Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.48	6.23	2.64	-	0.01
Wood Stoves - No summer emissions					
Fireplaces - No summer emissions					
Landscaping	0.47	0.05	3.85	0.08	0.01
Consumer Prdcts	30.63	-	-	-	-
TOTALS(lbs/day,unmitigated)	31.58	6.28	6.49	0.08	0.02

AREA SOURCE EMISSION ESTIMATES

Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.42	5.55	2.35	-	0.01
Wood Stoves - No summer emissions					
Fireplaces - No summer emissions					
Landscaping	0.47	0.05	3.85	0.08	0.01
Consumer Prdcts	30.63	-	-	-	-
TOTALS (lbs/day, mitigated)	31.52	5.60	6.20	0.08	0.02

Area Source Mitigation Measures

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Single family housing	16.84	18.95	192.49	0.11	19.00
Condo/townhouse general	18.91	18.63	189.26	0.11	18.68
Elementary school	12.97	7.67	74.99	0.04	7.62
TOTAL EMISSIONS (lbs/day)	48.72	45.25	456.75	0.27	45.30

Does not include correction for passby trips.
Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2008 Temperature (F): 85 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Trip Rate	Size	Total Trips
Single family housing	9.76 trips / dwelling units	220.00	2,147.20
Condo/townhouse general	5.20 trips / dwelling units	406.00	2,111.20
Elementary school	1.62 trips / students	600.00	972.00

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	55.00	1.60	98.00	0.40
Light Truck < 3,750 lbs	15.00	2.70	95.30	2.00
Light Truck 3,751- 5,750	16.20	1.20	97.50	1.30
Med Truck 5,751- 8,500	7.20	1.40	95.80	2.80
Lite-Heavy 8,501-10,000	1.10	0.00	81.80	18.20
Lite-Heavy 10,001-14,000	0.40	0.00	50.00	50.00
Med-Heavy 14,001-33,000	1.00	0.00	20.00	80.00
Heavy-Heavy 33,001-60,000	0.90	0.00	11.10	88.90
Line Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Urban Bus	0.20	0.00	50.00	50.00
Motorcycle	1.70	76.50	23.50	0.00
School Bus	0.10	0.00	0.00	100.00
Motor Home	1.20	8.30	83.30	8.40

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	9.7	3.8	4.6	7.8	4.5	4.5
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip Speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	27.3	21.2	51.5			
% of Trips - Commercial (by land use)						
Elementary school				20.0	10.0	70.0

MITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Single family housing	16.74	18.82	191.16	0.11	18.87
Condo/townhouse general	18.81	18.50	187.96	0.11	18.55
Elementary school	12.93	7.61	74.42	0.04	7.56
TOTAL EMISSIONS (lbs/day)	48.48	44.93	453.54	0.26	44.98

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2008 Temperature (F): 85 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Trip Rate	Size	Total Trips
Single family housing	9.76 trips / dwelling units	220.00	2,147.20
Condo/townhouse general	5.20 trips / dwelling units	406.00	2,111.20
Elementary school	1.62 trips / students	600.00	972.00

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	55.00	1.60	98.00	0.40
Light Truck < 3,750 lbs	15.00	2.70	95.30	2.00
Light Truck 3,751- 5,750	16.20	1.20	97.50	1.30
Med Truck 5,751- 8,500	7.20	1.40	95.80	2.80
Lite-Heavy 8,501-10,000	1.10	0.00	81.80	18.20
Lite-Heavy 10,001-14,000	0.40	0.00	50.00	50.00
Med-Heavy 14,001-33,000	1.00	0.00	20.00	80.00
Heavy-Heavy 33,001-60,000	0.90	0.00	11.10	88.90
Line Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Urban Bus	0.20	0.00	50.00	50.00
Motorcycle	1.70	76.50	23.50	0.00
School Bus	0.10	0.00	0.00	100.00
Motor Home	1.20	8.30	83.30	8.40

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	9.7	3.8	4.6	7.8	4.5	4.5
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip Speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	27.3	21.2	51.5			
% of Trips - Commercial (by land use)						
Elementary school				20.0	10.0	70.0

ENVIRONMENTAL FACTORS APPLICABLE TO THE PROJECT

Pedestrian Environment

2.0	Side Walks/Paths: Most Destinations Covered
0.0	Street Trees Provide Shade: No Coverage
0.0	Pedestrian Circulation Access: No Destinations
0.0	Visually Interesting Uses: No Uses within Walking Distance
0.0	Street System Enhances Safety: No Streets
0.0	Pedestrian Safety from Crime: No Degree of Safety
0.5	Visually Interesting Walking Routes: Minor Level

2.5 <- Pedestrian Environmental Credit
2.5 /19 = 0.1 <- Pedestrian Effectiveness Factor

Transit Service

0.0	Transit Service: Dial-A-Ride or No Transit Service

0.0 <- Transit Effectiveness Credit
2.5 <- Pedestrian Factor
2.5 <-Total
2.5 /110 = 0.0 <-Transit Effectiveness Factor

Bicycle Environment

0.0	Interconnected Bikeways: No Bikeway Coverage
0.0	Bike Routes Provide Paved Shoulders: No Routes
0.0	Safe Vehicle Speed Limits: No Routes Provided
1.0	Safe School Routes: One School
0.0	Uses w/in Cycling Distance: No Uses w/in Cycling Distance
0.0	Bike Parking Ordinance: No Ordinance or Unenforceable

1.0 <- Bike Environmental Credit
1.0 /20 = 0.1 <- Bike Effectiveness Factor

MITIGATION MEASURES SELECTED FOR THIS PROJECT
(All mitigation measures are printed, even if
the selected land uses do not constitute a mixed use.)

Transit Infrastructure Measures

% Trips Reduced	Measure
15.0	Credit for Existing or Planned Community Transit Service
0.5	Provide Street Lighting
15.5 <- Totals	

Pedestrian Enhancing Infrastructure Measures (Residential)

% Trips Reduced	Measure
2.0	Credit for Surrounding Pedestrian Environment
1.0	Provide Sidewalks and/or Pedestrian Paths
0.5	Provide Street Lighting
3.5 <- Totals	

Pedestrian Enhancing Infrastructure Measures (Non-Residential)

% Trips Reduced	Measure
2.0	Credit for Surrounding Pedestrian Environment
2.0 <- Totals	

Bicycle Enhancing Infratructure Measures (Residential)

% Trips Reduced	Measure
7.0	Credit for Surrounding Bicycle Environment
7.0 <- Totals	

Bike Enhancing Infrastructure Measures (Non-Residential)

% Trips Reduced	Measure
5.0	Credit for Surrounding Area Bike Environment
5.0 <- Totals	

Operational Measures (Applying to Commute Trips)

% Trips Reduced	Measure
0.0 <- Totals	

Operational Measures (Applying to Employee Non-Commute Trips)

% Trips Reduced	Measure
0.0 <- Totals	

Operational Measures (Applying to Customer Trips)

% Trips Reduced	Measure
0.0 <- Totals	

Measures Reducing VMT (Non-Residential)

VMT Reduced	Measure
0.0	Park and Ride Lots
0.0 <- Totals	

Measures Reducing VMT (Residential)

VMT Reduced	Measure
0.0 <- Totals	

Total Percentage Trip Reduction
with Environmental Factors and Mitigation Measures

Travel Mode	Home-Work Trips	Home-Shop Trips	Home-Other Trips
Pedestrian	0.05	0.20	0.20
Transit	0.35	0.08	0.10
Bicycle	0.35	0.35	0.35
Totals	0.00	0.00	0.00

Travel Mode	Work Trips	Employee Trips	Customer Trips
Pedestrian	0.03	0.26	0.26
Transit	0.35	0.01	0.35
Bicycle	0.25	0.25	0.25
Other	0.00	0.00	0.00
Totals	0.00	0.00	0.00

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Area

The area souce mitigation measure option switch changed from off to on.
Mitigation measure Increase Insulation Beyond Title 24: Rsdntl Space Heat.
has been changed from off to on.

Changes made to the default values for Operations

The operational emission year changed from 2004 to 2008.
The double counting internal work trip limit changed from to 194.4.
The double counting shopping trip limit changed from to 97.2.
The double counting other trip limit changed from to 680.4.
The travel mode environment settings changed from both to: none
The default/nodefault travel setting changed from nodefault to: nodefault
Side Walks/Paths: No Sidewalks
changed to: Side Walks/Paths: Most Destinations Covered
Visually Interesting Uses: No Uses Within Walking Distance
changed to:Visually Interesting Uses: No Uses within Walking Distance
Visually Interesting Walking Routes: No Visual Interest
changed to:Visually Interesting Walking Routes: Minor Level
Safe School Routes: No Schools
changed to: Safe School Routes: One School
Mitigation measure Provide Street Lighting:0.5
has been changed from off to on.
Mitigation measure Provide Sidewalks and/or Pedestrian Paths:1
has been changed from off to on.
Mitigation measure Provide Street Lighting:0.5
has been changed from off to on.

URBEMIS 2002 For Windows 7.5.0

File Name: P:\Projects - WP Only\11006-00 Rivers II\ADEIR 2\appendicies\URBEMIS\Scenario B Operational
Project Name: Scenario B Operational
Project Location: Lower Sacramento Valley Air Basin
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

AREA SOURCE EMISSION ESTIMATES (Summer Pounds per Day, Unmitigated)

Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.58	7.49	3.19	-	0.01
Wood Stoves - No summer emissions					
Fireplaces - No summer emissions					
Landscaping	0.49	0.05	4.10	0.11	0.01
Consumer Prdcts	39.24	-	-	-	-
TOTALS(lbs/day,unmitigated)	40.30	7.54	7.28	0.11	0.02

AREA SOURCE EMISSION ESTIMATES

Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.51	6.61	2.81	-	0.01
Wood Stoves - No summer emissions					
Fireplaces - No summer emissions					
Landscaping	0.49	0.05	4.10	0.11	0.01
Consumer Prdcts	39.24	-	-	-	-
TOTALS (lbs/day, mitigated)	40.23	6.66	6.91	0.11	0.02

Area Source Mitigation Measures

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Single family housing	21.65	24.27	246.57	0.14	24.34
Condo/townhouse general	23.33	22.77	231.32	0.13	22.83
TOTAL EMISSIONS (lbs/day)	44.98	47.04	477.88	0.28	47.17

Does not include correction for passby trips.
Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2008 Temperature (F): 85 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Trip Rate	Size	Total Trips
Single family housing	9.55 trips / dwelling units	288.00	2,750.40
Condo/townhouse general	5.02 trips / dwelling units	514.00	2,580.28

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	55.00	1.60	98.00	0.40
Light Truck < 3,750 lbs	15.00	2.70	95.30	2.00
Light Truck 3,751- 5,750	16.20	1.20	97.50	1.30
Med Truck 5,751- 8,500	7.20	1.40	95.80	2.80
Lite-Heavy 8,501-10,000	1.10	0.00	81.80	18.20
Lite-Heavy 10,001-14,000	0.40	0.00	50.00	50.00
Med-Heavy 14,001-33,000	1.00	0.00	20.00	80.00
Heavy-Heavy 33,001-60,000	0.90	0.00	11.10	88.90
Line Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Urban Bus	0.20	0.00	50.00	50.00
Motorcycle	1.70	76.50	23.50	0.00
School Bus	0.10	0.00	0.00	100.00
Motor Home	1.20	8.30	83.30	8.40

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	9.7	3.8	4.6	7.8	4.5	4.5
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip Speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	27.3	21.2	51.5			

MITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Single family housing	21.52	24.10	244.86	0.14	24.17
Condo/townhouse general	23.21	22.61	229.72	0.13	22.67
TOTAL EMISSIONS (lbs/day)	44.74	46.72	474.58	0.27	46.84

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2008 Temperature (F): 85 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Trip Rate	Size	Total Trips
Single family housing	9.55 trips / dwelling units	288.00	2,750.40
Condo/townhouse general	5.02 trips / dwelling units	514.00	2,580.28

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	55.00	1.60	98.00	0.40
Light Truck < 3,750 lbs	15.00	2.70	95.30	2.00
Light Truck 3,751- 5,750	16.20	1.20	97.50	1.30
Med Truck 5,751- 8,500	7.20	1.40	95.80	2.80
Lite-Heavy 8,501-10,000	1.10	0.00	81.80	18.20
Lite-Heavy 10,001-14,000	0.40	0.00	50.00	50.00
Med-Heavy 14,001-33,000	1.00	0.00	20.00	80.00
Heavy-Heavy 33,001-60,000	0.90	0.00	11.10	88.90
Line Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Urban Bus	0.20	0.00	50.00	50.00
Motorcycle	1.70	76.50	23.50	0.00
School Bus	0.10	0.00	0.00	100.00
Motor Home	1.20	8.30	83.30	8.40

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	9.7	3.8	4.6	7.8	4.5	4.5
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip Speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	27.3	21.2	51.5			

ENVIRONMENTAL FACTORS APPLICABLE TO THE PROJECT

Pedestrian Environment

2.0	Side Walks/Paths: Most Destinations Covered
0.0	Street Trees Provide Shade: No Coverage
0.0	Pedestrian Circulation Access: No Destinations
0.0	Visually Interesting Uses: No Uses within Walking Distance
0.0	Street System Enhances Safety: No Streets
0.0	Pedestrian Safety from Crime: No Degree of Safety
0.5	Visually Interesting Walking Routes: Minor Level

2.5 <- Pedestrian Environmental Credit
2.5 /19 = 0.1 <- Pedestrian Effectiveness Factor

Transit Service

0.0	Transit Service: Dial-A-Ride or No Transit Service

0.0 <- Transit Effectiveness Credit
2.5 <- Pedestrian Factor
2.5 <-Total
2.5 /110 = 0.0 <-Transit Effectiveness Factor

Bicycle Environment

0.0	Interconnected Bikeways: No Bikeway Coverage
0.0	Bike Routes Provide Paved Shoulders: No Routes
0.0	Safe Vehicle Speed Limits: No Routes Provided
1.0	Safe School Routes: One School
0.0	Uses w/in Cycling Distance: No Uses w/in Cycling Distance
0.0	Bike Parking Ordinance: No Ordinance or Unenforceable

1.0 <- Bike Environmental Credit
1.0 /20 = 0.1 <- Bike Effectiveness Factor

MITIGATION MEASURES SELECTED FOR THIS PROJECT
(All mitigation measures are printed, even if
the selected land uses do not constitute a mixed use.)

Transit Infrastructure Measures

% Trips Reduced	Measure
15.0	Credit for Existing or Planned Community Transit Service
0.5	Provide Street Lighting
15.5 <- Totals	

Pedestrian Enhancing Infrastructure Measures (Residential)

% Trips Reduced	Measure
2.0	Credit for Surrounding Pedestrian Environment
1.0	Provide Sidewalks and/or Pedestrian Paths
0.5	Provide Street Lighting
3.5 <- Totals	

Pedestrian Enhancing Infrastructure Measures (Non-Residential)

% Trips Reduced	Measure
2.0	Credit for Surrounding Pedestrian Environment
2.0 <- Totals	

Bicycle Enhancing Infratructure Measures (Residential)

% Trips Reduced	Measure
7.0	Credit for Surrounding Bicycle Environment
7.0 <- Totals	

Bike Enhancing Infrastructure Measures (Non-Residential)

% Trips Reduced	Measure
5.0	Credit for Surrounding Area Bike Environment
5.0 <- Totals	

Operational Measures (Applying to Commute Trips)

% Trips Reduced	Measure
0.0 <- Totals	

Operational Measures (Applying to Employee Non-Commute Trips)

% Trips Reduced	Measure
0.0 <- Totals	

Operational Measures (Applying to Customer Trips)

% Trips Reduced	Measure
0.0 <- Totals	

Measures Reducing VMT (Non-Residential)

VMT Reduced	Measure
0.0	Park and Ride Lots
0.0 <- Totals	

Measures Reducing VMT (Residential)

VMT Reduced	Measure
0.0 <- Totals	

Total Percentage Trip Reduction
with Environmental Factors and Mitigation Measures

Travel Mode	Home-Work Trips	Home-Shop Trips	Home-Other Trips
Pedestrian	0.05	0.20	0.20
Transit	0.35	0.08	0.10
Bicycle	0.35	0.35	0.35
Totals	0.00	0.00	0.00

Travel Mode	Work Trips	Employee Trips	Customer Trips
Pedestrian	0.03	0.26	0.26
Transit	0.35	0.01	0.35
Bicycle	0.25	0.25	0.25
Other	0.00	0.00	0.00
Totals	0.00	0.00	0.00

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Area

The area souce mitigation measure option switch changed from off to on.
Mitigation measure Increase Insulation Beyond Title 24: Rsdntl Space Heat.
     has been changed from off to on.

Changes made to the default values for Operations

The operational emission year changed from 2004 to 2008.
The travel mode environment settings changed from both to: none
The default/nodefault travel setting changed from nodefault to: nodefault
 Side Walks/Paths: No Sidewalks
      changed to: Side Walks/Paths: Most Destinations Covered
Visually Interesting Uses: No Uses Within Walking Distance
      changed to:Visually Interesting Uses: No Uses within Walking Distance
Visually Interesting Walking Routes: No Visual Interest
      changed to:Visually Interesting Walking Routes: Minor Level
 Safe School Routes: No Schools
      changed to: Safe School Routes: One School
Mitigation measure Provide Street Lighting:0.5
     has been changed from off to on.
Mitigation measure Provide Sidewalks and/or Pedestrian Paths:1
     has been changed from off to on.
Mitigation measure Provide Street Lighting:0.5
     has been changed from off to on.

APPENDIX E
CNDDB List of Special Status Species

California Department of Fish and Game
Natural Diversity Database
Rivers Phase II
CNDDB Query for the Florin, Clarksburg, Saxon, Rio Linda, Davis, Sacramento East, Sacramento West, Grays Bend and Taylor Monument USGS 7.5 minute quadrangles.

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS/R-E-D
1	***Accipiter cooperii*** Cooper's hawk	ABNKC12040			G5	S3	SC
2	***Agelaius tricolor*** tricolored blackbird	ABPBXB0020			G2G3	S2	SC
3	***Archoplites interruptus*** Sacramento perch	AFCQB07010			G3	S1	SC
4	***Ardea alba*** great egret	ABNGA05010			G5	S4	
5	***Ardea herodias*** great blue heron	ABNGA04010			G5	S4	
6	***Astragalus tener var. ferrisiae*** Ferris's milk-vetch	PDFAB0F8R3			G1T1	S1.1	1B/3-3-3
7	***Astragalus tener var. tener*** alkali milk-vetch	PDFAB0F8R1			G1T1	S1.1	1B/3-2-3
8	***Athene cunicularia*** burrowing owl	ABNSB10010			G4	S2	SC
9	***Atriplex cordulata*** heartscale	PDCHE040B0			G2?	S2.2?	1B/2-2-3
10	***Atriplex depressa*** brittlescale	PDCHE042L0			G2Q	S2.2	1B/2-2-3
11	***Atriplex joaquiniana*** San Joaquin spearscale	PDCHE041F3			G2	S2.1	1B/2-2-3
12	***Branchinecta conservatio*** Conservancy fairy shrimp	ICBRA03010	Endangered		G1	S1	
13	***Branchinecta lynchi*** vernal pool fairy shrimp	ICBRA03030	Threatened		G3	S2S3	
14	***Branchinecta mesovallensis*** midvalley fairy shrimp	ICBRA03150			G2	S2	
15	***Buteo swainsoni*** Swainson's hawk	ABNKC19070		Threatened	G5	S2	
16	***Charadrius alexandrinus nivosus*** western snowy plover	ABNNB03031	Threatened		G4T3	S2	SC
17	***Charadrius montanus*** mountain plover	ABNNB03100			G2	S2?	SC
18	***Cicindela hirticollis abrupta*** Sacramento Valley tiger beetle	IICOL02106			G5TH	SH	
19	***Coccyzus americanus occidentalis*** western yellow-billed cuckoo	ABNRB02022	Candidate	Endangered	G5T2Q	S1	
20	***Cordylanthus palmatus*** palmate-bracted bird's-beak	PDSCR0J0J0	Endangered	Endangered	G1	S1.1	1B/3-3-3
21	***Desmocerus californicus dimorphus*** valley elderberry longhorn beetle	IICOL48011	Threatened		G3T2	S2	
22	***Downingia pusilla*** dwarf downingia	PDCAM060C0			G3	S3.1	2/1-2-1
23	***Egretta thula*** snowy egret	ABNGA06030			G5	S4	

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS/R-E-D
24	***Elanus leucurus*** white-tailed kite	ABNKC06010			G5	S3	
25	***Elderberry Savanna***	CTT63440CA			G2	S2.1	
26	***Emys (=Clemmys) marmorata*** western pond turtle	ARAAD02030			G3G4	S3	SC
27	***Emys (=Clemmys) marmorata marmorata*** northwestern pond turtle	ARAAD02031			G3G4T3	S3	SC
28	***Gratiola heterosepala*** Boggs Lake hedge-hyssop	PDSCR0R060		Endangered	G3	S3.1	1B/1-2-2
29	***Great Valley Cottonwood Riparian Forest***	CTT61410CA			G2	S2.1	
30	***Hibiscus lasiocarpus*** rose-mallow	PDMAL0H0Q0			G4	S2.2	2/2-2-1
31	***Juglans hindsii*** Northern California black walnut	PDJUG02040			G1	S1.1	1B/3-3-3
32	***Legenere limosa*** legenere	PDCAM0C010			G2	S2.2	1B/2-3-3
33	***Lepidium latipes var. heckardii*** Heckard's pepper-grass	PDBRA1M0K1			G4T1	S1.2	1B/3-2-3
34	***Lepidurus packardi*** vernal pool tadpole shrimp	ICBRA10010	Endangered		G3	S2S3	
35	***Linderiella occidentalis*** California linderiella	ICBRA06010			G3	S2S3	
36	***Myrmosula pacifica*** Antioch multilid wasp	IIHYM15010			GH	S1	
37	***Navarretia leucocephala ssp. bakeri*** Baker's navarretia	PDPLM0C0E1			G4T2	S2.1	1B/2-3-3
38	***Neostapfia colusana*** Colusa grass	PMPOA4C010	Threatened	Endangered	G3	S3.1	1B/2-3-3
39	***Northern Claypan Vernal Pool***	CTT44120CA			G1	S1.1	
40	***Northern Hardpan Vernal Pool***	CTT44110CA			G3	S3.1	
41	***Nycticorax nycticorax*** black-crowned night heron	ABNGA11010			G5	S3	
42	***Phalacrocorax auritus*** double-crested cormorant	ABNFD01020			G5	S3	SC
43	***Plegadis chihi*** white-faced ibis	ABNGE02020			G5	S1	SC
44	***Pogonichthys macrolepidotus*** Sacramento splittail	AFCJB34020			G2	S2	SC
45	***Progne subis*** purple martin	ABPAU01010			G5	S3	SC
46	***Riparia riparia*** bank swallow	ABPAU08010		Threatened	G5	S2S3	
47	***Sagittaria sanfordii*** Sanford's arrowhead	PMALI040Q0			G3	S3.2	1B/2-2-3

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS/R-E-D
48	***Taxidea taxus*** American badger	AMAJF04010			G5	S4	SC
49	***Thamnophis gigas*** giant garter snake	ARADB36150	Threatened	Threatened	G2G3	S2S3	
50	***Tuctoria mucronata*** Crampton's tuctoria or Solano grass	PMPOA6N020	Endangered	Endangered	G1	S1.1	1B/3-3-3

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 051117053806

Database Last Updated: November 3, 2005

CRITICAL HABITAT:

On August 11, 2005, the Service published a revised critical habitat designation for vernal pool species. It did not specify critical habitat locations on a species by species basis. If there are species on the list(s) below that were covered under the rule, they are shown because we believe that they are present in the area or may be affected by projects in the area, not because it has specifically been designated as critical habitat for them.

Quad Lists

SACRAMENTO EAST (512C)

Listed Species

Invertebrates

Branchinecta lynchi - vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus - Critical habitat, valley elderberry longhorn beetle (X)

Desmocerus californicus dimorphus - valley elderberry longhorn beetle (T)

Lepidurus packardi - vernal pool tadpole shrimp (E)

Fish

Hypomesus transpacificus - Critical habitat, delta smelt (X)

Hypomesus transpacificus - delta smelt (T)

Oncorhynchus mykiss - Central Valley steelhead (T)

Oncorhynchus mykiss - Critical habitat, Central Valley steelhead (X)

Oncorhynchus tshawytscha - Central Valley spring-run chinook salmon (T)

Oncorhynchus tshawytscha - Critical Habitat, Central Valley spring-run chinook (X)

Oncorhynchus tshawytscha - winter-run chinook salmon, Sacramento River (E)

Amphibians

Ambystoma californiense - California tiger salamander, central pppulation (T)

Rana aurora draytonii - California red-legged frog (T)

Reptiles

Thamnophis gigas - giant garter snake (T)

Birds

Haliaeetus leucocephalus - bald eagle (T)

Proposed Species

Fish

Acipenser medirostris - green sturgeon (P)

Candidate Species

Fish

Oncorhynchus tshawytscha - Central Valley fall/late fall-run chinook salmon (C)

Species of Concern

Invertebrates

Anthicus antiochensis - Antioch Dunes anthicid beetle (SC)
Anthicus sacramento - Sacramento anthicid beetle (SC)
Branchinecta mesovallensis - Midvalley fairy shrimp (SC)
Linderiella occidentalis - California linderiella fairy shrimp (SC)

Fish

Lampetra ayresi - river lamprey (SC)
Lampetra tridentata - Pacific lamprey (SC)
Pogonichthys macrolepidotus - Sacramento splittail (SC)
Spirinchus thaleichthys - longfin smelt (SC)

Amphibians

Spea hammondii (was Scaphiopus h.) - western spadefoot toad (SC)

Reptiles

Clemmys marmorata marmorata - northwestern pond turtle (SC)
Phrynosoma coronatum frontale - California horned lizard (SC)

Birds

Agelaius tricolor - tricolored blackbird (SC)
Athene cunicularia hypugaea - western burrowing owl (SC)
Baeolophus inornatus - oak titmouse (SLC)
Branta canadensis leucopareia - Aleutian Canada goose (D)
Buteo regalis - ferruginous hawk (SC)
Buteo Swainsoni - Swainson's hawk (CA)
Carduelis lawrencei - Lawrence's goldfinch (SC)
Chaetura vauxi - Vaux's swift (SC)
Charadrius montanus - mountain plover (SC)
Elanus leucurus - white-tailed (=black shouldered) kite (SC)
Empidonax traillii brewsteri - little willow flycatcher (CA)
Falco peregrinus anatum - American peregrine falcon (D)
Grus canadensis tabida - greater sandhill crane (CA)
Lanius ludovicianus - loggerhead shrike (SC)
Melanerpes lewis - Lewis' woodpecker (SC)
Numenius americanus - long-billed curlew (SC)
Picoides nuttallii - Nuttall's woodpecker (SLC)
Plegadis chihi - white-faced ibis (SC)
Riparia riparia - bank swallow (CA)
Selasphorus rufus - rufous hummingbird (SC)

Mammals

Corynorhinus (=Plecotus) townsendii townsendii - Pacific western big-eared bat (SC)

Myotis ciliolabrum - small-footed myotis bat (SC)
Myotis volans - long-legged myotis bat (SC)
Myotis yumanensis - Yuma myotis bat (SC)
Perognathus inornatus - San Joaquin pocket mouse (SC)

Plants

Sagittaria sanfordii - valley sagittaria (=Sanford's arrowhead) (SC)

SACRAMENTO WEST (513D)

Listed Species

Invertebrates

Branchinecta lynchi - vernal pool fairy shrimp (T)
Desmocerus californicus dimorphus - valley elderberry longhorn beetle (T)
Lepidurus packardi - vernal pool tadpole shrimp (E)

Fish

Hypomesus transpacificus - Critical habitat, delta smelt (X)
Hypomesus transpacificus - delta smelt (T)
Oncorhynchus mykiss - Central Valley steelhead (T)
Oncorhynchus mykiss - Critical habitat, Central Valley steelhead (X)
Oncorhynchus tshawytscha - Central Valley spring-run chinook salmon (T)
Oncorhynchus tshawytscha - Critical Habitat, Central Valley spring-run chinook (X)
Oncorhynchus tshawytscha - Critical habitat, winter-run chinook salmon (X)
Oncorhynchus tshawytscha - winter-run chinook salmon, Sacramento River (E)

Amphibians

Ambystoma californiense - California tiger salamander, central pppulation (T)
Rana aurora draytonii - California red-legged frog (T)

Reptiles

Thamnophis gigas - giant garter snake (T)

Birds

Haliaeetus leucocephalus - bald eagle (T)

Proposed Species

Fish

Acipenser medirostris - green sturgeon (P)

Candidate Species

Fish

Oncorhynchus tshawytscha - Central Valley fall/late fall-run chinook salmon (C)
Oncorhynchus tshawytscha - Critical habitat, Central Valley fall/late fall-run chinook (C)

Species of Concern

Invertebrates

Anthicus antiochensis - Antioch Dunes anthicid beetle (SC)
Anthicus sacramento - Sacramento anthicid beetle (SC)
Branchinecta mesovallensis - Midvalley fairy shrimp (SC)
Linderiella occidentalis - California linderiella fairy shrimp (SC)

Fish

Lampetra ayresi - river lamprey (SC)
Lampetra tridentata - Pacific lamprey (SC)
Pogonichthys macrolepidotus - Sacramento splittail (SC)
Spirinchus thaleichthys - longfin smelt (SC)

Amphibians

Spea hammondii (was Scaphiopus h.) - western spadefoot toad (SC)

Reptiles

Clemmys marmorata marmorata - northwestern pond turtle (SC)
Phrynosoma coronatum frontale - California horned lizard (SC)

Birds

Agelaius tricolor - tricolored blackbird (SC)
Athene cunicularia hypugaea - western burrowing owl (SC)
Baeolophus inornatus - oak titmouse (SLC)
Branta canadensis leucopareia - Aleutian Canada goose (D)
Buteo regalis - ferruginous hawk (SC)
Buteo Swainsoni - Swainson's hawk (CA)
Carduelis lawrencei - Lawrence's goldfinch (SC)
Chaetura vauxi - Vaux's swift (SC)
Charadrius montanus - mountain plover (SC)
Elanus leucurus - white-tailed (=black shouldered) kite (SC)
Empidonax traillii brewsteri - little willow flycatcher (CA)
Falco peregrinus anatum - American peregrine falcon (D)
Grus canadensis tabida - greater sandhill crane (CA)
Lanius ludovicianus - loggerhead shrike (SC)
Melanerpes lewis - Lewis' woodpecker (SC)
Numenius americanus - long-billed curlew (SC)
Picoides nuttallii - Nuttall's woodpecker (SLC)
Plegadis chihi - white-faced ibis (SC)
Riparia riparia - bank swallow (CA)
Selasphorus rufus - rufous hummingbird (SC)

Mammals

Corynorhinus (=Plecotus) townsendii townsendii - Pacific western big-eared bat (SC)
Myotis ciliolabrum - small-footed myotis bat (SC)

Myotis volans - long-legged myotis bat (SC)
Myotis yumanensis - Yuma myotis bat (SC)
Perognathus inornatus - San Joaquin pocket mouse (SC)

County Lists

No county species lists requested.

Key:

(E) *Endangered* - Listed (in the Federal Register) as being in danger of extinction.
(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.
(P) *Proposed* - Officially proposed (in the Federal Register) for listing as endangered or threatened.
(NMFS) Species under the Jurisdiction of the National Marine Fisheries Service. Consult with them directly about these species.
Critical Habitat - Area essential to the conservation of a species.
(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.
(C) *Candidate* - Candidate to become a proposed species.
(CA) Listed by the State of California but not by the Fish & Wildlife Service.
(D) *Delisted* - Species will be monitored for 5 years.
(SC) *Species of Concern*/(SLC) Species of Local Concern - Other species of concern to the Sacramento Fish & Wildlife Office.
(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, or may be affected by projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.

- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regard-less of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the quad or quads covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the nine surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

State-Listed Species

If a species has been listed as threatened or endangered by the State of California, but not by us nor by the National Marine Fisheries Service, it will appear on your list as a Species of Concern. However you should contact the California Department of Fish and Game Wildlife and Habitat Data Analysis Branch for official information about these species.

Your Responsibilities Under the Endangered Species Act

All plants and animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

  Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed

space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our critical habitat page for maps.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

Your list may contain a section called Species of Concern. This is an informal term that refers to those species that the Sacramento Fish and Wildlife Office believes might be in need of concentrated conservation actions. Such conservation actions vary depending on the health of the populations and degree and types of threats. At one extreme, there may only need to be periodic monitoring of populations and threats to the species and its habitat. At the other extreme, a species may need to be listed as a Federal threatened or endangered species. Species of concern receive no legal protection and the use of the term does not necessarily mean that the species will eventually be proposed for listing as a threatened or endangered species.

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed, candidate and special concern species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be February 15, 2006.

APPENDIX F
USFWS Letters

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In reply refer to:
1-1-05-F-0087

OCT 12 2005

Mr. Michael Finan
Chief, Delta Office
U.S. Army Corps of Engineers
1325 J Street
Sacramento, California 95814-2922

Subject: Review of the Bank Stabilization Work at The Rivers Project (Corps File Number 200400970), Yolo County, California, for Inclusion with the Valley Elderberry Longhorn Beetle Programmatic Consultation (1-1-96-F-0066)

Dear Mr. Finan:

This letter responds to your March 18, 2005, request for initiation of formal consultation with the U.S. Fish and Wildlife Service (Service) on the Bank Stabilization Work at The Rivers Project (project). Your letter was received on March 21, 2005. The Service has reviewed the biological information submitted by your office describing the effects of the proposed project on the threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (beetle) and the Delta smelt (*Hypomesus transpacificus*). We have determined that the proposed project can be appended to the Service's *Programmatic Formal Consultation Permitting Projects with Relatively Small Effects on the Valley Elderberry Longhorn Beetle*. We have determined that the proposed project is not likely to adversely affect the Delta smelt because the proposed project would not result in a loss of shallow water habitat, construction would occur within the in-water work window for Delta smelt, and the proposed project would enhance Delta smelt habitat. The proposed project is not located in proposed or designated critical habitat for any federally-listed species. This response is in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act).

The findings and recommendations in this formal consultation are based on: (1) the October 21, 2004, *Pre-Construction Notification for Grupe's The River Project, Bank Protection*; (2) the January 27, 2005, *Pre-Construction Notification for Grupe's The River Project, Bank Protection, Requested Revisions and Clarifications*; and (3) information available to the Service.

The proposed project consists of stabilizing 3,000 linear feet along the west bank of river mile 60.5 to river mile 61.3 of the Sacramento River, in Yolo County. The bank stabilization project would consist of the construction of a longitudinal peak stone dike, behind which will be a vegetated berm. The dike would incorporate large woody debris on-site to enhance fish habitat built into the water-side of the berm. The berm would be vegetated with native riparian species. Upslope of the vegetated berm, the bank would be further protected with quarry stone armour 12 inches thick. Under the armour, embankment fill would be placed in locations where the existing slope is too steep. Native vegetation would be planted through the stone to achieve a natural-looking vegetated bank. The proposed project would involve the removal of four elderberry shrubs (*Sambucus* sp.), with a total of 93 stems larger than 1.0 inch in diameter at ground level (Table 1). Exit holes were not found in any of the shrubs during surveys.

Table 1: Proposed compensation ratios for the Bank Stabilization Work at The Rivers Project.

Location	Stems (maximum diameter at ground level)	Exit Holes	# of Stems	Elderberry Seedling Ratio	# Elderberry Seedlings required	Associated Native Ratio	# Associated Natives required
Non-riparian	1-3 inches	No	23	1:1	23	1:1	23
		Yes	0	2:1	0	2:1	0
Riparian	1-3 inches	No	62	2:1	124	1:1	124
		Yes	0	4:1	0	2:1	0
Non-riparian	3-5 inches	No	6	2:1	12	1:1	12
		Yes	0	4:1	0	2:1	0
Riparian	3-5 inches	No	0	3:1	0	1:1	0
		Yes	0	6:1	0	2:1	0
Non-riparian	≥ 5 inches	No	2	3:1	6	1:1	6
		Yes	0	6:1	0	2:1	0
Riparian	≥ 5 inches	No	0	4:1	0	1:1	0
		Yes	0	8:1	0	2:1	0
Total			93		165		165

The applicant has proposed the following conservation measures prior to any ground disturbing activities associated with the proposed bank stabilization project:

1. the four elderberry shrubs located onsite will be transplanted to the Katchituli valley elderberry longhorn beetle conservation site in accordance with the Service's 1999 *Conservation Guidelines for the Valley Elderberry Longhorn Beetle* (Conservation Guidelines).

2. per the Service's 1999 Conservation Guidelines, the project applicant will plant 165 elderberry shrub seedlings and 165 associated riparian native species at the Katchituli valley elderberry longhorn beetle conservation site. A total of 1.36 acres will be required for these plantings.

This concludes the Service's review of the Bank Stabilization Work at The Rivers Project outlined in your request. As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded, (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

If you have any questions regarding the Bank Stabilization Work at The Rivers Project, please contact Rick Kuyper or the Acting Sacramento Valley Branch Chief at (916) 414-6645.

Sincerely,

Peter A. Cross

Peter A. Cross
Deputy Assistant Field Supervisor

cc:
Michael Aceituno, NOAA Fisheries, Sacramento, California
Al Esquivel, Grupe Communities, West Sacramento, California
Karen Shaffer, Gibson and Skordal, Sacramento, California

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

March 17, 2005

Document Number: 050317023820

Christopher Bronny
EIP Associates
1200 Second Street, Suite 200
Sacramento, CA 95814

Subject: Species List for Rivers Phase II

Dear: Mr. Bronny

We are sending this official species list in response to your March 17, 2005 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested. You have stated that this list is not for consultation with the Fish & Wildlife Service.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area.* For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed, candidate and special concern species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be June 15, 2005.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found at sacramento.fws.gov/es/branches.htm.

Endangered Species Division

TAKE PRIDE IN AMERICA

APPENDIX G
Cultural Resources Assessment

CULTURAL RESOURCES ASSESSMENT

OF THE RIVERS II PROJECT

CITY OF WEST SACRAMENTO

YOLO COUNTY, CALIFORNIA

Prepared by:

Peak & Associates, Inc.
3941 Park Drive, Suite 20 #329
El Dorado Hills, CA 95762
(916) 939-2405

Prepared for:

EIP Associates
1200 Second Street, Suite 200
Sacramento, California 95814
(916) 325-4800

April 23, 2005
(Job #04-099)

INTRODUCTION

Peak & Associates have been retained to perform a cultural resources assessment of a 68-acre tract of land proposed for residential development in the City of West Sacramento, California. The project also includes bank stabilization to the north along the Sacramento River.

The mapped location is in unsectioned land within Township 9 north, Range 4 east on the Sacramento West 7.5' USGS topographic quadrangle (Map 1). The project area is a portion of the Lighthouse Marina golf course. The area proposed for bank stabilization lies north of a residential development.

Melinda A. Peak, served as principal investigator for the project, with Robert Gerry completing the field survey (resumes, Appendix 1).

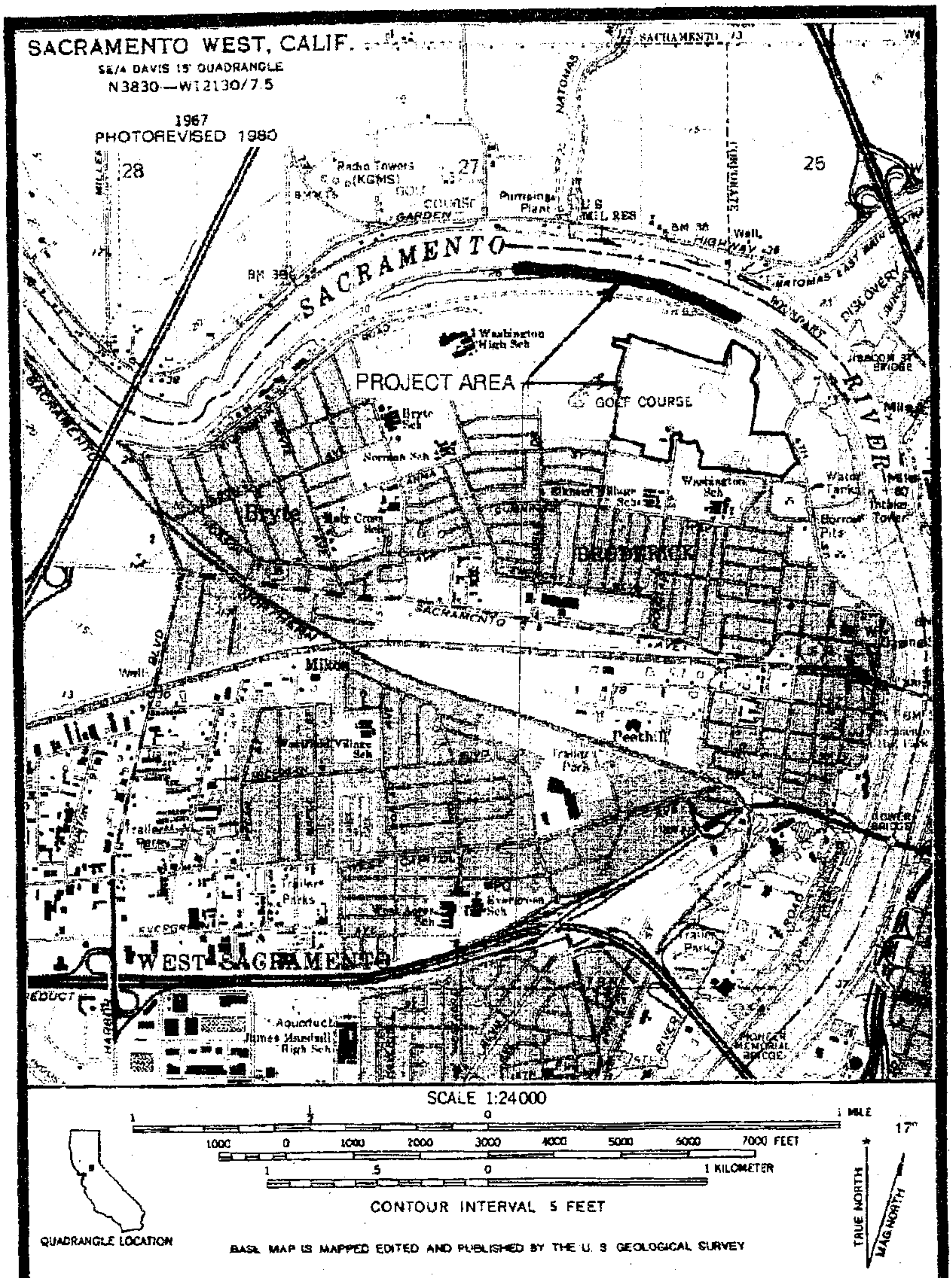
CULTURAL HISTORY

Archeological Background

The Central Valley region was among the first in the state to attract intensive fieldwork and research has continued to the present day. This has resulted in a substantial accumulation of data. In the early decades of the 1900s, E. J. Dawson explored numerous sites near Stockton and Lodi, later collaborating with W. E. Schenck (Schenck and Dawson 1929). By 1933, the focus of work was directed to the Cosumnes locality, where survey and exploration were conducted by the Sacramento Junior College (Lillard and Purves 1936).

Excavation data, in particular, from the stratified Windmiller Site (CA-Sac-107) suggested two temporally distinct cultural traditions. Later work at other mounds by Sacramento Junior College and the University of California enabled the investigators to identify a third cultural tradition intermediate between the previously postulated early and late horizons. The three-horizon sequence was based on discrete changes in ornamental artifacts and mortuary practices as well as an observed difference in soils within sites (Lillard, Heizer and Fenenga 1939). This sequence was later refined by Beardsley (1954), with an expanded definition of artifacts diagnostic of each time period and was extended to parts of the central California coast. Traits held in common allow the application of this system within certain limits of time and space to other areas of prehistoric central California.

The Windmiller Culture (Early Horizon) is characterized by ventrally-extended burials (some dorsal extensions are known), with westerly orientation of heads, a high percentage of burials with grave goods, frequent presence of red ocher in graves, large projectile points, of which 60 percent are of materials other than obsidian; rectangular *Haliotis* beads; *Olivella* shell beads (types


SACRAMENTO WEST, CALIF.
SE/4 DAVIS 15' QUADRANGLE
N3830—W12130/7.5
1967
PHOTOREVISED 1980
28
27
26
Radio Towers
(KGMS)
GOLF COURSE
GARDEN
Pumping Plant
U S MIL RES
HIGHWAY
SACRAMENTO
NATOMAS
DISCOVERY
Washington High Sch
PROJECT AREA
GOLF COURSE
RIVER
Bryte Sch
Norman Sch
Bryte
Washington Sch
Water Tanks
Intake Tower
Borrow Pits
SACRAMENTO
AVE
Trailer Park
Trailer Parks
WEST SACRAMENTO
Aqueduct
James Marshall High Sch
PIONEER MEMORIAL BRIDGE
SCALE 1:24 000
1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 KILOMETER
CONTOUR INTERVAL 5 FEET
QUADRANGLE LOCATION
BASE MAP IS MAPPED EDITED AND PUBLISHED BY THE U. S. GEOLOGICAL SURVEY
TRUE NORTH
MAG NORTH
17°

MAP 1

Ala and L); rare use of bone; some use of baked clay objects; and well-fashioned charmstones, usually perforated.

The Cosumnes Culture (Middle Horizon) displays considerable changes from the preceding cultural expression. The burial mode is predominately flexed, with variable cardinal orientation and some cremations present. There is a lower percentage of burials with grave goods, and ocher staining is common in graves. *Olivella* beads of types C1, F and G predominate, and there is abundant use of green *Haliotis sp.* rather than red *Haliotis sp.* Other characteristic artifacts include perforated canid teeth, asymmetrical and "fishtail" charmstones, usually unperforated; cobble mortars and evidence of wooden mortars; extensive use of bone for tools and ornaments; large projectile points, with considerable use of rock other than obsidian; and use of baked-clay.

The burial pattern of Hotchkiss Culture (Late Horizon) retains the use of the flexed mode, and there is widespread evidence of cremation, lesser use of red ocher, heavy use of baked clay, *Olivella* beads of Types E and M, extensive use of *Haliotis* ornaments of many elaborate shapes and forms, shaped mortars and cylindrical pestles, bird-bone tubes with elaborate geometric designs, clamshell disc beads, small projectile points indicative of the introduction of the bow and arrow, flanged tubular pipes of steatite and schist, and use of magnetite. (The above adapted from Moratto 1984:181-183). The characteristics noted above are not all-inclusive, but cover the more important traits.

More recently, Bennyhoff and Hughes (1984) have presented alternative dating schemes for the Central California Archeological Sequence. The primary emphasis is a more elaborate division of the Horizons to reflect what is seen as cultural/temporal changes within the three horizons and a compression of the temporal span.

There have been other chronologies proposed for this general region. Fredrickson (1973) has correlated his research with Bennyhoff's (1977) work, and has defined, based upon the work of Bennyhoff, patterns, phases and aspects. Fredrickson also proposed periods of time associated heavily with economic modes, which provides a temporal term for comparing contemporary cultural entities.

Various modifications have been proposed for the dates given in the table below, but it provides a basic temporal correlation for the two main chronologies in the general project vicinity. It is important to note that this is a framework only and that the identification of regional and local variations from the pattern is a major goal of current archeological research. Nevertheless, the succession of major cultural changes at approximately the same time period is characteristic over a large part of California.

Period and Dating

Fredrickson	Bennyhoff, Heizer and Schulz
	Historic -- post-A.D. 1850
Emergent Period -- A.D. 500 to 1800	Phase 2, Late Horizon -- A.D. 1500 to 1850
	Phase 1, Late Horizon -- A.D. 500 to 1500
Upper Archaic -- 1000 B.C. to A.D. 500	Middle Horizon -- 1000 B.C. to A.D. 500
Middle Archaic -- 3000 to 1000 B.C.	Early Horizon -- 2500 B.C. to 1000 B.C.
Lower Archaic -- 6000 to 3000 B.C.	
Paleo Indian -- 10,000 to 6000 B.C.	
Early Lithic -- ? to 10,000 B.C.	
(Fredrickson 1973)	(Bennyhoff and Heizer 1958; Schulz 1981)

Ethnological Background

The project area lies in the territory attributed to the Nisenan, a branch of the Maidu group of the Penutian language family. Tribes of this language family dominated the Central Valley, San Francisco Bay areas, and western Sierra Nevada foothills at the coming of the white man. The Nisenan controlled the drainages of the Yuba, Bear, and American rivers, along with the lower portion of the Feather River. The tribes of this whole region referred to themselves as Nisenan, meaning "people," in contrast to the surrounding tribes, in spite of close linguistic and cultural similarities. For this reason, they are usually named by this term rather than the more technical "Southern Maidu." In any event, the local main village was of more importance to the people than the tribal designation, and groups identified themselves by the name of the central village.

Their northern boundary has not been clearly established due to similarity in language to neighboring groups. The eastern boundary was the crest of the Sierra Nevada mountains. Probably a few miles south to the confluence of the American and Sacramento rivers on the valley floor was their southern boundary. The western boundary extended from this point upstream to the mouth of the Feather River.

The Valley Maidu settlement pattern was basically oriented to major river drainages, with ancillary villages located on tributary streams and sloughs. Major villages often supported a population exceeding five hundred people (Wilson and Towne 1978:389). The flat grasslands between water courses were used for collecting vegetable foods and hunting, but these activities leave little, if any, archeological evidence.

Both the valley and foothill Nisenan lived by hunting and gathering, with the latter being more important. Acorns in the forms of meal, soup or bread provided the staple diet, augmented by a wide variety of seeds and tubers. Hunting and fishing were regularly practiced, but provided less of the diet than vegetable foods. The bedrock mortar and pestle were employed to process

the acorn meats into flour, and the mortar cups are frequently found throughout the range of oak trees. Both salmon and eel were caught at Salmon Falls near Folsom.

Religion was in the form of the "Kuksu Cult," a widespread pattern among the California Indians. Ceremonies congregated in the semisubterranean dancehouse located at the central village and "cry sites" where the annual mourning ceremony for the dead took place. Later, the religious revival of the ghost dance also affected this area.

In 1833, the great epidemic swept through the Sacramento Valley. This epidemic has been attributed to malaria (Cook 1955:308), and is estimated to have killed seventy-five percent of the native population, leaving only a shadow of the original Maidu to face the intruding miners and settlers. The Nisenan of the mountain areas felt little of the impact of European settlement in California as compared to the Valley Nisenan, who were subjected to some missionization. The Mountain Nisenan, remote from these early impacts, were overwhelmed by the gold rush. Native ways of life were almost totally abandoned, and today only a few families in Placer, Nevada, Yuba, and El Dorado counties identify themselves as Nisenan and can speak the language (Wilson and Towne 1978).

Historical Background

In 1844, three square leagues of land on the west bank of the Sacramento River were granted to John Schwarz, a Dutch emigrant who had come to California with the Bidwell-Bartleson party in 1841. In 1846, Schwarz sold 600 acres of Rancho Nueva Flandria to James McDowell, who had come overland with his family in 1845. McDowell built a cabin on his ranch, opposite the site of what would become the City of Sacramento. McDowell died in 1849, and his widow had a townsite laid out on his land that was named Washington. When the nearby town of Fremont began to decline in 1851, Washington became the Yolo County seat, as well as the center of commerce in the county.

The town became the site of the first Pacific Coast salmon cannery in 1864. Three fishermen from Maine began the operation in a converted cabin and scow, performing every aspect of the operation by hand. As their business became more successful, other canneries were set up along the Sacramento River and the San Francisco Bay, producing 200,000 cases of salmon a year by 1882. The industry declined in the following years due to fewer salmon entering the Sacramento due to the quantity of silt carried in the river as a consequence of hydraulic mining.

Washington's boom days ended with the coming of the railroad to Sacramento which decreased the value of navigation in the movement of goods (Kyle 1990). The town of Washington had a post office by 1854, but it was discontinued in 1858. Because there was a post office named Washington in Nevada County, a new name had to be found for the Yolo County community when it petitioned for a post office in 1890. It was not known why the name Broderick was selected, but one researcher had suggested that it may have been meant to commemorate Senator David Broderick, killed in an 1859 duel with Judge David S. Terry (Gudde 1969: 39).

The land outside of town was used for ranches and farms. The project area was part of the holdings of George Bell, who had a ranch of 140 acres. Bell died heavily in debt in 1902, as a result of losing his crops several times to flooding. The ranch was later acquired by Eli Fourness in 1912, and he planted additional trees (Peak & Associates 1985; 1989).

RESEARCH

Records of previously recorded cultural resources and cultural resource investigations were examined by the Northwest Information Center of the California Historical Resources Information System (Appendix 2). Within the project area, a survey has been completed by Holman (1984) with negative results. Peak & Associates completed a study of the project area in 1985. One prehistoric site, CA-YOL-25 is recorded to the north of the project area, in the area proposed for bank stabilization. An historic site, the Bell-Fourness ranch house, was test excavated by Peak & Associates in 1989, and was determined to be not significant.

The original recorder of CA-YOL-25 in 1934 reported that the site had been removed during the construction of the levee. Although previous surveys failed to locate the site, it was recommended that all construction in that area reported to be a site be monitored. It is not known whether this occurred during the construction of houses in the area of the site, but no report has been filed with the Information Center for the project. It is unknown whether any portion of the site was found during the construction.

NATIVE AMERICAN CONSULTATION

The Native American Heritage Commission provided a positive result during their review of the Sacred Lands files on March 7, 2005, due to the presence of CA-YOL-25 (Appendix 3). Letters have been sent to Kesner Flores, the Rumsey Rancheria, and the Cortina Band of Indians, advising them of the relationship of the project to the reported site location.

FIELD SURVEY

The 68-acre project area was inspected in March 2005 by Robert A. Gerry. The entire parcel was walked over by means of parallel transects spaced not more than 10 meters apart. The project area has been impacted by historic use of the land. It was not possible to check the area proposed for bank stabilization due to the high level of the Sacramento River. No evidence was discovered of prehistoric or historic cultural resources during the course of the survey.

RECOMMENDATIONS

Although no prehistoric sites have been identified within the project area, it is possible that historic activities have obscured evidence of them. If artifacts or unusual amounts of stone, bone or shell should be uncovered during construction or grading activities, work should be halted and a qualified archeologist should be consulted for an on-site evaluation. If the bone appears to be human, California law mandates that the Yolo County Coroner be contacted. If the bone is likely to be Native American in origin, the coroner must contact the Native Heritage Commission.

The bank stabilization area could include the location of a prehistoric site, CA-YOL-25. This is an area that cannot be tested for the presence of the resource due to physical limitations. Due to the possible site presence, it is recommended that the bank stabilization activities be monitored by an archeologist. The Native American groups will be notified of the dates of construction. If any portion of the site is found during construction activities, the local Native American community will be consulted for on-site advice. Other measures such as data recovery could be required.

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APPENDIX 1

Resumes

PEAK & ASSOCIATES, INC.
RESUME

MELINDA A. PEAK
Senior Historian/Archeologist
3941 Park Drive, Suite 20 #329
El Dorado Hills, CA 95762
(916) 939-2405

January 2005

PROFESSIONAL EXPERIENCE

Ms. Peak has served as the principal investigator on a wide range of prehistoric and historic excavations throughout California. She has directed laboratory analyses of archeological materials, including the historic period. She has also conducted a wide variety of cultural resource assessments in California, including documentary research, field survey and report preparation.

In addition, Ms. Peak has developed a second field of expertise in applied history, specializing in site specific research. She is a registered professional historian and has completed a number of historical research projects. Ms. Peak has been a regular lecturer for courses in the Capital Campus Public History program (California State University, Sacramento), teaching cultural resource law and site specific research methods.

Through her education and experience, Ms. Peak meets the Secretary of Interior Standards for historian, architectural historian, prehistoric archeologist and historic archeologist.

EDUCATION

M.A. - History - California State University, Sacramento, 1989
Thesis: *The Bellevue Mine: A Historical Resources Management Site Study in Plumas and Sierra Counties, California*
B.A. - Anthropology - University of California, Berkeley, 1976

RECENT PROJECTS

In recent months, Ms. Peak has completed several determination of eligibility and effect documents in coordination with the Corps of Engineers for projects requiring federal permits, assessing the eligibility of a number of sites for the National Register of Historic Places. She has also completed historical research projects on a wide variety of topics for a number of projects including the development of navigation and landings on the Napa River, a farmhouse dating to

the 1860s, an early roadhouse, and a section of an electric railway line. She also completed an NRHP evaluation of Folsom Dam for the Corps of Engineers.

In recent years, Ms. Peak has prepared a number of cultural resource overviews and predictive models for blocks of land proposed for future development for general and specific plans. She has been able to direct a number of surveys of these areas, allowing the model to be tested.

She served as principal investigator for the multi-phase Twelve Bridges Golf Club project in Placer County. She served as liaison with the various agencies, helped prepare the historic properties treatment plan, managed the various phases of test and data recovery excavations, and completed the final report on the analysis of the test phase excavations of a number of prehistoric sites. She is currently involved as the principal investigator for the Clover Valley Lakes project adjacent to Twelve Bridges in the City of Rocklin, coordinating contacts with Native Americans, the Corps of Engineers and the Office of Historic Preservation.

Ms. Peak has served as project manager for a number of major survey and excavation projects in recent years, including the many surveys and site definition excavations for the 172-mile-long Pacific Pipeline proposed for construction in Santa Barbara, Ventura and Los Angeles counties. She also completed an archival study in the City of Los Angeles for the project. She also served as principal investigator for the 1997 coaxial cable removal project for AT&T.

Additionally, she completed a number of small surveys, served as a construction monitor at several urban sites, and directed the excavations of several historic complexes in Sacramento, Placer and El Dorado Counties.

Ms. Peak is the author of a chapter and two sections of the recently published history (1999) of Sacramento County, *Sacramento: Gold Rush Legacy, Metropolitan Legacy*. She is currently preparing text for the second Sacramento County history volume, to be published by Heritage Media in 2005.

PEAK & ASSOCIATES, INC.
RESUME

ROBERT A. GERRY
Senior Archeologist
3941 Park Drive, Suite 20-329
El Dorado Hills, CA 95762

January 2005

PROFESSIONAL EXPERIENCE

Mr. Gerry has over twenty-nine years of extensive experience in both the public and private sectors. He has directed all types of cultural resource-related projects, including field survey, test excavations, data recovery programs, intensive archival research and cultural resource management. He has completed archeological work in most cultural areas of California and in the western Great Basin.

EDUCATION

Graduate studies - Anthropology - California State University, Sacramento, 1972-1977
B.A. - Anthropology - University of Illinois, Chicago Circle, 1972

RECENT PROJECTS

Mr. Gerry was field director for a cultural resources survey of about 18,640 acres within the Naval Petroleum Reserve No. 1, Kern County, California. The project employed a stratified random sampling strategy and resulted in the recording of 112 cultural resources, and preparation of a management plan. He also directed a subsequent excavation program for evaluation of significance. Additionally, he served as field director for archeological surveys on the Plumas, Stanislaus, El Dorado and Six Rivers National Forests.

He was field director and primary report writer on several linear surveys of considerable length -- including the San Joaquin Valley Pipeline (157 miles) for Shell Oil, the Point Arena-Dunnigan fiber optic cable (137 miles) and the Medford, Oregon, to Redding, California fiber optic cable (151 miles), the Oregon and Idaho portions of the Spokane to Boise fiber optic cable, and the San Bernardino to San Diego fiber optic cable, for American Telephone & Telegraph Company. He also assisted on the 170 mile Pacific Pipeline survey on the southern coast of California.

He produced the computer program that stored, sorted and printed out data abstracts for 1604 sites involved in the Enlarged Shasta Dam and Alternatives Class I Cultural Resources Overview

for the Bureau of Reclamation. He directed the transit-and-stadia mapping of a prehistoric/ historic site complex covering some 170 acres in El Dorado County and drafted the final map.

Mr. Gerry has developed a specialty in bridge replacement evaluations, completing five such studies in Tuolumne County, two in Santa Barbara County, two in Amador County and eight others in various areas of California.

Mr. Gerry has had extensive experience in the recordation of mining sites in northern California and Nevada for proposed mining undertakings as well as in the course of survey for proposed subdivisions, reservoirs, and other development projects. He directed the survey of two parcels totalling 2,240 acres in the Battle Mountain Mining District in Lander County, recording a number of mining sites and features. Within the Cook Ranch Project area in El Dorado County, he completed the recordation of several gold mines and a cinnabar mine.

Mr. Gerry has directed test excavations for evaluation of significance at a number of sites, both historic and prehistoric. Recent examples include CA-NAP-261, twelve sites on Naval Petroleum Reserve No. 1 and three sites on Russell Ranch in Sacramento County.

His work has included an important role in working with Native American peoples. He has surveyed eight allotments and rancherias in the Pit River area, the Point Arena/Manchester Rancheria in Mendocino County, the Susanville Rancheria in Lassen County, the Rumsey Rancheria in Yolo County, and three rancherias in northwestern California. In each of these projects, he has been closely involved with Native American organizations and individuals, including a number of native people he has directed as surveyor trainees.

APPENDIX 2

Information Center Records Search

CALIFORNIA
HISTORICAL
RESOURCES
INFORMATION
SYSTEM

ALAMEDA
COLUSA
CONTRA COSTA
LAKE
MARIN
MENDOCINO
MONTEREY
NAPA
SAN BENITO
SAN FRANCISCO
SAN MATEO
SANTA CLARA
SANTA CRUZ
SOLANO
SONOMA
YOLO

Northwest Information Center
Sonoma State University
1303 Maurice Avenue
Rohnert Park, California 94928-3609
Tel: 707.664.0880 • Fax: 707.664.0890
E-mail: nwic@sonoma.edu

March 16, 2005

04-804

Robert Gerry
Peak & Associates
3941 Park Drive
Suite 20, #329
El Dorado Hills, CA 95762

Re: Records search results for The Rivers Phase II.

Sites within project area: 0

Studies within project area: 2 (S-6514, -7372)

OHP HPD: 3 pages referencing West Sacramento

CA Inventory: 0

A location map is included that shows previously studied areas and recorded historic resources. Also enclosed is the confidentiality agreement. Please let us know if you need copies of any other reports or historic inventory forms.

Sincerely,

Damon Mark Haydu
Researcher II

Special Search Report
Archaeological Records

S - Number	6514	***Report Date***	84	***County***	Yolo
Author(s)	Miley Paul Holman				
Title of Report	River Bend Archaeological Reconnaissance (letterreport)				
Quad	Sacramento West	***Additional Quads***			
Sites	1	***Additional Counti***			
Size	data incomplete	***Maps***	1	***Trinomials or P-N***	
Comments					

S - Number	7372	***Report Date***	85	***County***	Yolo
Author(s)	Peak & Associates				
Title of Report	Cultural Resource Assessment of the Lighthouse Marina Project, Broderick, Yolo County, California.				
Quad	Sacramento West	***Additional Quads***			
Sites	1	***Additional Counti***			
Size	278 ac.	***Maps***	4	***Trinomials or P-N***	CA-YOL-25
Comments					

APPENDIX 3

Native American Heritage Commission

STATE OF CALIFORNIA Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
Fax (916) 657-5390

March 7, 2005

Robert Gerry
Peak and Associates, Inc
3941 Park Drive, Suite 20, #329
El Dorado Hills, CA 95762

Sent Via Fax: 916-939-2406
Of Pages: 2

RE: The River Phase II, Yolo County

Dear Mr. Gerry:

The Native American Heritage Commission has reviewed the Sacred Lands File and found several burial/recorded sites within the project area. The location of sites is confidential.

I recommend that you contact the North Central Information Center, Department of Anthropology, University of California, Sacramento, 6000 J Street, Sacramento, Ca 95819, 916-278-6217 for further information of recorded sites located in the APE.

I have enclosed a list of Native Americans individuals/organizations contacts may have knowledge of additional cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. These lists should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend other with specific knowledge. A minimum of two weeks must be allowed for responses after notification.

If you receive notification of change of addresses and phone numbers from any these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 653-4038.

If you have any questions or need additional information, please contact me.

Sincerely,

Debbie Pilas-Treadway
Environmental Specialist III

Native American Contacts
Yolo County
March 7, 2005

Kesner Flores
5433-K, Clayton Road, #133 Wintun / Patwin
Clayton 94517
, CA
925-586-8919

Cortina Band of Indians
Elaine Patterson, Chairperson
PO Box 1630 Wintun / Patwin
Williams , CA 95987
corranch@inreach.com
(530) 473-3274 - Voice
(530) 473-3190 - Voice
(530) 473-3301 - Fax

Cortina Band of Indians
Bill Combs, Vice Chairperson
PO Box 1630 Wintun / Patwin
Williams , CA 95987
(530) 473-3274 - Voice
(530) 473-3190 - Voice
(530) 473-3301 - Fax

Rumsey Indian Rancheria of Wintun
Paula Lorenzo, Chairperson
P.O. Box 18 Wintun (Patwin)
Brooks , CA 95606
britter@rumseywinton-nsn.gov
(530) 796-3400
(530) 796-2143 Fax

Wintun Environmental Protection Agency
P.O. Box 1839 Wintun (Patwin)
Williams 95987
, CA
corwepa@hotmail.com
(530) 473-3318
(530) 473-3319
(530) 473-3320 - Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resource assessment for the proposed The River Phase II, Yolo County.

NATIVE AMERICAN HERITAGE COMMISSION
SACRED LANDS INVENTORY

NAHC Site No. n-yol-5
Date entered August 14, 1992

Archaeological Site #.: Ca-Yol-27 Date originally recorded 1934

Has this site been recorded by another agency? Other If "Other": Agency name:

Site name: West Sac Site

County: Yolo Tribe:

LOCATION

USGS Quad	Meridian	Township	Range	Section	NW	NE	SW	SE
Sacramento West	Mt. Diablo	9N	4E	34				

Description

OWNERSHIP unknown

Owner name: Private , according to Hizer when he recorded this site in 1934.

Owner address:

SACRED SITE TYPE

Sacred/Power Area		Village Site		Collection Area	
Worship/Ritual Site		House Pits		Lithic Scatter	X
Burial Site	X	Camp Site		Ceramic Scatter	
Reburial Site		Rock Shelter/Cave		Caches	
Art		Bedrock Mortar		Unknown	

ADDITIONAL FEATURES

Other (specify): Large midden site, ground stone, obsidian projectile points, and Haliotis fragments.

DOCUMENTATION

Books, periodicals, knowledgeable person, other references: Recorded three times.

Ca Indian Consultant	Facilitator
Name: Hizer, 1934; Pritchard, 1964; Peak Asso, '86	
Address:	
Phone:	
Tribal Affiliation / Title:	

Comments:

Reportedly several (16) burials were taken out by pothunters according to Pritchard's report. Also, the artifacts noted on this form were "reportedly found by residents on site" as noted by Peak's recordation of site.

Check if additional comments are on file: X

APPENDIX H
Noise Modeling Outputs

TRAFFIC NOISE LEVELS

Project Number: 11006-00
Project Name: The Rivers Phase II

Background Information

Model Description:	FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels.
Analysis Scenario(s):	Existing Conditions
Source of Traffic Volumes:	Fehr and Peers
Community Noise Descriptor:	L_{dn}: X CNEL:

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Traffic Noise Levels

Analysis Condition / Roadway Segment	Land Use	Lanes	Median Width	Peak Hour Volume	ADT Volume	Design Speed (mph)	Dist. from Center to Receptor	Alpha Factor	Barrier Attn. dB(A)	Vehicle Mix: Medium Trucks	Vehicle Mix: Heavy Trucks	Peak Hou dB(A) L_{eq}	24-Hour dB(A) Ldn
Analysis Condition													
Kegle, Lighthouse/Cummins	Residential	2	0	514	5,140	30	30	0	0	1.8%	0.7%	63.6	62.5
Kegle, Cummins/Sacramento	Residential	2	0	759	7,590	30	30	0	0	1.8%	0.7%	65.3	64.2
Douglas, Lighthouse/Cummins	Residential	2	0	137	1,370	30	30	0	0	1.8%	0.7%	57.9	56.8
Douglas, Cummins/Sacramento	Residential	2	0	180	1,800	30	30	0	0	1.8%	0.7%	59.1	57.9
5th Street, Fountain/C Street	Residential	4	0	254	2,540	35	30	0	0	1.8%	0.7%	62.7	61.6
Lighthouse, Kegle/Douglas	Residential	2	0	273	2,730	25	30	0	0	1.8%	0.7%	59.2	58.0
Lighthouse, Douglas/Fountain	Residential	4	0	185	1,850	25	30	0	0	1.8%	0.7%	58.4	57.2
Cummins, Kegle/Douglas	Residential	2	0	168	1,680	25	30	0	0	1.8%	0.7%	57.1	55.9
Cummins, Douglas/6th Street	Residential	2	0	162	1,620	25	30	0	0	1.8%	0.7%	56.9	55.8
Sacramento, Kegle/Douglas	Residential	3	0	944	9,440	35	30	0	0	1.8%	0.7%	67.8	66.7
Sacramento, Douglas/5th Street	Residential	4	0	764	7,640	35	30	0	0	1.8%	0.7%	67.5	66.4

[1] Distance is from the centerline of the roadway segment to the receptor location.

TRAFFIC NOISE LEVELS

Project Number: 11006-00
Project Name: The Rivers Phase II

Background Information

Model Description: FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels.
Analysis Scenario(s): Existing Plus Project (Scenario A)
Source of Traffic Volumes: Fehr and Peers
Community Noise Descriptor: L_{dn}: X CNEL: ____

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Traffic Noise Levels

Analysis Condition / Roadway Segment	Land Use	Lanes	Median Width	Peak Hour Volume	ADT Volume	Design Speed (mph)	Dist. from Center to Receptor	Alpha Factor	Barrier Attn. dB(A)	Vehicle Mix: Medium Trucks	Vehicle Mix: Heavy Trucks	Peak Hou dB(A) L_{eq}	24-Hour dB(A) Ldn
Analysis Condition													
Kegle, Lighthouse/Cummins	Residential	2	0	841	8,410	30	30	0	0	1.8%	0.7%	65.8	64.6
Kegle, Cummins/Sacramento	Residential	2	0	941	9,410	30	30	0	0	1.8%	0.7%	66.3	65.1
Douglas, Lighthouse/Cummins	Residential	2	0	233	2,330	30	30	0	0	1.8%	0.7%	60.2	59.1
Douglas, Cummins/Sacramento	Residential	2	0	249	2,490	30	30	0	0	1.8%	0.7%	60.5	59.4
5th Street, Fountain/C Street	Residential	4	0	518	5,180	35	30	0	0	1.8%	0.7%	65.8	64.7
Lighthouse, Kegle/Douglas	Residential	2	0	410	4,100	25	30	0	0	1.8%	0.7%	60.9	59.8
Lighthouse, Douglas/Fountain	Residential	4	0	399	3,990	25	30	0	0	1.8%	0.7%	61.7	60.6
Cummins, Kegle/Douglas	Residential	2	0	168	1,680	25	30	0	0	1.8%	0.7%	57.1	55.9
Cummins, Douglas/6th Street	Residential	2	0	162	1,620	25	30	0	0	1.8%	0.7%	56.9	55.8
Sacramento, Kegle/Douglas	Residential	3	0	996	9,960	35	30	0	0	1.8%	0.7%	68.1	66.9
Sacramento, Douglas/5th Street	Residential	4	0	764	7,640	35	30	0	0	1.8%	0.7%	67.5	66.4

[1] Distance is from the centerline of the roadway segment to the receptor location.

TRAFFIC NOISE LEVELS

Project Number: 11006-00
Project Name: The Rivers Phase II

Background Information

Model Description:	FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels.
Analysis Scenario(s):	Existing Plus Project (Scenario B)
Source of Traffic Volumes:	Fehr and Peers
Community Noise Descriptor:	L_{dn}: X CNEL:

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Traffic Noise Levels

Analysis Condition Roadway Segment	Land Use	Lanes	Median Width	Peak Hour Volume	ADT Volume	Design Speed (mph)	Dist. from Center to Receptor	Alpha Factor	Barrier Attn. dB(A)	Vehicle Mix: Medium Trucks	Vehicle Mix: Heavy Trucks	Peak Hou dB(A) L_{eq}	24-Hour dB(A) Ldn
Analysis Condition													
Kegle, Lighthouse/Cummins	Residential	2	0	692	6,920	30	30	0	0	1.8%	0.7%	64.9	63.8
Kegle, Cummins/Sacramento	Residential	2	0	941	9,410	30	30	0	0	1.8%	0.7%	66.3	65.1
Douglas, Lighthouse/Cummins	Residential	2	0	193	1,930	30	30	0	0	1.8%	0.7%	59.4	58.2
Douglas, Cummins/Sacramento	Residential	2	0	236	2,360	30	30	0	0	1.8%	0.7%	60.3	59.1
5th Street, Fountain/C Street	Residential	4	0	518	5,180	35	30	0	0	1.8%	0.7%	65.8	64.7
Lighthouse, Kegle/Douglas	Residential	2	0	411	4,110	25	30	0	0	1.8%	0.7%	60.9	59.8
Lighthouse, Douglas/Fountain	Residential	4	0	394	3,940	25	30	0	0	1.8%	0.7%	61.6	60.5
Cummins, Kegle/Douglas	Residential	2	0	204	2,040	25	30	0	0	1.8%	0.7%	57.9	56.8
Cummins, Douglas/6th Street	Residential	2	0	175	1,750	25	30	0	0	1.8%	0.7%	57.2	56.1
Sacramento, Kegle/Douglas	Residential	3	0	996	9,960	35	30	0	0	1.8%	0.7%	68.1	66.9
Sacramento, Douglas/5th Street	Residential	4	0	764	7,640	35	30	0	0	1.8%	0.7%	67.5	66.4

[1] Distance is from the centerline of the roadway segment to the receptor location.

TRAFFIC NOISE LEVELS

Project Number: 11006-00
Project Name: The Rivers Phase II

Background Information

Model Description: FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels.
Analysis Scenario(s): 2025 No Project
Source of Traffic Volumes: Fehr and Peers
Community Noise Descriptor: L_{dn}: X CNEL: _____

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Traffic Noise Levels

Analysis Condition / Roadway Segment	Land Use	Lanes	Median Width	Peak Hour Volume	ADT Volume	Design Speed (mph)	Dist. from Center to Receptor	Alpha Factor	Barrier Attn. dB(A)	Vehicle Mix: Medium Trucks	Vehicle Mix: Heavy Trucks	Peak Hou dB(A) L_{eq}	24-Hour dB(A) Ldn
Analysis Condition													
Kegle, Lighthouse/Cummins	Residential	2	0	760	7,600	30	30	0	0	1.8%	0.7%	65.3	64.2
Kegle, Cummins/Sacramento	Residential	2	0	990	9,900	30	30	0	0	1.8%	0.7%	66.5	65.3
Douglas, Lighthouse/Cummins	Residential	2	0	250	2,500	30	30	0	0	1.8%	0.7%	60.5	59.4
Douglas, Cummins/Sacramento	Residential	2	0	650	6,500	30	30	0	0	1.8%	0.7%	64.7	63.5
5th Street, Fountain/C Street	Residential	4	0	650	6,500	35	30	0	0	1.8%	0.7%	66.8	65.7
Lighthouse, Kegle/Douglas	Residential	2	0	460	4,600	25	30	0	0	1.8%	0.7%	61.4	60.3
Lighthouse, Douglas/Fountain	Residential	4	0	350	3,500	25	30	0	0	1.8%	0.7%	61.1	60.0
Cummins, Kegle/Douglas	Residential	2	0	220	2,200	25	30	0	0	1.8%	0.7%	58.2	57.1
Cummins, Douglas/6th Street	Residential	2	0	230	2,300	25	30	0	0	1.8%	0.7%	58.4	57.3
Sacramento, Kegle/Douglas	Residential	3	0	1,490	14,900	35	30	0	0	1.8%	0.7%	69.8	68.7
Sacramento, Douglas/5th Street	Residential	4	0	1,210	12,100	35	30	0	0	1.8%	0.7%	69.5	68.4

[1] Distance is from the centerline of the roadway segment to the receptor location.

TRAFFIC NOISE LEVELS

Project Number: 11006-00
Project Name: The Rivers Phase II

Background Information

Model Description:	FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels.
Analysis Scenario(s):	2025 Scenario B
Source of Traffic Volumes:	Fehr and Peers
Community Noise Descriptor:	L_{dn}: X CNEL:

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Traffic Noise Levels

Analysis Condition Roadway Segment	Land Use	Lanes	Median Width	Peak Hour Volume	ADT Volume	Design Speed (mph)	Dist. from Center to Receptor	Alpha Factor	Barrier Attn. dB(A)	Vehicle Mix: Medium Trucks	Vehicle Mix: Heavy Trucks	Peak Hou dB(A) L_{eq}	24-Hour dB(A) Ldn
Analysis Condition													
Kegle, Lighthouse/Cummins	Residential	2	0	938	9,380	30	30	0	0	1.8%	0.7%	66.2	65.1
Kegle, Cummins/Sacramento	Residential	2	0	1,188	11,880	30	30	0	0	1.8%	0.7%	67.3	66.1
Douglas, Lighthouse/Cummins	Residential	2	0	251	2,510	30	30	0	0	1.8%	0.7%	60.5	59.4
Douglas, Cummins/Sacramento	Residential	2	0	386	3,860	30	30	0	0	1.8%	0.7%	62.4	61.3
5th Street, Fountain/C Street	Residential	4	0	828	8,280	35	30	0	0	1.8%	0.7%	67.9	66.7
Lighthouse, Kegle/Douglas	Residential	2	0	597	5,970	25	30	0	0	1.8%	0.7%	62.6	61.4
Lighthouse, Douglas/Fountain	Residential	4	0	564	5,640	25	30	0	0	1.8%	0.7%	63.2	62.1
Cummins, Kegle/Douglas	Residential	2	0	220	2,200	25	30	0	0	1.8%	0.7%	58.2	57.1
Cummins, Douglas/6th Street	Residential	2	0	230	2,300	25	30	0	0	1.8%	0.7%	58.4	57.3
Sacramento, Kegle/Douglas	Residential	3	0	1,542	15,420	35	30	0	0	1.8%	0.7%	70.0	68.8
Sacramento, Douglas/5th Street	Residential	4	0	1,210	12,100	35	30	0	0	1.8%	0.7%	69.5	68.4

[1] Distance is from the centerline of the roadway segment to the receptor location.

TRAFFIC NOISE LEVELS

Project Number: 11006-00
Project Name: The Rivers Phase II

Background Information

Model Description: FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels.
Analysis Scenario(s): 2025 Scenario A
Source of Traffic Volumes: Fehr and Peers
Community Noise Descriptor: L_{dn}: X CNEL: ____

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Traffic Noise Levels

Analysis Condition / Roadway Segment	Land Use	Lanes	Median Width	Peak Hour Volume	ADT Volume	Design Speed (mph)	Dist. from Center to Receptor	Alpha Factor	Barrier Attn. dB(A)	Vehicle Mix: Medium Trucks	Vehicle Mix: Heavy Trucks	Peak Hou dB(A) L_{eq}	24-Hour dB(A) Ldn
Analysis Condition													
Kegle, Lighthouse/Cummins	Residential	2	0	938	9,380	30	30	0	0	1.8%	0.7%	66.2	65.1
Kegle, Cummins/Sacramento	Residential	2	0	1,168	11,680	30	30	0	0	1.8%	0.7%	67.2	66.1
Douglas, Lighthouse/Cummins	Residential	2	0	306	3,060	30	30	0	0	1.8%	0.7%	61.4	60.2
Douglas, Cummins/Sacramento	Residential	2	0	386	3,860	30	30	0	0	1.8%	0.7%	62.4	61.3
5th Street, Fountain/C Street	Residential	4	0	863	8,630	35	30	0	0	1.8%	0.7%	68.1	66.9
Lighthouse, Kegle/Douglas	Residential	2	0	597	5,970	25	30	0	0	1.8%	0.7%	62.6	61.4
Lighthouse, Douglas/Fountain	Residential	4	0	564	5,640	25	30	0	0	1.8%	0.7%	63.2	62.1
Cummins, Kegle/Douglas	Residential	2	0	270	2,700	25	30	0	0	1.8%	0.7%	59.1	58.0
Cummins, Douglas/6th Street	Residential	2	0	210	2,100	25	30	0	0	1.8%	0.7%	58.0	56.9
Sacramento, Kegle/Douglas	Residential	3	0	1,542	15,420	35	30	0	0	1.8%	0.7%	70.0	68.8
Sacramento, Douglas/5th Street	Residential	4	0	1,210	12,100	35	30	0	0	1.8%	0.7%	69.5	68.4

[1] Distance is from the centerline of the roadway segment to the receptor location.

APPENDIX I
Transportation Study

FEHR & PEERS
TRANSPORTATION CONSULTANTS

Draft Report

Transportation Study -- The Rivers Phase II

November 2005

Prepared for:
City of West Sacramento

APPENDIX A

TRAFFIC COUNTS

CITY OF SACRAMENTO

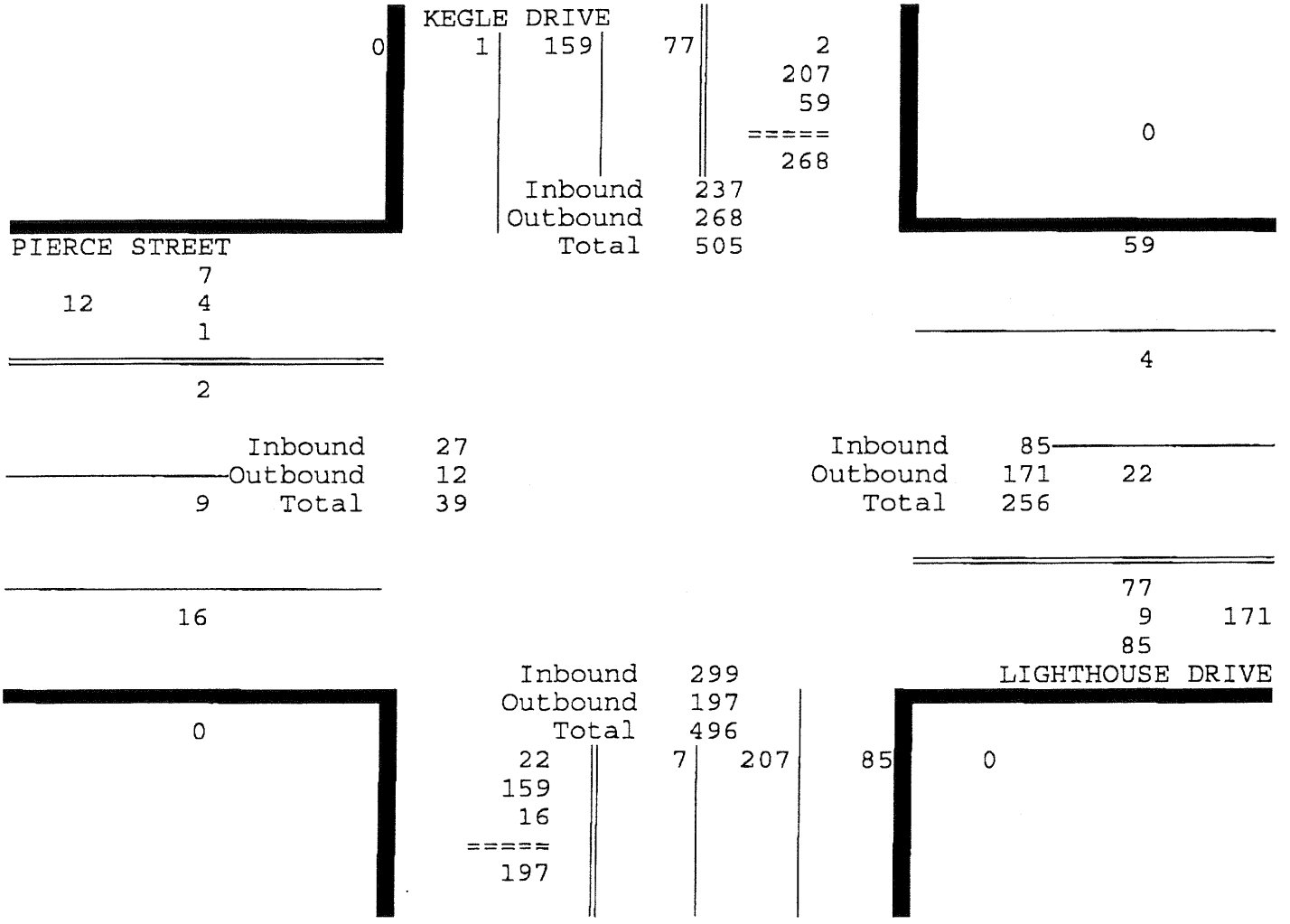
All Traffic Data
5098 Foothills Blvd. 3-302
Roseville,CA. 95678
(916)771-8700

Site Code : 00000000
Start Date: 03/24/05
File I.D. : 1WS
Page : 1

	KEGLE DRIVE Southbound					LIGHTHOUSE DRIVE Westbound					Northbound					PIERCE STREET Eastbound						
Start Time	Left	Thru	Rght	TotlOther		Left	Thru	Rght	TotlOther		Left	Thru	Rght	TotlOther		Left	Thru	Rght	TotlOther		Total-	Other=
7:00am	11	17	1	29	0	2	1	9	12	0	1	23	21	45	0	0	1	2	3	0	89	0	89
7:15	10	37	0	47	0	6	0	14	20	0	1	54	22	77	0	1	1	5	7	0	151	0	151
7:30	31	72	0	103	0	6	0	26	32	0	3	104	17	124	0	0	4	6	10	0	269	0	269
7:45	25	33	0	58	0	8	3	10	21	0	2	26	25	53	0	1	3	3	7	0	139	0	139
Hour Total	77	159	1	237	0	22	4	59	85	0	7	207	85	299	0	2	9	16	27	0	648	0	648
8:00am	8	14	0	22	0	12	1	4	17	0	2	14	15	31	0	0	2	1	3	0	73	0	73
8:15	6	12	0	18	0	6	2	5	13	0	2	13	6	21	0	0	1	1	2	0	54	0	54
8:30	7	8	0	15	0	8	0	2	10	0	1	8	13	22	0	0	0	2	2	0	49	0	49
8:45	4	15	0	19	0	7	0	3	10	0	1	13	12	26	0	1	0	0	1	0	56	0	56
Hour Total	25	49	0	74	0	33	3	14	50	0	6	48	46	100	0	1	3	4	8	0	232	0	232
Grand	102	208	1	311	0	55	7	73	135	0	13	255	131	399	0	3	12	20	35	0	880	0	880
% of Total	11.6	23.6	.1%			6.2	.8	8.3%			1.5	29.0	14.9%			.3	1.4	2.3%				0.0%	100.0%
Apprch %				35.3%					15.3%					45.3%					4.0%				
% of Apprc	32.8	66.9	.3%			40.7	5.2	54.1%			3.3	63.9	32.8%			8.6	34.3	57.1%					

Peak Hour Analysis By Entire Intersection for the Period: 07:00am to 08:45am on 03/24/05

Direction	Street Name	Start Peak Hour	Peak Hr Factor	Volumes Left	Thru	Rght		Total	Percentages Left	Thru	Rght	
Southbound	KEGLE DRIVE	07:00am	.575	77	159	1	0	237	32.4	67.0	.4	.0
Westbound	LIGHTHOUSE DRIVE		.664	22	4	59	0	85	25.8	4.7	69.4	.0
Northbound			.603	7	207	85	0	299	2.3	69.2	28.4	.0
Eastbound	PIERCE STREET		.675	2	9	16	0	27	7.4	33.3	59.2	.0


KEGLE DRIVE
0
1
159
77
2
207
59
=====
268
Inbound 237
Outbound 268
Total 505
0
PIERCE STREET
7
12
4
1
2
59
4
Inbound 27
Outbound 12
Total 39
9
Inbound 85
Outbound 171
Total 256
22
77
9
171
85
16
Inbound 299
Outbound 197
Total 496
0
22
159
16
=====
197
7
207
85
0
LIGHTHOUSE DRIVE

RIVERS PROJECT IN W. SACRAMENTO

All Traffic Data
(916) 771-8700
Fax 786-2879

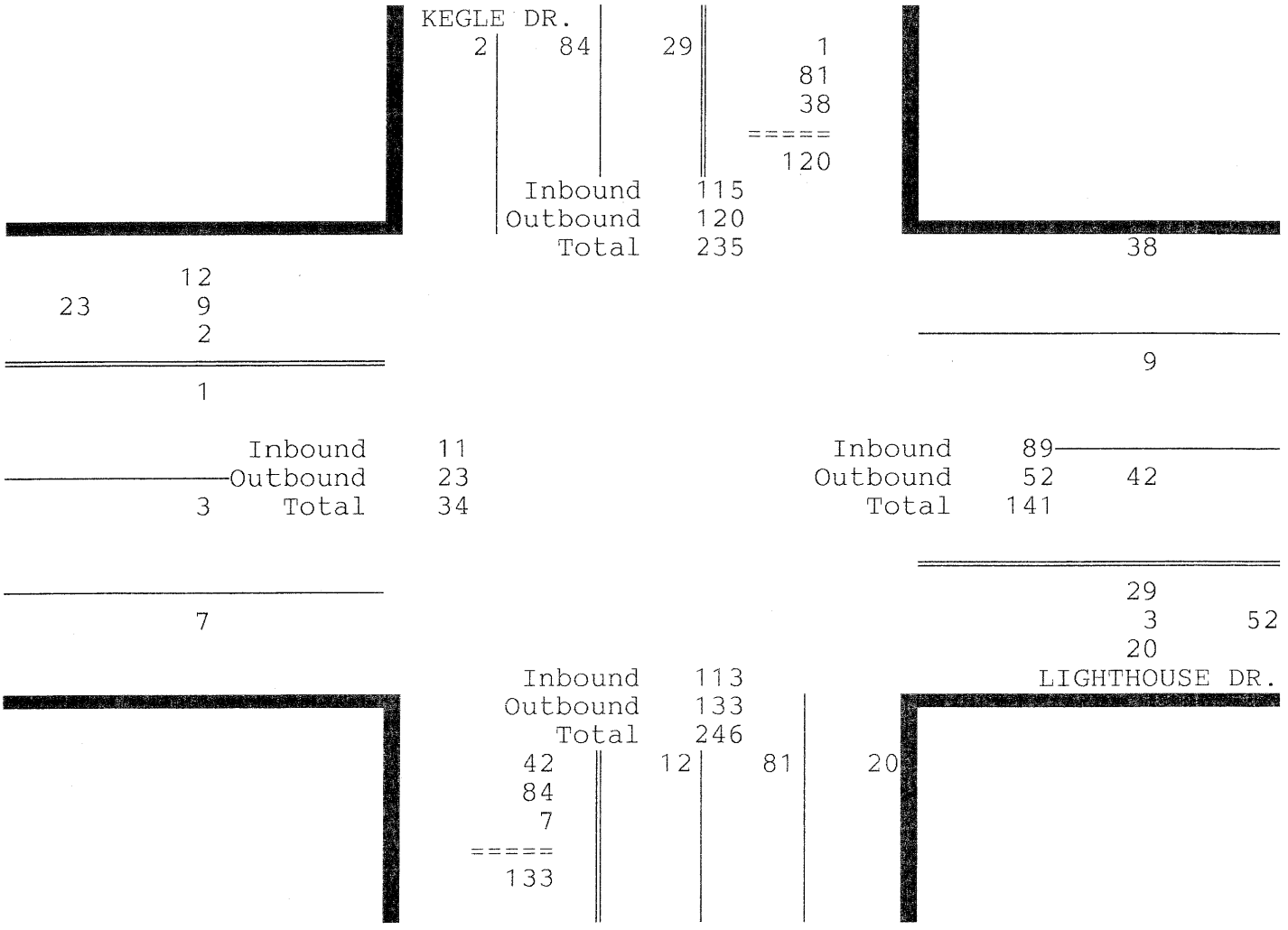
Site Code : 00000000
Start Date: 02/02/05
File I.D. : KGLLTHSF
Page : 1

	KEGLE DR. Southbound				LIGHTHOUSE DR. Westbound				Northbound				Eastbound				
Start Time	Left	Thru	Rght	Totl	Left	Thru	Rght	Totl	Left	Thru	Rght	Totl	Left	Thru	Rght	Totl	Total
4:00pm	5	13	0	18	19	5	12	36	4	19	3	26	0	0	3	3	83
4:15	4	19	0	23	11	3	6	20	4	13	7	24	0	1	1	2	69
4:30	6	14	0	20	6	3	6	15	1	22	8	31	0	3	1	4	70
4:45	4	15	0	19	6	2	4	12	1	16	6	23	0	0	1	1	55
Hour Total	19	61	0	80	42	13	28	83	10	70	24	104	0	4	6	10	277
5:00pm	9	23	1	33	8	3	9	20	3	14	7	24	0	1	4	5	82
5:15	8	13	1	22	6	3	15	24	5	22	2	29	1	0	1	2	77
5:30	5	27	0	32	19	2	7	28	1	22	5	28	0	2	2	4	92
5:45	7	21	0	28	9	1	7	17	3	23	6	32	0	0	0	0	77
Hour Total	29	84	2	115	42	9	38	89	12	81	20	113	1	3	7	11	328
Grand	48	145	2	195	84	22	66	172	22	151	44	217	1	7	13	21	605
% of Total	7.9%	24.0%	.3%		13.9%	3.6%	10.9%		3.6%	25.0%	7.3%		.2%	1.2%	2.1%		
Apprch %				32.2%				28.4%				35.9%				3.5%	
% of Apprch	24.6%	74.4%	1.0%		48.8%	12.8%	38.4%		10.1%	69.6%	20.3%		4.8%	33.3%	61.9%		

Peak Hour Analysis By Entire Intersection for the Period: 04:00pm to 05:45pm on 02/02/05

Direction	Street Name	Start Peak Hour	Peak Hr Factor	Volumes Left	Thru	Rght	Total	Percentages Left	Thru	Rght
Southbound	KEGLE DR.	05:00pm	.871	29	84	2	115	25.2	73.0	1.7
Westbound	LIGHTHOUSE DR.		.795	42	9	38	89	47.1	10.1	42.6
Northbound			.883	12	81	20	113	10.6	71.6	17.6
Eastbound			.550	1	3	7	11	9.0	27.2	63.6

Peak Hour Factor: 328/(4×94) = .871


KEGLE DR.
2
84
29
1
81
38
=====
120
Inbound 115
Outbound 120
Total 235
38
12
23
9
2
1
9
Inbound 11
Outbound 23
Total 34
3
Inbound 89
Outbound 52
Total 141
42
7
29
3
52
20
LIGHTHOUSE DR.
Inbound 113
Outbound 133
Total 246
42
84
7
=====
133
12
81
20

All Traffic Data
5098 Foothills Blvd. 3-302
Roseville,CA. 95678
(916)771-8700

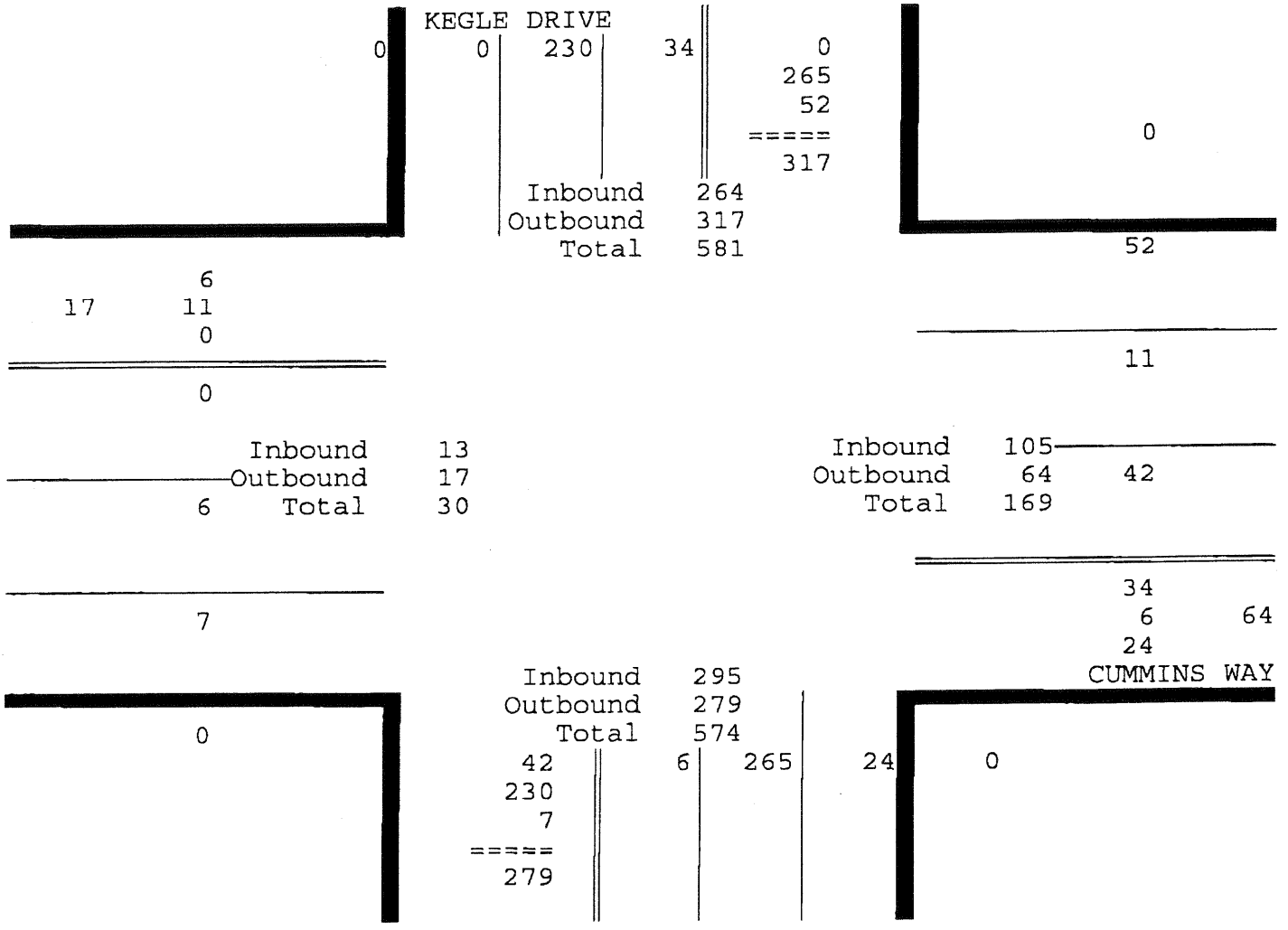
CITY OF SACRAMENTO

Site Code : 00000000
Start Date: 03/24/05
File I.D. : 2WS
Page : 1

	KEGLE DRIVE Southbound					CUMMINS WAY Westbound					Northbound					Eastbound						
Start Time	Left	Thru	Rght	TotlOther		Left	Thru	Rght	TotlOther		Left	Thru	Rght	TotlOther		Left	Thru	Rght	TotlOther		Total-	Other=
7:00am	3	25	0	28	0	5	1	2	8	0	0	42	7	49	0	0	1	1	2	0	87	0 87
7:15	7	57	0	64	0	11	3	13	27	0	0	71	7	78	0	0	0	1	1	0	170	0 170
7:30	10	89	0	99	0	12	4	24	40	0	3	99	7	109	0	0	2	2	4	0	252	0 252
7:45	16	51	0	67	0	7	3	10	20	0	1	53	6	60	0	0	4	3	7	0	154	0 154
Hour Total	36	222	0	258	0	35	11	49	95	0	4	265	27	296	0	0	7	7	14	0	663	0 663
8:00am	1	33	0	34	0	12	1	5	18	0	2	42	4	48	0	0	0	1	1	0	101	0 101
8:15	6	29	1	36	0	8	1	6	15	0	2	26	6	34	0	1	2	2	5	0	90	0 90
8:30	6	23	0	29	0	2	0	1	3	0	1	26	2	29	0	0	0	0	0	0	61	0 61
8:45	2	26	0	28	0	8	2	3	13	0	0	31	4	35	0	0	0	1	1	0	77	0 77
Hour Total	15	111	1	127	0	30	4	15	49	0	5	125	16	146	0	1	2	4	7	0	329	0 329
Grand	51	333	1	385	0	65	15	64	144	0	9	390	43	442	0	1	9	11	21	0	992	0 992
% of Total	5.1	33.6	.1%			6.6	1.5	6.5%			.9	39.3	4.3%			.1	.9	1.1%				0.0% 100.0%
Apprch %				38.8%					14.5%					44.6%					2.1%			
% of Apprc	13.2	86.5	.3%			45.1	10.4	44.4%			2.0	88.2	9.7%			4.8	42.9	52.4%				

Peak Hour Analysis By Entire Intersection for the Period: 07:00am to 08:45am on 03/24/05

Direction	Street Name	Start Peak Hour	Peak Hr Factor	Volumes Left	Thru	Rght		Total	Percentages Left	Thru	Rght	
Southbound	KEGLE DRIVE	07:15am	.667	34	230	0	0	264	12.8	87.1	.0	.0
Westbound	CUMMINS WAY		.656	42	11	52	0	105	40.0	10.4	49.5	.0
Northbound			.677	6	265	24	0	295	2.0	89.8	8.1	.0
Eastbound			.464	0	6	7	0	13	.0	46.1	53.8	.0


KEGLE DRIVE
0
0
230
34
0
265
52
=====
317
Inbound 264
Outbound 317
Total 581
0
52
6
17
11
0
11
0
Inbound 13
Outbound 17
Total 30
6
Inbound 105
Outbound 64
Total 169
42
34
6
64
24
7
CUMMINS WAY
Inbound 295
Outbound 279
Total 574
0
42
230
7
=====
279
6
265
24
0

2

All Traffic Data
(916) 771-8700
Fax 786-2879

RIVERS PROJECT IN W. SACRAMENTO

Site Code : 00000000
Start Date: 02/02/05
File I.D. : CUMMKEGF
Page : 1

	KEGLE DR. Southbound				CUMMINS WAY Westbound				Northbound				Eastbound				
Start Time	Left	Thru	Rght	Totl	Left	Thru	Rght	Totl	Left	Thru	Rght	Totl	Left	Thru	Rght	Totl	Total
4:00pm	4	57	0	61	13	2	7	22	3	43	6	52	0	1	1	2	137
4:15	7	36	0	43	8	7	8	23	1	32	7	40	2	8	2	12	118
4:30	7	33	0	40	15	4	7	26	7	49	4	60	1	1	2	4	130
4:45	7	26	0	33	9	1	2	12	2	40	9	51	0	1	0	1	97
Hour Total	25	152	0	177	45	14	24	83	13	164	26	203	3	11	5	19	482
5:00pm	7	29	0	36	11	2	9	22	7	33	8	48	0	2	2	4	110
5:15	10	26	1	37	11	3	11	25	4	55	10	69	0	0	0	0	131
5:30	14	43	0	57	14	4	10	28	4	51	14	69	2	3	4	9	163
5:45	10	43	0	53	17	4	7	28	6	60	15	81	0	0	2	2	164
Hour Total	41	141	1	183	53	13	37	103	21	199	47	267	2	5	8	15	568
Grand	66	293	1	360	98	27	61	186	34	363	73	470	5	16	13	34	1050
% of Total	6.3%	27.9%	.1%		9.3%	2.6%	5.8%		3.2%	34.6%	7.0%		.5%	1.5%	1.2%		
Apprch %				34.3%				17.7%				44.8%				3.2%	
% of Apprch	18.3%	81.4%	.3%		52.7%	14.5%	32.8%		7.2%	77.2%	15.5%		14.7%	47.1%	38.2%		

Peak Hour Analysis By Entire Intersection for the Period: 04:00pm to 05:45pm on 02/02/05

Direction	Street Name	Start Peak Hour	Peak Hr Factor	Volumes Left	Volumes Thru	Volumes Rght	Volumes Total	Percentages Left	Percentages Thru	Percentages Rght
Southbound	KEGLE DR.	05:00pm	.803	41	141	1	183	22.4	77.0	.5
Westbound	CUMMINS WAY		.920	53	13	37	103	51.4	12.6	35.9
Northbound			.824	21	199	47	267	7.8	74.5	17.6
Eastbound			.417	2	5	8	15	13.3	33.3	53.3

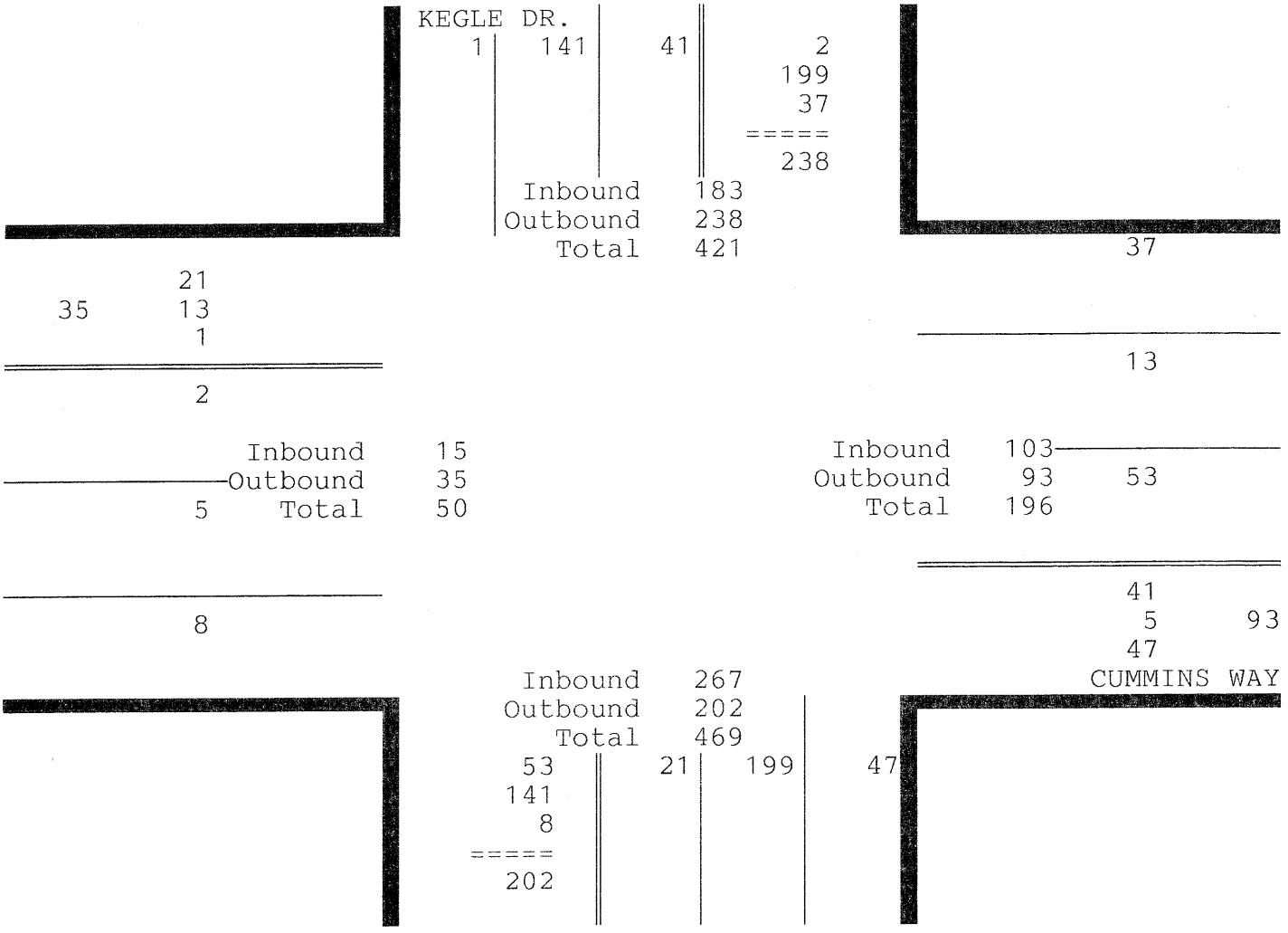
Peak Hour Factor

183 / (164×4) = .866
656

RIVERS PROJECT IN W. SACRAMENTO

All Traffic Data
(916) 771-8700
Fax 786-2879

Site Code : 00000000
Start Date: 02/02/05
File I.D. : CUMMKEGF
Page : 2



All Traffic Data
5098 Foothills Blvd. 3-302
Roseville,CA. 95678
(916)771-8700

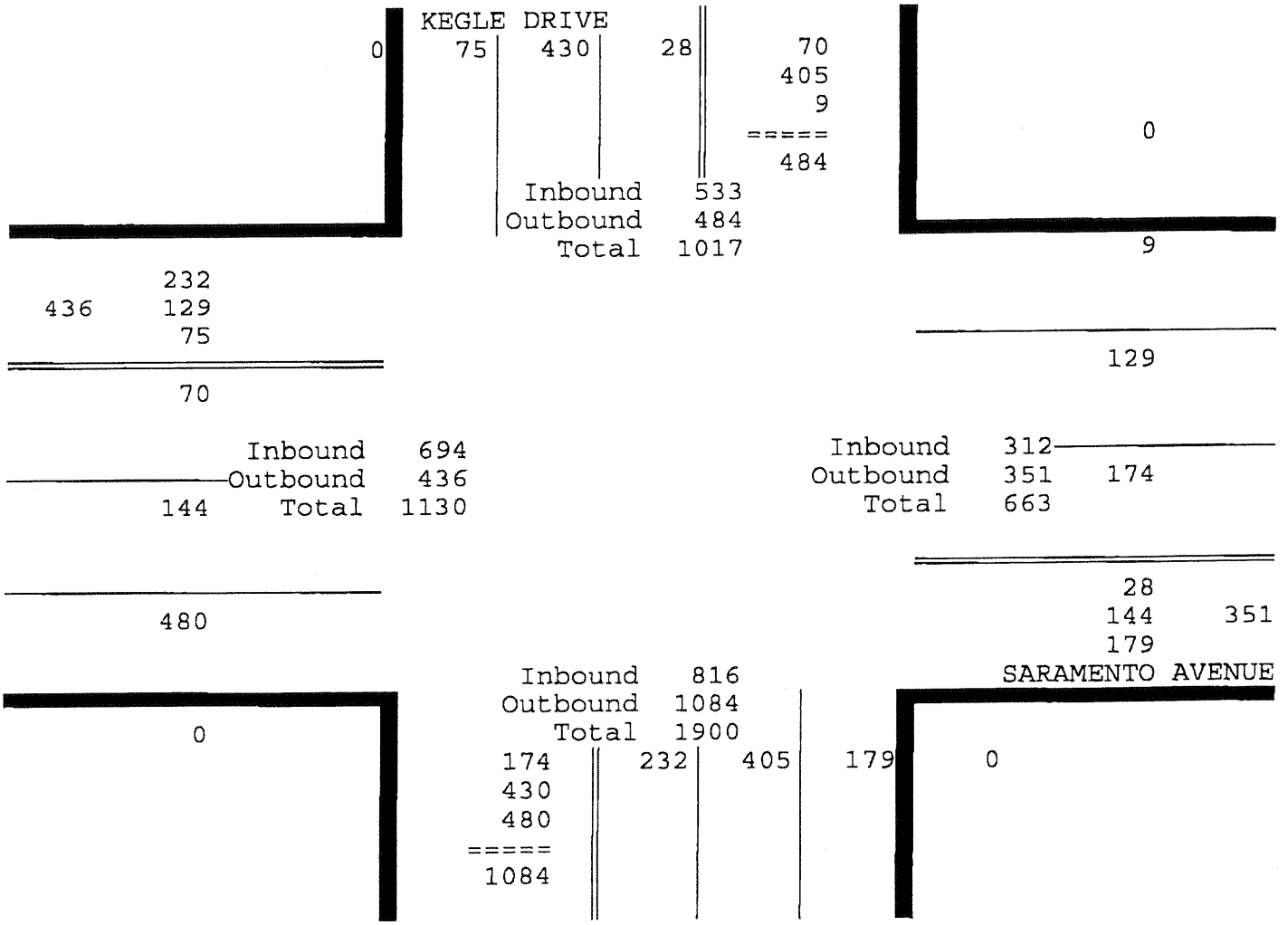
CITY OF SACRAMENTO

Site Code : 00000000
Start Date: 03/24/05
File I.D. : 3WS
Page : 1

	KEGLE DRIVE Southbound					SARAMENTO AVENUE Westbound					Northbound					Eastbound						
Start Time	Left	Thru	Rght	TotlOther		Left	Thru	Rght	TotlOther		Left	Thru	Rght	TotlOther		Left	Thru	Rght	TotlOther		Total-	Other=
7:00am	2	57	12	71	0	19	25	0	44	0	43	46	19	108	0	19	30	81	130	0	353	0 353
7:15	9	88	15	112	0	37	26	1	64	0	35	102	30	167	0	17	31	85	133	0	476	0 476
7:30	10	157	26	193	0	50	45	3	98	0	60	153	47	260	0	15	40	150	205	0	756	0 756
7:45	6	123	15	144	0	42	30	1	73	0	70	82	51	203	0	20	41	150	211	0	631	0 631
Hour Total	27	425	68	520	0	148	126	5	279	0	208	383	147	738	0	71	142	466	679	0	2216	0 2216
8:00am	3	62	19	84	0	45	28	4	77	0	67	68	51	186	0	18	32	95	145	0	492	0 492
8:15	5	53	16	74	0	36	34	3	73	0	57	48	39	144	0	21	25	98	144	0	435	0 435
8:30	2	41	16	59	0	40	30	3	73	0	43	47	41	131	0	14	30	97	141	0	404	0 404
8:45	6	47	13	66	0	34	24	3	61	0	39	36	37	112	0	17	30	62	109	0	348	0 348
Hour Total	16	203	64	283	0	155	116	13	284	0	206	199	168	573	0	70	117	352	539	0	1679	0 1679
Grand	43	628	132	803	0	303	242	18	563	0	414	582	315	1311	0	141	259	818	1218	0	3895	0 3895
% of Total	1.1	16.1	3.4%			7.8	6.2	.5%			10.6	14.9	8.1%			3.6	6.6	21.0%				0.0%100.0%
Apprch %				20.6%					14.5%					33.7%					31.3%			
% of Apprc	5.4	78.2	16.4%			53.8	43.0	3.2%			31.6	44.4	24.0%			11.6	21.3	67.2%				

Peak Hour Analysis By Entire Intersection for the Period: 07:00am to 08:45am on 03/24/05

Direction	Street Name	Start Peak Hour	Peak Hr Factor	Volumes Left	Thru	Rght		Total	Percentages Left	Thru	Rght	
Southbound	KEGLE DRIVE	07:15am	.690	28	430	75	0	533	5.2	80.6	14.0	.0
Westbound	SARAMENTO AVENUE		.796	174	129	9	0	312	55.7	41.3	2.8	.0
Northbound			.785	232	405	179	0	816	28.4	49.6	21.9	.0
Eastbound			.822	70	144	480	0	694	10.0	20.7	69.1	.0


KEGLE DRIVE
0
75
430
28
70
405
9
484
Inbound 533
Outbound 484
Total 1017
0
9
232
436
129
75
70
129
Inbound 694
Outbound 436
Total 1130
144
480
Inbound 312
Outbound 351
Total 663
174
28
144
351
179
SARAMENTO AVENUE
Inbound 816
Outbound 1084
Total 1900
0
174
430
480
1084
232
405
179
0

(3)

RIVERS PROJECT IN W. SACRAMENTO

All Traffic Data
(916) 771-8700
Fax 786-2879

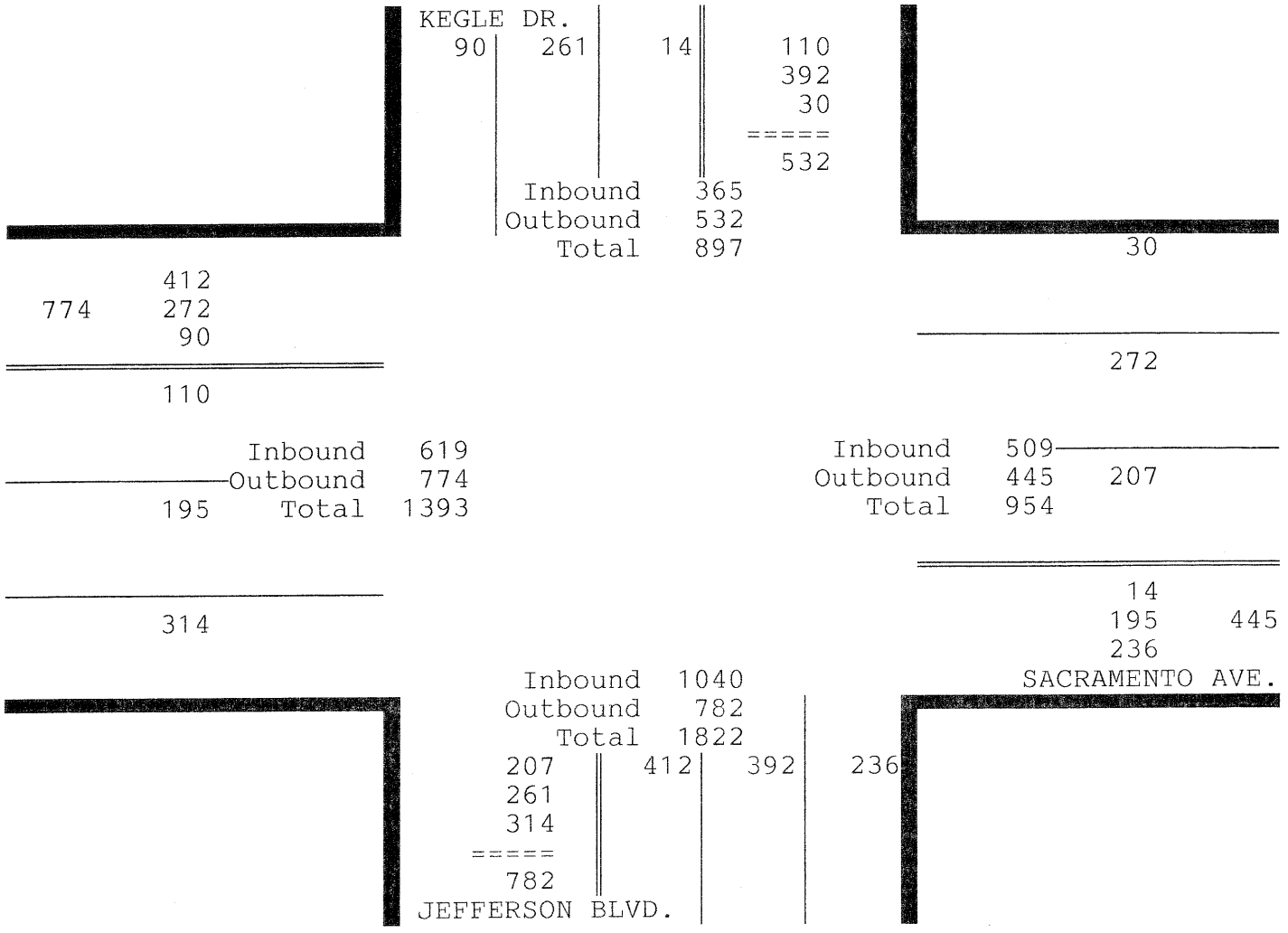
Site Code : 00000000
Start Date: 02/02/05
File I.D. : JEFFSACF
Page : 1

	KEGLE DR. Southbound				SACRAMENTO AVE. Westbound				JEFFERSON BLVD. Northbound				Eastbound				
Start Time	Left	Thru	Rght	Totl	Left	Thru	Rght	Totl	Left	Thru	Rght	Totl	Left	Thru	Rght	Totl	Total
4:00pm	3	85	31	119	49	58	5	112	90	86	50	226	34	55	86	175	632
4:15	9	52	28	89	50	50	3	103	109	86	46	241	29	57	95	181	614
4:30	6	56	23	85	51	57	6	114	77	76	50	203	32	58	88	178	580
4:45	3	46	13	62	40	50	4	94	97	68	39	204	39	49	85	173	533
Hour Total	21	239	95	355	190	215	18	423	373	316	185	874	134	219	354	707	2359
5:00pm	4	48	17	69	44	78	5	127	93	92	52	237	23	45	81	149	582
5:15	3	45	25	73	53	78	10	141	120	92	65	277	35	70	77	182	673
5:30	2	90	15	107	55	65	5	125	104	103	57	264	29	47	74	150	646
5:45	5	78	33	116	55	51	10	116	95	105	62	262	23	33	82	138	632
Hour Total	14	261	90	365	207	272	30	509	412	392	236	1040	110	195	314	619	2533
Grand	35	500	185	720	397	487	48	932	785	708	421	1914	244	414	668	1326	4892
% of Total	.7%	10.2%	3.8%		8.1%	10.0%	1.0%		16.0%	14.5%	8.6%		5.0%	8.5%	13.7%		
Apprch %				14.7%				19.1%				39.1%				27.1%	
% of Apprch	4.9%	69.4%	25.7%		42.6%	52.3%	5.2%		41.0%	37.0%	22.0%		18.4%	31.2%	50.4%		

Peak Hour Analysis By Entire Intersection for the Period: 04:00pm to 05:45pm on 02/02/05

Direction	Street Name	Start Peak Hour	Peak Hr Factor	..... Volumes ..... Left	Thru	Rght	Total	..... Percentages ..... Left	Thru	Rght
Southbound	KEGLE DR.	05:00pm	.787	14	261	90	365	3.8	71.5	24.6
Westbound	SACRAMENTO AVE.		.902	207	272	30	509	40.6	53.4	5.8
Northbound	JEFFERSON BLVD.		.939	412	392	236	1040	39.6	37.6	22.6
Eastbound			.850	110	195	314	619	17.7	31.5	50.7

Peak Hour Factor: 2583 / (692 x 4) = .941


KEGLE DR.
90
261
14
110
392
30
532
Inbound 365
Outbound 532
Total 897
412
774 272
90
110
30
272
Inbound 619
Outbound 774
Total 1393
195
Inbound 509
Outbound 445
Total 954
207
314
14
195
445
236
SACRAMENTO AVE.
Inbound 1040
Outbound 782
Total 1822
207
261
314
782
412
392
236
JEFFERSON BLVD.

CITY OF SACRAMENTO

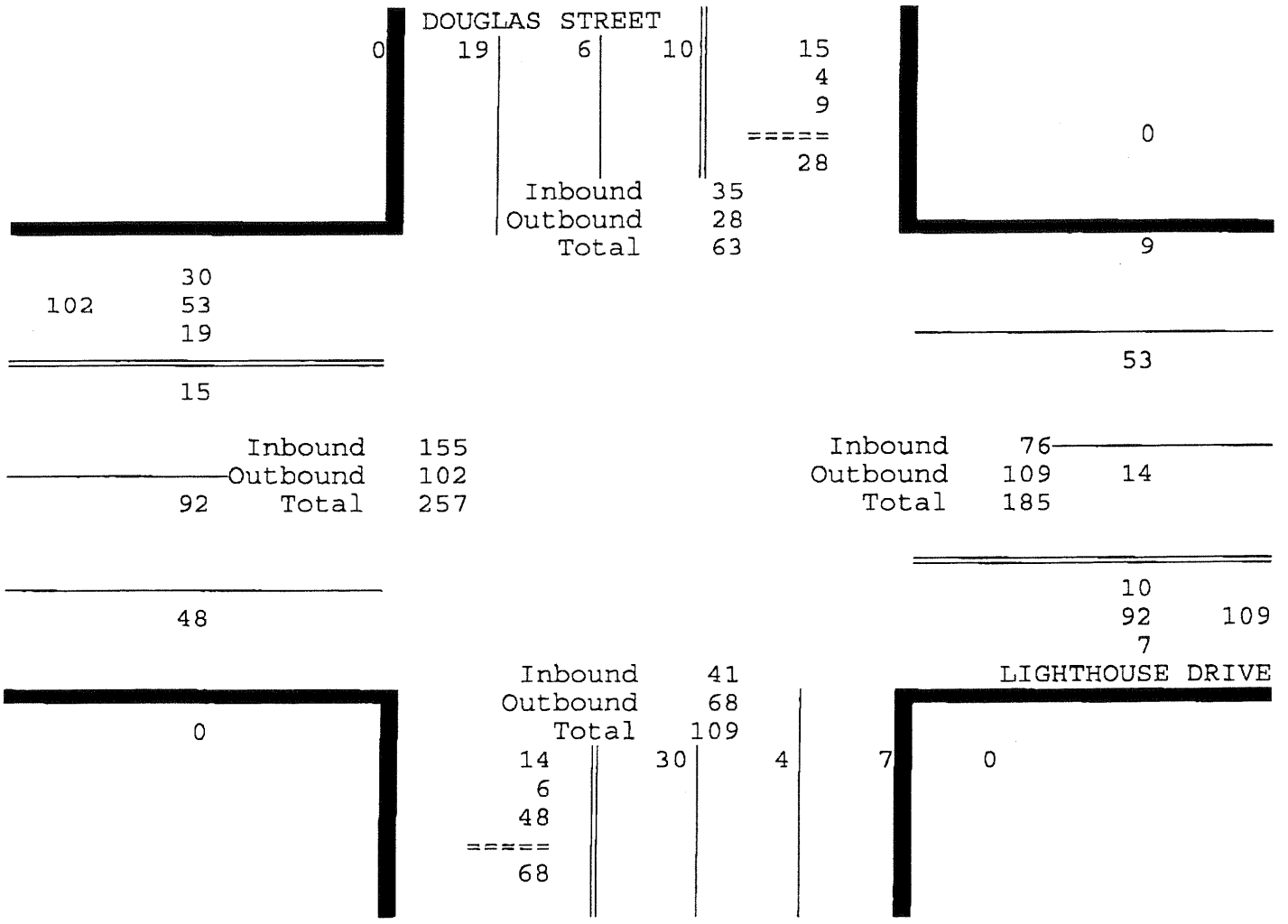
All Traffic Data
5098 Foothills Blvd. 3-302
Roseville,CA. 95678
(916)771-8700

Site Code : 00000000
Start Date: 03/24/05
File I.D. : 4WS
Page : 1

	DOUGLAS STREET Southbound					LIGHTHOUSE DRIVE Westbound					Northbound					Eastbound						
Start Time	Left	Thru	Rght	TotlOther		Left	Thru	Rght	TotlOther		Left	Thru	Rght	TotlOther		Left	Thru	Rght	TotlOther		Total-	Other=
7:00am	3	0	10	13	0	1	3	1	5	0	3	0	0	3	0	4	12	4	20	0	41	0 41
7:15	4	3	5	12	0	4	13	2	19	0	6	2	1	9	0	5	20	4	29	0	69	0 69
7:30	1	0	6	7	0	6	17	4	27	0	15	2	0	17	0	4	26	20	50	0	101	0 101
7:45	2	1	5	8	0	3	12	1	16	0	6	0	1	7	0	3	33	18	54	0	85	0 85
Hour Total	10	4	26	40	0	14	45	8	67	0	30	4	2	36	0	16	91	46	153	0	296	0 296
8:00am	3	2	3	8	0	1	11	2	14	0	3	0	5	8	0	3	13	6	22	0	52	0 52
8:15	1	1	3	5	0	3	6	2	11	0	3	0	0	3	0	1	9	0	10	0	29	0 29
8:30	3	0	5	8	0	1	2	1	4	0	0	0	0	0	0	4	9	0	13	0	25	0 25
8:45	1	0	1	2	0	5	7	0	12	0	0	0	3	3	0	3	5	1	9	0	26	0 26
Hour Total	8	3	12	23	0	10	26	5	41	0	6	0	8	14	0	11	36	7	54	0	132	0 132
Grand	18	7	38	63	0	24	71	13	108	0	36	4	10	50	0	27	127	53	207	0	428	0 428
% of Total	4.2	1.6	8.9%			5.6	16.6	3.0%			8.4	.9	2.3%			6.3	29.7	12.4%				0.0%100.0%
Apprch %			14.7%						25.2%					11.7%					48.4%			
% of Apprc	28.6	11.1	60.3%			22.2	65.7	12.0%			72.0	8.0	20.0%			13.0	61.4	25.6%				

Peak Hour Analysis By Entire Intersection for the Period: 07:00am to 09:45am on 03/24/05

		Start	Peak Hr	..... Volumes				..... Percentages			
Direction	Street Name	Peak Hour	Factor	Left	Thru	Rght		Total	Left	Thru	Rght	
Southbound	DOUGLAS STREET	07:15am	.729	10	6	19	0	35	28.5	17.1	54.2	.0
Westbound	LIGHTHOUSE DRIVE		.704	14	53	9	0	76	18.4	69.7	11.8	.0
Northbound			.603	30	4	7	0	41	73.1	9.7	17.0	.0
Eastbound			.718	15	92	48	0	155	9.6	59.3	30.9	.0


DOUGLAS STREET
0
19
6
10
15
4
9
=====
28
Inbound 35
Outbound 28
Total 63
0
9
30
102
53
19
15
53
Inbound 155
Outbound 102
Total 257
92
Inbound 76
Outbound 109
Total 185
14
10
92
109
7
48
Inbound 41
Outbound 68
Total 109
LIGHTHOUSE DRIVE
0
14
6
48
=====
68
30
4
7
0

4

All Traffic Data
(916) 771-8700
Fax 786-2879

RIVERS PROJECT IN W. SACRAMENTO

Site Code : 00000000
Start Date: 02/02/05
File I.D. : DOUGLGTF
Page : 1

	DOUGLAS ST. Southbound				LIGHTHOUSE DR. Westbound				Northbound				Eastbound				
Start Time	Left	Thru	Rght	Totl	Left	Thru	Rght	Totl	Left	Thru	Rght	Totl	Left	Thru	Rght	Totl	Total
4:00pm	1	1	7	9	1	16	2	19	6	1	2	9	8	10	1	19	56
4:15	1	2	1	4	1	16	1	18	3	0	0	3	2	13	2	17	42
4:30	1	1	2	4	1	9	1	11	2	1	0	3	0	15	3	18	36
4:45	3	1	0	4	3	7	3	13	4	2	2	8	0	11	2	13	38
Hour Total	6	5	10	21	6	48	7	61	15	4	4	23	10	49	8	67	172
5:00pm	3	1	1	5	2	20	5	27	1	2	5	8	4	11	3	18	58
5:15	2	2	0	4	1	17	2	20	4	3	1	8	0	9	2	11	43
5:30	0	1	1	2	4	18	0	22	2	2	5	9	0	13	3	16	49
5:45	1	1	1	3	1	12	2	15	2	1	1	4	1	6	1	8	30
Hour Total	6	5	3	14	8	67	9	84	9	8	12	29	5	39	9	53	180
Grand	12	10	13	35	14	115	16	145	24	12	16	52	15	88	17	120	352
% of Total	3.4%	2.8%	3.7%		4.0%	32.7%	4.5%		6.8%	3.4%	4.5%		4.3%	25.0%	4.8%		
Apprch %				9.9%				41.2%				14.8%				34.1%	
% of Apprch	34.3%	28.6%	37.1%		9.7%	79.3%	11.0%		46.2%	23.1%	30.8%		12.5%	73.3%	14.2%		

Peak Hour Analysis By Entire Intersection for the Period: 04:00pm to 05:45pm on 02/02/05

Direction	Street Name	Start Peak Hour	Peak Hr Factor	..... Volumes ..... Left	Thru	Rght	Total	..... Percentages ..... Left	Thru	Rght
Southbound	DOUGLAS ST.	04:45pm	.750	8	5	2	15	53.3	33.3	13.3
Westbound	LIGHTHOUSE DR.		.759	10	62	10	82	12.1	75.6	12.1
Northbound			.917	11	9	13	33	33.3	27.2	39.3
Eastbound			.806	4	44	10	58	6.8	75.8	17.2

Peak Hour Factor

58+58+43+49 = 188

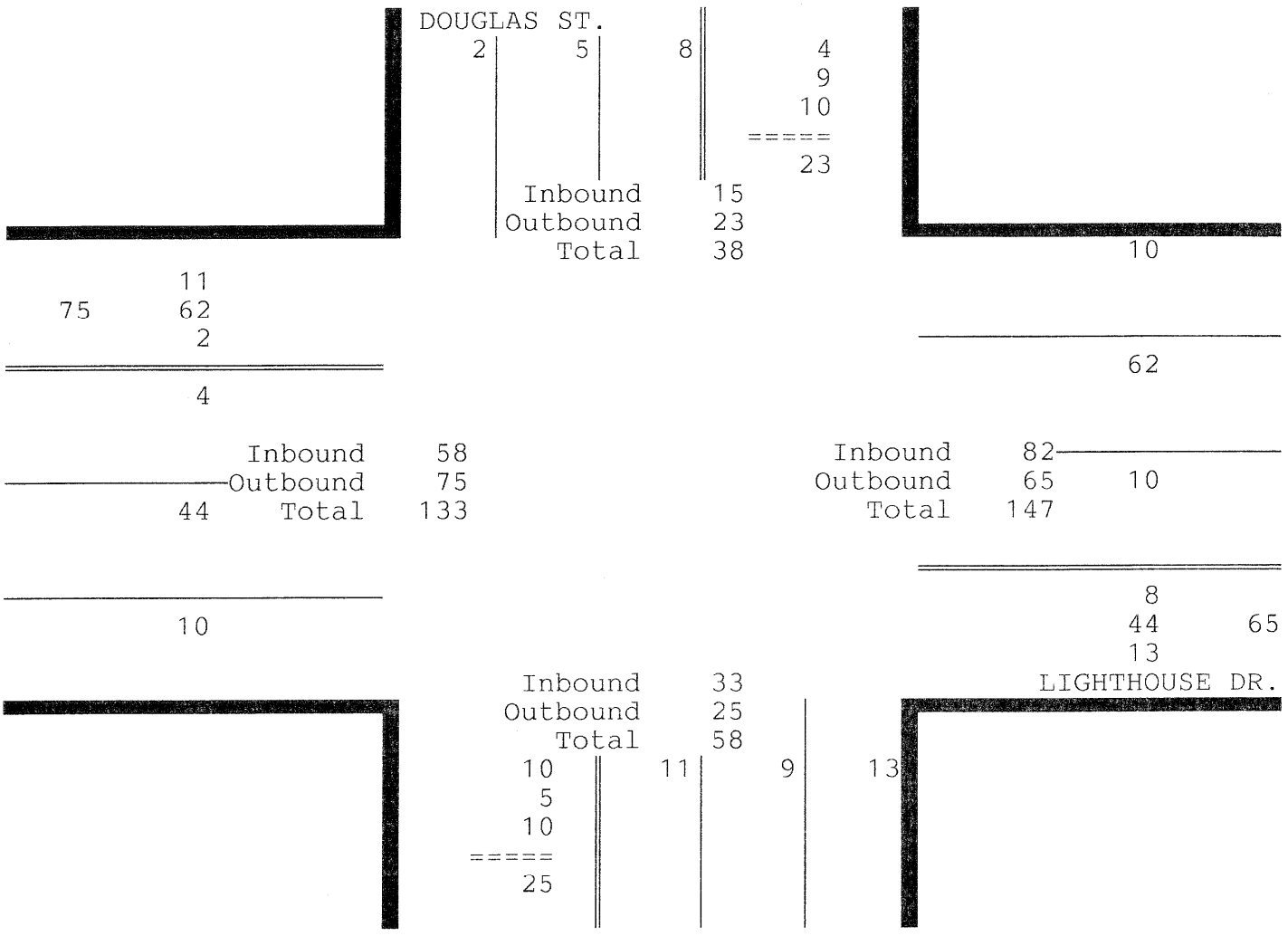
188 / (58×4) = .810

252

RIVERS PROJECT IN W. SACRAMENTO

All Traffic Data
(916) 771-8700
Fax 786-2879

Site Code : 00000000
Start Date: 02/02/05
File I.D. : DOUGLGTF
Page : 2



CITY OF SACRAMENTO

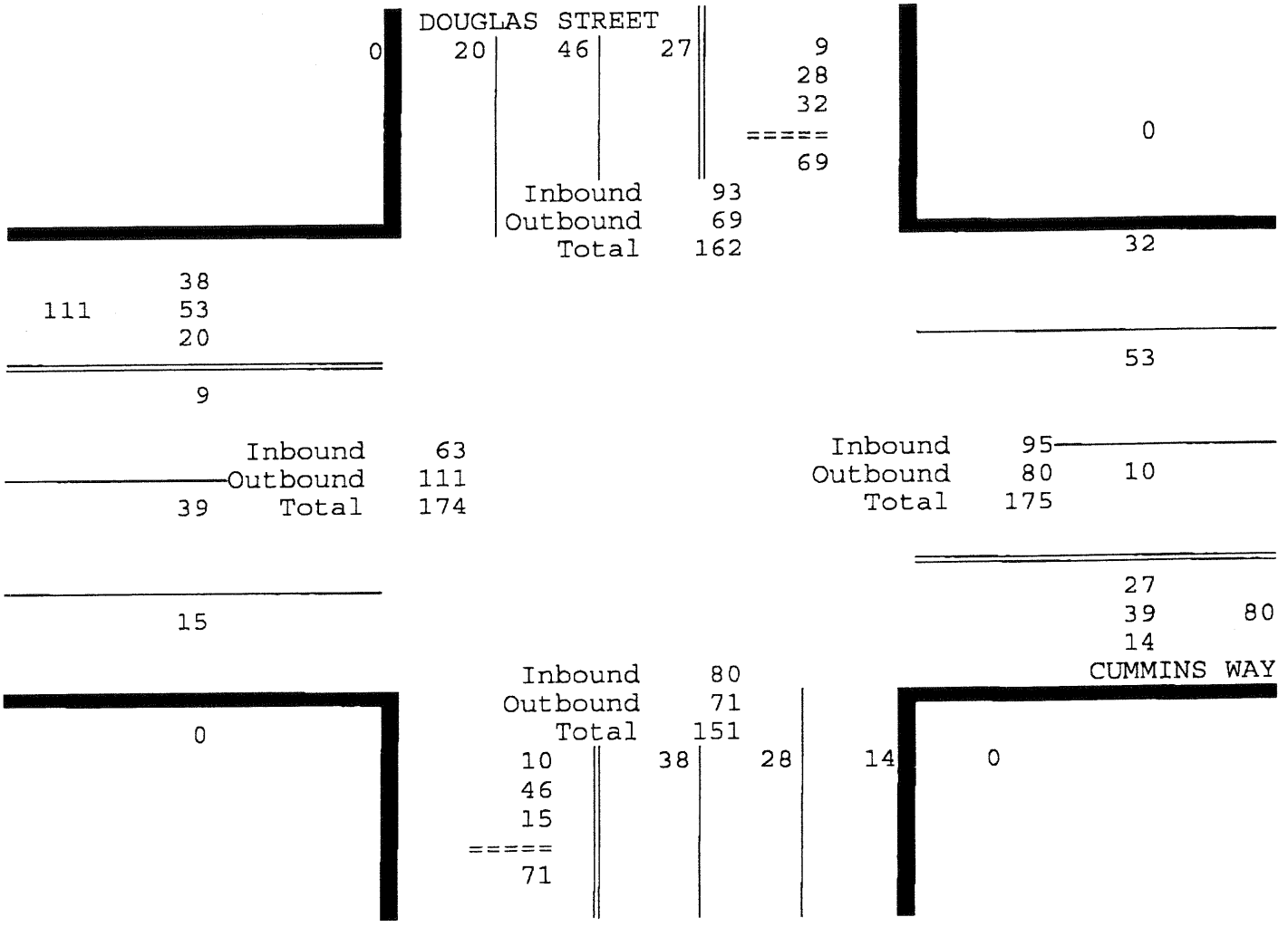
All Traffic Data
5098 Foothills Blvd. 3-302
Roseville,CA. 95678
(916)771-8700

Site Code : 00000000
Start Date: 03/24/05
File I.D. : 5WS
Page : 1

	DOUGLAS STREET Southbound					CUMMINS WAY Westbound					Northbound					Eastbound							
Start Time	Left	Thru	Rght	TotlOther		Left	Thru	Rght	TotlOther		Left	Thru	Rght	TotlOther		Left	Thru	Rght	TotlOther		Total-	Other=	
7:00am	1	1	3	5	0	4	4	1	9	0	8	1	1	10	0	1	9	1	11	0	35	0	35
7:15	2	9	3	14	0	2	15	7	24	0	11	3	2	16	0	1	6	1	8	0	62	0	62
7:30	8	10	8	26	0	4	15	10	29	0	16	6	4	26	0	3	6	4	13	0	94	0	94
7:45	8	13	7	28	0	1	15	8	24	0	7	10	0	17	0	3	19	6	28	0	97	0	97
Hour Total	19	33	21	73	0	11	49	26	86	0	42	20	7	69	0	8	40	12	60	0	288	0	288
8:00am	9	14	2	25	0	3	8	7	18	0	4	9	8	21	0	2	8	4	14	0	78	0	78
8:15	1	3	1	5	0	1	5	2	8	0	4	2	3	9	0	0	11	3	14	0	36	0	36
8:30	1	2	1	4	0	0	4	2	6	0	2	0	3	5	0	0	5	0	5	0	20	0	20
8:45	0	2	1	3	0	2	4	2	8	0	2	2	3	7	0	2	9	2	13	0	31	0	31
Hour Total	11	21	5	37	0	6	21	13	40	0	12	13	17	42	0	4	33	9	46	0	165	0	165
Grand	30	54	26	110	0	17	70	39	126	0	54	33	24	111	0	12	73	21	106	0	453	0	453
% of Total	6.6	11.9	5.7%			3.8	15.5	8.6%			11.9	7.3	5.3%			2.6	16.1	4.6%				0.0%	100.0%
Apprch %			24.3%					27.8%					24.5%					23.4%					
% of Apprc	27.3	49.1	23.6%			13.5	55.6	31.0%			48.6	29.7	21.6%			11.3	68.9	19.8%					

Peak Hour Analysis By Entire Intersection for the Period: 07:00am to 08:45am on 03/24/05

Direction	Street Name	Start Peak Hour	Peak Hr Factor	Volumes Left	Thru	Rght		Total	Percentages Left	Thru	Rght	
Southbound	DOUGLAS STREET	07:15am	.830	27	46	20	0	93	29.0	49.4	21.5	.0
Westbound	CUMMINS WAY		.819	10	52	32	0	95	10.5	55.7	33.6	.0
Northbound			.769	38	26	14	0	80	47.5	35.0	17.5	.0
Eastbound			.562	9	39	15	0	63	14.2	61.9	23.8	.0


DOUGLAS STREET
0
20
46
27
9
28
32
=====
69
Inbound 93
Outbound 69
Total 162
0
32
38
111
53
20
9
53
Inbound 63
Outbound 111
Total 174
39
15
Inbound 95
Outbound 80
Total 175
10
27
39
80
14
CUMMINS WAY
0
Inbound 80
Outbound 71
Total 151
10
46
15
=====
71
38
28
14
0

RIVERS PROJECT IN W. SACRAMENTO

All Traffic Data
(916) 771-8700
Fax 786-2879

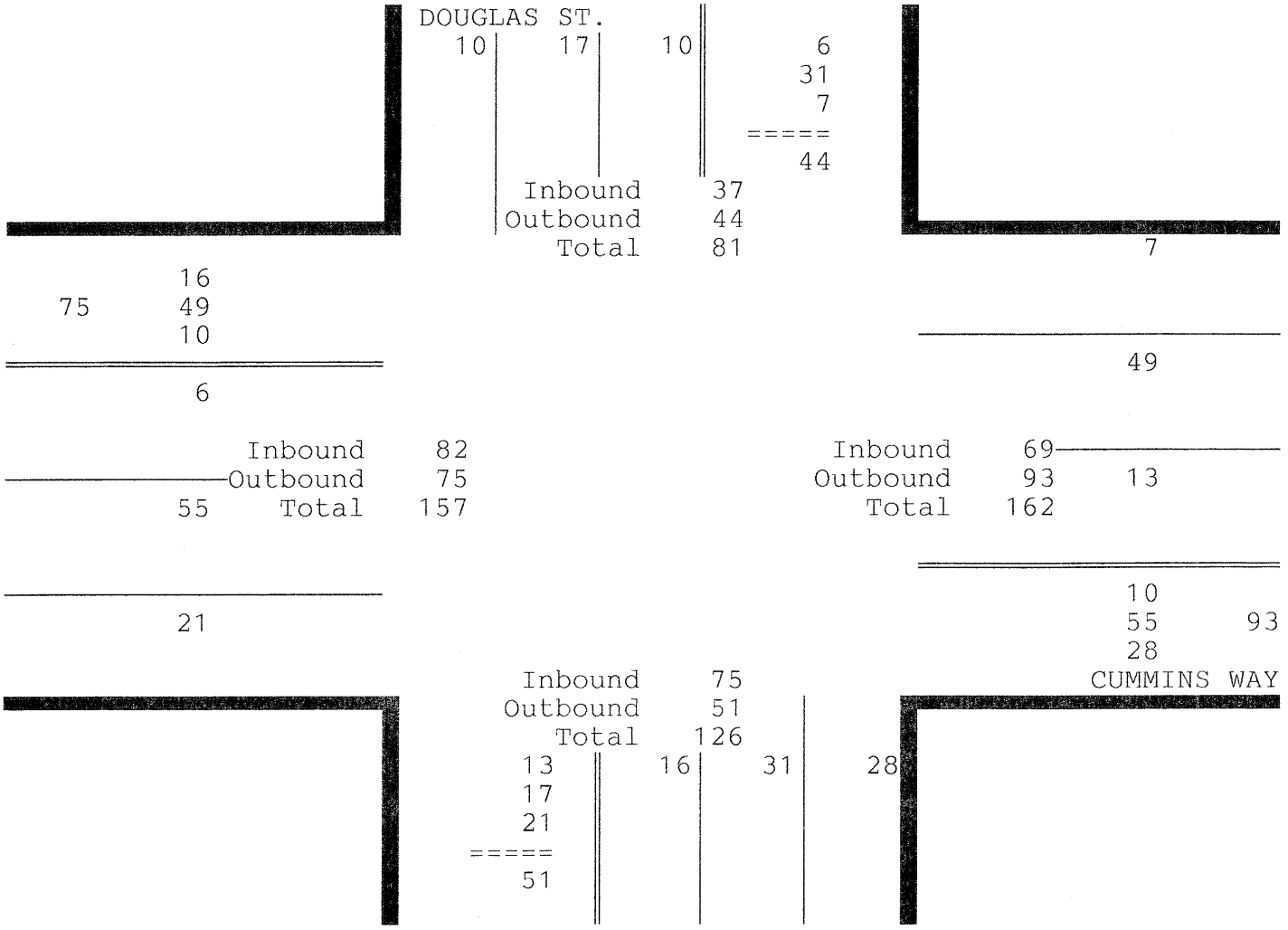
Site Code : 00000000
Start Date: 02/02/05
File I.D. : DOUGCUMF
Page : 1

Start Time	DOUGLAS ST. Southbound Left	Thru	Rght	Totl	CUMMINS WAY Westbound Left	Thru	Rght	Totl	Northbound Left	Thru	Rght	Totl	Eastbound Left	Thru	Rght	Totl	Total
4:00pm	2	6	2	10	2	11	4	17	4	6	6	16	1	11	1	13	56
4:15	3	3	2	8	3	16	0	19	3	3	5	11	2	17	2	21	59
4:30	4	6	2	12	0	10	1	11	7	3	1	11	0	18	9	27	61
4:45	2	7	0	9	3	15	4	22	1	7	9	17	0	7	8	15	63
Hour Total	11	22	6	39	8	52	9	69	15	19	21	55	3	53	20	76	239
5:00pm	4	4	5	13	3	3	1	7	9	7	5	21	3	14	2	19	60
5:15	2	1	5	8	2	15	1	18	1	10	8	19	1	14	3	18	63
5:30	2	5	0	7	5	16	1	22	5	7	6	18	2	20	8	30	77
5:45	0	3	2	5	3	14	1	18	5	5	4	14	0	17	3	20	57
Hour Total	8	13	12	33	13	48	4	65	20	29	23	72	6	65	16	87	257
Grand	19	35	18	72	21	100	13	134	35	48	44	127	9	118	36	163	496
% of Total	3.8%	7.1%	3.6%		4.2%	20.2%	2.6%		7.1%	9.7%	8.9%		1.8%	23.8%	7.3%		
Apprch %				14.5%				27.0%				25.6%				32.9%	
% of Apprch	26.4%	48.6%	25.0%		15.7%	74.6%	9.7%		27.6%	37.8%	34.6%		5.5%	72.4%	22.1%		

Peak Hour Analysis By Entire Intersection for the Period: 04:00pm to 05:45pm on 02/02/05

Direction	Street Name	Start Peak Hour	Peak Hr Factor	Volumes Left	Thru	Rght	Total	Percentages Left	Thru	Rght
Southbound	DOUGLAS ST.	04:45pm	.712	10	17	10	37	27.0	45.9	27.0
Westbound	CUMMINS WAY		.784	13	49	7	69	18.8	71.0	10.1
Northbound			.893	16	31	28	75	21.3	41.3	37.3
Eastbound			.683	6	55	21	82	7.3	67.0	25.6

Peak Hour Factor:
65+60+63+77 = 263
263 / (77x4) = .854
308


DOUGLAS ST.
10
17
10
6
31
7
44
Inbound 37
Outbound 44
Total 81
16
75 49
10
6
7
49
Inbound 82
Outbound 75
Total 157
55
Inbound 69
Outbound 93
Total 162
13
21
10
55 93
28
CUMMINS WAY
Inbound 75
Outbound 51
Total 126
13
17
21
51
16
31
28

All Traffic Data
5098 Foothills Blvd. 3-302
Roseville,CA. 95678
(916)771-8700

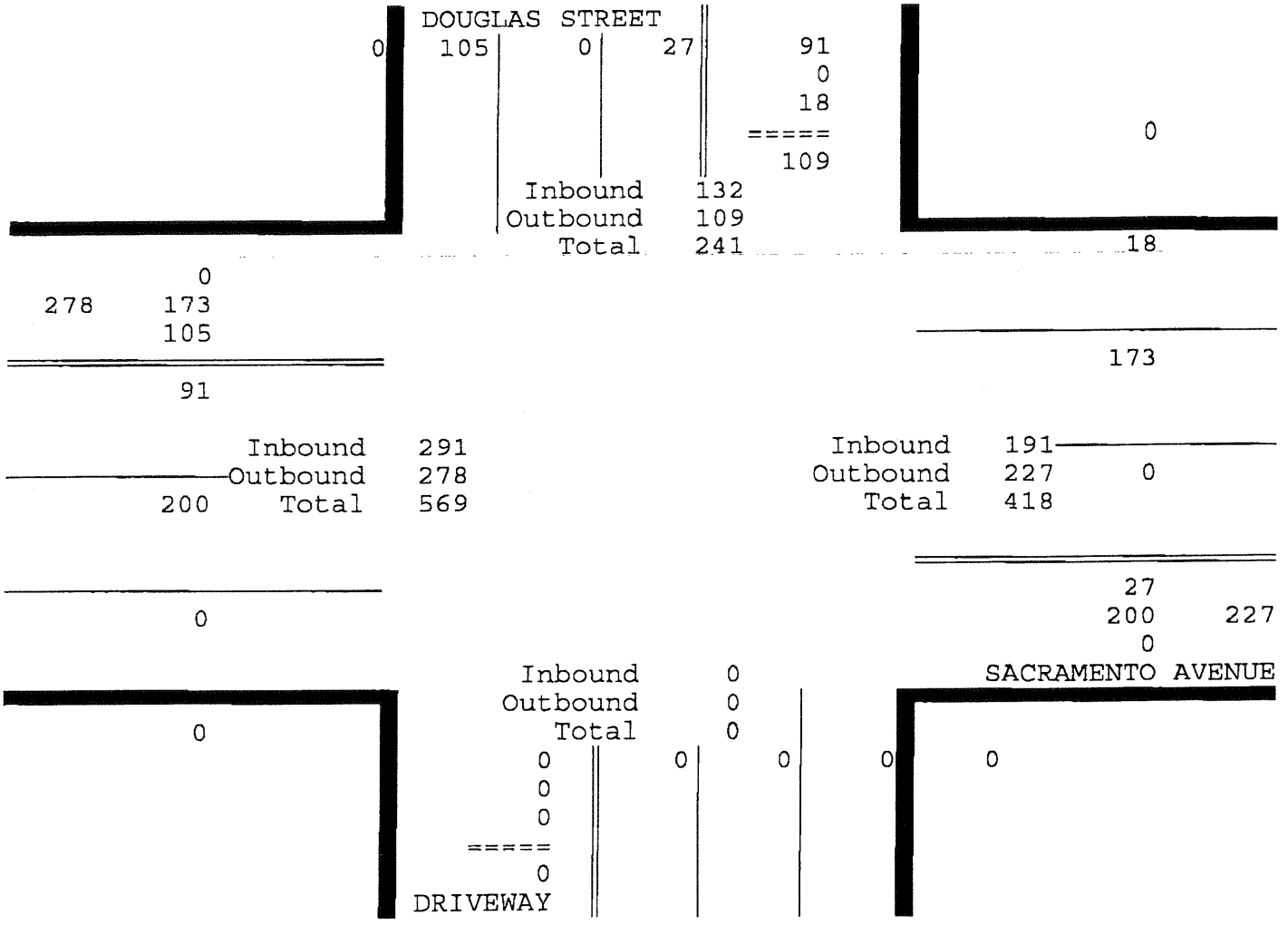
CITY OF SACRAMENTO

Site Code : 00000000
Start Date: 03/24/05
File I.D. : 6WS
Page : 1

	DOUGLAS STREET Southbound					SACRAMENTO AVENUE Westbound					DRIVEWAY Northbound					Eastbound						
Start Time	Left	Thru	Rght	TotlOther		Left	Thru	Rght	TotlOther		Left	Thru	Rght	TotlOther		Left	Thru	Rght	TotlOther		Total-	Other=
7:00am	3	0	9	12	0	0	28	3	31	0	0	0	0	0	0	17	30	0	47	0	90	0	90
7:15	4	0	22	26	0	0	38	9	47	0	0	0	0	0	0	25	39	0	64	0	137	0	137
7:30	6	0	26	32	0	0	49	2	51	0	0	0	0	0	0	26	51	0	77	0	160	0	160
7:45	9	0	29	38	0	0	46	1	47	0	0	0	0	0	0	20	55	0	75	0	160	0	160
Hour Total	22	0	86	108	0	0	161	15	176	0	0	0	0	0	0	88	175	0	263	0	547	0	547
8:00am	8	0	28	36	0	0	40	6	46	0	0	0	0	0	0	20	55	0	75	0	157	0	157
8:15	2	0	19	21	0	0	52	1	53	0	1	0	0	1	0	11	42	0	53	0	128	0	128
8:30	4	0	14	18	0	0	50	4	54	0	0	0	1	1	0	16	44	0	60	0	133	0	133
8:45	8	0	16	26	0	1	31	3	35	0	0	0	0	0	0	17	52	0	69	0	130	0	130
Hour Total	22	0	79	101	0	1	173	14	188	0	1	0	1	2	0	64	193	0	257	0	548	0	548
Grand	44	0	165	209	0	1	334	29	364	0	1	0	1	2	0	152	368	0	520	0	1095	0	1095
% of Total	4.0	0.0	15.1%			.1	30.5	2.6%			.1	0.0	.1%			13.9	33.6	0.0%				0.0%	100.0%
Apprch %			19.1%					33.2%					.2%					47.5%					
% of Apprc	21.1	0.0	78.9%			.3	91.8	8.0%			50.0	0.0	50.0%			29.2	70.8	0.0%					

Peak Hour Analysis By Entire Intersection for the Period: 07:00am to 08:45am on 03/24/05

		Start	Peak Hr	Volumes				Percentages			
Direction	Street Name	Peak Hour	Factor	Left	Thru	Rght	Total	Left	Thru	Rght	
Southbound	DOUGLAS STREET	07:15am	.868	27	0	105	0 132	20.4	.0	79.5	.0
Westbound	SACRAMENTO AVENUE		.936	0	173	18	0 191	.0	90.5	9.4	.0
Northbound	DRIVEWAY		.0	0	0	0	0 0	0.0	0.0	0.0	0.0
Eastbound			.945	91	200	0	0 291	31.2	68.7	.0	.0


DOUGLAS STREET
0
105
0
27
91
0
18
=====
109
Inbound 132
Outbound 109
Total 241
0
18
0
278
173
105
91
173
Inbound 291
Outbound 278
Total 569
200
Inbound 191
Outbound 227
Total 418
0
0
27
200
227
0
SACRAMENTO AVENUE
0
Inbound 0
Outbound 0
Total 0
0
0
0
=====
0
DRIVEWAY
0
0
0
0

RIVERS PROJECT IN W. SACRAMENTO

All Traffic Data
(916) 771-8700
Fax 786-2879

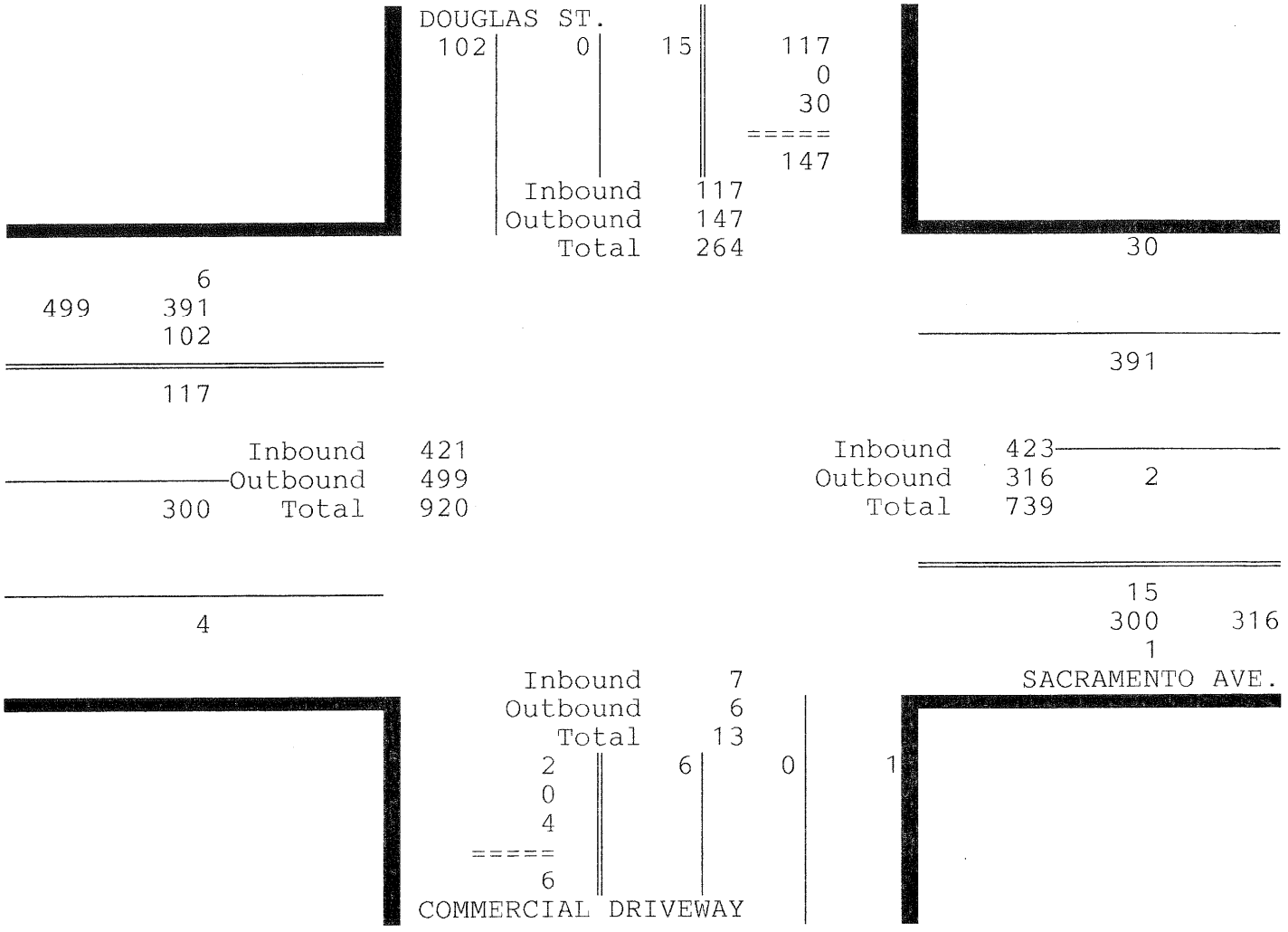
Site Code : 00000000
Start Date: 02/02/05
File I.D. : DOUGSACF
Page : 1

	DOUGLAS ST. Southbound				SACRAMENTO AVE. Westbound				COMMERCIAL DRIVEWAY Northbound				Eastbound				
Start Time	Left	Thru	Rght	Totl	Left	Thru	Rght	Totl	Left	Thru	Rght	Totl	Left	Thru	Rght	Totl	Total
4:00pm	4	0	23	27	0	73	6	79	0	0	0	0	26	77	1	104	210
4:15	10	1	15	26	0	82	7	89	2	0	0	2	23	82	2	107	224
4:30	6	0	24	30	2	70	3	75	2	0	0	2	29	89	1	119	226
4:45	6	1	29	36	0	68	6	74	1	1	0	2	31	63	1	95	207
Hour Total	26	2	91	119	2	293	22	317	5	1	0	6	109	311	5	425	867
5:00pm	0	0	33	33	0	102	10	112	2	0	0	2	23	82	2	107	254
5:15	4	0	21	25	1	112	6	119	3	0	1	4	31	83	0	114	262
5:30	8	0	26	34	0	97	11	108	0	0	0	0	39	63	0	102	244
5:45	3	0	22	25	1	80	3	84	1	0	0	1	24	72	2	98	208
Hour Total	15	0	102	117	2	391	30	423	6	0	1	7	117	300	4	421	968
Grand	41	2	193	236	4	684	52	740	11	1	1	13	226	611	9	846	1835
% of Total	2.2%	.1%	10.5%		.2%	37.3%	2.8%		.6%	.1%	.1%		12.3%	33.3%	.5%		
Apprch %				12.9%				40.3%				.7%				46.1%	
% of Apprch	17.4%	.8%	81.8%		.5%	92.4%	7.0%		84.6%	7.7%	7.7%		26.7%	72.2%	1.1%		

Peak Hour Analysis By Entire Intersection for the Period: 04:00pm to 05:45pm on 02/02/05

Direction	Street Name	Start Peak Hour	Peak Hr Factor	..... Volumes ..... Left	Thru	Rght	Total	..... Percentages ..... Left	Thru	Rght
Southbound	DOUGLAS ST.	05:00pm	.860	15	0	102	117	12.8	.0	87.1
Westbound	SACRAMENTO AVE.		.889	2	391	30	423	.4	92.4	7.0
Northbound	COMMERCIAL DRIVEWAY		.438	6	0	1	7	85.7	.0	14.2
Eastbound			.923	117	300	4	421	27.7	71.2	.9

Peak Hour Factor 738/(260×4) = .923
1048


DOUGLAS ST.
102
0
15
117
0
30
147
Inbound 117
Outbound 147
Total 264
30
6
499
391
102
117
391
Inbound 421
Outbound 499
Total 920
300
Inbound 423
Outbound 316
Total 739
2
4
15
300
316
1
SACRAMENTO AVE.
Inbound 7
Outbound 6
Total 13
2
6
0
1
0
4
6
COMMERCIAL DRIVEWAY

All Traffic Data
5098 Foothills Blvd. 3-302
Roseville,CA. 95678
(916)771-8700

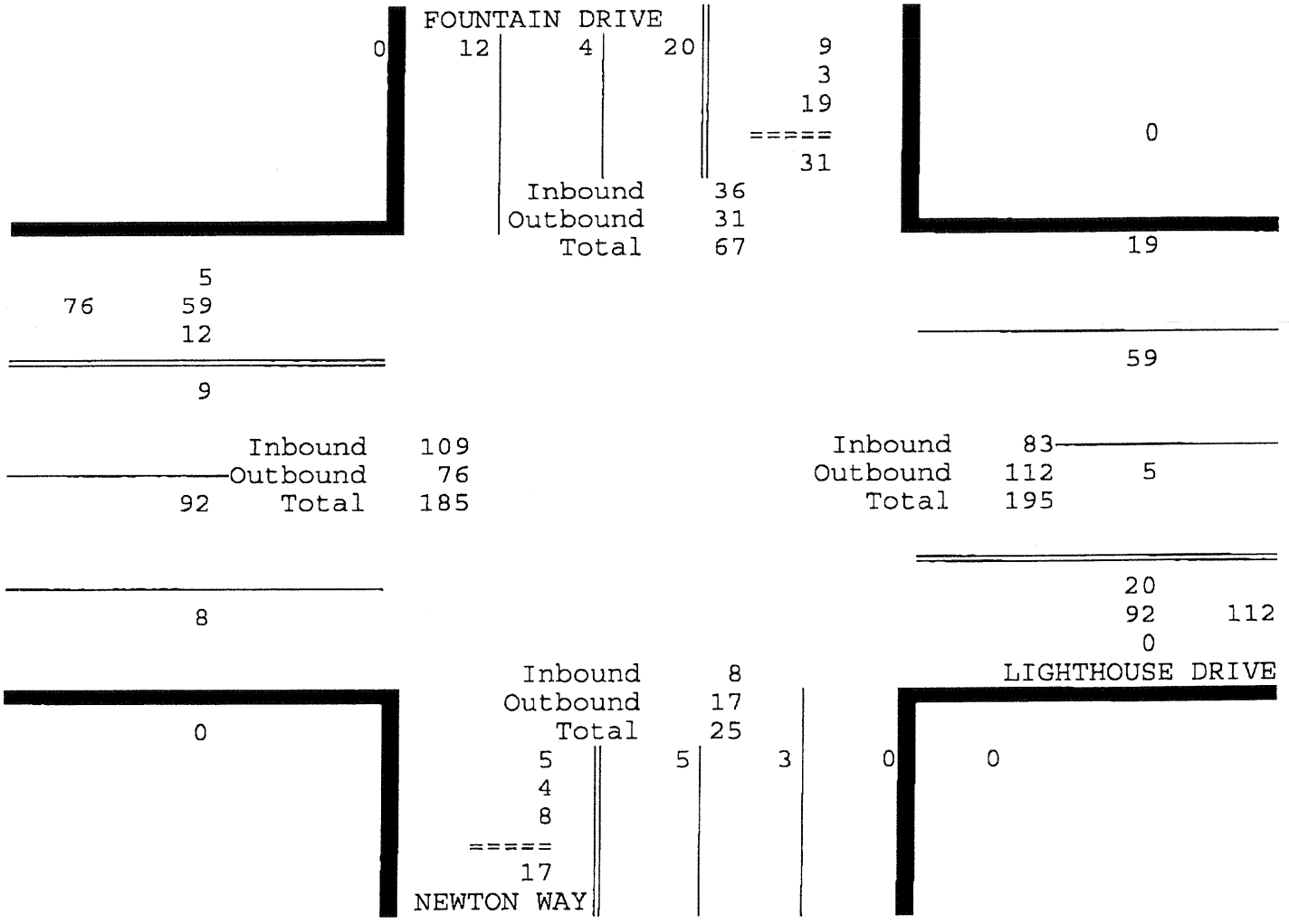
CITY OF SACRAMENTO

Site Code : 00000000
Start Date: 03/24/05
File I.D. : 7WS
Page : 1

	FOUNTAIN DRIVE Southbound					LIGHTHOUSE DRIVE Westbound					NEWTON WAY Northbound					Eastbound						
Start Time	Left	Thru	Rght	Totl	Other	Left	Thru	Rght	Totl	Other	Left	Thru	Rght	Totl	Other	Left	Thru	Rght	Totl	Other	Total-	Other=
7:00am	2	1	0	3	0	2	4	15	21	0	1	2	0	3	0	3	10	2	15	0	42	0	42
7:15	4	2	2	8	0	3	15	7	25	0	2	0	0	2	0	1	21	3	25	0	60	0	60
7:30	13	0	4	17	0	1	22	6	29	0	1	1	0	2	0	3	23	1	27	0	75	0	75
7:45	1	1	3	5	0	0	13	2	15	0	0	1	0	1	0	3	31	2	36	0	57	0	57
Hour Total	20	4	9	33	0	6	54	30	90	0	4	4	0	8	0	10	85	8	103	0	234	0	234
8:00am	2	1	3	6	0	1	9	4	14	0	2	1	0	3	0	2	17	2	21	0	44	0	44
8:15	4	0	2	6	0	0	6	5	11	0	3	1	0	4	0	0	9	1	10	0	31	0	31
8:30	3	1	1	5	0	0	3	2	5	0	0	0	0	0	0	2	6	4	12	0	22	0	22
8:45	2	1	4	7	0	1	6	2	9	0	2	2	0	4	0	4	5	0	9	0	29	0	29
Hour Total	11	3	10	24	0	2	24	13	39	0	7	4	0	11	0	8	37	7	52	0	126	0	126
Grand	31	7	19	57	0	8	78	43	129	0	11	8	0	19	0	18	122	15	155	0	360	0	360
% of Total	8.6	1.9	5.3%			2.2	21.7	11.9%			3.1	2.2	0.0%			5.0	33.9	4.2%				0.0%	100.0%
Apprch %				15.8%					35.8%					5.3%					43.1%				
% of Apprc	54.4	12.3	33.3%			6.2	60.5	33.3%			57.9	42.1	0.0%			12.6	78.7	9.7%					

Peak Hour Analysis By Entire Intersection for the Period: 07:00am to 08:45am on 03/24/05

		Start	Peak Hr	Volumes				Percentages			
Direction	Street Name	Peak Hour	Factor	Left	Thru	Rght		Total	Left	Thru	Rght	
Southbound	FOUNTAIN DRIVE	07:15am	.529	20	4	12	0	36	55.5	11.1	33.3	.0
Westbound	LIGHTHOUSE DRIVE		.716	5	59	19	0	83	6.0	71.0	22.8	.0
Northbound	NEWTON WAY		.667	5	3	0	0	8	62.5	37.5	.0	.0
Eastbound			.757	9	92	8	0	109	8.2	84.4	7.3	.0


FOUNTAIN DRIVE
0
12
4
20
9
3
19
31
Inbound 36
Outbound 31
Total 67
0
19
5
76
59
12
9
59
Inbound 109
Outbound 76
Total 185
92
Inbound 83
Outbound 112
Total 195
5
20
92
112
0
8
Inbound 8
Outbound 17
Total 25
0
5
4
8
17
5
3
0
0
NEWTON WAY
LIGHTHOUSE DRIVE

RIVERS PROJECT IN W. SACRAMENTO

All Traffic Data
(916) 771-8700
Fax 786-2879

Site Code : 00000000
Start Date: 02/02/05
File I.D. : FNTNLGTF
Page : 1

	FOUNTAIN DR. Southbound				LIGHTHOUSE DR. Westbound				Northbound				Eastbound				
Start Time	Left	Thru	Rght	Totl	Left	Thru	Rght	Totl	Left	Thru	Rght	Totl	Left	Thru	Rght	Totl	Total
4:00pm	14	0	2	16	0	19	2	21	0	0	0	0	0	13	0	13	50
4:15	4	0	0	4	0	18	4	22	0	0	0	0	0	16	0	16	42
4:30	3	0	0	3	0	11	2	13	0	0	0	0	1	14	0	15	31
4:45	1	0	2	3	0	14	3	17	0	0	0	0	0	17	0	17	37
Hour Total	22	0	4	26	0	62	11	73	0	0	0	0	1	60	0	61	160
5:00pm	4	0	0	4	0	28	2	30	0	0	0	0	1	12	0	13	47
5:15	3	0	0	3	0	21	4	25	0	0	0	0	2	10	0	12	40
5:30	0	0	0	0	0	24	2	26	0	0	0	0	1	22	0	23	49
5:45	2	0	0	2	0	16	0	16	0	0	0	0	1	9	0	10	28
Hour Total	9	0	0	9	0	89	8	97	0	0	0	0	5	53	0	58	164
Grand	31	0	4	35	0	151	19	170	0	0	0	0	6	113	0	119	324
% of Total	9.6%	0.0%	1.2%		0.0%	46.6%	5.9%		0.0%	0.0%	0.0%		1.9%	34.9%	0.0%		
Apprch %				10.8%				52.5%								36.7%	
% of Apprch	88.6%	0.0%	11.4%		0.0%	88.8%	11.2%		0.0%	0.0%	0.0%		5.0%	95.0%	0.0%		

Peak Hour Analysis By Entire Intersection for the Period: 04:00pm to 05:45pm on 02/02/05

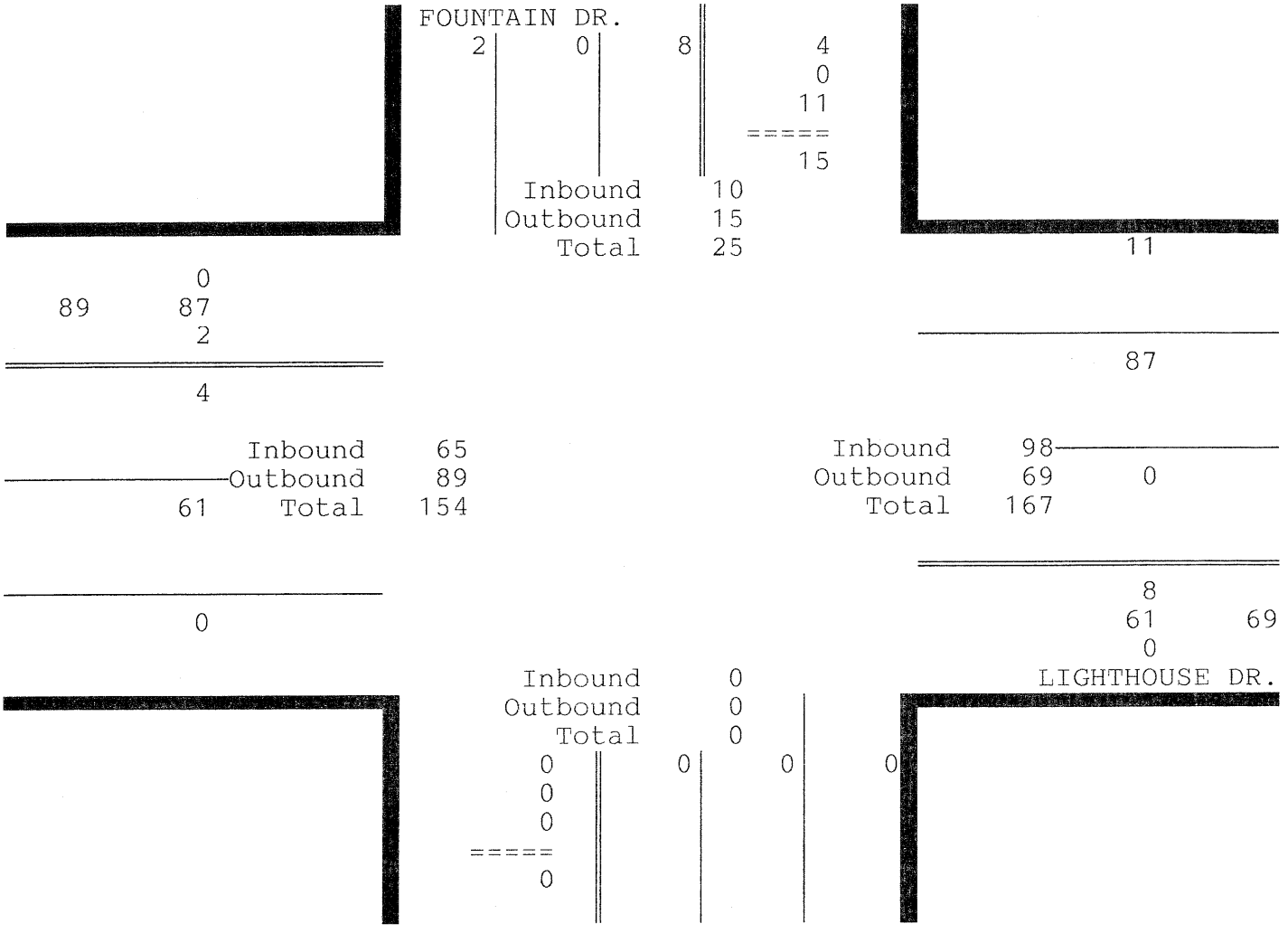
Direction	Street Name	Start Peak Hour	Peak Hr Factor	Volumes Left	Volumes Thru	Volumes Rght	Volumes Total	Percentages Left	Percentages Thru	Percentages Rght
Southbound	FOUNTAIN DR.	04:45pm	.625	8	0	2	10	80.0	.0	20.0
Westbound	LIGHTHOUSE DR.		.817	0	87	11	98	.0	88.7	11.2
Northbound			.0	0	0	0	0	0.0	0.0	0.0
Eastbound			.707	4	61	0	65	6.1	93.8	.0

Peak Factor:

31
47
40
19

173

173 / 4(47) = .883


FOUNTAIN DR.
2
0
8
4
0
11
15
Inbound 10
Outbound 15
Total 25
0
89
87
2
4
11
87
Inbound 65
Outbound 89
Total 154
61
Inbound 98
Outbound 69
Total 167
0
0
8
61
69
0
LIGHTHOUSE DR.
Inbound 0
Outbound 0
Total 0
0
0
0
0
0
0
0
0
0
0

CITY OF SACRAMENTO

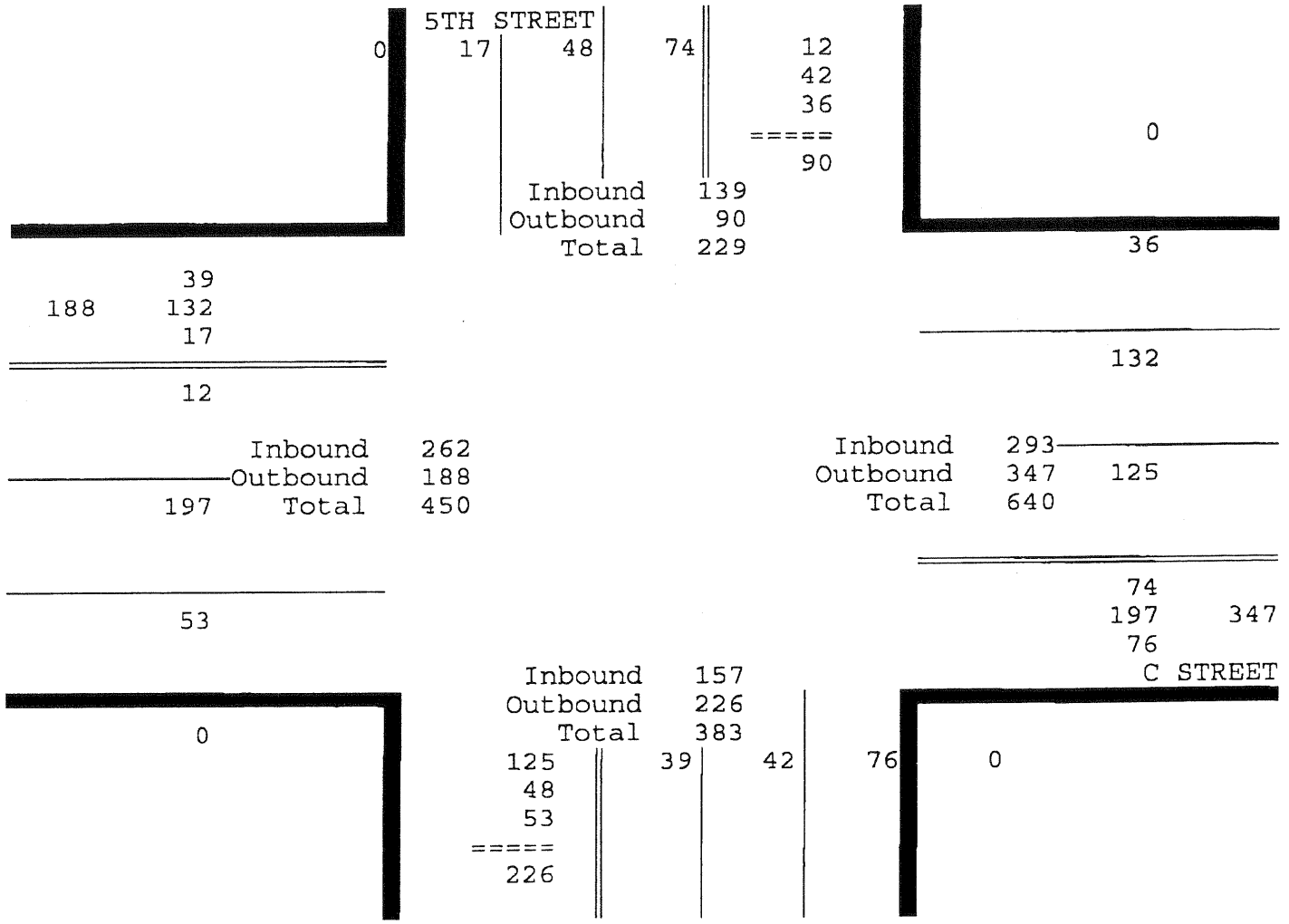
All Traffic Data
5098 Foothills Blvd. 3-302
Roseville,CA. 95678
(916)771-8700

Site Code : 00000000
Start Date: 03/24/05
File I.D. : 8WS
Page : 1

	5TH STREET Southbound					C STREET Westbound					Northbound					Eastbound							
Start Time	Left	Thru	Rght	TotlOther		Left	Thru	Rght	TotlOther		Left	Thru	Rght	TotlOther		Left	Thru	Rght	TotlOther		Total-	Other=	
7:00am	9	4	4	17	0	34	28	9	71	0	6	7	16	29	0	4	28	8	40	0	157	0	157
7:15	17	9	5	31	0	39	32	13	84	0	5	10	15	30	0	3	38	12	53	0	198	0	198
7:30	24	10	7	41	0	33	31	6	70	0	11	12	21	44	0	3	50	13	66	0	221	0	221
7:45	20	22	2	44	0	38	34	10	82	0	13	10	25	48	0	5	56	14	75	0	249	0	249
Hour Total	70	45	18	133	0	144	125	38	307	0	35	39	77	151	0	15	172	47	234	0	825	0	825
8:00am	13	7	3	23	0	15	35	7	57	0	10	10	15	35	0	1	53	14	68	0	183	0	183
8:15	17	7	4	28	0	17	33	3	53	0	6	9	19	34	0	3	41	6	50	0	165	0	165
8:30	11	8	2	21	0	12	43	2	57	0	7	10	20	37	0	0	45	5	50	0	165	0	165
8:45	10	5	4	19	0	14	21	3	38	0	7	11	10	28	0	1	47	8	56	0	141	0	141
Hour Total	51	27	13	91	0	58	132	15	205	0	30	40	64	134	0	5	186	33	224	0	654	0	654
Grand	121	72	31	224	0	202	257	53	512	0	65	79	141	285	0	20	358	80	458	0	1479	0	1479
% of Total	8.2	4.9	2.1%			13.7	17.4	3.6%			4.4	5.3	9.5%			1.4	24.2	5.4%				0.0%	100.0%
Apprch %			15.1%					34.6%					19.3%					31.0%					
% of Apprc	54.0	32.1	13.8%			39.5	50.2	10.4%			22.8	27.7	49.5%			4.4	78.2	17.5%					

Peak Hour Analysis By Entire Intersection for the Period: 07:00am to 08:45am on 03/24/05

		Start	Peak Hr	..... Volumes				..... Percentages			
Direction	Street Name	Peak Hour	Factor	Left	Thru	Rght		Total	Left	Thru	Rght
Southbound	5TH STREET	07:15am	.790	74	48	17	0	139	53.2	34.5	12.2	.0
Westbound	C STREET		.872	125	132	36	0	293	42.6	45.0	12.2	.0
Northbound			.818	39	42	76	0	157	24.8	26.7	48.4	.0
Eastbound			.873	12	197	53	0	262	4.5	75.1	20.2	.0


5TH STREET
0
17
48
74
12
42
36
=====
90
Inbound 139
Outbound 90
Total 229
0
36
39
188
132
17
12
132
Inbound 262
Outbound 188
Total 450
197
Inbound 293
Outbound 347
Total 640
125
74
197
347
76
53
Inbound 157
Outbound 226
Total 383
0
125
48
53
=====
226
39
42
76
0
C STREET

RIVERS PROJECT IN W. SACRAMENTO

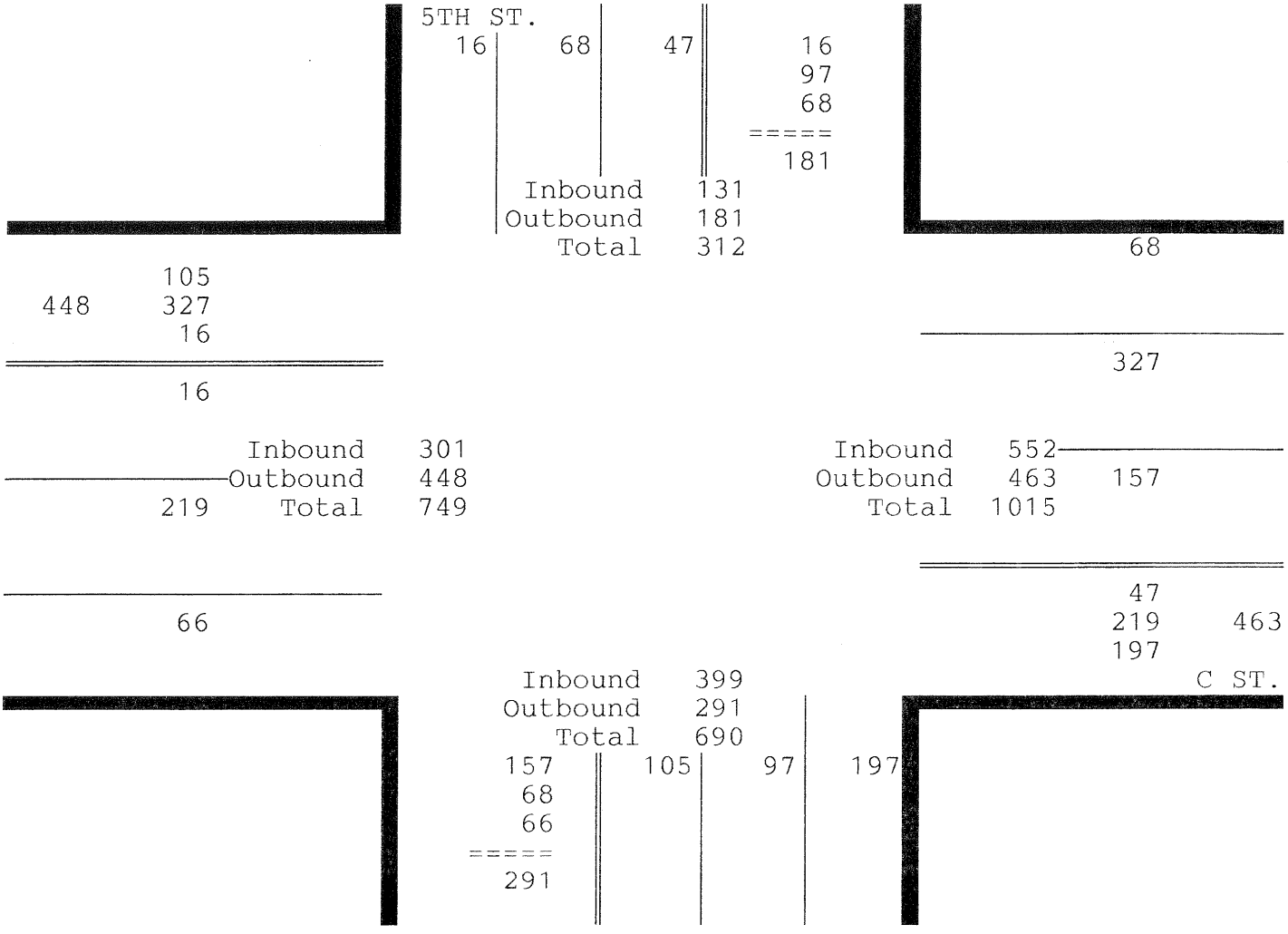
All Traffic Data
(916) 771-8700
Fax 786-2879

Site Code : 00000000
Start Date: 02/02/05
File I.D. : 5TH-CSTF
Page : 1

	5TH ST. Southbound				C ST. Westbound				Northbound				Eastbound				
Start Time	Left	Thru	Rght	Totl	Left	Thru	Rght	Totl	Left	Thru	Rght	Totl	Left	Thru	Rght	Totl	Total
4:00pm	17	17	6	40	22	56	14	92	18	11	34	63	5	55	9	69	264
4:15	19	12	5	36	22	72	21	115	13	7	35	55	2	72	16	90	296
4:30	14	9	2	25	26	60	9	95	13	14	33	60	2	71	12	85	265
4:45	10	23	4	37	27	37	5	69	37	37	36	110	8	42	31	81	297
Hour Total	60	61	17	138	97	225	49	371	81	69	138	288	17	240	68	325	1122
5:00pm	13	16	3	32	58	101	27	186	32	23	72	127	2	58	14	74	419
5:15	11	13	5	29	34	92	19	145	17	18	51	86	2	61	9	72	332
5:30	13	16	4	33	38	97	17	152	19	19	38	76	4	58	12	74	335
5:45	9	13	5	27	23	65	8	96	16	15	27	58	7	51	12	70	251
Hour Total	46	58	17	121	153	355	71	579	84	75	188	347	15	228	47	290	1337
Grand	106	119	34	259	250	580	120	950	165	144	326	635	32	468	115	615	2459
% of Total	4.3%	4.8%	1.4%		10.2%	23.6%	4.9%		6.7%	5.9%	13.3%		1.3%	19.0%	4.7%		
Apprch %				10.5%				38.6%				25.8%				25.0%	
% of Apprch	40.9%	45.9%	13.1%		26.3%	61.1%	12.6%		26.0%	22.7%	51.3%		5.2%	76.1%	18.7%		

Peak Hour Analysis By Entire Intersection for the Period: 04:00pm to 05:45pm on 02/02/05

Direction	Street Name	Start Peak Hour	Peak Hr Factor	..... Volumes ..... Left	Thru	Rght	Total	..... Percentages ..... Left	Thru	Rght
Southbound	5TH ST.	04:45pm	.885	47	68	16	131	35.8	51.9	12.2
Westbound	C ST.		.742	157	327	68	552	28.4	59.2	12.3
Northbound			.785	105	97	197	399	26.3	24.3	49.3
Eastbound			.929	16	219	66	301	5.3	72.7	21.9


5TH ST.
16
68
47
16
97
68
=====
181
Inbound 131
Outbound 181
Total 312
105
448 327
16
16
68
327
Inbound 301
Outbound 448
Total 749
219
Inbound 552
Outbound 463
Total 1015
157
47
219
463
197
66
C ST.
Inbound 399
Outbound 291
Total 690
157
105
97
197
68
66
=====
291

(916) 771-8700

5TH STREET SOUTH OF A STREET

Site Code : 000000000000
Start Date: 02/02/2005
File I.D. : 5THST-3
Page : 1

Direction 1

Begin Time	<------ NB ------> A.M.		P.M.		<------ SB ------> A.M.		P.M.		<------ Combined ------> A.M.		P.M.		Wednesday
12:00 02/02	5		14		0		22		5		36		
12:15	1		25		3		25		4		50		
12:30	1		26		1		20		2		46		
12:45	1	8	20	85	0	4	25	92	1	12	45	177	
01:00	3		28		2		17		5		45		
01:15	2		27		1		28		3		55		
01:30	2		20		1		19		3		39		
01:45	3	10	23	98	5	9	23	87	8	19	46	185	
02:00	1		21		0		19		1		40		
02:15	0		8		1		21		1		29		
02:30	2		24		2		20		4		44		
02:45	2	5	32	85	0	3	33	93	2	8	65	178	
03:00	1		29		2		35		3		64		
03:15	0		20		0		30		0		50		
03:30	2		20		2		33		4		53		
03:45	1	4	30	99	1	5	29	127	2	9	59	226	
04:00	1		31		2		42		3		73		
04:15	2		27		0		41		2		68		
04:30	0		22		1		22		1		44		
04:45	1	4	23	103	2	5	22	127	3	9	45	230	
05:00	1		43		2		27		3		70		
05:15	4		31		2		20		6		51		
05:30	1		36		1		23		2		59		
05:45	0	6	31	141	4	9	24	94	4	15	55	235	
06:00	7		20		7		21		14		41		
06:15	1		17		5		13		6		30		
06:30	12		20		7		12		19		32		
06:45	20	40	22	79	15	34	17	63	35	74	39	142	
07:00	20		14		21		16		41		30		
07:15	28		16		17		12		45		28		
07:30	38		8		13		8		51		16		
07:45	23	109	13	51	36	87	10	46	59	196	23	97	
08:00	21		18		30		6		51		24		
08:15	9		12		19		13		28		25		
08:30	10		14		16		10		26		24		
08:45	16	56	9	53	20	85	7	36	36	141	16	89	
09:00	10		10		8		7		18		17		
09:15	9		10		13		9		22		19		
09:30	17		13		15		6		32		19		
09:45	20	56	8	41	26	62	8	30	46	118	16	71	
10:00	16		12		13		7		29		19		
10:15	8		6		18		6		26		12		
10:30	19		10		6		6		25		16		
10:45	16	59	11	39	16	53	1	20	32	112	12	59	
11:00	12		6		13		1		25		7		
11:15	21		8		19		3		40		11		
11:30	25		4		13		2		38		6		
11:45	23	81	2	20	24	69	5	11	47	150	7	31	
Totals	438		894		425		826		863		1720		
Day Totals		1332				1251				2583			
Split %	50.7%		51.9%		49.2%		48.0%						
Peak Hour	07:15		05:00		07:45		03:30		07:15		03:30		
Volume	110		141		101		145		206		253		
P.H.F.	.72		.81		.70		.86		.87		.86		

KEGLE DRIVE SOUTH OF HOBSON AVENUE

(916) 771-8700

Site Code : 000000000000
Start Date: 02/02/2005
File I.D. : KEGLE-1
Page : 1

Direction 1

Begin Time	<------ NB ------> A.M.		P.M.		<------ SB ------> A.M.		P.M.		<------ Combined ------> A.M.		P.M.		Wednesday
12:00 02/02	9		44		3		55		12		99		
12:15	6		49		6		41		12		90		
12:30	5		56		2		67		7		123		
12:45	1	21	58	207	0	11	48	211	1	32	106	418	
01:00	0		59		3		43		3		102		
01:15	4		55		0		68		4		123		
01:30	3		67		0		52		3		119		
01:45	7	14	59	240	2	5	42	205	9	19	101	445	
02:00	1		49		1		56		2		105		
02:15	1		70		1		66		2		136		
02:30	1		92		3		85		4		177		
02:45	3	6	88	299	4	9	91	298	7	15	179	597	
03:00	3		76		4		95		7		171		
03:15	2		83		3		64		5		147		
03:30	1		101		3		58		4		159		
03:45	0	6	82	342	1	11	97	314	1	17	179	656	
04:00	3		72		1		69		4		141		
04:15	2		71		6		65		8		136		
04:30	2		63		11		57		13		120		
04:45	2	9	69	275	6	24	52	243	8	33	121	518	
05:00	0		74		11		51		11		125		
05:15	1		102		23		59		24		161		
05:30	4		92		18		79		22		171		
05:45	11	16	87	355	19	71	74	263	30	87	161	618	
06:00	15		62		40		56		55		118		
06:15	19		58		41		54		60		112		
06:30	35		64		43		67		78		131		
06:45	49	118	49	233	37	161	60	237	86	279	109	470	
07:00	62		62		46		46		108		108		
07:15	80		58		64		37		144		95		
07:30	97		41		109		28		206		69		
07:45	56	295	27	188	59	278	32	143	115	573	59	331	
08:00	43		51		53		40		96		91		
08:15	27		37		57		30		84		67		
08:30	38		52		53		21		91		73		
08:45	20	128	43	183	40	203	31	122	60	331	74	305	
09:00	31		32		43		22		74		54		
09:15	29		29		49		24		78		53		
09:30	35		28		48		15		83		43		
09:45	48	143	26	115	35	175	14	75	83	318	40	190	
10:00	37		26		38		14		75		40		
10:15	43		21		29		16		72		37		
10:30	32		15		33		7		65		22		
10:45	32	144	12	74	39	139	6	43	71	283	18	117	
11:00	56		7		59		10		115		17		
11:15	48		16		48		7		96		23		
11:30	51		13		52		5		103		18		
11:45	44	199	7	43	45	204	7	29	89	403	14	72	
Totals	1099		2554		1291		2183		2390		4737		
Day Totals		3653				3474				7127			
Split %	45.9%		53.9%		54.0%		46.0%						

Peak Hour	07:00	05:00	07:15	02:15	07:00	02:30
Volume	295	355	285	337	573	674
P.H.F.	.76	.87	.65	.88	.69	.94

DOUGLAS STREET SOUTH OF ANDREW STREET

(916) 771-8700

Site Code : 000000000000
Start Date: 02/02/2005
File I.D. : DOUG-2
Page : 1

Direction 1

Begin Time	NB A.M.		NB P.M.		SB A.M.		SB P.M.		Combined A.M.		Combined P.M.		Wednesday
12:00 02/02	1		12		2		20		3		32		
12:15	3		18		0		7		3		25		
12:30	3		15		0		12		3		27		
12:45	2	9	11	56	3	5	14	53	5	14	25	109	
01:00	1		26		0		18		1		44		
01:15	3		22		0		18		3		40		
01:30	1		33		1		16		2		49		
01:45	0	5	20	101	1	2	23	75	1	7	43	176	
02:00	0		13		0		23		0		36		
02:15	1		27		0		10		1		37		
02:30	1		17		3		18		4		35		
02:45	1	3	27	84	1	4	23	74	2	7	50	158	
03:00	2		19		1		22		3		41		
03:15	1		13		1		21		2		34		
03:30	1		22		4		25		5		47		
03:45	2	6	26	80	0	6	25	93	2	12	51	173	
04:00	0		27		0		20		0		47		
04:15	0		23		1		15		1		38		
04:30	0		23		2		20		2		43		
04:45	0	*	28	101	2	5	24	79	2	5	52	180	
05:00	1		25		6		20		7		45		
05:15	0		19		0		18		0		37		
05:30	1		38		4		15		5		53		
05:45	3	5	14	96	3	13	23	76	6	18	37	172	
06:00	0		20		6		24		6		44		
06:15	5		22		9		17		14		39		
06:30	2		19		8		20		10		39		
06:45	10	17	22	83	10	33	11	72	20	50	33	155	
07:00	9		12		7		13		16		25		
07:15	18		21		10		16		28		37		
07:30	26		15		13		14		39		29		
07:45	33	86	13	61	22	52	11	54	55	138	24	115	
08:00	26		16		26		8		52		24		
08:15	16		11		20		6		36		17		
08:30	8		13		17		12		25		25		
08:45	18	68	14	54	14	77	7	33	32	145	21	87	
09:00	11		12		13		8		24		20		
09:15	16		11		13		3		29		14		
09:30	11		15		15		8		26		23		
09:45	11	49	11	49	18	59	8	27	29	108	19	76	
10:00	12		9		12		6		24		15		
10:15	13		6		12		4		25		10		
10:30	18		5		10		9		28		14		
10:45	13	56	5	25	6	40	8	27	19	96	13	52	
11:00	14		3		14		2		28		5		
11:15	10		5		11		6		21		11		
11:30	17		7		22		3		39		10		
11:45	10	51	0	15	22	69	3	14	32	120	3	29	
Totals	355		805		365		677		720		1482		
Day Totals		1160				1042				2202			
Split %	49.3%		54.3%		50.6%		45.6%						
Peak Hour	07:15		04:45		07:45		03:00		07:30		04:45		
Volume	103		110		85		93		182		187		
P.H.F.	.78		.72		.81		.93		.82		.88		

APPENDIX B

EXISTING CONDITIONS
LOS CALCULATION WORKSHEETS

The Rivers Phase II
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Lighthouse Dr / Kegle Dr

Average Delay (sec/veh): 3.1 Worst Case Level Of Service: B[12.0]

Street Name:	Kegle Dr						Lighthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	7	207	85	77	159	1	2	9	16	22	4	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	7	207	85	77	159	1	2	9	16	22	4	59
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	7	207	85	77	159	1	2	9	16	22	4	59
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	7	207	85	77	159	1	2	9	16	22	4	59
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	160	xxxx	xxxxx	292	xxxx	xxxxx	609	620	160	590	578	250
Potent Cap.:	1432	xxxx	xxxxx	1281	xxxx	xxxxx	410	407	891	423	430	794
Move Cap.:	1432	xxxx	xxxxx	1281	xxxx	xxxxx	358	379	891	387	401	794
Volume/Cap:	0.00	xxxx	xxxx	0.06	xxxx	xxxx	0.01	0.02	0.02	0.06	0.01	0.07
Level Of Service Module:												
Queue:	0.0	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	7.5	xxxx	xxxxx	8.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	571	xxxxx	xxxx	602	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	0.5	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	11.6	xxxxx	xxxxx	12.0	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			11.6			12.0		
ApproachLOS:	*			*			B			B		

The Rivers Phase II
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #2 Cummins Way / Kegle Dr

Cycle (sec):	100	Critical Vol./Cap. (X):	0.372
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	9.6
Optimal Cycle:	0	Level Of Service:	A

Street Name:	Kegle Dr						Cummins Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1! 0	0	0	1 0	0 0	0	0 0	1 0	0	0	1! 0 0
Volume Module:												
Base Vol:	6	265	24	34	230	0	0	6	7	42	11	52
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	265	24	34	230	0	0	6	7	42	11	52
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	265	24	34	230	0	0	6	7	42	11	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	265	24	34	230	0	0	6	7	42	11	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	6	265	24	34	230	0	0	6	7	42	11	52
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.02	0.90	0.08	0.13	0.87	0.00	0.00	0.46	0.54	0.40	0.10	0.50
Final Sat.:	16	713	65	100	675	0	0	300	349	269	71	334
Capacity Analysis Module:												
Vol/Sat:	0.37	0.37	0.37	0.34	0.34	xxxx	xxxx	0.02	0.02	0.16	0.16	0.16
Crit Moves:	****				****			****			****	
Delay/Veh:	9.9	9.9	9.9	9.8	9.8	0.0	0.0	8.0	8.0	8.7	8.7	8.7
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.9	9.9	9.9	9.8	9.8	0.0	0.0	8.0	8.0	8.7	8.7	8.7
LOS by Move:	A	A	A	A	A	*	*	A	A	A	A	A
ApproachDel:		9.9			9.8			8.0			8.7	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		9.9			9.8			8.0			8.7	
LOS by Appr:		A			A			A			A	

The Rivers Phase II
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #3 Sacramento Ave / Kegle Dr & Jefferson Blvd

Cycle (sec):	100	Critical Vol./Cap. (X):	0.655
Loss Time (sec):	16 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	82	Level Of Service:	B

Street Name:	Kegld Dr & Jefferson Blvd						Sacramento Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	1	1 0	0 1	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	232	405	179	28	430	75	70	144	480	174	129	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	232	405	179	28	430	75	70	144	480	174	129	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	232	405	179	28	430	75	70	144	0	174	129	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	232	405	179	28	430	75	70	144	0	174	129	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Final Vol.:	232	405	179	28	430	75	70	144	0	174	129	9
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Lanes:	1.00	1.00	1.00	1.00	0.85	0.15	1.00	2.00	1.00	1.00	1.87	0.13
Final Sat.:	1500	1500	1500	1500	1277	223	1500	3000	1500	1500	2804	196
Capacity Analysis Module:												
Vol/Sat:	0.15	0.27	0.12	0.02	0.34	0.34	0.05	0.05	0.00	0.12	0.05	0.05
Crit Vol:	232					505		72		174		
Crit Moves:	****					****		****		****		

The Rivers Phase II
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #4 Lighthouse Dr / Douglas St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.178
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	8.1
Optimal Cycle:	0	Level Of Service:	A

Street Name:	Douglas St						Lighthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	0	0 1	0	0 1!	0	0	1 0	0 1	0	1 0	0 1 0
Volume Module:												
Base Vol:	30	4	7	10	6	19	15	92	48	14	53	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	30	4	7	10	6	19	15	92	48	14	53	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	30	4	7	10	6	19	15	92	48	14	53	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	4	7	10	6	19	15	92	48	14	53	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	30	4	7	10	6	19	15	92	48	14	53	9
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.88	0.12	1.00	0.29	0.17	0.54	1.00	0.66	0.34	1.00	0.85	0.15
Final Sat.:	556	74	787	205	123	389	676	517	270	668	643	109
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.01	0.05	0.05	0.05	0.02	0.18	0.18	0.02	0.08	0.08
Crit Moves:	****			****				****				****
Delay/Veh:	8.5	8.5	7.1	8.1	8.1	8.1	8.1	8.2	8.2	8.1	7.8	7.8
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.5	8.5	7.1	8.1	8.1	8.1	8.1	8.2	8.2	8.1	7.8	7.8
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:	8.3			8.1			8.2			7.9		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	8.3			8.1			8.2			7.9		
LOS by Appr:	A			A			A			A		

The Rivers Phase II
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #5 Cummins Way / Douglas St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.114
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	7.7
Optimal Cycle:	0	Level Of Service:	A

Street Name:	Douglas St						Cummins Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	38	28	14	27	46	20	9	39	15	10	53	32
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	38	28	14	27	46	20	9	39	15	10	53	32
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	38	28	14	27	46	20	9	39	15	10	53	32
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	38	28	14	27	46	20	9	39	15	10	53	32
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	38	28	14	27	46	20	9	39	15	10	53	32
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.47	0.35	0.18	0.29	0.49	0.22	0.14	0.62	0.24	0.10	0.56	0.34
Final Sat.:	382	281	141	238	405	176	116	503	194	88	466	281
Capacity Analysis Module:												
Vol/Sat:	0.10	0.10	0.10	0.11	0.11	0.11	0.08	0.08	0.08	0.11	0.11	0.11
Crit Moves:	****				****			****			****	
Delay/Veh:	7.8	7.8	7.8	7.8	7.8	7.8	7.6	7.6	7.6	7.7	7.7	7.7
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.8	7.8	7.8	7.8	7.8	7.8	7.6	7.6	7.6	7.7	7.7	7.7
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:	7.8			7.8			7.6			7.7		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	7.8			7.8			7.6			7.7		
LOS by Appr:	A			A			A			A		

The Rivers Phase II
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

****

Intersection #6 Sacramento Ave / Douglas St

****

Average Delay (sec/veh): 3.7 Worst Case Level Of Service: B[11.6]

****

Street Name:	Douglas St						Sacramento Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 1 0 0 0			0 0 0 1 0		
Volume Module:												
Base Vol:	0	0	0	27	0	105	91	200	0	0	173	18
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	27	0	105	91	200	0	0	173	18
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	27	0	105	91	200	0	0	173	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	27	0	105	91	200	0	0	173	18
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	614	xxxx	190	154	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	421	xxxx	820	1376	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	398	xxxx	820	1376	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.07	xxxx	0.13	0.07	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	0	xxxxx	xxxx	674	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	0.7	xxxxx	0.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	11.6	xxxxx	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	B	*	A	*	*	*	*	*
ApproachDel:	xxxxxx			11.6			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

The Rivers Phase II
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #7 Lighthouse Dr / Fountain Dr

Cycle (sec):	100	Critical Vol./Cap. (X):	0.103
Loss Time (sec):	8 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	19	Level Of Service:	A

Street Name:	Fountain Dr						LIghthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	0	0 0	1	0 0 1	0	1	0 1	1 0	0	1 0	0 1
Volume Module:												
Base Vol:	5	3	0	20	4	12	9	92	8	5	59	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	5	3	0	20	4	12	9	92	8	5	59	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	5	3	0	20	4	12	9	92	8	5	59	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	3	0	20	4	12	9	92	8	5	59	19
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	5	3	0	20	4	12	9	92	8	5	59	19
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.62	0.38	0.00	1.00	0.25	0.75	1.00	1.84	0.16	0.08	0.92	1.00
Final Sat.:	859	516	0	1375	344	1031	1375	2530	220	107	1268	1375
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.04	0.04	0.05	0.05	0.01
Crit Vol:		8			20			50			64	
Crit Moves:	****			****			****			****		

The Rivers Phase II
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #8 C St / 5th St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.267
Loss Time (sec):	16 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	39	Level Of Service:	A

Street Name:	5th St						C St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	39	42	76	74	48	17	12	197	53	125	132	36
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	39	42	76	74	48	17	12	197	53	125	132	36
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	39	42	76	74	48	17	12	197	53	125	132	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	39	42	76	74	48	17	12	197	53	125	132	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	39	42	76	74	48	17	12	197	53	125	132	36
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Lanes:	1.00	1.00	1.00	1.00	1.48	0.52	1.00	1.58	0.42	1.00	2.00	1.00
Final Sat.:	1500	1500	1500	1500	2215	785	1500	2364	636	1500	3000	1500
Capacity Analysis Module:												
Vol/Sat:	0.03	0.03	0.05	0.05	0.02	0.02	0.01	0.08	0.08	0.08	0.04	0.02
Crit Vol:			76	74					125	125		
Crit Moves:			****	****					****	****		

The Rivers Phase II
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Lighthouse Dr / Kegle Dr

Average Delay (sec/veh): 4.0 Worst Case Level Of Service: B[10.3]

Street Name:	Kegle Dr						Lighthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	12	81	20	29	84	2	1	3	7	42	9	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	12	81	20	29	84	2	1	3	7	42	9	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	12	81	20	29	84	2	1	3	7	42	9	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	12	81	20	29	84	2	1	3	7	42	9	38
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	86	xxxx	xxxxx	101	xxxx	xxxxx	282	268	85	263	259	91
Potent Cap.:	1523	xxxx	xxxxx	1504	xxxx	xxxxx	675	641	980	694	649	972
Move Cap.:	1523	xxxx	xxxxx	1504	xxxx	xxxxx	628	624	980	672	631	972
Volume/Cap:	0.01	xxxx	xxxx	0.02	xxxx	xxxx	0.00	0.00	0.01	0.06	0.01	0.04
Level Of Service Module:												
Queue:	0.0	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	7.4	xxxx	xxxxx	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	812	xxxxx	xxxx	768	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.0	xxxxx	xxxxx	0.4	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	9.5	xxxxx	xxxxx	10.3	xxxxx
Shared LOS:	*	*	*	*	*	*	A	*	*	B	*	
ApproachDel:	xxxxxx			xxxxxx			9.5			10.3		
ApproachLOS:	*			*			A			B		

The Rivers Phase II
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #2 Cummins Way / Kegle Dr

Cycle (sec):	100	Critical Vol./Cap. (X):	0.326
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	9.0
Optimal Cycle:	0	Level Of Service:	A

Street Name:	Kegle Dr						Cummins Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	21	199	47	41	141	1	2	5	8	53	13	37
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	21	199	47	41	141	1	2	5	8	53	13	37
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	21	199	47	41	141	1	2	5	8	53	13	37
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	21	199	47	41	141	1	2	5	8	53	13	37
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	21	199	47	41	141	1	2	5	8	53	13	37
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.08	0.74	0.18	0.22	0.77	0.01	0.13	0.33	0.54	0.51	0.13	0.36
Final Sat.:	64	611	144	174	599	4	93	231	370	361	88	252
Capacity Analysis Module:												
Vol/Sat:	0.33	0.33	0.33	0.24	0.24	0.24	0.02	0.02	0.02	0.15	0.15	0.15
Crit Moves:	****				****			****			****	
Delay/Veh:	9.3	9.3	9.3	8.8	8.8	8.8	7.8	7.8	7.8	8.5	8.5	8.5
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.3	9.3	9.3	8.8	8.8	8.8	7.8	7.8	7.8	8.5	8.5	8.5
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:	9.3			8.8			7.8			8.5		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	9.3			8.8			7.8			8.5		
LOS by Appr:	A			A			A			A		

The Rivers Phase II
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #3 Sacramento Ave / Kegle Dr & Jefferson Blvd

Cycle (sec):	100	Critical Vol./Cap. (X):	0.712
Loss Time (sec):	16 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	98	Level Of Service:	C

Street Name:	Kegld Dr & Jefferson Blvd						Sacramento Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	1	1 0	0 1	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	412	392	236	14	261	90	110	195	314	207	272	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	412	392	236	14	261	90	110	195	314	207	272	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	412	392	236	14	261	90	110	195	0	207	272	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	412	392	236	14	261	90	110	195	0	207	272	30
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Final Vol.:	412	392	236	14	261	90	110	195	0	207	272	30
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Lanes:	1.00	1.00	1.00	1.00	0.74	0.26	1.00	2.00	1.00	1.00	1.80	0.20
Final Sat.:	1500	1500	1500	1500	1115	385	1500	3000	1500	1500	2702	298
Capacity Analysis Module:												
Vol/Sat:	0.27	0.26	0.16	0.01	0.23	0.23	0.07	0.07	0.00	0.14	0.10	0.10
Crit Vol:	412				351			98		207		
Crit Moves:	****				****			****		****		

The Rivers Phase II
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #4 Lighthouse Dr / Douglas St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.092
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	7.7
Optimal Cycle:	0	Level Of Service:	A

Street Name:	Douglas St						Lighthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	0	0 1	0	0 1!	0	0	1 0	0 1	0	1 0	0 1 0
Volume Module:												
Base Vol:	11	9	13	8	5	2	4	44	10	10	62	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	9	13	8	5	2	4	44	10	10	62	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	11	9	13	8	5	2	4	44	10	10	62	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	9	13	8	5	2	4	44	10	10	62	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	11	9	13	8	5	2	4	44	10	10	62	10
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.55	0.45	1.00	0.54	0.33	0.13	1.00	0.81	0.19	1.00	0.86	0.14
Final Sat.:	378	309	844	382	239	96	689	639	145	692	673	109
Capacity Analysis Module:												
Vol/Sat:	0.03	0.03	0.02	0.02	0.02	0.02	0.01	0.07	0.07	0.01	0.09	0.09
Crit Moves:		****		****					****		****	
Delay/Veh:	8.0	8.0	6.9	8.0	8.0	8.0	7.9	7.6	7.6	7.9	7.7	7.7
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.0	8.0	6.9	8.0	8.0	8.0	7.9	7.6	7.6	7.9	7.7	7.7
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		7.5			8.0			7.6			7.7	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		7.5			8.0			7.6			7.7	
LOS by Appr:		A			A			A			A	

The Rivers Phase II
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #5 Cummins Way / Douglas St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.095
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	7.5
Optimal Cycle:	0	Level Of Service:	A

Street Name:	Douglas St						Cummins Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	16	31	28	10	17	10	6	55	21	13	49	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	16	31	28	10	17	10	6	55	21	13	49	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	16	31	28	10	17	10	6	55	21	13	49	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	31	28	10	17	10	6	55	21	13	49	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	16	31	28	10	17	10	6	55	21	13	49	7
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.21	0.42	0.37	0.27	0.46	0.27	0.07	0.67	0.26	0.19	0.71	0.10
Final Sat.:	182	353	319	225	382	225	63	579	221	158	594	85
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.09	0.04	0.04	0.04	0.10	0.10	0.10	0.08	0.08	0.08
Crit Moves:		****			****			****			****	
Delay/Veh:	7.4	7.4	7.4	7.4	7.4	7.4	7.5	7.5	7.5	7.6	7.6	7.6
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.4	7.4	7.4	7.4	7.4	7.4	7.5	7.5	7.5	7.6	7.6	7.6
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		7.4			7.4			7.5			7.6	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		7.4			7.4			7.5			7.6	
LOS by Appr:		A			A			A			A	

The Rivers Phase II
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

****

Intersection #6 Sacramento Ave / Douglas St

****

Average Delay (sec/veh): 3.5 Worst Case Level Of Service: E[36.4]

****

Street Name:	Douglas St						Sacramento Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	6	0	1	15	0	102	117	300	4	2	391	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	0	1	15	0	102	117	300	4	2	391	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	0	1	15	0	102	117	300	4	2	391	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	6	0	1	15	0	102	117	300	4	2	391	30
Critical Gap Module:												
Critical Gp:	7.1	xxxx	6.2	7.1	xxxx	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	3.3	3.5	xxxx	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1172	xxxx	323	1113	xxxx	460	345	xxxx	xxxxx	256	xxxx	xxxxx
Potent Cap.:	145	xxxx	676	160	xxxx	535	1083	xxxx	xxxxx	1235	xxxx	xxxxx
Move Cap.:	107	xxxx	676	145	xxxx	535	1083	xxxx	xxxxx	1235	xxxx	xxxxx
Volume/Cap:	0.06	xxxx	0.00	0.10	xxxx	0.19	0.11	xxxx	xxxx	0.00	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.4	xxxx	xxxxx	0.0	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.7	xxxx	xxxxx	7.9	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	122	xxxxx	xxxx	398	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.2	xxxxx	xxxxx	1.2	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	36.4	xxxxx	xxxxx	17.8	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	E	*	*	C	*	*	*	*	*	*	*
ApproachDel:		36.4			17.8			xxxxxx			xxxxxx	
ApproachLOS:		E			C			*			*	

The Rivers Phase II
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #7 Lighthouse Dr / Fountain Dr

Cycle (sec): 100 Critical Vol./Cap. (X): 0.088
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 19 Level Of Service: A

Street Name:	Fountain Dr						LIghthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1! 0	0	1 0	0 1	0	1 0	1 1	0	0 1	0 0	1
Volume Module:												
Base Vol:	0	0	0	8	0	2	4	61	0	0	87	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	8	0	2	4	61	0	0	87	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	8	0	2	4	61	0	0	87	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	8	0	2	4	61	0	0	87	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	0	0	8	0	2	4	61	0	0	87	11
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.00	0.00	1.00	0.00	1.00	1.00	2.00	0.00	0.00	1.00	1.00
Final Sat.:	0	1425	0	1425	0	1425	1425	2850	0	0	1425	1425
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.06	0.01
Crit Vol:		0			8			31			87	
Crit Moves:				****			****			****		

The Rivers Phase II
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #8 C St / 5th St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.362
Loss Time (sec):	16 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	A

Street Name:	5th St						C St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	105	97	197	47	68	16	16	219	66	157	327	68
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	105	97	197	47	68	16	16	219	66	157	327	68
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	105	97	197	47	68	16	16	219	66	157	327	68
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	105	97	197	47	68	16	16	219	66	157	327	68
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	105	97	197	47	68	16	16	219	66	157	327	68
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Lanes:	1.00	1.00	1.00	1.00	1.62	0.38	1.00	1.54	0.46	1.00	2.00	1.00
Final Sat.:	1500	1500	1500	1500	2429	571	1500	2305	695	1500	3000	1500
Capacity Analysis Module:												
Vol/Sat:	0.07	0.06	0.13	0.03	0.03	0.03	0.01	0.10	0.10	0.10	0.11	0.05
Crit Vol:			197	47					143	157		
Crit Moves:			****	****					****	****		

APPENDIX C

TRAFFIC SIGNAL WARRANT CALCULATION WORKSHEETS

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

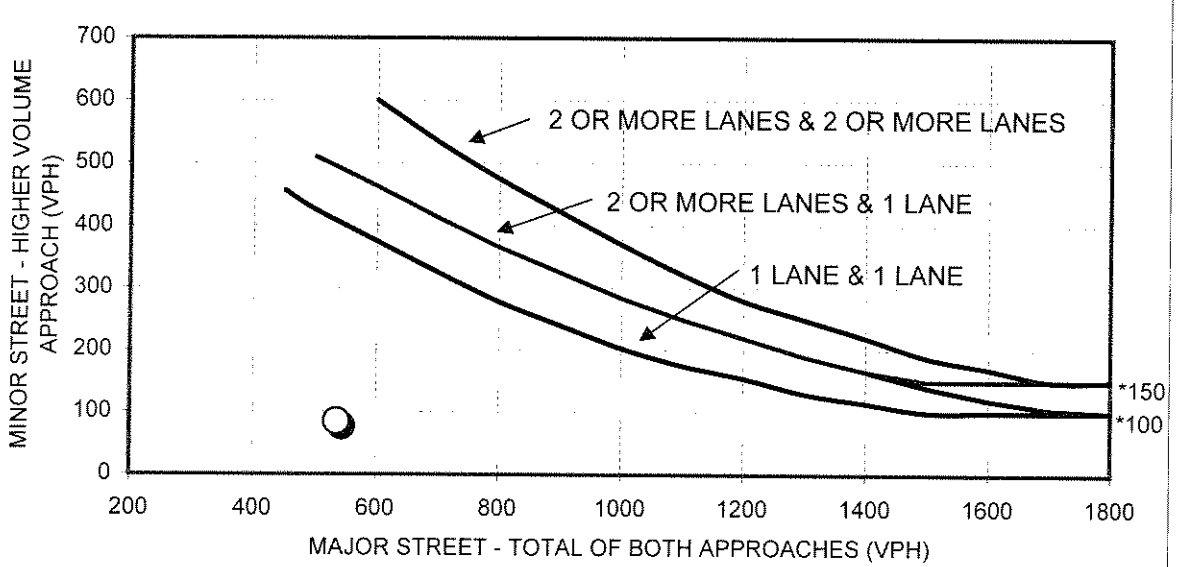
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
7:00 AM	536	85

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

O Peak Hour

Warrant	Not Met

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

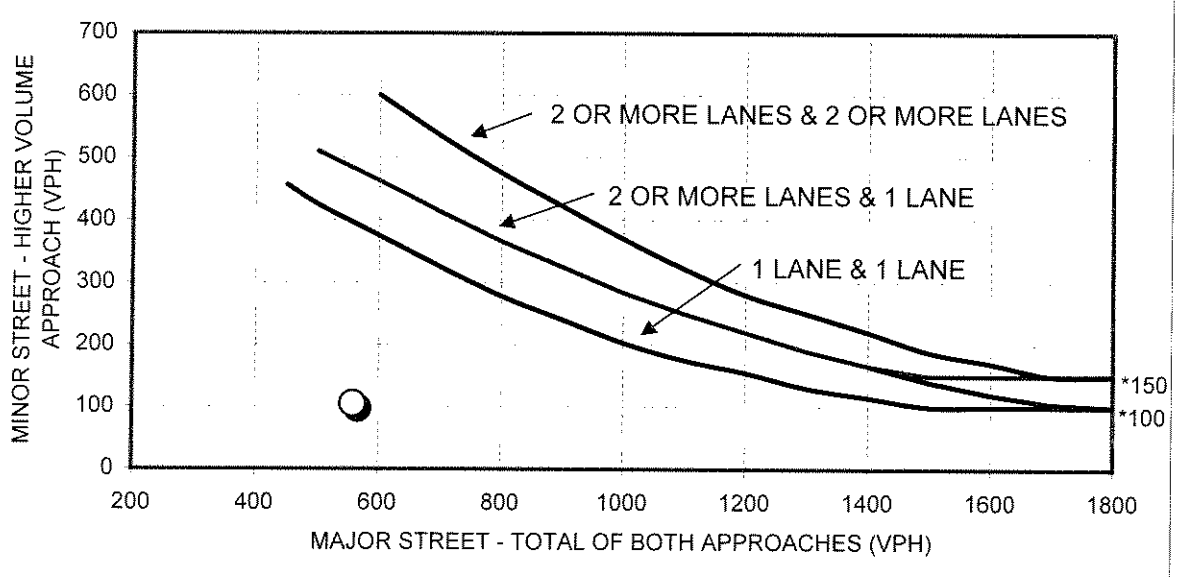
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
7:00 AM	559	105

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

O Peak Hour

Warrant	Not Met

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

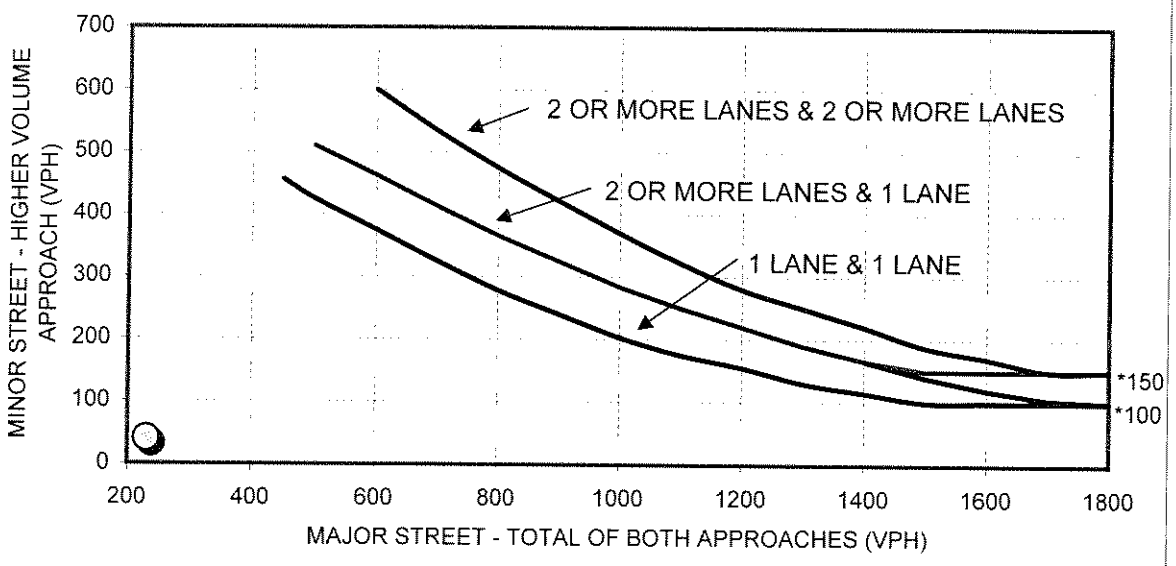
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
7:00 AM	231	41

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

O Peak Hour

Warrant	Not Met

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

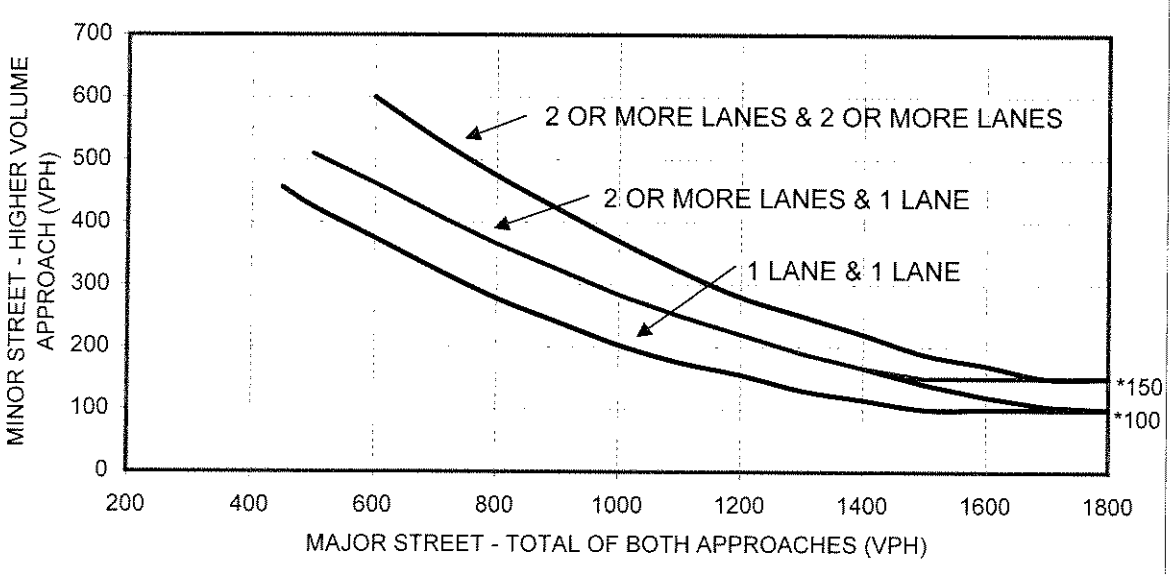
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
7:00 AM	173	95

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

O Peak Hour

Warrant	Not Met

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

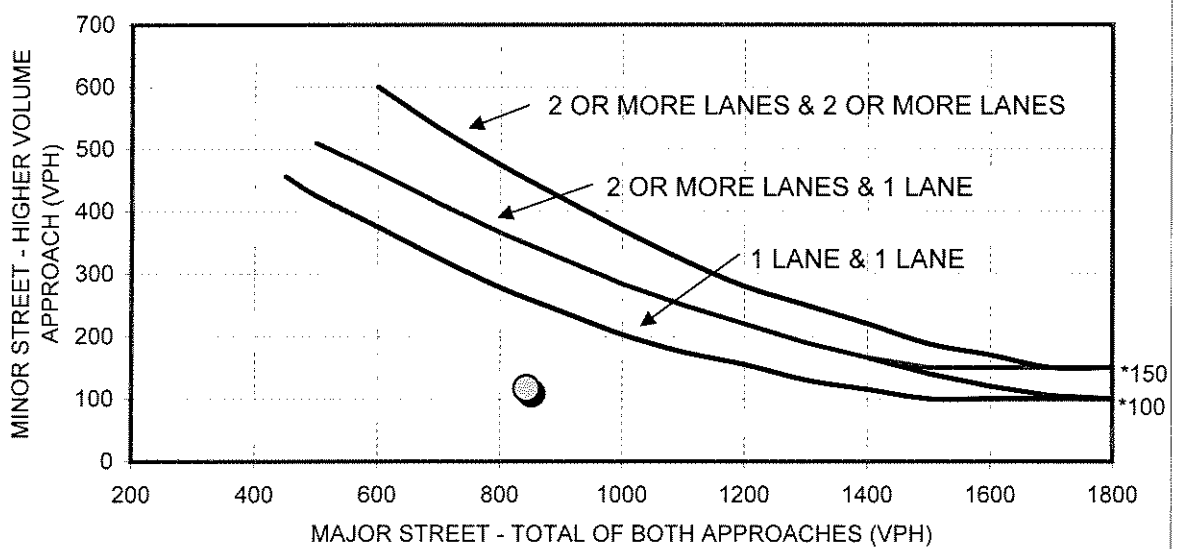
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
5:00 PM	844	117

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

◎ Peak Hour

Warrant	Not Met

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

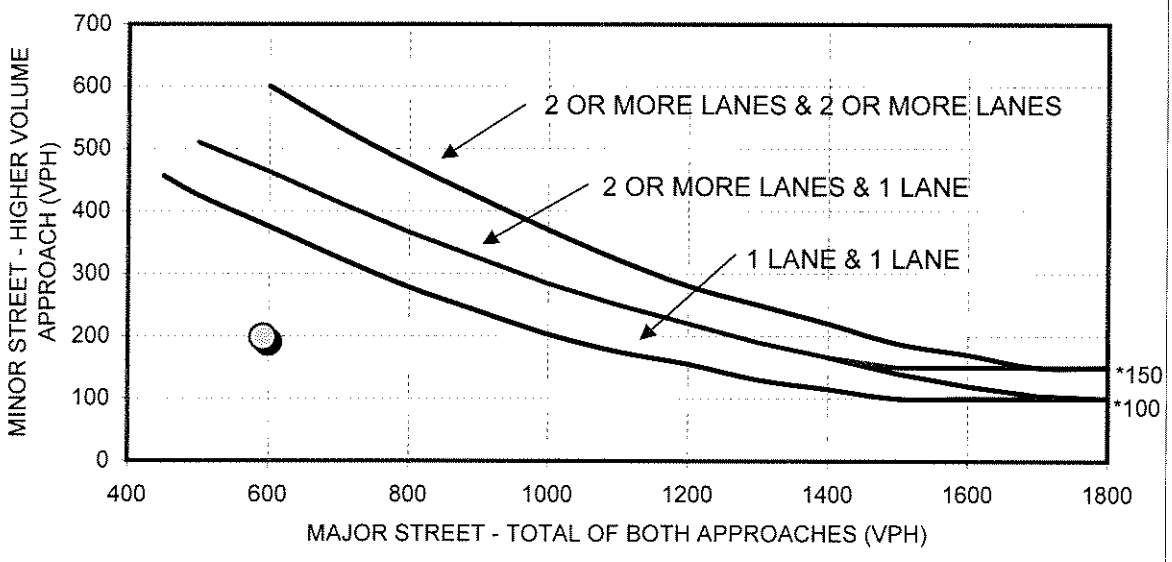
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
7:00 AM	592	198

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

○ Peak Hour

Warrant	Not Met

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

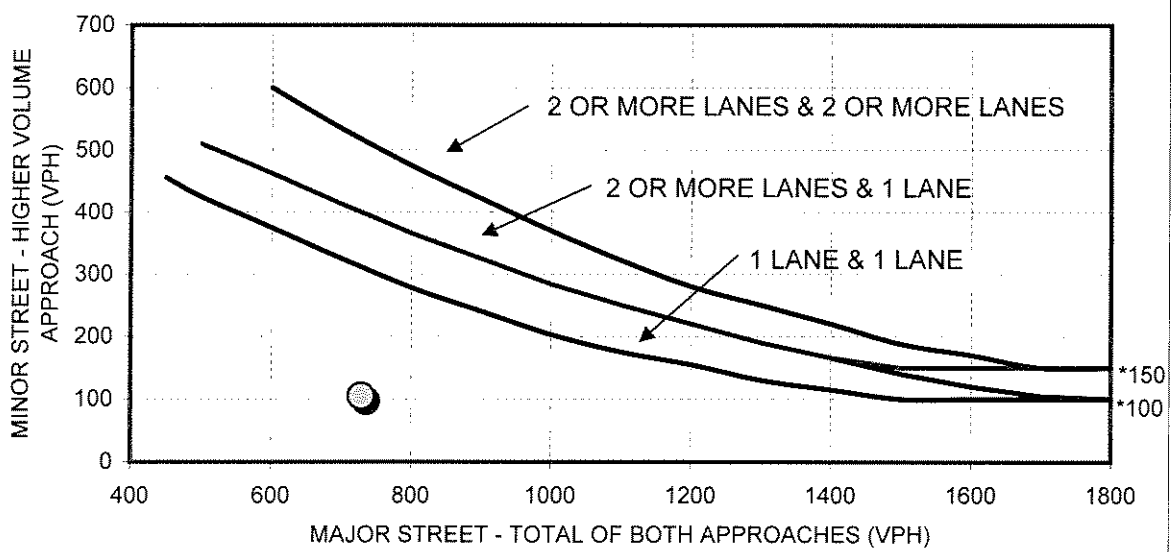
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
7:00 AM	728	105

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

○ Peak Hour

Warrant	Not Met

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

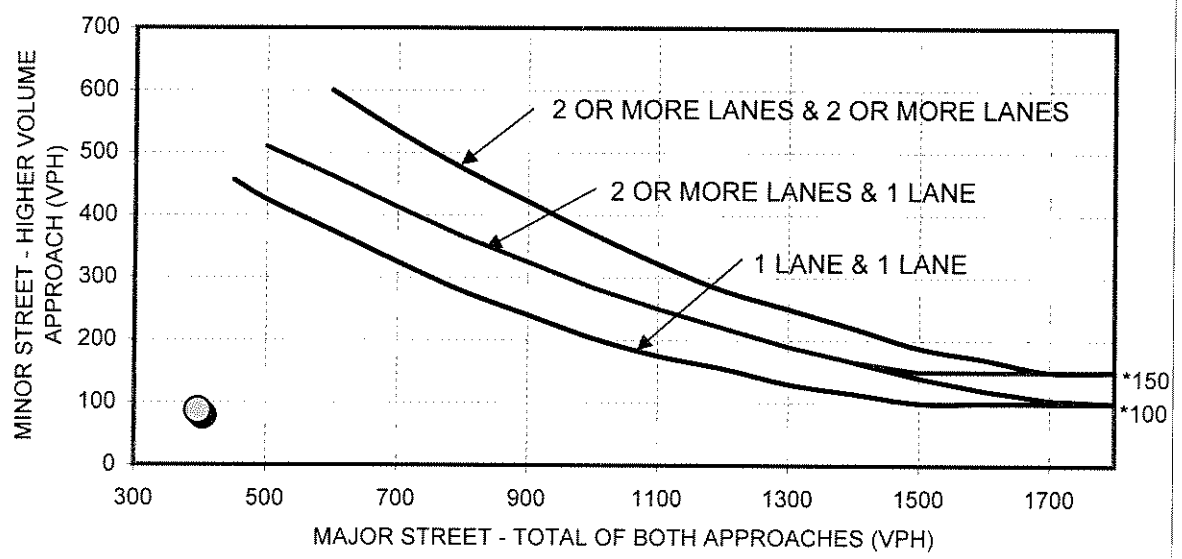
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
7:00 AM	397	87

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

○ Peak Hour

Warrant	Not Met

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

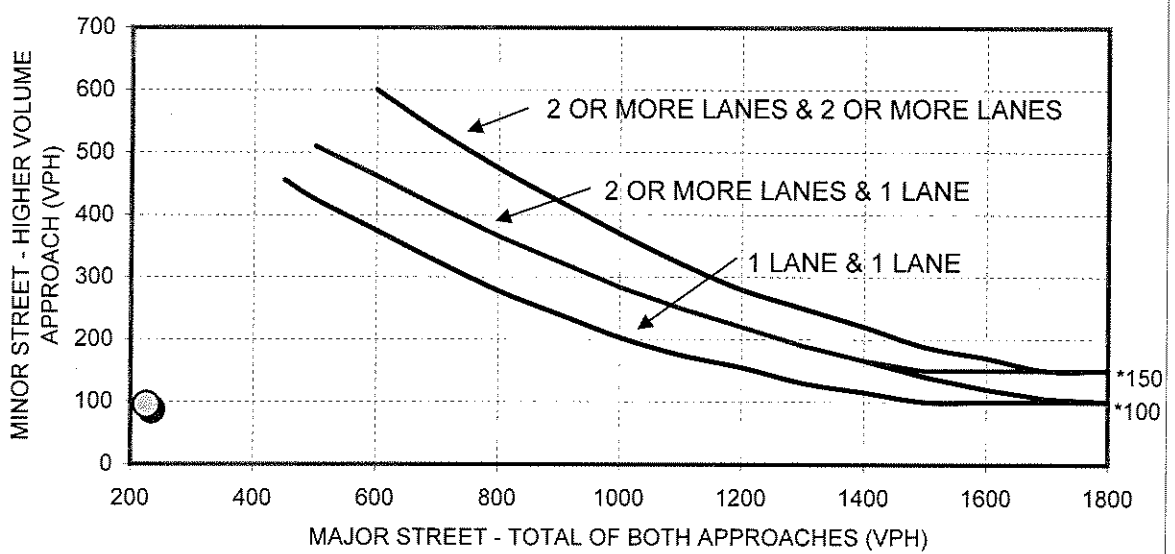
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
7:00 AM	226	95

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

⊙ Peak Hour

Warrant	Not Met

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

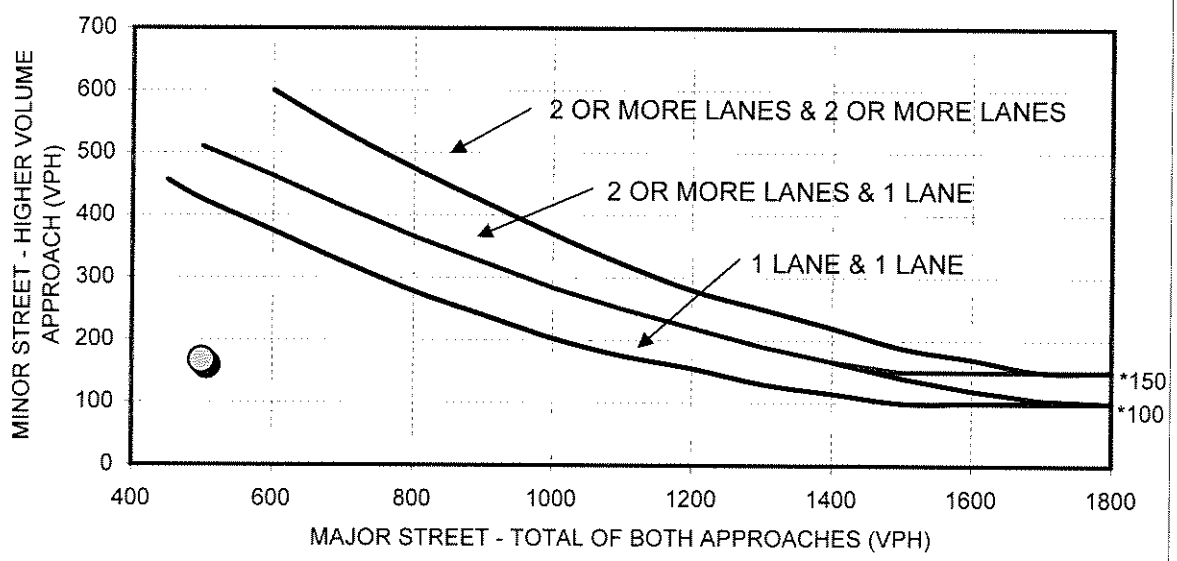
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
7:00 AM	500	167

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

○ Peak Hour

Warrant	Not Met

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

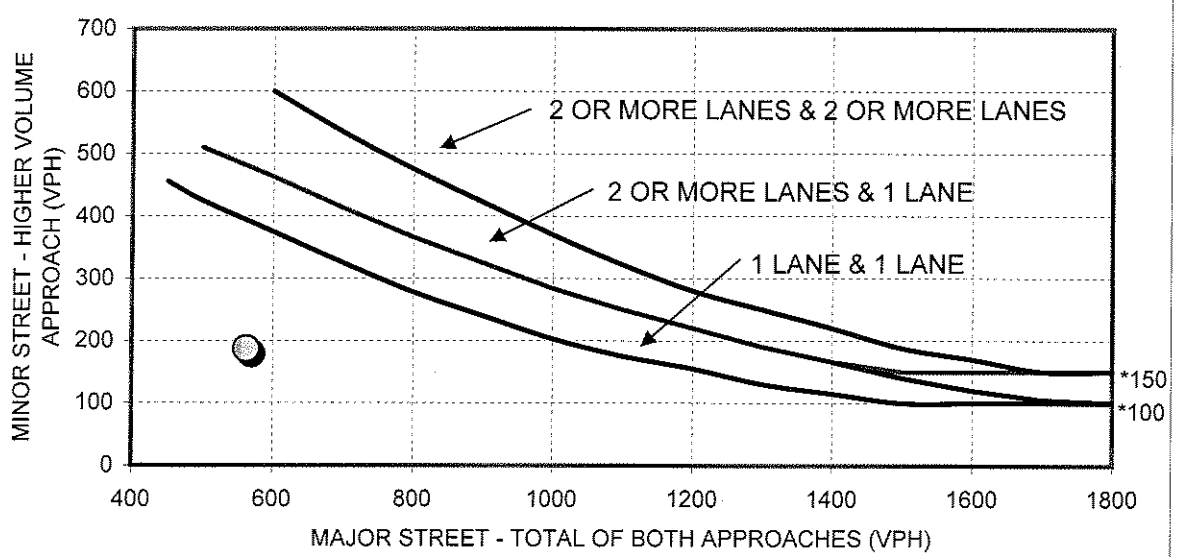
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
7:00 AM	563	187

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

⊙ Peak Hour

Warrant	Not Met

Warrant 3B: Peak Hour Volume

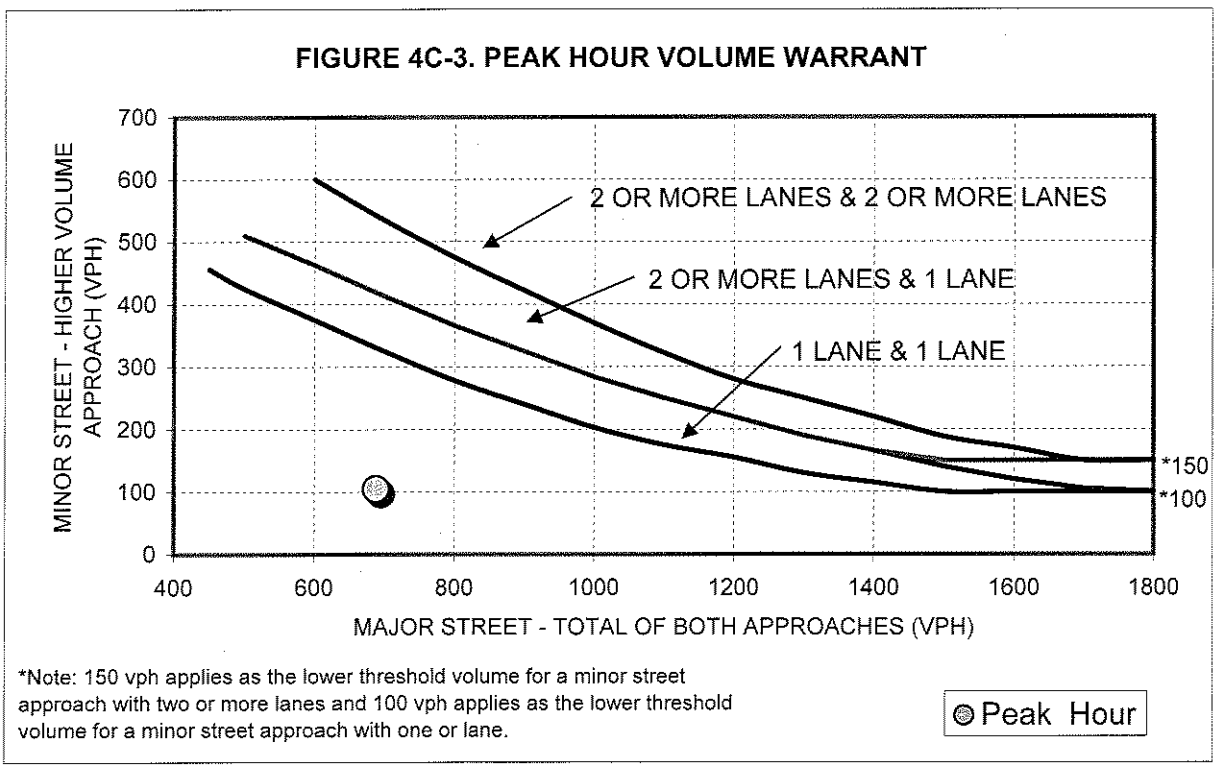
The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
7:00 AM	688	105



Warrant	Not Met

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

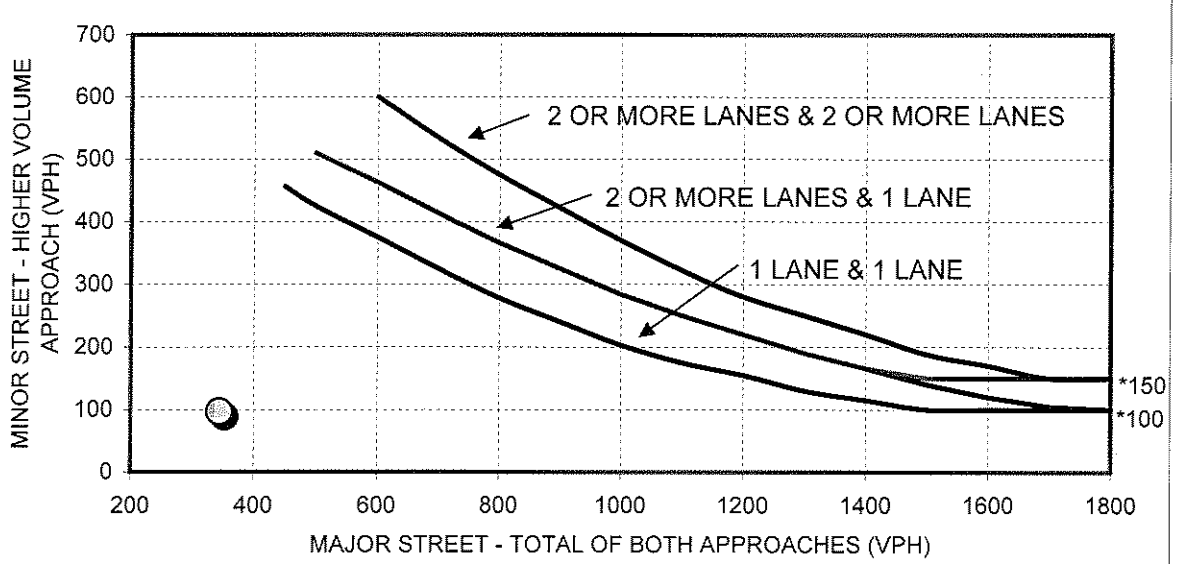
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
7:00 AM	345	97

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

Warrant	Not Met

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

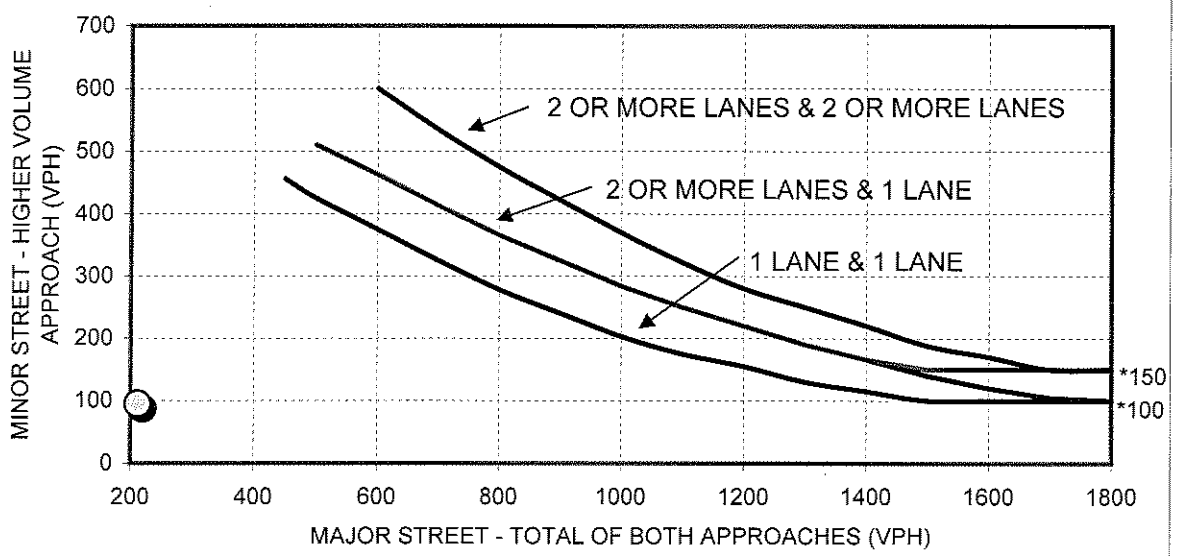
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
7:00 AM	212	95

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

Peak Hour

Warrant	Not Met

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

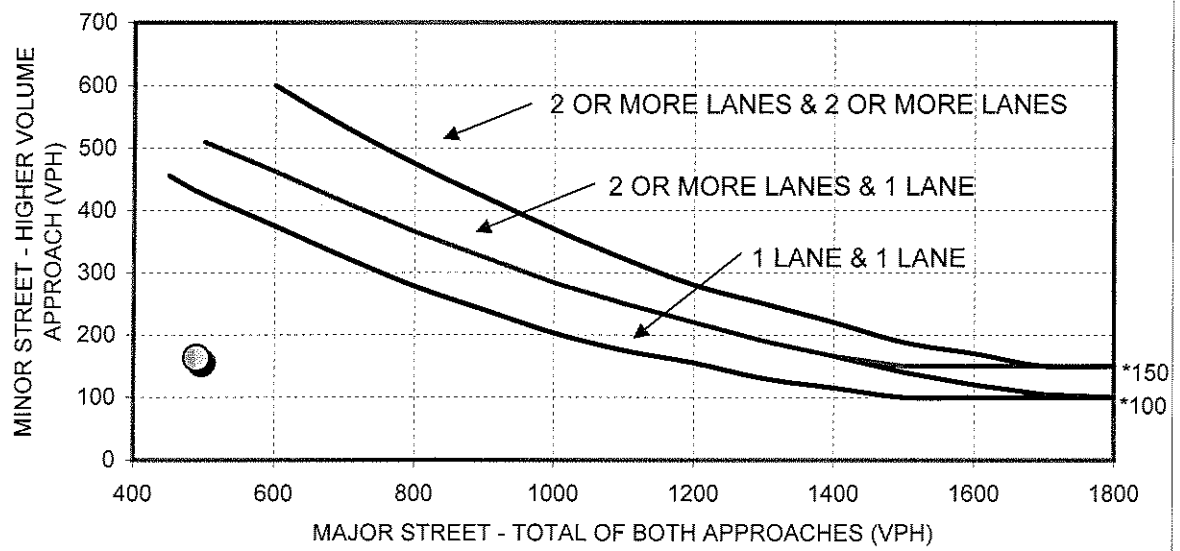
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
7:00 AM	490	163

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

Peak Hour

Warrant	Not Met

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

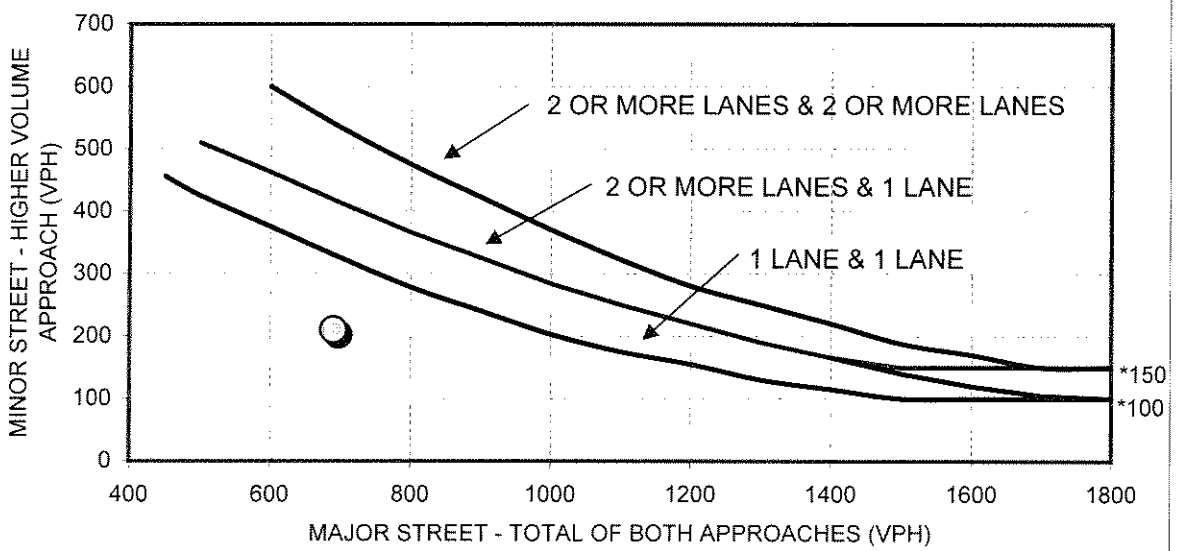
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
7:00 AM	690	210

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

O Peak Hour

Warrant	Not Met

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

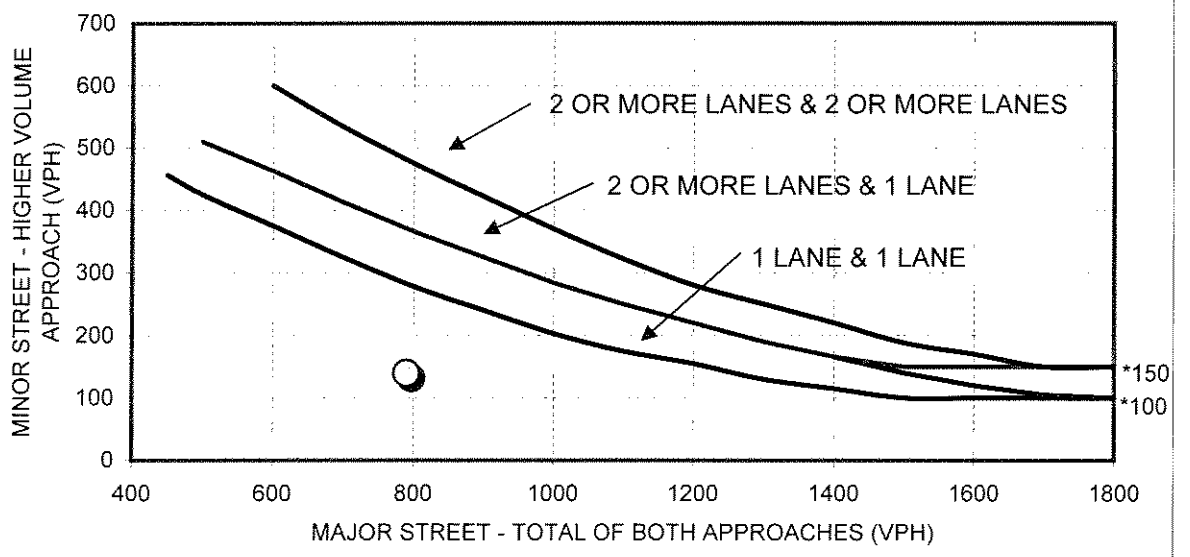
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
7:00 AM	790	140

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

O Peak Hour

Warrant	Not Met

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

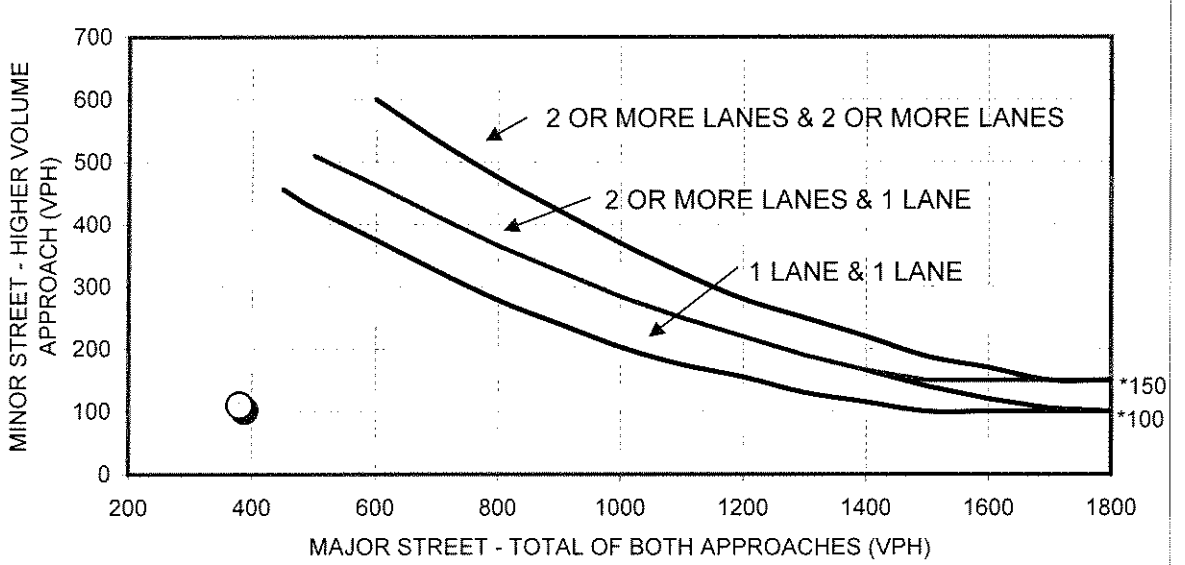
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
7:00 AM	380	110

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

O Peak Hour

Warrant	Not Met

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

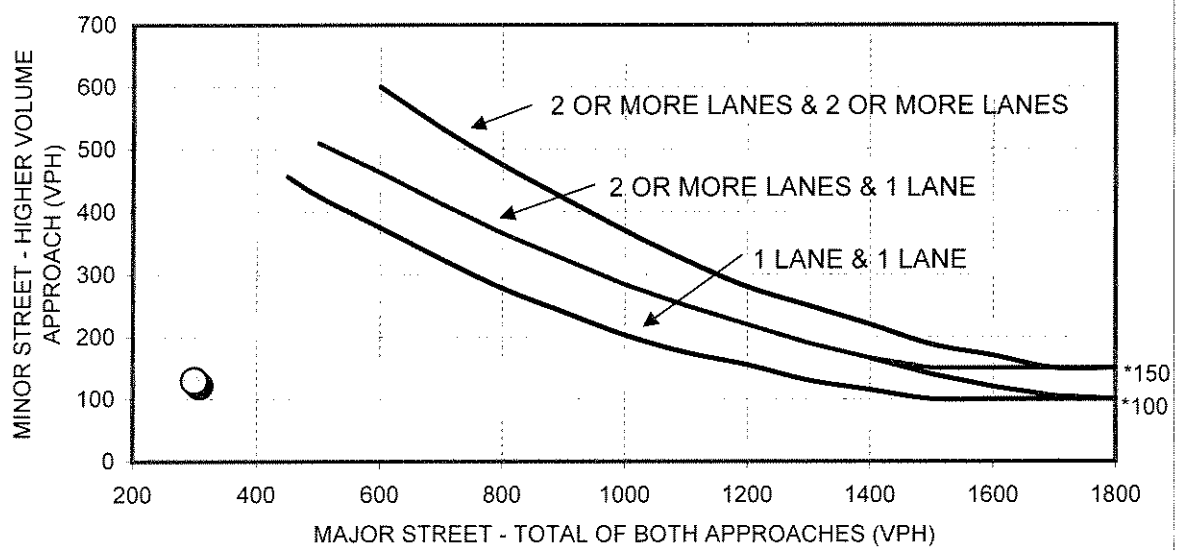
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
7:00 AM	300	130

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

O Peak Hour

Warrant	Not Met

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

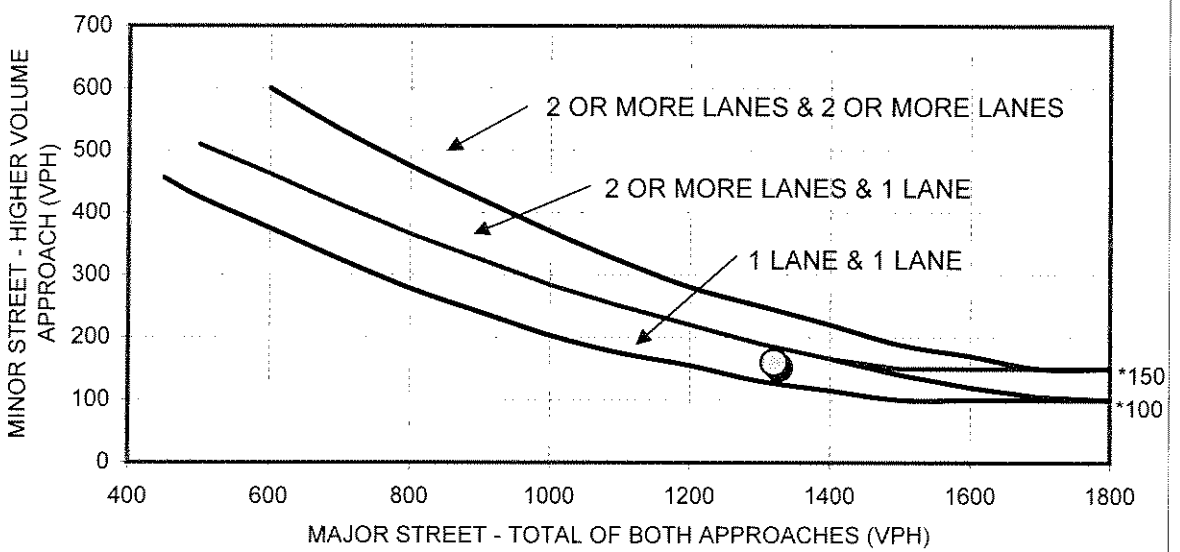
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
5:00 PM	1,320	160

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

○ Peak Hour

Warrant	Met

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

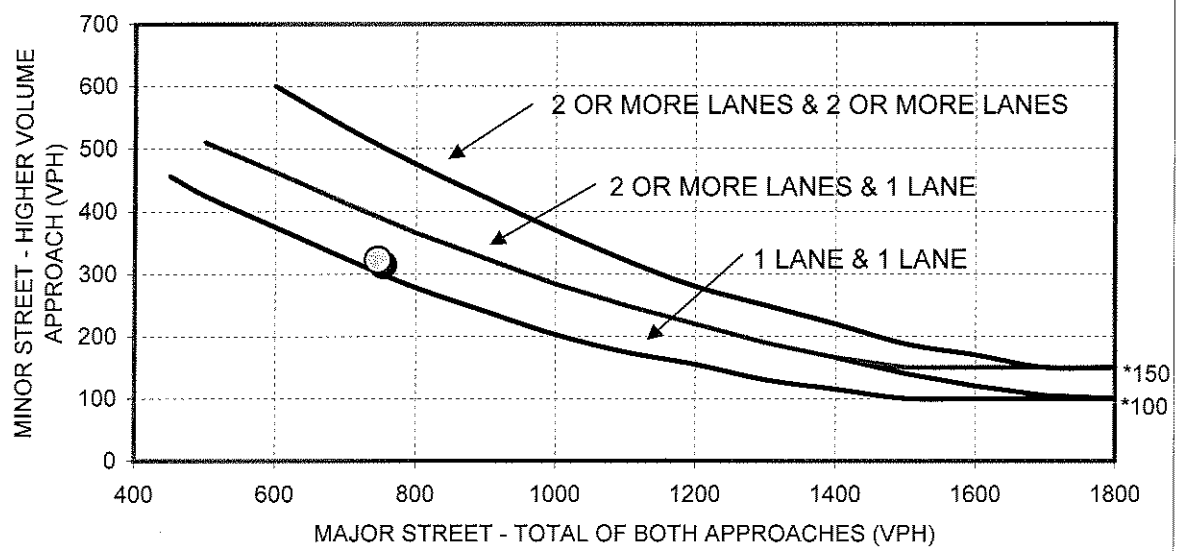
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
7:00 AM	746	323

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

◉ Peak Hour

Warrant	Met

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

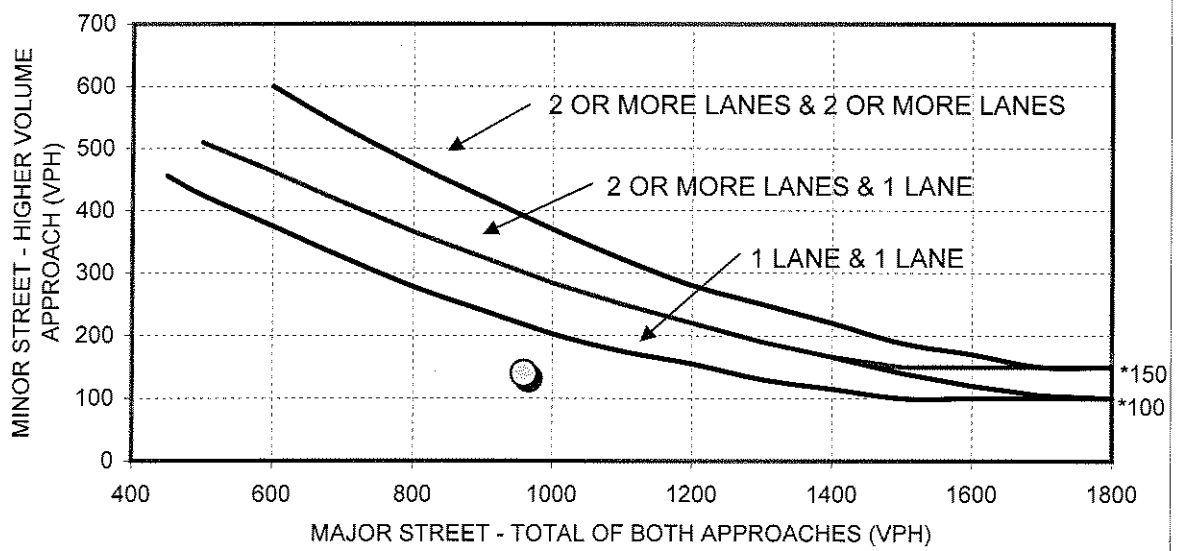
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
7:00 AM	959	140

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

◎ Peak Hour

Warrant	Not Met

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

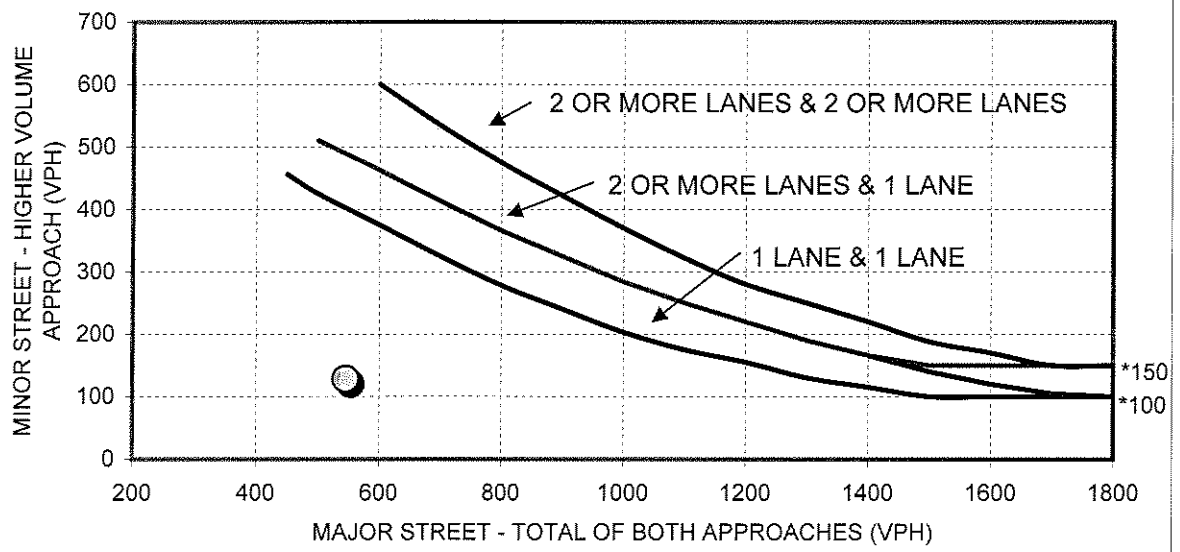
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
7:00 AM	546	128

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

◎ Peak Hour

Warrant	Not Met

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

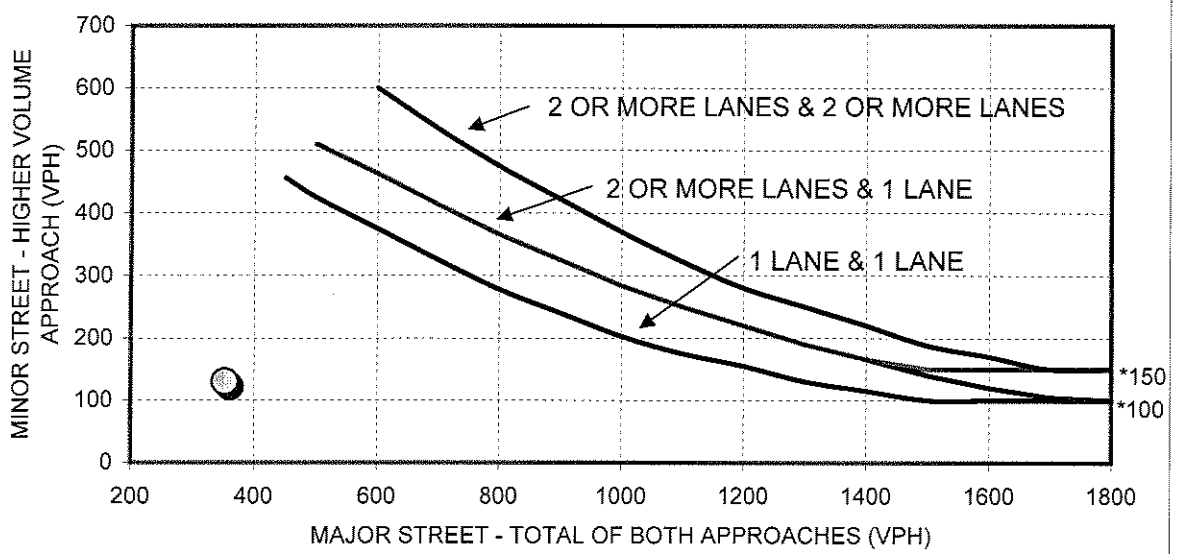
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
7:00 AM	353	130

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

◎ Peak Hour

Warrant	Not Met

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

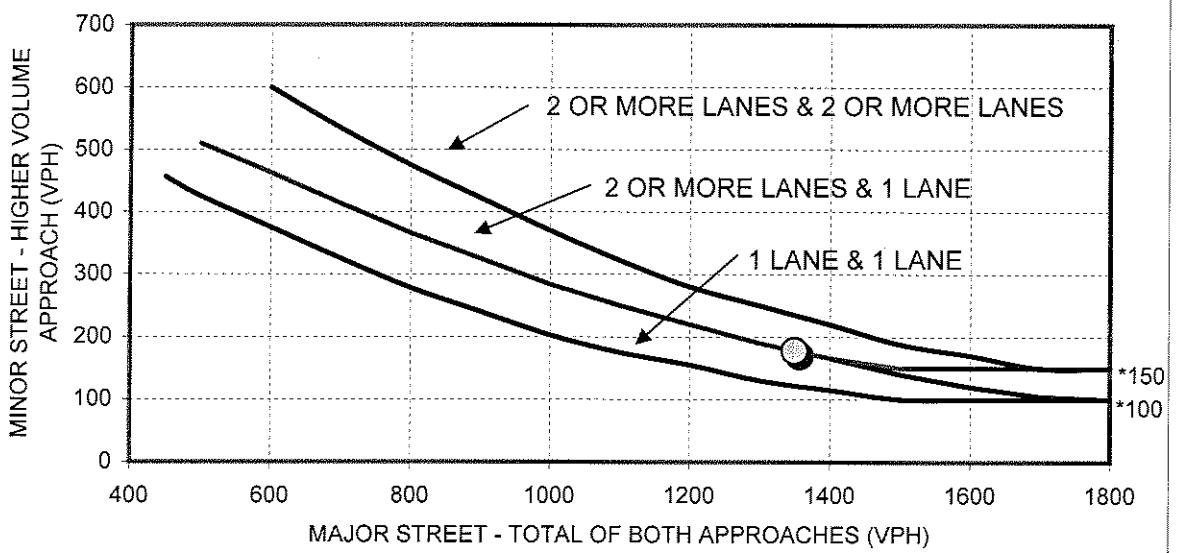
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
5:00 PM	1,350	178

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

◎ Peak Hour

Warrant	Met

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

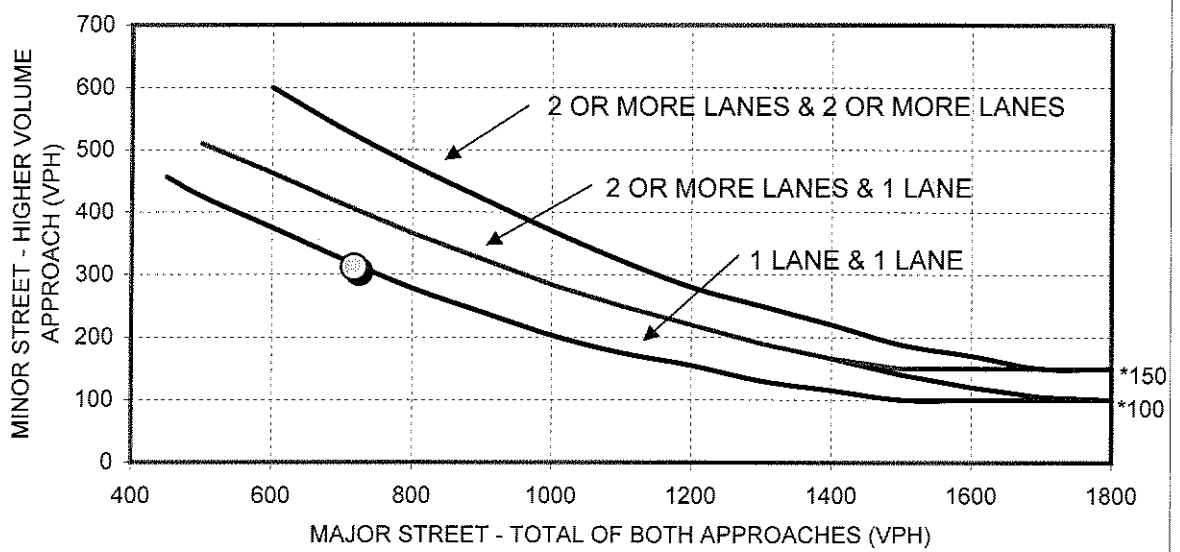
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
7:00 AM	717	312

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

◉ Peak Hour

Warrant	Not Met

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

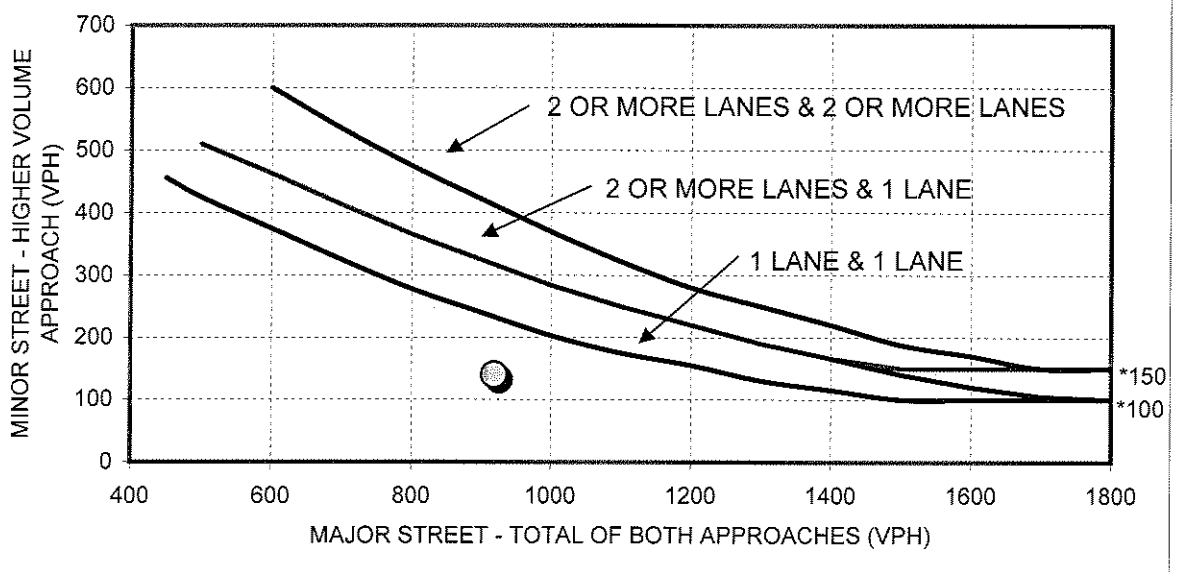
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
7:00 AM	919	140

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

⊙ Peak Hour

Warrant	Not Met

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

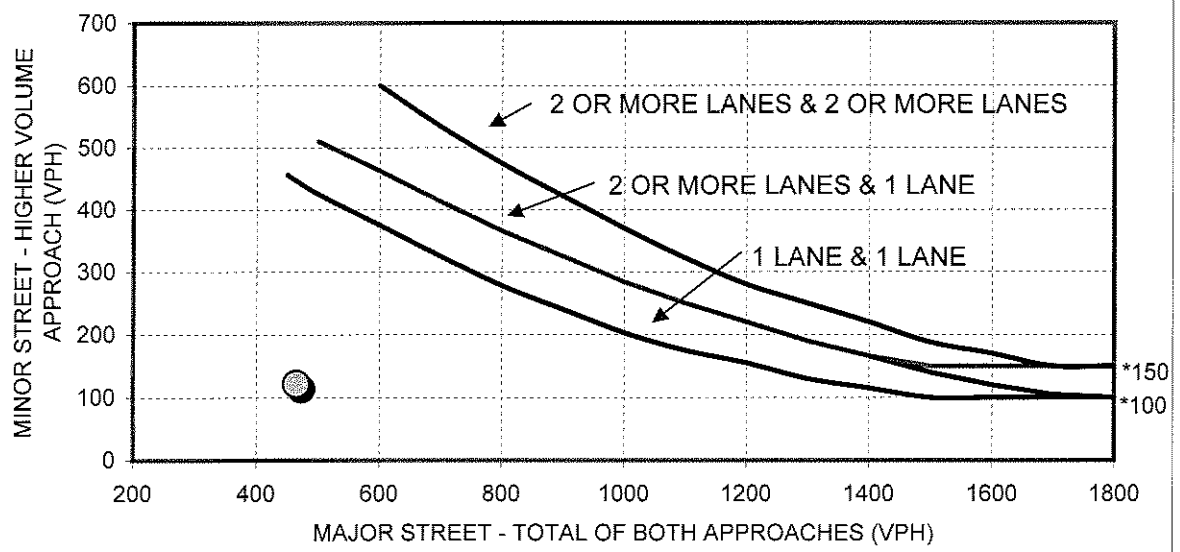
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
5:00 PM	465	122

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

Warrant	Not Met

Warrant 3B: Peak Hour Volume

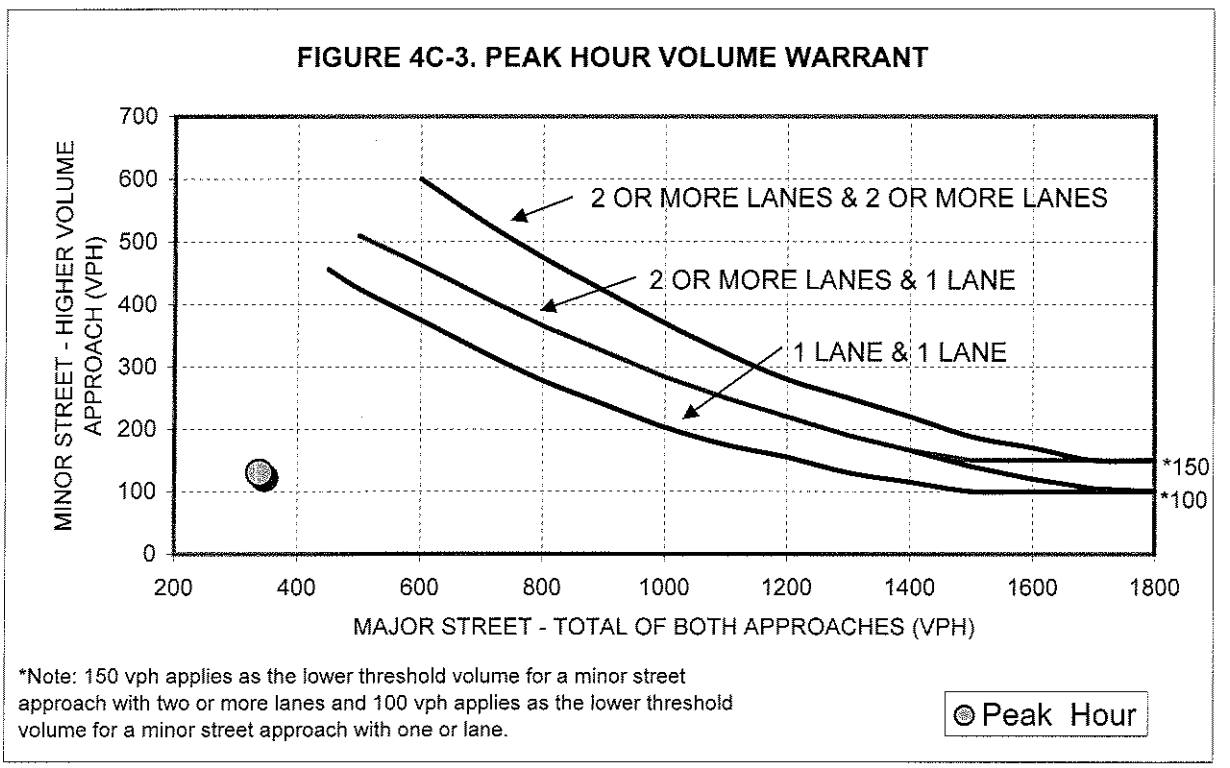
The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
7:00 AM	339	130



Warrant	Not Met

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

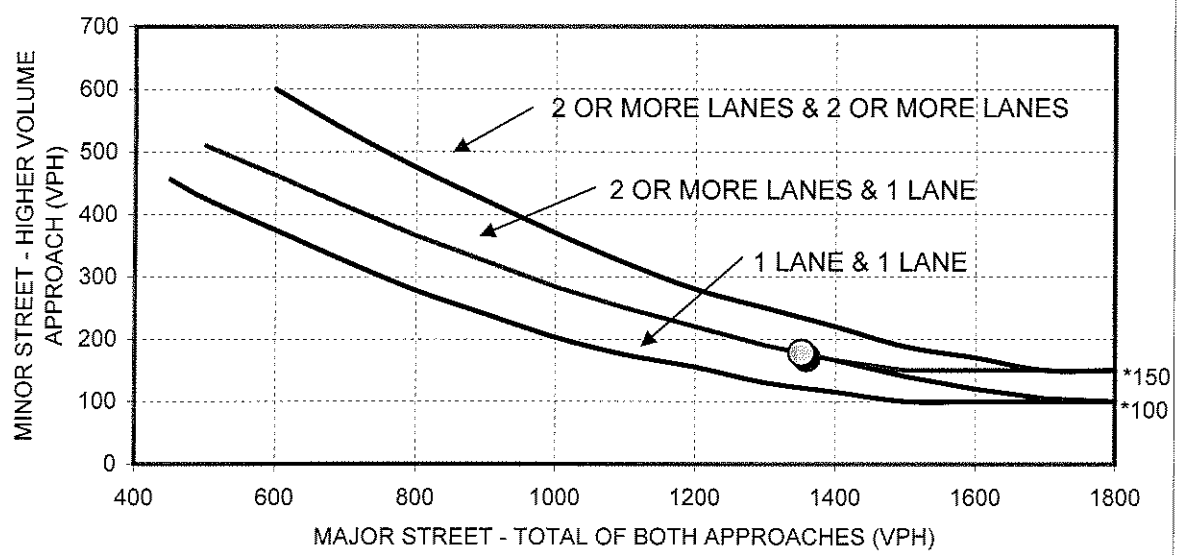
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
5:00 PM	1,352	178

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

Peak Hour

Warrant	Met

APPENDIX D

EXISTING PLUS PROJECT CONDITIONS LOS CALCULATION WORKSHEETS

The Rivers Phase II
Existing Plus Project (Scenario A)
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #1 Lighthouse Dr / Kegle Dr

****

Average Delay (sec/veh): 6.0 Worst Case Level Of Service: C[19.9]

****

Street Name:	Kegle Dr						Lighthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	7	207	85	77	159	1	2	9	16	22	4	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	7	207	85	77	159	1	2	9	16	22	4	59
Added Vol:	0	0	56	0	0	0	0	0	0	113	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	7	207	141	77	159	1	2	9	16	135	4	59
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	7	207	141	77	159	1	2	9	16	135	4	59
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	7	207	141	77	159	1	2	9	16	135	4	59
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	160	xxxx	xxxxx	348	xxxx	xxxxx	637	676	160	618	606	278
Potent Cap.:	1432	xxxx	xxxxx	1222	xxxx	xxxxx	393	378	891	405	414	766
Move Cap.:	1432	xxxx	xxxxx	1222	xxxx	xxxxx	341	351	891	369	385	766
Volume/Cap:	0.00	xxxx	xxxx	0.06	xxxx	xxxx	0.01	0.03	0.02	0.37	0.01	0.08
Level Of Service Module:												
Queue:	0.0	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	7.5	xxxx	xxxxx	8.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	546	xxxxx	xxxx	437	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.2	xxxxx	xxxxx	2.3	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	11.9	xxxxx	xxxxx	19.9	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	C	*
ApproachDel:	xxxxxx			xxxxxx			11.9			19.9		
ApproachLOS:	*			*			B			C		

The Rivers Phase II
Existing Plus Project (Scenario A)
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #2 Cummins Way / Kegle Dr

Cycle (sec):	100	Critical Vol./Cap. (X):	0.493
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	11.2
Optimal Cycle:	0	Level Of Service:	B

Street Name:	Kegle Dr						Cummins Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1!	0 0	0 1	0	0 0	0 0	0	1 0	0 0	1!	0 0
Volume Module:												
Base Vol:	6	265	24	34	230	0	0	6	7	42	11	52
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	265	24	34	230	0	0	6	7	42	11	52
Added Vol:	0	56	0	0	113	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	6	321	24	34	343	0	0	6	7	42	11	52
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	321	24	34	343	0	0	6	7	42	11	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	321	24	34	343	0	0	6	7	42	11	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	6	321	24	34	343	0	0	6	7	42	11	52
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.02	0.91	0.07	0.09	0.91	0.00	0.00	0.46	0.54	0.40	0.10	0.50
Final Sat.:	13	701	52	69	695	0	0	270	315	247	65	306
Capacity Analysis Module:												
Vol/Sat:	0.46	0.46	0.46	0.49	0.49	xxxx	xxxx	0.02	0.02	0.17	0.17	0.17
Crit Moves:		****			****				****		****	
Delay/Veh:	11.3	11.3	11.3	11.9	11.9	0.0	0.0	8.4	8.4	9.2	9.2	9.2
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.3	11.3	11.3	11.9	11.9	0.0	0.0	8.4	8.4	9.2	9.2	9.2
LOS by Move:	B	B	B	B	B	*	*	A	A	A	A	A
ApproachDel:		11.3			11.9			8.4			9.2	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		11.3			11.9			8.4			9.2	
LOS by Appr:		B			B			A			A	

The Rivers Phase II
Existing Plus Project (Scenario A)
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Sacramento Ave / Kegle Dr & Jefferson Blvd

Cycle (sec):	100	Critical Vol./Cap. (X):	0.747
Loss Time (sec):	16 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	112	Level Of Service:	C

Street Name:	Kegld Dr & Jefferson Blvd						Sacramento Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	1	1 0	0 1	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	232	405	179	28	430	75	70	144	480	174	129	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	232	405	179	28	430	75	70	144	480	174	129	9
Added Vol:	0	38	11	0	78	35	18	7	0	21	14	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	232	443	190	28	508	110	88	151	480	195	143	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	232	443	190	28	508	110	88	151	0	195	143	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	232	443	190	28	508	110	88	151	0	195	143	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Final Vol.:	232	443	190	28	508	110	88	151	0	195	143	9
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Lanes:	1.00	1.00	1.00	1.00	0.82	0.18	1.00	2.00	1.00	1.00	1.88	0.12
Final Sat.:	1500	1500	1500	1500	1233	267	1500	3000	1500	1500	2822	178
Capacity Analysis Module:												
Vol/Sat:	0.15	0.30	0.13	0.02	0.41	0.41	0.06	0.05	0.00	0.13	0.05	0.05
Crit Vol:	232				618			76		195		
Crit Moves:	****				****			****		****		

The Rivers Phase II
Existing Plus Project (Scenario A)
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #4 Lighthouse Dr / Douglas St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.288
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	9.1
Optimal Cycle:	0	Level Of Service:	A

Street Name:	Douglas St						Lighthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	0	0 1	0 0	1!	0 0	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	30	4	7	10	6	19	15	92	48	14	53	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	30	4	7	10	6	19	15	92	48	14	53	9
Added Vol:	0	3	15	28	9	15	4	67	0	26	61	8
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	30	7	22	38	15	34	19	159	48	40	114	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	30	7	22	38	15	34	19	159	48	40	114	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	7	22	38	15	34	19	159	48	40	114	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	30	7	22	38	15	34	19	159	48	40	114	17
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.81	0.19	1.00	0.44	0.17	0.39	1.00	0.77	0.23	1.00	0.87	0.13
Final Sat.:	461	108	690	275	109	246	634	553	167	627	610	91
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.03	0.14	0.14	0.14	0.03	0.29	0.29	0.06	0.19	0.19
Crit Moves:		****			****			****			****	
Delay/Veh:	9.0	9.0	7.7	9.2	9.2	9.2	8.4	9.5	9.5	8.7	8.8	8.8
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.0	9.0	7.7	9.2	9.2	9.2	8.4	9.5	9.5	8.7	8.8	8.8
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		8.5			9.2			9.4			8.8	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		8.5			9.2			9.4			8.8	
LOS by Appr:		A			A			A			A	

The Rivers Phase II
Existing Plus Project (Scenario A)
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #5 Cummins Way / Douglas St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.158
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	7.9
Optimal Cycle:	0	Level Of Service:	A

Street Name:	Douglas St						Cummins Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	38	28	14	27	46	20	9	39	15	10	53	32
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	38	28	14	27	46	20	9	39	15	10	53	32
Added Vol:	0	18	0	0	35	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	38	46	14	27	81	20	9	39	15	10	53	32
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	38	46	14	27	81	20	9	39	15	10	53	32
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	38	46	14	27	81	20	9	39	15	10	53	32
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	38	46	14	27	81	20	9	39	15	10	53	32
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.39	0.47	0.14	0.21	0.63	0.16	0.14	0.62	0.24	0.10	0.56	0.34
Final Sat.:	308	373	114	171	513	127	112	485	186	84	448	270
Capacity Analysis Module:												
Vol/Sat:	0.12	0.12	0.12	0.16	0.16	0.16	0.08	0.08	0.08	0.12	0.12	0.12
Crit Moves:	****			****			****				****	
Delay/Veh:	8.0	8.0	8.0	8.1	8.1	8.1	7.7	7.7	7.7	7.8	7.8	7.8
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.0	8.0	8.0	8.1	8.1	8.1	7.7	7.7	7.7	7.8	7.8	7.8
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		8.0			8.1			7.7			7.8	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		8.0			8.1			7.7			7.8	
LOS by Appr:		A			A			A			A	

The Rivers Phase II
Existing Plus Project (Scenario A)
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

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Intersection #6 Sacramento Ave / Douglas St

****

Average Delay (sec/veh): 4.3 Worst Case Level Of Service: B[12.0]

****

Street Name:	Douglas St						Sacramento Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1!	0	0	0 0 1!	0	0	0 1	0	0	0 0	0	1 0
Volume Module:												
Base Vol:	0	0	0	27	0	105	91	200	0	0	173	18
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	27	0	105	91	200	0	0	173	18
Added Vol:	0	0	0	0	0	35	18	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	27	0	140	109	200	0	0	173	18
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	27	0	140	109	200	0	0	173	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	27	0	140	109	200	0	0	173	18
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	660	xxxx	191	150	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	392	xxxx	814	1374	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	367	xxxx	814	1374	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.07	xxxx	0.17	0.08	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	0	xxxxx	xxxx	680	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	1.0	xxxxx	0.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	12.0	xxxxx	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	B	*	A	*	*	*	*	*
ApproachDel:	xxxxxx			12.0			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

The Rivers Phase II
Existing Plus Project (Scenario A)
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #7 Lighthouse Dr / Fountain Dr

Cycle (sec):	100	Critical Vol./Cap. (X):	0.243
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	A

Street Name:	Fountain Dr						LIghthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	0	0 0	1	0	0 1	0	1 0	1 1 0	0	1	0 0 1
Volume Module:												
Base Vol:	5	3	0	20	4	12	9	92	8	5	59	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	5	3	0	20	4	12	9	92	8	5	59	19
Added Vol:	0	0	0	55	0	21	6	125	0	0	74	15
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	3	0	75	4	33	15	217	8	5	133	34
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	5	3	0	75	4	33	15	217	8	5	133	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	3	0	75	4	33	15	217	8	5	133	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Final Vol.:	5	3	0	75	4	33	15	217	8	5	133	0
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.62	0.38	0.00	1.00	0.11	0.89	1.00	1.93	0.07	0.04	0.96	1.00
Final Sat.:	859	516	0	1375	149	1226	1375	2652	98	50	1325	1375
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.00	0.05	0.03	0.03	0.01	0.08	0.08	0.10	0.10	0.00
Crit Vol:		8		75				113		138		
Crit Moves:		****		****				****		****		

The Rivers Phase II
Existing Plus Project (Scenario A)
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

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Intersection #8 C St / 5th St

****

Cycle (sec):	100	Critical Vol./Cap. (X):	0.310
Loss Time (sec):	16 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	41	Level Of Service:	A

****

Street Name:	5th St						C St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	39	42	76	74	48	17	12	197	53	125	132	36
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	39	42	76	74	48	17	12	197	53	125	132	36
Added Vol:	0	65	0	49	131	0	0	0	0	0	0	24
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	39	107	76	123	179	17	12	197	53	125	132	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	39	107	76	123	179	17	12	197	53	125	132	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	39	107	76	123	179	17	12	197	53	125	132	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	39	107	76	123	179	17	12	197	53	125	132	60
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Lanes:	1.00	1.17	0.83	1.00	1.83	0.17	1.00	1.58	0.42	1.00	2.00	1.00
Final Sat.:	1500	1754	1246	1500	2740	260	1500	2364	636	1500	3000	1500
Capacity Analysis Module:												
Vol/Sat:	0.03	0.06	0.06	0.08	0.07	0.07	0.01	0.08	0.08	0.08	0.04	0.04
Crit Vol:		92		123					125	125		
Crit Moves:		****		****					****	****		

****

The Rivers Phase II
Existing Plus Project (Scenario A)
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

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Intersection #1 Lighthouse Dr / Kegle Dr

****

Average Delay (sec/veh): 4.4 Worst Case Level Of Service: B[11.8]

****

Street Name:	Kegle Dr						Lighthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0
Volume Module:												
Base Vol:	12	81	20	29	84	2	1	3	7	42	9	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	12	81	20	29	84	2	1	3	7	42	9	38
Added Vol:	0	0	99	0	0	0	0	0	0	58	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	81	119	29	84	2	1	3	7	100	9	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	12	81	119	29	84	2	1	3	7	100	9	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	12	81	119	29	84	2	1	3	7	100	9	38
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	86	xxxx	xxxxx	200	xxxx	xxxxx	331	367	85	313	309	141
Potent Cap.:	1523	xxxx	xxxxx	1384	xxxx	xxxxx	626	565	980	644	609	913
Move Cap.:	1523	xxxx	xxxxx	1384	xxxx	xxxxx	580	549	980	623	591	913
Volume/Cap:	0.01	xxxx	xxxx	0.02	xxxx	xxxx	0.00	0.01	0.01	0.16	0.02	0.04
Level Of Service Module:												
Queue:	0.0	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	7.4	xxxx	xxxxx	7.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	767	xxxxx	xxxx	676	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.0	xxxxx	xxxxx	0.8	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	9.8	xxxxx	xxxxx	11.8	xxxxx
Shared LOS:	*	*	*	*	*	*	*	A	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			9.8			11.8		
ApproachLOS:	*			*			A			B		

The Rivers Phase II
Existing Plus Project (Scenario A)
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

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Intersection #2 Cummins Way / Kegle Dr

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Cycle (sec):	100	Critical Vol./Cap. (X):	0.457
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	10.2
Optimal Cycle:	0	Level Of Service:	B

****

Street Name:	Kegle Dr						Cummins Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	21	199	47	41	141	1	2	5	8	53	13	37
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	21	199	47	41	141	1	2	5	8	53	13	37
Added Vol:	0	99	0	0	58	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	21	298	47	41	199	1	2	5	8	53	13	37
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	21	298	47	41	199	1	2	5	8	53	13	37
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	21	298	47	41	199	1	2	5	8	53	13	37
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	21	298	47	41	199	1	2	5	8	53	13	37
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.06	0.81	0.13	0.17	0.82	0.01	0.13	0.33	0.54	0.51	0.13	0.36
Final Sat.:	46	653	103	129	626	3	84	209	335	331	81	231
Capacity Analysis Module:												
Vol/Sat:	0.46	0.46	0.46	0.32	0.32	0.32	0.02	0.02	0.02	0.16	0.16	0.16
Crit Moves:		****			****		****				****	
Delay/Veh:	10.9	10.9	10.9	9.7	9.7	9.7	8.2	8.2	8.2	9.0	9.0	9.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.9	10.9	10.9	9.7	9.7	9.7	8.2	8.2	8.2	9.0	9.0	9.0
LOS by Move:	B	B	B	A	A	A	A	A	A	A	A	A
ApproachDel:		10.9			9.7			8.2			9.0	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		10.9			9.7			8.2			9.0	
LOS by Appr:		B			A			A			A	

****

The Rivers Phase II
Existing Plus Project (Scenario A)
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Sacramento Ave / Kegle Dr & Jefferson Blvd

Cycle (sec):	100	Critical Vol./Cap. (X):	0.761
Loss Time (sec):	16 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	119	Level Of Service:	C

Street Name:	Kegld Dr & Jefferson Blvd						Sacramento Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	1	0	1	1	0	0	1	0	1	0	2	0	1	1	0	1	1	0
Volume Module:												
Base Vol:	412	392	236	14	261	90	110	195	314	207	272	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	412	392	236	14	261	90	110	195	314	207	272	30
Added Vol:	0	69	18	0	40	18	31	13	0	10	7	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	412	461	254	14	301	108	141	208	314	217	279	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	412	461	254	14	301	108	141	208	0	217	279	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	412	461	254	14	301	108	141	208	0	217	279	30
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Final Vol.:	412	461	254	14	301	108	141	208	0	217	279	30
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Lanes:	1.00	1.00	1.00	1.00	0.74	0.26	1.00	2.00	1.00	1.00	1.81	0.19
Final Sat.:	1500	1500	1500	1500	1104	396	1500	3000	1500	1500	2709	291
Capacity Analysis Module:												
Vol/Sat:	0.27	0.31	0.17	0.01	0.27	0.27	0.09	0.07	0.00	0.14	0.10	0.10
Crit Vol:	412				409			104		217		
Crit Moves:	****				****			****		****		

The Rivers Phase II
Existing Plus Project (Scenario A)
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #4 Lighthouse Dr / Douglas St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.204
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	8.4
Optimal Cycle:	0	Level Of Service:	A

Street Name:	Douglas St						Lighthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	0	0 1	0	0 1!	0 0	1	0	0 1 0	1	0	0 1 0
Volume Module:												
Base Vol:	11	9	13	8	5	2	4	44	10	10	62	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	9	13	8	5	2	4	44	10	10	62	10
Added Vol:	0	10	21	16	5	9	16	52	0	12	52	29
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	19	34	24	10	11	20	96	10	22	114	39
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	11	19	34	24	10	11	20	96	10	22	114	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	19	34	24	10	11	20	96	10	22	114	39
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	11	19	34	24	10	11	20	96	10	22	114	39
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.37	0.63	1.00	0.54	0.22	0.24	1.00	0.91	0.09	1.00	0.75	0.25
Final Sat.:	231	400	746	348	145	160	651	659	69	656	560	192
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.05	0.07	0.07	0.07	0.03	0.15	0.15	0.03	0.20	0.20
Crit Moves:		****			****				****			****
Delay/Veh:	8.4	8.4	7.5	8.6	8.6	8.6	8.3	8.4	8.4	8.3	8.6	8.6
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.4	8.4	7.5	8.6	8.6	8.6	8.3	8.4	8.4	8.3	8.6	8.6
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		7.9			8.6			8.3			8.5	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		7.9			8.6			8.3			8.5	
LOS by Appr:		A			A			A			A	

The Rivers Phase II
Existing Plus Project (Scenario A)
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #5 Cummins Way / Douglas St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.125
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	7.6
Optimal Cycle:	0	Level Of Service:	A

Street Name:	Douglas St						Cummins Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1!	0	0 0	1!	0	0 0	1!	0	0 0	1!	0
Volume Module:												
Base Vol:	16	31	28	10	17	10	6	55	21	13	49	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	16	31	28	10	17	10	6	55	21	13	49	7
Added Vol:	0	30	0	0	18	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	16	61	28	10	35	10	6	55	21	13	49	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	16	61	28	10	35	10	6	55	21	13	49	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	61	28	10	35	10	6	55	21	13	49	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	16	61	28	10	35	10	6	55	21	13	49	7
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.15	0.58	0.27	0.18	0.64	0.18	0.07	0.67	0.26	0.19	0.71	0.10
Final Sat.:	128	488	224	148	519	148	61	559	213	152	574	82
Capacity Analysis Module:												
Vol/Sat:	0.13	0.13	0.13	0.07	0.07	0.07	0.10	0.10	0.10	0.09	0.09	0.09
Crit Moves:		****			****			****			****	
Delay/Veh:	7.7	7.7	7.7	7.5	7.5	7.5	7.6	7.6	7.6	7.7	7.7	7.7
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.7	7.7	7.7	7.5	7.5	7.5	7.6	7.6	7.6	7.7	7.7	7.7
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		7.7			7.5			7.6			7.7	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		7.7			7.5			7.6			7.7	
LOS by Appr:		A			A			A			A	

The Rivers Phase II
Existing Plus Project (Scenario A)
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #6 Sacramento Ave / Douglas St

****

Average Delay (sec/veh): 4.3 Worst Case Level Of Service: E[47.7]

****

Street Name:	Douglas St						Sacramento Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0
Volume Module:												
Base Vol:	6	0	1	15	0	102	117	300	4	2	391	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	0	1	15	0	102	117	300	4	2	391	30
Added Vol:	0	0	0	0	0	18	30	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	6	0	1	15	0	120	147	300	4	2	391	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	0	1	15	0	120	147	300	4	2	391	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	6	0	1	15	0	120	147	300	4	2	391	30
Critical Gap Module:												
Critical Gp:	7.1	xxxx	6.2	7.1	xxxx	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	3.3	3.5	xxxx	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1289	xxxx	327	1217	xxxx	469	331	xxxx	xxxxx	246	xxxx	xxxxx
Potent Cap.:	117	xxxx	663	132	xxxx	518	1073	xxxx	xxxxx	1229	xxxx	xxxxx
Move Cap.:	80	xxxx	663	116	xxxx	518	1073	xxxx	xxxxx	1229	xxxx	xxxxx
Volume/Cap:	0.08	xxxx	0.00	0.13	xxxx	0.23	0.14	xxxx	xxxx	0.00	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.5	xxxx	xxxxx	0.0	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.9	xxxx	xxxxx	7.9	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	91	xxxxx	xxxx	374	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.2	xxxxx	xxxxx	1.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	47.7	xxxxx	xxxxx	20.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	E	*	*	C	*	*	*	*	*	*	*
ApproachDel:		47.7			20.0			xxxxxx			xxxxxx	
ApproachLOS:		E			C			*			*	

The Rivers Phase II
Existing Plus Project (Scenario A)
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #7 Lighthouse Dr / Fountain Dr

Cycle (sec):	100	Critical Vol./Cap. (X):	0.210
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	29	Level Of Service:	A

Street Name:	Fountain Dr						LIghthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1! 0	0	1 0	0 1	0	1 0	1 1	0	0 1	0 0	1
Volume Module:												
Base Vol:	0	0	0	8	0	2	4	61	0	0	87	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	8	0	2	4	61	0	0	87	11
Added Vol:	0	0	0	32	0	12	22	60	0	0	101	58
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	40	0	14	26	121	0	0	188	69
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	40	0	14	26	121	0	0	188	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	40	0	14	26	121	0	0	188	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Final Vol.:	0	0	0	40	0	14	26	121	0	0	188	0
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.00	0.00	1.00	0.00	1.00	1.00	2.00	0.00	0.00	1.00	1.00
Final Sat.:	0	1375	0	1375	0	1375	1375	2750	0	0	1375	1375
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.03	0.00	0.01	0.02	0.04	0.00	0.00	0.14	0.00
Crit Vol:		0		40				61			188	
Crit Moves:				****				****			****	

The Rivers Phase II
Existing Plus Project (Scenario A)
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #8 C St / 5th St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.384
Loss Time (sec):	16 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	A

Street Name:	5th St						C St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	105	97	197	47	68	16	16	219	66	157	327	68
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	105	97	197	47	68	16	16	219	66	157	327	68
Added Vol:	0	115	0	25	67	0	0	0	0	0	0	43
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	105	212	197	72	135	16	16	219	66	157	327	111
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	105	212	197	72	135	16	16	219	66	157	327	111
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	105	212	197	72	135	16	16	219	66	157	327	111
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	105	212	197	72	135	16	16	219	66	157	327	111
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Lanes:	1.00	1.04	0.96	1.00	1.79	0.21	1.00	1.54	0.46	1.00	2.00	1.00
Final Sat.:	1500	1555	1445	1500	2682	318	1500	2305	695	1500	3000	1500
Capacity Analysis Module:												
Vol/Sat:	0.07	0.14	0.14	0.05	0.05	0.05	0.01	0.10	0.10	0.10	0.11	0.07
Crit Vol:			205	72					143	157		
Crit Moves:			****	****					****	****		

The Rivers Phase II
Existing Plus Project (Scenario B)
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #1 Lighthouse Dr / Kegle Dr

****

Average Delay (sec/veh): 5.7 Worst Case Level Of Service: C[18.5]

****

Street Name:	Kegle Dr						Lighthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	7	207	85	77	159	1	2	9	16	22	4	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	7	207	85	77	159	1	2	9	16	22	4	59
Added Vol:	0	0	27	0	0	0	0	0	0	102	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	7	207	112	77	159	1	2	9	16	124	4	59
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	7	207	112	77	159	1	2	9	16	124	4	59
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	7	207	112	77	159	1	2	9	16	124	4	59
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	160	xxxx	xxxxx	319	xxxx	xxxxx	622	647	160	603	591	263
Potent Cap.:	1432	xxxx	xxxxx	1252	xxxx	xxxxx	402	393	891	414	422	781
Move Cap.:	1432	xxxx	xxxxx	1252	xxxx	xxxxx	349	366	891	378	393	781
Volume/Cap:	0.00	xxxx	xxxx	0.06	xxxx	xxxx	0.01	0.02	0.02	0.33	0.01	0.08
Level Of Service Module:												
Queue:	0.0	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	7.5	xxxx	xxxxx	8.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	559	xxxxx	xxxx	452	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.2	xxxxx	xxxxx	2.0	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	11.8	xxxxx	xxxxx	18.5	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	C	*
ApproachDel:	xxxxxx			xxxxxx			11.8			18.5		
ApproachLOS:	*			*			B			C		

The Rivers Phase II
Existing Plus Project (Scenario B)
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

****

Intersection #2 Cummins Way / Kegle Dr

****

Cycle (sec):	100	Critical Vol./Cap. (X):	0.475
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	10.8
Optimal Cycle:	0	Level Of Service:	B

****

Street Name:	Kegle Dr						Cummins Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1!	0 0	0 1	0	0 0	0 0	0	1 0	0 0	1!	0 0
Volume Module:												
Base Vol:	6	265	24	34	230	0	0	6	7	42	11	52
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	265	24	34	230	0	0	6	7	42	11	52
Added Vol:	0	27	0	0	102	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	6	292	24	34	332	0	0	6	7	42	11	52
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	292	24	34	332	0	0	6	7	42	11	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	292	24	34	332	0	0	6	7	42	11	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	6	292	24	34	332	0	0	6	7	42	11	52
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.02	0.91	0.07	0.09	0.91	0.00	0.00	0.46	0.54	0.40	0.10	0.50
Final Sat.:	14	698	57	72	699	0	0	276	322	252	66	312
Capacity Analysis Module:												
Vol/Sat:	0.42	0.42	0.42	0.48	0.48	xxxx	xxxx	0.02	0.02	0.17	0.17	0.17
Crit Moves:		****			****			****			****	
Delay/Veh:	10.7	10.7	10.7	11.5	11.5	0.0	0.0	8.3	8.3	9.1	9.1	9.1
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.7	10.7	10.7	11.5	11.5	0.0	0.0	8.3	8.3	9.1	9.1	9.1
LOS by Move:	B	B	B	B	B	*	*	A	A	A	A	A
ApproachDel:		10.7			11.5			8.3			9.1	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		10.7			11.5			8.3			9.1	
LOS by Appr:		B			B			A			A	

****

The Rivers Phase II
Existing Plus Project (Scenario B)
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Sacramento Ave / Kegle Dr & Jefferson Blvd

Cycle (sec):	100	Critical Vol./Cap. (X):	0.736
Loss Time (sec):	16 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	108	Level Of Service:	C

Street Name:	Kegld Dr & Jefferson Blvd						Sacramento Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0 1	0 1	1	0 0	1 0	1	0 2	0 1	1	0 1	1 0
Volume Module:												
Base Vol:	232	405	179	28	430	75	70	144	480	174	129	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	232	405	179	28	430	75	70	144	480	174	129	9
Added Vol:	0	18	5	0	71	31	8	3	0	18	13	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	232	423	184	28	501	106	78	147	480	192	142	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	232	423	184	28	501	106	78	147	0	192	142	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	232	423	184	28	501	106	78	147	0	192	142	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Final Vol.:	232	423	184	28	501	106	78	147	0	192	142	9
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Lanes:	1.00	1.00	1.00	1.00	0.83	0.17	1.00	2.00	1.00	1.00	1.88	0.12
Final Sat.:	1500	1500	1500	1500	1238	262	1500	3000	1500	1500	2821	179
Capacity Analysis Module:												
Vol/Sat:	0.15	0.28	0.12	0.02	0.40	0.40	0.05	0.05	0.00	0.13	0.05	0.05
Crit Vol:	232					607		74		192		
Crit Moves:	****					****		****		****		

The Rivers Phase II
Existing Plus Project (Scenario B)
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #4 Lighthouse Dr / Douglas St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.249
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	8.9
Optimal Cycle:	0	Level Of Service:	A

Street Name:	Douglas St						Lighthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	0	0 1	0	0 1!	0 0	1	0 0	1 0	1	0 0	1 0
Volume Module:												
Base Vol:	30	4	7	10	6	19	15	92	48	14	53	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	30	4	7	10	6	19	15	92	48	14	53	9
Added Vol:	0	3	5	33	11	18	5	41	0	20	40	8
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	30	7	12	43	17	37	20	133	48	34	93	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	30	7	12	43	17	37	20	133	48	34	93	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	7	12	43	17	37	20	133	48	34	93	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	30	7	12	43	17	37	20	133	48	34	93	17
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.81	0.19	1.00	0.44	0.18	0.38	1.00	0.73	0.27	1.00	0.85	0.15
Final Sat.:	474	110	711	289	114	248	637	534	193	630	598	109
Capacity Analysis Module:												
Vol/Sat:	0.06	0.06	0.02	0.15	0.15	0.15	0.03	0.25	0.25	0.05	0.16	0.16
Crit Moves:		****		****				****			****	
Delay/Veh:	8.9	8.9	7.5	9.1	9.1	9.1	8.4	9.1	9.1	8.6	8.5	8.5
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.9	8.9	7.5	9.1	9.1	9.1	8.4	9.1	9.1	8.6	8.5	8.5
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		8.6			9.1			9.0			8.5	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		8.6			9.1			9.0			8.5	
LOS by Appr:		A			A			A			A	

The Rivers Phase II
Existing Plus Project (Scenario B)
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #5 Cummins Way / Douglas St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.152
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	7.9
Optimal Cycle:	0	Level Of Service:	A

Street Name:	Douglas St						Cummins Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	38	28	14	27	46	20	9	39	15	10	53	32
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	38	28	14	27	46	20	9	39	15	10	53	32
Added Vol:	0	8	0	0	31	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	38	36	14	27	77	20	9	39	15	10	53	32
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	38	36	14	27	77	20	9	39	15	10	53	32
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	38	36	14	27	77	20	9	39	15	10	53	32
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	38	36	14	27	77	20	9	39	15	10	53	32
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.43	0.41	0.16	0.22	0.62	0.16	0.14	0.62	0.24	0.10	0.56	0.34
Final Sat.:	344	326	127	177	505	131	113	489	188	85	453	273
Capacity Analysis Module:												
Vol/Sat:	0.11	0.11	0.11	0.15	0.15	0.15	0.08	0.08	0.08	0.12	0.12	0.12
Crit Moves:		****			****			****			****	
Delay/Veh:	7.9	7.9	7.9	8.0	8.0	8.0	7.7	7.7	7.7	7.8	7.8	7.8
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.9	7.9	7.9	8.0	8.0	8.0	7.7	7.7	7.7	7.8	7.8	7.8
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		7.9			8.0			7.7			7.8	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		7.9			8.0			7.7			7.8	
LOS by Appr:		A			A			A			A	

The Rivers Phase II
Existing Plus Project (Scenario B)
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

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Intersection #6 Sacramento Ave / Douglas St

****

Average Delay (sec/veh): 4.2 Worst Case Level Of Service: B[11.9]

****

Street Name:	Douglas St						Sacramento Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1!	0	0	0 0 1!	0	0	0 1	0	0	0 0	0	1 0
Volume Module:												
Base Vol:	0	0	0	27	0	105	91	200	0	0	173	18
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	27	0	105	91	200	0	0	173	18
Added Vol:	0	0	0	0	0	31	8	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	27	0	136	99	200	0	0	173	18
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	27	0	136	99	200	0	0	173	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	27	0	136	99	200	0	0	173	18
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	637	xxxx	191	150	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	405	xxxx	815	1374	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	382	xxxx	815	1374	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.07	xxxx	0.17	0.07	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	0	xxxxx	xxxx	686	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	0.9	xxxxx	0.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	11.9	xxxxx	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	B	*	A	*	*	*	*	*
ApproachDel:	xxxxxx			11.9			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

The Rivers Phase II
Existing Plus Project (Scenario B)
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #7 Lighthouse Dr / Fountain Dr

Cycle (sec):	100	Critical Vol./Cap. (X):	0.204
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	29	Level Of Service:	A

Street Name:	Fountain Dr						LIghthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	0	0 0	1	0 0	1 0	1	0 1	1 0	0	1 0	0 1
Volume Module:												
Base Vol:	5	3	0	20	4	12	9	92	8	5	59	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	5	3	0	20	4	12	9	92	8	5	59	19
Added Vol:	0	0	0	65	0	24	6	98	0	0	25	17
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	3	0	85	4	36	15	190	8	5	84	36
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	5	3	0	85	4	36	15	190	8	5	84	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	3	0	85	4	36	15	190	8	5	84	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Final Vol.:	5	3	0	85	4	36	15	190	8	5	84	0
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.62	0.38	0.00	1.00	0.10	0.90	1.00	1.92	0.08	0.06	0.94	1.00
Final Sat.:	859	516	0	1375	138	1238	1375	2639	111	77	1298	1375
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.00	0.06	0.03	0.03	0.01	0.07	0.07	0.06	0.06	0.00
Crit Vol:		8		85					99	89		
Crit Moves:		****		****					****	****		

The Rivers Phase II
Existing Plus Project (Scenario B)
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #8 C St / 5th St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.296
Loss Time (sec):	16 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	A

Street Name:	5th St						C St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	39	42	76	74	48	17	12	197	53	125	132	36
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	39	42	76	74	48	17	12	197	53	125	132	36
Added Vol:	0	31	0	44	118	0	0	0	0	0	0	12
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	39	73	76	118	166	17	12	197	53	125	132	48
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	39	73	76	118	166	17	12	197	53	125	132	48
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	39	73	76	118	166	17	12	197	53	125	132	48
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	39	73	76	118	166	17	12	197	53	125	132	48
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Lanes:	1.00	1.00	1.00	1.00	1.81	0.19	1.00	1.58	0.42	1.00	2.00	1.00
Final Sat.:	1500	1500	1500	1500	2721	279	1500	2364	636	1500	3000	1500
Capacity Analysis Module:												
Vol/Sat:	0.03	0.05	0.05	0.08	0.06	0.06	0.01	0.08	0.08	0.08	0.04	0.03
Crit Vol:			76	118					125	125		
Crit Moves:			****	****					****	****		

The Rivers Phase II
Existing Plus Project (Scenario B)
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #1 Lighthouse Dr / Kegle Dr

****

Average Delay (sec/veh): 4.4 Worst Case Level Of Service: B[11.8]

****

Street Name:	Kegle Dr						Lighthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0
Volume Module:												
Base Vol:	12	81	20	29	84	2	1	3	7	42	9	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	12	81	20	29	84	2	1	3	7	42	9	38
Added Vol:	0	0	105	0	0	0	0	0	0	58	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	81	125	29	84	2	1	3	7	100	9	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	12	81	125	29	84	2	1	3	7	100	9	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	12	81	125	29	84	2	1	3	7	100	9	38
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	86	xxxx	xxxxx	206	xxxx	xxxxx	334	373	85	316	312	144
Potent Cap.:	1523	xxxx	xxxxx	1377	xxxx	xxxxx	623	561	980	641	607	909
Move Cap.:	1523	xxxx	xxxxx	1377	xxxx	xxxxx	577	544	980	620	589	909
Volume/Cap:	0.01	xxxx	xxxx	0.02	xxxx	xxxx	0.00	0.01	0.01	0.16	0.02	0.04

Level Of Service Module:												
Queue:	0.0	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	7.4	xxxx	xxxxx	7.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	764	xxxxx	xxxx	673	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.0	xxxxx	xxxxx	0.8	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	9.8	xxxxx	xxxxx	11.8	xxxxx
Shared LOS:	*	*	*	*	*	*	*	A	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			9.8			11.8		
ApproachLOS:	*			*			A			B		

The Rivers Phase II
Existing Plus Project (Scenario B)
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #2 Cummins Way / Kegle Dr

Cycle (sec):	100	Critical Vol./Cap. (X):	0.464
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	10.2
Optimal Cycle:	0	Level Of Service:	B

Street Name:	Kegle Dr						Cummins Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	21	199	47	41	141	1	2	5	8	53	13	37
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	21	199	47	41	141	1	2	5	8	53	13	37
Added Vol:	0	105	0	0	58	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	21	304	47	41	199	1	2	5	8	53	13	37
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	21	304	47	41	199	1	2	5	8	53	13	37
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	21	304	47	41	199	1	2	5	8	53	13	37
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	21	304	47	41	199	1	2	5	8	53	13	37
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.06	0.82	0.12	0.17	0.82	0.01	0.13	0.33	0.54	0.51	0.13	0.36
Final Sat.:	45	655	101	129	625	3	83	209	334	330	81	231
Capacity Analysis Module:												
Vol/Sat:	0.46	0.46	0.46	0.32	0.32	0.32	0.02	0.02	0.02	0.16	0.16	0.16
Crit Moves:		****			****		****				****	
Delay/Veh:	11.0	11.0	11.0	9.7	9.7	9.7	8.2	8.2	8.2	9.0	9.0	9.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.0	11.0	11.0	9.7	9.7	9.7	8.2	8.2	8.2	9.0	9.0	9.0
LOS by Move:	B	B	B	A	A	A	A	A	A	A	A	A
ApproachDel:		11.0			9.7			8.2			9.0	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		11.0			9.7			8.2			9.0	
LOS by Appr:		B			A			A			A	

The Rivers Phase II
Existing Plus Project (Scenario B)
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Sacramento Ave / Kegle Dr & Jefferson Blvd

Cycle (sec):	100	Critical Vol./Cap. (X):	0.762
Loss Time (sec):	16 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	119	Level Of Service:	C

Street Name:	Kegld Dr & Jefferson Blvd						Sacramento Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	1	1 0	0 1	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	412	392	236	14	261	90	110	195	314	207	272	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	412	392	236	14	261	90	110	195	314	207	272	30
Added Vol:	0	73	18	0	40	18	32	14	0	10	8	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	412	465	254	14	301	108	142	209	314	217	280	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	412	465	254	14	301	108	142	209	0	217	280	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	412	465	254	14	301	108	142	209	0	217	280	30
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Final Vol.:	412	465	254	14	301	108	142	209	0	217	280	30
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Lanes:	1.00	1.00	1.00	1.00	0.74	0.26	1.00	2.00	1.00	1.00	1.81	0.19
Final Sat.:	1500	1500	1500	1500	1104	396	1500	3000	1500	1500	2710	290
Capacity Analysis Module:												
Vol/Sat:	0.27	0.31	0.17	0.01	0.27	0.27	0.09	0.07	0.00	0.14	0.10	0.10
Crit Vol:	412				409			105		217		
Crit Moves:	****				****			****		****		

The Rivers Phase II
Existing Plus Project (Scenario B)
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

****

Intersection #4 Lighthouse Dr / Douglas St

****

Cycle (sec):	100	Critical Vol./Cap. (X):	0.209
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	8.4
Optimal Cycle:	0	Level Of Service:	A

****

Street Name:	Douglas St						Lighthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	0	0 1	0	0 1!	0 0	1	0 0	1 0	1	0 0	1 0
Volume Module:												
Base Vol:	11	9	13	8	5	2	4	44	10	10	62	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	9	13	8	5	2	4	44	10	10	62	10
Added Vol:	0	11	21	18	6	10	18	51	0	11	51	34
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	20	34	26	11	12	22	95	10	21	113	44
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	11	20	34	26	11	12	22	95	10	21	113	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	20	34	26	11	12	22	95	10	21	113	44
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	11	20	34	26	11	12	22	95	10	21	113	44
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.35	0.65	1.00	0.54	0.22	0.24	1.00	0.90	0.10	1.00	0.72	0.28
Final Sat.:	223	406	744	346	146	160	649	655	69	655	540	210
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.05	0.08	0.08	0.08	0.03	0.15	0.15	0.03	0.21	0.21
Crit Moves:		****				****			****			****
Delay/Veh:	8.4	8.4	7.5	8.7	8.7	8.7	8.3	8.4	8.4	8.3	8.6	8.6
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.4	8.4	7.5	8.7	8.7	8.7	8.3	8.4	8.4	8.3	8.6	8.6
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		7.9			8.7			8.4			8.6	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		7.9			8.7			8.4			8.6	
LOS by Appr:		A			A			A			A	

****

The Rivers Phase II
Existing Plus Project (Scenario B)
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #5 Cummins Way / Douglas St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.128
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	7.7
Optimal Cycle:	0	Level Of Service:	A

Street Name:	Douglas St						Cummins Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	16	31	28	10	17	10	6	55	21	13	49	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	16	31	28	10	17	10	6	55	21	13	49	7
Added Vol:	0	32	0	0	18	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	16	63	28	10	35	10	6	55	21	13	49	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	16	63	28	10	35	10	6	55	21	13	49	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	63	28	10	35	10	6	55	21	13	49	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	16	63	28	10	35	10	6	55	21	13	49	7
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.15	0.59	0.26	0.18	0.64	0.18	0.07	0.67	0.26	0.19	0.71	0.10
Final Sat.:	125	494	220	148	519	148	61	558	213	152	573	82
Capacity Analysis Module:												
Vol/Sat:	0.13	0.13	0.13	0.07	0.07	0.07	0.10	0.10	0.10	0.09	0.09	0.09
Crit Moves:	****				****			****			****	
Delay/Veh:	7.7	7.7	7.7	7.5	7.5	7.5	7.6	7.6	7.6	7.7	7.7	7.7
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.7	7.7	7.7	7.5	7.5	7.5	7.6	7.6	7.6	7.7	7.7	7.7
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		7.7			7.5			7.6			7.7	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		7.7			7.5			7.6			7.7	
LOS by Appr:		A			A			A			A	

The Rivers Phase II
Existing Plus Project (Scenario B)
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

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Intersection #6 Sacramento Ave / Douglas St

****

Average Delay (sec/veh): 4.3 Worst Case Level Of Service: E[48.2]

****

Street Name:	Douglas St						Sacramento Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0
Volume Module:												
Base Vol:	6	0	1	15	0	102	117	300	4	2	391	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	0	1	15	0	102	117	300	4	2	391	30
Added Vol:	0	0	0	0	0	18	32	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	6	0	1	15	0	120	149	300	4	2	391	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	0	1	15	0	120	149	300	4	2	391	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	6	0	1	15	0	120	149	300	4	2	391	30
Critical Gap Module:												
Critical Gp:	7.1	xxxx	6.2	7.1	xxxx	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	3.3	3.5	xxxx	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1294	xxxx	327	1222	xxxx	469	331	xxxx	xxxxx	246	xxxx	xxxxx
Potent Cap.:	116	xxxx	663	130	xxxx	518	1073	xxxx	xxxxx	1229	xxxx	xxxxx
Move Cap.:	79	xxxx	663	115	xxxx	518	1073	xxxx	xxxxx	1229	xxxx	xxxxx
Volume/Cap:	0.08	xxxx	0.00	0.13	xxxx	0.23	0.14	xxxx	xxxx	0.00	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.5	xxxx	xxxxx	0.0	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.9	xxxx	xxxxx	7.9	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	90	xxxxx	xxxx	373	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.2	xxxxx	xxxxx	1.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	48.2	xxxxx	xxxxx	20.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	E	*	*	C	*	*	*	*	*	*	*
ApproachDel:		48.2			20.0			xxxxxx			xxxxxx	
ApproachLOS:		E			C			*			*	

The Rivers Phase II
Existing Plus Project (Scenario B)
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #7 Lighthouse Dr / Fountain Dr

Cycle (sec):	100	Critical Vol./Cap. (X):	0.212
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	29	Level Of Service:	A

Street Name:	Fountain Dr						LIghthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1! 0	0	1 0	0 1	0	1 0	1	1 0	0 1	0	0 1
Volume Module:												
Base Vol:	0	0	0	8	0	2	4	61	0	0	87	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	8	0	2	4	61	0	0	87	11
Added Vol:	0	0	0	37	0	14	25	55	0	0	101	67
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	45	0	16	29	116	0	0	188	78
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	45	0	16	29	116	0	0	188	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	45	0	16	29	116	0	0	188	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Final Vol.:	0	0	0	45	0	16	29	116	0	0	188	0
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.00	0.00	1.00	0.00	1.00	1.00	2.00	0.00	0.00	1.00	1.00
Final Sat.:	0	1375	0	1375	0	1375	1375	2750	0	0	1375	1375
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.03	0.00	0.01	0.02	0.04	0.00	0.00	0.14	0.00
Crit Vol:		0		45				58			188	
Crit Moves:				****				****			****	

The Rivers Phase II
Existing Plus Project (Scenario B)
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #8 C St / 5th St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.386
Loss Time (sec):	16 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	A

Street Name:	5th St						C St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	105	97	197	47	68	16	16	219	66	157	327	68
Growth Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
Initial Bse:	105	97	197	47	68	16	16	219	66	157	327	68
Added Vol:	0	122	0	25	67	0	0	0	0	0	0	46
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	105	219	197	72	135	16	16	219	66	157	327	114
User Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
PHF Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
PHF Volume:	105	219	197	72	135	16	16	219	66	157	327	114
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	105	219	197	72	135	16	16	219	66	157	327	114
PCE Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
MLF Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
Final Vol.:	105	219	197	72	135	16	16	219	66	157	327	114
Saturation Flow Module:												
Sat/Lane:	1375 1375	1375		1375 1375	1375		1375 1375	1375		1375 1375	1375	
Adjustment:	1.09 1.09	1.09		1.09 1.09	1.09		1.09 1.09	1.09		1.09 1.09	1.09	
Lanes:	1.00 1.05	0.95		1.00 1.79	0.21		1.00 1.54	0.46		1.00 2.00	1.00	
Final Sat.:	1500 1579	1421		1500 2682	318		1500 2305	695		1500 3000	1500	
Capacity Analysis Module:												
Vol/Sat:	0.07 0.14	0.14		0.05 0.05	0.05		0.01 0.10	0.10		0.10 0.11	0.08	
Crit Vol:	208			72				143		157		
Crit Moves:	****			****				****		****		

APPENDIX E

CUMULATIVE (2025) CONDITIONS
LOS CALCULATION WORKSHEETS

The River Phase II
Cumulative No Project Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Lighthouse Dr / Kegle Dr

Average Delay (sec/veh): 6.9 Worst Case Level Of Service: C[24.3]

Street Name:	Kegle Dr						Lighthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	10	210	200	90	170	10	10	10	20	130	10	70
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	210	200	90	170	10	10	10	20	130	10	70
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	210	200	90	170	10	10	10	20	130	10	70
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	10	210	200	90	170	10	10	10	20	130	10	70
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	180	xxxx	xxxxx	410	xxxx	xxxxx	725	785	175	700	690	310
Potent Cap.:	1408	xxxx	xxxxx	1160	xxxx	xxxxx	343	327	874	357	371	735
Move Cap.:	1408	xxxx	xxxxx	1160	xxxx	xxxxx	283	298	874	317	338	735
Volume/Cap:	0.01	xxxx	xxxx	0.08	xxxx	xxxx	0.04	0.03	0.02	0.41	0.03	0.10

Level Of Service Module:												
Queue:	0.0	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	7.6	xxxx	xxxxx	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	436	xxxxx	xxxx	392	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.3	xxxxx	xxxxx	3.0	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	14.1	xxxxx	xxxxx	24.3	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	C	*
ApproachDel:	xxxxxx			xxxxxx			14.1			24.3		
ApproachLOS:	*			*			B			C		

The River Phase II
Cumulative No Project Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #2 Cummins Way / Kegle Dr

Cycle (sec):	100	Critical Vol./Cap. (X):	0.560
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	12.6
Optimal Cycle:	0	Level Of Service:	B

Street Name:	Kegle Dr						Cummins Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	10	370	30	40	330	10	10	10	10	60	20	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	370	30	40	330	10	10	10	10	60	20	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	370	30	40	330	10	10	10	10	60	20	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	370	30	40	330	10	10	10	10	60	20	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	10	370	30	40	330	10	10	10	10	60	20	60
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.02	0.91	0.07	0.10	0.87	0.03	0.34	0.33	0.33	0.43	0.14	0.43
Final Sat.:	18	661	54	76	625	19	177	177	177	251	84	251
Capacity Analysis Module:												
Vol/Sat:	0.56	0.56	0.56	0.53	0.53	0.53	0.06	0.06	0.06	0.24	0.24	0.24
Crit Moves:		****			****		****			****		
Delay/Veh:	13.4	13.4	13.4	12.9	12.9	12.9	9.1	9.1	9.1	10.1	10.1	10.1
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	13.4	13.4	13.4	12.9	12.9	12.9	9.1	9.1	9.1	10.1	10.1	10.1
LOS by Move:	B	B	B	B	B	B	A	A	A	B	B	B
ApproachDel:		13.4			12.9			9.1			10.1	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		13.4			12.9			9.1			10.1	
LOS by Appr:		B			B			A			B	

The River Phase II
Cumulative No Project Conditions
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #3 Sacramento Ave / Kegle Dr & Jefferson Blvd

Cycle (sec):	100	Critical Vol./Cap. (X):	1.057
Loss Time (sec):	16 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Kegld Dr & Jefferson Blvd						Sacramento Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	0 1	1 0	0	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	550	460	220	30	500	130	120	390	800	210	360	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	550	460	220	30	500	130	120	390	800	210	360	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	550	460	220	30	500	130	120	390	0	210	360	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	550	460	220	30	500	130	120	390	0	210	360	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Final Vol.:	550	460	220	30	500	130	120	390	0	210	360	10
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Lanes:	1.00	1.00	1.00	1.00	0.79	0.21	1.00	2.00	1.00	1.00	1.95	0.05
Final Sat.:	1500	1500	1500	1500	1190	310	1500	3000	1500	1500	2919	81
Capacity Analysis Module:												
Vol/Sat:	0.37	0.31	0.15	0.02	0.42	0.42	0.08	0.13	0.00	0.14	0.12	0.12
Crit Vol:	550					630		195		210		
Crit Moves:	****					****		****		****		

The River Phase II
Cumulative No Project Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #4 Lighthouse Dr / Douglas St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.265
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	8.9
Optimal Cycle:	0	Level Of Service:	A

Street Name:	Douglas St						Lighthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	0	0 1	0	0 1!	0 0	1	0 0	1 0	1	0 0	1 0
Volume Module:												
Base Vol:	40	10	60	20	10	20	20	140	50	60	100	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	40	10	60	20	10	20	20	140	50	60	100	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	40	10	60	20	10	20	20	140	50	60	100	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	10	60	20	10	20	20	140	50	60	100	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	40	10	60	20	10	20	20	140	50	60	100	10
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.80	0.20	1.00	0.40	0.20	0.40	1.00	0.74	0.26	1.00	0.91	0.09
Final Sat.:	466	116	708	251	125	251	629	528	189	626	631	63
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.08	0.08	0.08	0.08	0.03	0.26	0.26	0.10	0.16	0.16
Crit Moves:		****			****			****			****	
Delay/Veh:	9.1	9.1	7.9	8.8	8.8	8.8	8.5	9.3	9.3	8.9	8.7	8.7
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.1	9.1	7.9	8.8	8.8	8.8	8.5	9.3	9.3	8.9	8.7	8.7
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		8.4			8.8			9.2			8.7	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		8.4			8.8			9.2			8.7	
LOS by Appr:		A			A			A			A	

The River Phase II
Cumulative No Project Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #5 Cummins Way / Douglas St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.207
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	8.4
Optimal Cycle:	0	Level Of Service:	A

Street Name:	Douglas St						Cummins Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	40	80	20	30	100	30	10	50	20	20	70	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	40	80	20	30	100	30	10	50	20	20	70	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	40	80	20	30	100	30	10	50	20	20	70	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	80	20	30	100	30	10	50	20	20	70	40
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	40	80	20	30	100	30	10	50	20	20	70	40
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.29	0.57	0.14	0.19	0.62	0.19	0.12	0.63	0.25	0.15	0.54	0.31
Final Sat.:	217	435	109	145	483	145	92	460	184	116	406	232
Capacity Analysis Module:												
Vol/Sat:	0.18	0.18	0.18	0.21	0.21	0.21	0.11	0.11	0.11	0.17	0.17	0.17
Crit Moves:		****			****			****			****	
Delay/Veh:	8.5	8.5	8.5	8.6	8.6	8.6	8.1	8.1	8.1	8.4	8.4	8.4
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.5	8.5	8.5	8.6	8.6	8.6	8.1	8.1	8.1	8.4	8.4	8.4
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		8.5			8.6			8.1			8.4	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		8.5			8.6			8.1			8.4	
LOS by Appr:		A			A			A			A	

The River Phase II
Cumulative No Project Conditions
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #6 Sacramento Ave / Douglas St

Average Delay (sec/veh): 9.5 Worst Case Level Of Service: F[51.3]

Street Name:	Douglas St						Sacramento Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0
Volume Module:												
Base Vol:	10	10	10	30	10	150	160	390	10	10	340	20
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	10	10	30	10	150	160	390	10	10	340	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	10	10	30	10	150	160	390	10	10	340	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	10	10	10	30	10	150	160	390	10	10	340	20
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1411	1327	449	1327	1321	392	283	xxxx	xxxxx	317	xxxx	xxxxx
Potent Cap.:	96	129	540	110	131	590	1152	xxxx	xxxxx	1102	xxxx	xxxxx
Move Cap.:	59	109	540	89	110	590	1152	xxxx	xxxxx	1102	xxxx	xxxxx
Volume/Cap:	0.17	0.09	0.02	0.34	0.09	0.25	0.14	xxxx	xxxx	0.01	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.5	xxxx	xxxxx	0.0	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.6	xxxx	xxxxx	8.3	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	107	xxxxx	xxxx	278	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	1.1	xxxxx	xxxxx	4.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	51.3	xxxxx	xxxxx	42.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	F	*	*	E	*	*	*	*	*	*	*
ApproachDel:		51.3			42.0			xxxxxx			xxxxxx	
ApproachLOS:		F			E			*			*	

The River Phase II
Cumulative No Project Conditions
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #7 Lighthouse Dr / Fountain Dr

Cycle (sec):	100	Critical Vol./Cap. (X):	0.196
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	28	Level Of Service:	A

Street Name:	Fountain Dr						LIghthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0	0	1	0	0	1	0	1	0	1	1	0	0	1	0	0	1
Volume Module:												
Base Vol:	10	10	10	70	0	30	30	130	10	10	90	80
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	10	10	70	0	30	30	130	10	10	90	80
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	10	10	10	70	0	30	30	130	10	10	90	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	10	10	70	0	30	30	130	10	10	90	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Final Vol.:	10	10	10	70	0	30	30	130	10	10	90	0
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.34	0.33	0.33	1.00	0.00	1.00	1.00	1.86	0.14	0.10	0.90	1.00
Final Sat.:	458	458	458	1375	0	1375	1375	2554	196	138	1238	1375
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.02	0.05	0.00	0.02	0.02	0.05	0.05	0.07	0.07	0.00
Crit Vol:		30		70					70		100	
Crit Moves:		****		****					****		****	

The River Phase II
Cumulative No Project Conditions
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #8 C St / 5th St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.500
Loss Time (sec):	16 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	57	Level Of Service:	A

Street Name:	5th St						C St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	100	190	220	80	250	30	20	240	200	230	220	160
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	100	190	220	80	250	30	20	240	200	230	220	160
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	100	190	220	80	250	30	20	240	200	230	220	160
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	100	190	220	80	250	30	20	240	200	230	220	160
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	100	190	220	80	250	30	20	240	200	230	220	160
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Lanes:	1.00	1.00	1.00	1.00	1.79	0.21	1.00	1.09	0.91	1.00	2.00	1.00
Final Sat.:	1500	1500	1500	1500	2679	321	1500	1636	1364	1500	3000	1500
Capacity Analysis Module:												
Vol/Sat:	0.07	0.13	0.15	0.05	0.09	0.09	0.01	0.15	0.15	0.15	0.07	0.11
Crit Vol:			220	80				220		230		
Crit Moves:			****	****				****		****		

The Rivers Phase II
Cumulative No Project Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Lighthouse Dr / Kegle Dr

Average Delay (sec/veh): 6.7 Worst Case Level Of Service: C[15.3]

Street Name:	Kegle Dr						Lighthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	20	90	150	40	90	10	10	10	10	180	10	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	20	90	150	40	90	10	10	10	10	180	10	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	20	90	150	40	90	10	10	10	10	180	10	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	20	90	150	40	90	10	10	10	10	180	10	50
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	100	xxxx	xxxxx	240	xxxx	xxxxx	410	455	95	390	385	165
Potent Cap.:	1505	xxxx	xxxxx	1339	xxxx	xxxxx	556	504	967	573	552	885
Move Cap.:	1505	xxxx	xxxxx	1339	xxxx	xxxxx	499	482	967	539	528	885
Volume/Cap:	0.01	xxxx	xxxx	0.03	xxxx	xxxx	0.02	0.02	0.01	0.33	0.02	0.06
Level Of Service Module:												
Queue:	0.0	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	7.4	xxxx	xxxxx	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	587	xxxxx	xxxx	586	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.2	xxxxx	xxxxx	2.0	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	11.5	xxxxx	xxxxx	15.3	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	C	*
ApproachDel:	xxxxxx			xxxxxx			11.5			15.3		
ApproachLOS:	*			*			B			C		

The Rivers Phase II
Cumulative No Project Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #2 Cummins Way / Kegle Dr

Cycle (sec):	100	Critical Vol./Cap. (X):	0.539
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	11.7
Optimal Cycle:	0	Level Of Service:	B

Street Name:	Kegle Dr						Cummins Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	30	320	60	50	270	10	10	10	10	60	20	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	30	320	60	50	270	10	10	10	10	60	20	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	30	320	60	50	270	10	10	10	10	60	20	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	320	60	50	270	10	10	10	10	60	20	40
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	30	320	60	50	270	10	10	10	10	60	20	40
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.07	0.78	0.15	0.15	0.82	0.03	0.34	0.33	0.33	0.50	0.17	0.33
Final Sat.:	56	594	111	111	598	22	185	185	185	297	99	198
Capacity Analysis Module:												
Vol/Sat:	0.54	0.54	0.54	0.45	0.45	0.45	0.05	0.05	0.05	0.20	0.20	0.20
Crit Moves:		****			****			****				****
Delay/Veh:	12.7	12.7	12.7	11.5	11.5	11.5	8.9	8.9	8.9	9.7	9.7	9.7
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.7	12.7	12.7	11.5	11.5	11.5	8.9	8.9	8.9	9.7	9.7	9.7
LOS by Move:	B	B	B	B	B	B	A	A	A	A	A	A
ApproachDel:		12.7			11.5			8.9			9.7	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		12.7			11.5			8.9			9.7	
LOS by Appr:		B			B			A			A	

The Rivers Phase II
Cumulative No Project Conditions
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #3 Sacramento Ave / Kegle Dr & Jefferson Blvd

Cycle (sec):	100	Critical Vol./Cap. (X):	0.973
Loss Time (sec):	16 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Kegld Dr & Jefferson Blvd						Sacramento Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	1	1 0	0 1	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	470	460	290	20	350	140	180	480	740	260	270	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	470	460	290	20	350	140	180	480	740	260	270	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	470	460	290	20	350	140	180	480	0	260	270	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	470	460	290	20	350	140	180	480	0	260	270	40
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Final Vol.:	470	460	290	20	350	140	180	480	0	260	270	40
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Lanes:	1.00	1.00	1.00	1.00	0.71	0.29	1.00	2.00	1.00	1.00	1.74	0.26
Final Sat.:	1500	1500	1500	1500	1071	429	1500	3000	1500	1500	2613	387
Capacity Analysis Module:												
Vol/Sat:	0.31	0.31	0.19	0.01	0.33	0.33	0.12	0.16	0.00	0.17	0.10	0.10
Crit Vol:	470				490			240		260		
Crit Moves:	****				****			****		****		

The Rivers Phase II
Cumulative No Project Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #4 Lighthouse Dr / Douglas St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.177
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	8.3
Optimal Cycle:	0	Level Of Service:	A

Street Name:	Douglas St						Lighthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	0	0 1	0	0 1!	0 0	1	0	0 1	0	1 0	0 1 0
Volume Module:												
Base Vol:	20	10	60	10	10	10	10	90	20	50	110	20
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	20	10	60	10	10	10	10	90	20	50	110	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	20	10	60	10	10	10	10	90	20	50	110	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	20	10	60	10	10	10	10	90	20	50	110	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	20	10	60	10	10	10	10	90	20	50	110	20
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.67	0.33	1.00	0.34	0.33	0.33	1.00	0.82	0.18	1.00	0.85	0.15
Final Sat.:	412	206	751	220	220	220	647	597	133	654	623	113
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.08	0.05	0.05	0.05	0.02	0.15	0.15	0.08	0.18	0.18
Crit Moves:			****	****				****			****	
Delay/Veh:	8.5	8.5	7.6	8.4	8.4	8.4	8.2	8.4	8.4	8.5	8.5	8.5
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.5	8.5	7.6	8.4	8.4	8.4	8.2	8.4	8.4	8.5	8.5	8.5
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		7.9			8.4			8.3			8.5	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		7.9			8.4			8.3			8.5	
LOS by Appr:		A			A			A			A	

The Rivers Phase II
Cumulative No Project Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #5 Cummins Way / Douglas St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.188
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	8.1
Optimal Cycle:	0	Level Of Service:	A

Street Name:	Douglas St						Cummins Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	20	100	30	20	50	20	10	70	30	20	60	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	20	100	30	20	50	20	10	70	30	20	60	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	20	100	30	20	50	20	10	70	30	20	60	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	20	100	30	20	50	20	10	70	30	20	60	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	20	100	30	20	50	20	10	70	30	20	60	10
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.13	0.67	0.20	0.22	0.56	0.22	0.09	0.64	0.27	0.22	0.67	0.11
Final Sat.:	106	531	159	173	432	173	71	497	213	168	505	84
Capacity Analysis Module:												
Vol/Sat:	0.19	0.19	0.19	0.12	0.12	0.12	0.14	0.14	0.14	0.12	0.12	0.12
Crit Moves:	****			****				****		****		
Delay/Veh:	8.3	8.3	8.3	8.0	8.0	8.0	8.1	8.1	8.1	8.1	8.1	8.1
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.3	8.3	8.3	8.0	8.0	8.0	8.1	8.1	8.1	8.1	8.1	8.1
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		8.3			8.0			8.1			8.1	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		8.3			8.0			8.1			8.1	
LOS by Appr:		A			A			A			A	

The Rivers Phase II
Cumulative No Project Conditions
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

****

Intersection #6 Sacramento Ave / Douglas St

****

Average Delay (sec/veh): 112.9 Worst Case Level Of Service: F[1061.4]

****

Street Name:	Douglas St						Sacramento Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	10	10	10	20	10	130	190	510	10	10	560	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	10	10	20	10	130	190	510	10	10	560	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	10	10	20	10	130	190	510	10	10	560	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	10	10	10	20	10	130	190	510	10	10	560	40
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	2284	2211	604	2196	2189	764	473	xxxx	xxxxx	437	xxxx	xxxxx
Potent Cap.:	19	31	428	22	32	309	834	xxxx	xxxxx	966	xxxx	xxxxx
Move Cap.:	6	23	428	12	23	309	834	xxxx	xxxxx	966	xxxx	xxxxx
Volume/Cap:	1.65	0.44	0.02	1.72	0.43	0.42	0.23	xxxx	xxxx	0.01	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.9	xxxx	xxxxx	0.0	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.6	xxxx	xxxxx	8.8	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	14	xxxxx	xxxx	62	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	4.5	xxxxx	xxxxx	16.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	1061	xxxxx	xxxxx	854	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	F	*	*	F	*	*	*	*	*	*	*
ApproachDel:	1061.4			853.7			xxxxxx			xxxxxx		
ApproachLOS:	F			F			*			*		

The Rivers Phase II
Cumulative No Project Conditions
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #7 Lighthouse Dr / Fountain Dr

Cycle (sec):	100	Critical Vol./Cap. (X):	0.229
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	A

Street Name:	Fountain Dr						LIghthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0	0		1 0	0 1	0	1	0	1 1	0 0 1
Volume Module:												
Base Vol:	10	10	10	80	0	20	20	100	10	30	120	80
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	10	10	80	0	20	20	100	10	30	120	80
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	10	10	10	80	0	20	20	100	10	30	120	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	10	10	80	0	20	20	100	10	30	120	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Final Vol.:	10	10	10	80	0	20	20	100	10	30	120	0
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.34	0.33	0.33	1.00	0.00	1.00	1.00	1.82	0.18	0.20	0.80	1.00
Final Sat.:	458	458	458	1375	0	1375	1375	2500	250	275	1100	1375
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.02	0.06	0.00	0.01	0.01	0.04	0.04	0.11	0.11	0.00
Crit Vol:		30		80				55			150	
Crit Moves:		****		****				****			****	

The Rivers Phase II
Cumulative No Project Conditions
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #8 C St / 5th St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.590
Loss Time (sec):	16 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	69	Level Of Service:	A

Street Name:	5th St						C St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	230	270	230	80	300	20	30	340	170	240	420	70
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	230	270	230	80	300	20	30	340	170	240	420	70
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	230	270	230	80	300	20	30	340	170	240	420	70
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	230	270	230	80	300	20	30	340	170	240	420	70
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	230	270	230	80	300	20	30	340	170	240	420	70
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Lanes:	1.00	1.08	0.92	1.00	1.88	0.12	1.00	1.33	0.67	1.00	2.00	1.00
Final Sat.:	1500	1620	1380	1500	2812	187	1500	2000	1000	1500	3000	1500
Capacity Analysis Module:												
Vol/Sat:	0.15	0.17	0.17	0.05	0.11	0.11	0.02	0.17	0.17	0.16	0.14	0.05
Crit Vol:	230				160			255		240		
Crit Moves:	****				****			****		****		

The Rivers Phase II
Cumulative Plus Project (Scenario A)
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #1 Lighthouse Dr / Kegle Dr

****

Average Delay (sec/veh): 21.3 Worst Case Level Of Service: F[68.7]

****

Street Name:	Kegle Dr						Lighthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	10	210	200	90	170	10	10	10	20	130	10	70
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	210	200	90	170	10	10	10	20	130	10	70
Added Vol:	0	0	56	0	0	0	0	0	0	113	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	210	256	90	170	10	10	10	20	243	10	70
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	210	256	90	170	10	10	10	20	243	10	70
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	10	210	256	90	170	10	10	10	20	243	10	70
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	180	xxxx	xxxxx	466	xxxx	xxxxx	753	841	175	728	718	338
Potent Cap.:	1408	xxxx	xxxxx	1106	xxxx	xxxxx	329	303	874	341	357	709
Move Cap.:	1408	xxxx	xxxxx	1106	xxxx	xxxxx	269	275	874	302	324	709
Volume/Cap:	0.01	xxxx	xxxx	0.08	xxxx	xxxx	0.04	0.04	0.02	0.81	0.03	0.10
Level Of Service Module:												
Queue:	0.0	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	7.6	xxxx	xxxxx	8.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	415	xxxxx	xxxx	345	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.3	xxxxx	xxxxx	9.7	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	14.6	xxxxx	xxxxx	68.7	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	F	*
ApproachDel:	xxxxxx			xxxxxx			14.6			68.7		
ApproachLOS:	*			*			B			F		

The Rivers Phase II
Cumulative Plus Project (Scenario A)
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #2 Cummins Way / Kegle Dr

Cycle (sec):	100	Critical Vol./Cap. (X):	0.696
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	16.3
Optimal Cycle:	0	Level Of Service:	C

Street Name:	Kegle Dr						Cummins Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0	0	0	1! 0	0	0	1! 0	0	0	1! 0
Volume Module:												
Base Vol:	10	370	30	40	330	10	10	10	10	60	20	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	370	30	40	330	10	10	10	10	60	20	60
Added Vol:	0	56	0	0	113	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	426	30	40	443	10	10	10	10	60	20	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	426	30	40	443	10	10	10	10	60	20	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	426	30	40	443	10	10	10	10	60	20	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	10	426	30	40	443	10	10	10	10	60	20	60
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.02	0.92	0.06	0.08	0.90	0.02	0.34	0.33	0.33	0.43	0.14	0.43
Final Sat.:	15	647	46	57	637	14	160	160	160	232	77	232
Capacity Analysis Module:												
Vol/Sat:	0.66	0.66	0.66	0.70	0.70	0.70	0.06	0.06	0.06	0.26	0.26	0.26
Crit Moves:			****		****		****			****		
Delay/Veh:	16.6	16.6	16.6	18.1	18.1	18.1	9.6	9.6	9.6	10.7	10.7	10.7
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	16.6	16.6	16.6	18.1	18.1	18.1	9.6	9.6	9.6	10.7	10.7	10.7
LOS by Move:	C	C	C	C	C	C	A	A	A	B	B	B
ApproachDel:		16.6			18.1			9.6			10.7	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		16.6			18.1			9.6			10.7	
LOS by Appr:		C			C			A			B	

The Rivers Phase II
Cumulative Plus Project (Scenario A)
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Sacramento Ave / Kegle Dr & Jefferson Blvd

Cycle (sec):	100	Critical Vol./Cap. (X):	1.148
Loss Time (sec):	16 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Kegld Dr & Jefferson Blvd						Sacramento Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	0 1	1 0	0 1	0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	550	460	220	30	500	130	120	390	800	210	360	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	550	460	220	30	500	130	120	390	800	210	360	10
Added Vol:	0	38	11	0	78	35	18	7	0	21	14	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	550	498	231	30	578	165	138	397	800	231	374	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	550	498	231	30	578	165	138	397	0	231	374	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	550	498	231	30	578	165	138	397	0	231	374	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Final Vol.:	550	498	231	30	578	165	138	397	0	231	374	10
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Lanes:	1.00	1.00	1.00	1.00	0.78	0.22	1.00	2.00	1.00	1.00	1.95	0.05
Final Sat.:	1500	1500	1500	1500	1167	333	1500	3000	1500	1500	2922	78
Capacity Analysis Module:												
Vol/Sat:	0.37	0.33	0.15	0.02	0.50	0.50	0.09	0.13	0.00	0.15	0.13	0.13
Crit Vol:	550					743		199		231		
Crit Moves:	****					****		****		****		

The Rivers Phase II
Cumulative Plus Project (Scenario A)
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #4 Lighthouse Dr / Douglas St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.391
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	10.2
Optimal Cycle:	0	Level Of Service:	B

Street Name:	Douglas St						Lighthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	0	0 1	0	0 1!	0 0	1	0 0	1 0	1	0 0	1 0
Volume Module:												
Base Vol:	40	10	60	20	10	20	20	140	50	60	100	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	40	10	60	20	10	20	20	140	50	60	100	10
Added Vol:	0	3	15	28	9	15	4	67	0	26	61	8
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	40	13	75	48	19	35	24	207	50	86	161	18
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	40	13	75	48	19	35	24	207	50	86	161	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	13	75	48	19	35	24	207	50	86	161	18
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	40	13	75	48	19	35	24	207	50	86	161	18
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.75	0.25	1.00	0.47	0.19	0.34	1.00	0.81	0.19	1.00	0.90	0.10
Final Sat.:	398	129	627	266	105	194	586	530	128	586	582	65
Capacity Analysis Module:												
Vol/Sat:	0.10	0.10	0.12	0.18	0.18	0.18	0.04	0.39	0.39	0.15	0.28	0.28
Crit Moves:			****		****			****				****
Delay/Veh:	9.7	9.7	8.7	10.1	10.1	10.1	8.9	11.2	11.2	9.6	10.0	10.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.7	9.7	8.7	10.1	10.1	10.1	8.9	11.2	11.2	9.6	10.0	10.0
LOS by Move:	A	A	A	B	B	B	A	B	B	A	B	B
ApproachDel:		9.1			10.1			11.0			9.9	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		9.1			10.1			11.0			9.9	
LOS by Appr:		A			B			B			A	

The Rivers Phase II
Cumulative Plus Project (Scenario A)
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #5 Cummins Way / Douglas St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.254
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	8.7
Optimal Cycle:	0	Level Of Service:	A

Street Name:	Douglas St						Cummins Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	40	80	20	30	100	30	10	50	20	20	70	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	40	80	20	30	100	30	10	50	20	20	70	40
Added Vol:	0	18	0	0	35	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	40	98	20	30	135	30	10	50	20	20	70	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	40	98	20	30	135	30	10	50	20	20	70	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	98	20	30	135	30	10	50	20	20	70	40
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	40	98	20	30	135	30	10	50	20	20	70	40
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.25	0.62	0.13	0.15	0.70	0.15	0.12	0.63	0.25	0.15	0.54	0.31
Final Sat.:	190	466	95	118	531	118	89	443	177	112	392	224
Capacity Analysis Module:												
Vol/Sat:	0.21	0.21	0.21	0.25	0.25	0.25	0.11	0.11	0.11	0.18	0.18	0.18
Crit Moves:		****			****			****			****	
Delay/Veh:	8.7	8.7	8.7	9.0	9.0	9.0	8.3	8.3	8.3	8.6	8.6	8.6
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.7	8.7	8.7	9.0	9.0	9.0	8.3	8.3	8.3	8.6	8.6	8.6
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		8.7			9.0			8.3			8.6	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		8.7			9.0			8.3			8.6	
LOS by Appr:		A			A			A			A	

The Rivers Phase II
Cumulative Plus Project (Scenario A)
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #6 Sacramento Ave / Douglas St

****

Average Delay (sec/veh): 12.3 Worst Case Level Of Service: F[61.2]

****

Street Name:	Douglas St						Sacramento Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	10	10	10	30	10	150	160	390	10	10	340	20
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	10	10	30	10	150	160	390	10	10	340	20
Added Vol:	0	0	0	0	0	35	18	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	10	10	30	10	185	178	390	10	10	340	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	10	10	30	10	185	178	390	10	10	340	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	10	10	10	30	10	185	178	390	10	10	340	20
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1468	1363	446	1363	1357	394	280	xxxx	xxxxx	322	xxxx	xxxxx
Potent Cap.:	89	124	546	105	125	587	1151	xxxx	xxxxx	1106	xxxx	xxxxx
Move Cap.:	49	102	546	82	103	587	1151	xxxx	xxxxx	1106	xxxx	xxxxx
Volume/Cap:	0.21	0.10	0.02	0.36	0.10	0.32	0.15	xxxx	xxxx	0.01	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.5	xxxx	xxxxx	0.0	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.7	xxxx	xxxxx	8.3	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	93	xxxxx	xxxx	289	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	1.2	xxxxx	xxxxx	6.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	61.2	xxxxx	xxxxx	50.2	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	F	*	*	F	*	*	*	*	*	*	*
ApproachDel:		61.2			50.2		xxxxxx			xxxxxx		
ApproachLOS:		F			F		*			*		

The Rivers Phase II
Cumulative Plus Project (Scenario A)
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #7 Lighthouse Dr / Fountain Dr

Cycle (sec):	100	Critical Vol./Cap. (X):	0.336
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	34	Level Of Service:	A

Street Name:	Fountain Dr						LIghthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1!	0	0	1	0	0	1	0	1	0
Volume Module:												
Base Vol:	10	10	10	70	0	30	30	130	10	10	90	80
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	10	10	70	0	30	30	130	10	10	90	80
Added Vol:	0	0	0	55	0	21	6	125	0	0	74	15
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	10	10	125	0	51	36	255	10	10	164	95
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	10	10	10	125	0	51	36	255	10	10	164	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	10	10	125	0	51	36	255	10	10	164	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Final Vol.:	10	10	10	125	0	51	36	255	10	10	164	0
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.34	0.33	0.33	1.00	0.00	1.00	1.00	1.92	0.08	0.06	0.94	1.00
Final Sat.:	458	458	458	1375	0	1375	1375	2646	104	79	1296	1375
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.02	0.09	0.00	0.04	0.03	0.10	0.10	0.13	0.13	0.00
Crit Vol:		30		125					133		174	
Crit Moves:		****		****					****		****	

The Rivers Phase II
Cumulative Plus Project (Scenario A)
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

****

Intersection #8 C St / 5th St

****

Cycle (sec): 100 Critical Vol./Cap. (X): 0.544
Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 62 Level Of Service: A

****

Street Name:	5th St						C St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	100	190	220	80	250	30	20	240	200	230	220	160
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	100	190	220	80	250	30	20	240	200	230	220	160
Added Vol:	0	65	0	49	131	0	0	0	0	0	0	24
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	100	255	220	129	381	30	20	240	200	230	220	184
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	100	255	220	129	381	30	20	240	200	230	220	184
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	100	255	220	129	381	30	20	240	200	230	220	184
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	100	255	220	129	381	30	20	240	200	230	220	184
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Lanes:	1.00	1.07	0.93	1.00	1.85	0.15	1.00	1.09	0.91	1.00	2.00	1.00
Final Sat.:	1500	1611	1389	1500	2781	219	1500	1636	1364	1500	3000	1500
Capacity Analysis Module:												
Vol/Sat:	0.07	0.16	0.16	0.09	0.14	0.14	0.01	0.15	0.15	0.15	0.07	0.12
Crit Vol:		238		129				220		230		
Crit Moves:		****		****				****		****		

****

The Rivers Phase II
Cumulative Plus Project (Scenario A)
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #1 Lighthouse Dr / Kegle Dr

****

Average Delay (sec/veh): 8.2 Worst Case Level Of Service: C[19.9]

****

Street Name:	Kegle Dr						Lighthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	20	90	150	40	90	10	10	10	10	180	10	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	20	90	150	40	90	10	10	10	10	180	10	50
Added Vol:	0	0	99	0	0	0	0	0	0	58	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	20	90	249	40	90	10	10	10	10	238	10	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	20	90	249	40	90	10	10	10	10	238	10	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	20	90	249	40	90	10	10	10	10	238	10	50
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	100	xxxx	xxxxx	339	xxxx	xxxxx	460	554	95	439	435	215
Potent Cap.:	1505	xxxx	xxxxx	1231	xxxx	xxxxx	515	443	967	531	518	831
Move Cap.:	1505	xxxx	xxxxx	1231	xxxx	xxxxx	460	423	967	498	494	831
Volume/Cap:	0.01	xxxx	xxxx	0.03	xxxx	xxxx	0.02	0.02	0.01	0.48	0.02	0.06
Level Of Service Module:												
Queue:	0.0	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	7.4	xxxx	xxxxx	8.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	538	xxxxx	xxxx	534	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.2	xxxxx	xxxxx	3.4	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	12.1	xxxxx	xxxxx	19.9	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	C	*
ApproachDel:	xxxxxx			xxxxxx			12.1			19.9		
ApproachLOS:	*			*			B			C		

The Rivers Phase II
Cumulative Plus Project (Scenario A)
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #2 Cummins Way / Kegle Dr

Cycle (sec):	100	Critical Vol./Cap. (X):	0.682
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	14.6
Optimal Cycle:	0	Level Of Service:	B

Street Name:	Kegle Dr						Cummins Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	30	320	60	50	270	10	10	10	10	60	20	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	30	320	60	50	270	10	10	10	10	60	20	40
Added Vol:	0	99	0	0	58	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	30	419	60	50	328	10	10	10	10	60	20	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	30	419	60	50	328	10	10	10	10	60	20	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	419	60	50	328	10	10	10	10	60	20	40
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	30	419	60	50	328	10	10	10	10	60	20	40
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.06	0.82	0.12	0.13	0.84	0.03	0.34	0.33	0.33	0.50	0.17	0.33
Final Sat.:	44	614	88	91	600	18	169	169	169	276	92	184
Capacity Analysis Module:												
Vol/Sat:	0.68	0.68	0.68	0.55	0.55	0.55	0.06	0.06	0.06	0.22	0.22	0.22
Crit Moves:		****		****			****			****		
Delay/Veh:	16.9	16.9	16.9	13.4	13.4	13.4	9.3	9.3	9.3	10.2	10.2	10.2
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	16.9	16.9	16.9	13.4	13.4	13.4	9.3	9.3	9.3	10.2	10.2	10.2
LOS by Move:	C	C	C	B	B	B	A	A	A	B	B	B
ApproachDel:		16.9			13.4			9.3			10.2	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		16.9			13.4			9.3			10.2	
LOS by Appr:		C			B			A			B	

The Rivers Phase II
Cumulative Plus Project (Scenario A)
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Sacramento Ave / Kegle Dr & Jefferson Blvd

Cycle (sec):	100	Critical Vol./Cap. (X):	1.023
Loss Time (sec):	16 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Kegld Dr & Jefferson Blvd						Sacramento Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	1	1 0	0 1	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	470	460	290	20	350	140	180	480	740	260	270	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	470	460	290	20	350	140	180	480	740	260	270	40
Added Vol:	0	69	18	0	40	18	31	13	0	10	7	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	470	529	308	20	390	158	211	493	740	270	277	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	470	529	308	20	390	158	211	493	0	270	277	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	470	529	308	20	390	158	211	493	0	270	277	40
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Final Vol.:	470	529	308	20	390	158	211	493	0	270	277	40
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Lanes:	1.00	1.00	1.00	1.00	0.71	0.29	1.00	2.00	1.00	1.00	1.75	0.25
Final Sat.:	1500	1500	1500	1500	1068	432	1500	3000	1500	1500	2621	379
Capacity Analysis Module:												
Vol/Sat:	0.31	0.35	0.21	0.01	0.37	0.37	0.14	0.16	0.00	0.18	0.11	0.11
Crit Vol:	470				548			247		270		
Crit Moves:	****				****			****		****		

The Rivers Phase II
Cumulative Plus Project (Scenario A)
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #4 Lighthouse Dr / Douglas St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.301
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	9.3
Optimal Cycle:	0	Level Of Service:	A

Street Name:	Douglas St						Lighthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	0	0 1	0	0 1!	0 0	1	0 0	1 0	1	0 0	1 0
Volume Module:												
Base Vol:	20	10	60	10	10	10	10	90	20	50	110	20
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	20	10	60	10	10	10	10	90	20	50	110	20
Added Vol:	0	10	21	16	5	9	16	52	0	12	52	29
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	20	20	81	26	15	19	26	142	20	62	162	49
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	20	20	81	26	15	19	26	142	20	62	162	49
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	20	20	81	26	15	19	26	142	20	62	162	49
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	20	20	81	26	15	19	26	142	20	62	162	49
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.50	0.50	1.00	0.43	0.25	0.32	1.00	0.88	0.12	1.00	0.77	0.23
Final Sat.:	286	286	673	257	148	188	608	593	84	620	539	163
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.12	0.10	0.10	0.10	0.04	0.24	0.24	0.10	0.30	0.30
Crit Moves:			****		****				****		****	
Delay/Veh:	9.1	9.1	8.3	9.3	9.3	9.3	8.7	9.4	9.4	9.0	9.8	9.8
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.1	9.1	8.3	9.3	9.3	9.3	8.7	9.4	9.4	9.0	9.8	9.8
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		8.6			9.3			9.3			9.6	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		8.6			9.3			9.3			9.6	
LOS by Appr:		A			A			A			A	

The Rivers Phase II
Cumulative Plus Project (Scenario A)
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #5 Cummins Way / Douglas St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.229
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	8.4
Optimal Cycle:	0	Level Of Service:	A

Street Name:	Douglas St						Cummins Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0	0	0	1! 0	0	0	1! 0	0	0	1! 0
Volume Module:												
Base Vol:	20	100	30	20	50	20	10	70	30	20	60	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	20	100	30	20	50	20	10	70	30	20	60	10
Added Vol:	0	30	0	0	18	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	20	130	30	20	68	20	10	70	30	20	60	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	20	130	30	20	68	20	10	70	30	20	60	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	20	130	30	20	68	20	10	70	30	20	60	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	20	130	30	20	68	20	10	70	30	20	60	10
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.11	0.72	0.17	0.18	0.63	0.19	0.09	0.64	0.27	0.22	0.67	0.11
Final Sat.:	88	569	131	142	483	142	69	481	206	163	488	81
Capacity Analysis Module:												
Vol/Sat:	0.23	0.23	0.23	0.14	0.14	0.14	0.15	0.15	0.15	0.12	0.12	0.12
Crit Moves:	****				****			****		****		
Delay/Veh:	8.6	8.6	8.6	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.6	8.6	8.6	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		8.6			8.2			8.2			8.2	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		8.6			8.2			8.2			8.2	
LOS by Appr:		A			A			A			A	

The Rivers Phase II
Cumulative Plus Project (Scenario A)
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

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Intersection #6 Sacramento Ave / Douglas St

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Average Delay (sec/veh): 178.8 Worst Case Level Of Service: F[1775.5]

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Street Name:	Douglas St						Sacramento Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	10	10	10	20	10	130	190	510	10	10	560	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	10	10	20	10	130	190	510	10	10	560	40
Added Vol:	0	0	0	0	0	18	30	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	10	10	20	10	148	220	510	10	10	560	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	10	10	20	10	148	220	510	10	10	560	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	10	10	10	20	10	148	220	510	10	10	560	40
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	2393	2307	602	2292	2285	768	470	xxxx	xxxxx	439	xxxx	xxxxx
Potent Cap.:	16	27	431	19	27	306	832	xxxx	xxxxx	968	xxxx	xxxxx
Move Cap.:	4	18	431	8	19	306	832	xxxx	xxxxx	968	xxxx	xxxxx
Volume/Cap:	2.63	0.55	0.02	2.40	0.53	0.48	0.26	xxxx	xxxx	0.01	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	1.1	xxxx	xxxxx	0.0	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.9	xxxx	xxxxx	8.8	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	9	xxxxx	xxxx	52	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	4.9	xxxxx	xxxxx	19.2	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	1775	xxxxx	xxxxx	1252	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	F	*	*	F	*	*	*	*	*	*	*
ApproachDel:	1775.5			1252.0			xxxxxx			xxxxxx		
ApproachLOS:	F			F			*			*		

The Rivers Phase II
Cumulative Plus Project (Scenario A)
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #7 Lighthouse Dr / Fountain Dr

Cycle (sec):	100	Critical Vol./Cap. (X):	0.348
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	35	Level Of Service:	A

Street Name:	Fountain Dr						LIghthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0	0	1	0	0	1	0	1	0	1	1	0	0	1	0	0	1
Volume Module:												
Base Vol:	10	10	10	80	0	20	20	100	10	30	120	80
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	10	10	80	0	20	20	100	10	30	120	80
Added Vol:	0	0	0	32	0	12	22	60	0	0	101	58
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	10	10	112	0	32	42	160	10	30	221	138
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	10	10	10	112	0	32	42	160	10	30	221	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	10	10	112	0	32	42	160	10	30	221	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Final Vol.:	10	10	10	112	0	32	42	160	10	30	221	0
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.34	0.33	0.33	1.00	0.00	1.00	1.00	1.88	0.12	0.12	0.88	1.00
Final Sat.:	458	458	458	1375	0	1375	1375	2588	162	164	1211	1375
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.02	0.08	0.00	0.02	0.03	0.06	0.06	0.18	0.18	0.00
Crit Vol:		30		112				85			251	
Crit Moves:		****		****				****			****	

The Rivers Phase II
Cumulative Plus Project (Scenario A)
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

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Intersection #8 C St / 5th St

****

Cycle (sec): 100 Critical Vol./Cap. (X): 0.612
Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 73 Level Of Service: B

****

Street Name:	5th St						C St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	230	270	230	80	300	20	30	340	170	240	420	70
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	230	270	230	80	300	20	30	340	170	240	420	70
Added Vol:	0	115	0	25	67	0	0	0	0	0	0	43
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	230	385	230	105	367	20	30	340	170	240	420	113
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	230	385	230	105	367	20	30	340	170	240	420	113
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	230	385	230	105	367	20	30	340	170	240	420	113
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	230	385	230	105	367	20	30	340	170	240	420	113
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Lanes:	1.00	1.25	0.75	1.00	1.90	0.10	1.00	1.33	0.67	1.00	2.00	1.00
Final Sat.:	1500	1878	1122	1500	2845	155	1500	2000	1000	1500	3000	1500
Capacity Analysis Module:												
Vol/Sat:	0.15	0.21	0.21	0.07	0.13	0.13	0.02	0.17	0.17	0.16	0.14	0.08
Crit Vol:	230				194			255		240		
Crit Moves:	****				****			****		****		

****

The Rivers Phase II
Cumulative Plus Project (Scenario B)
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 Lighthouse Dr / Kegle Dr

Average Delay (sec/veh): 17.8 Worst Case Level Of Service: F[56.5]

Street Name:	Kegle Dr						Lighthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0
Volume Module:												
Base Vol:	10	210	200	90	170	10	10	10	20	130	10	70
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	210	200	90	170	10	10	10	20	130	10	70
Added Vol:	0	0	27	0	0	0	0	0	0	102	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	210	227	90	170	10	10	10	20	232	10	70
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	210	227	90	170	10	10	10	20	232	10	70
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	10	210	227	90	170	10	10	10	20	232	10	70
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	180	xxxx	xxxxx	437	xxxx	xxxxx	739	812	175	714	704	324
Potent Cap.:	1408	xxxx	xxxxx	1134	xxxx	xxxxx	336	315	874	349	364	722
Move Cap.:	1408	xxxx	xxxxx	1134	xxxx	xxxxx	276	287	874	309	331	722
Volume/Cap:	0.01	xxxx	xxxx	0.08	xxxx	xxxx	0.04	0.03	0.02	0.75	0.03	0.10
Level Of Service Module:												
Queue:	0.0	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	7.6	xxxx	xxxxx	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	426	xxxxx	xxxx	356	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.3	xxxxx	xxxxx	8.4	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	14.3	xxxxx	xxxxx	56.5	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	F	*
ApproachDel:	xxxxxx			xxxxxx			14.3			56.5		
ApproachLOS:	*			*			B			F		

The Rivers Phase II
Cumulative Plus Project (Scenario B)
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #2 Cummins Way / Kegle Dr

Cycle (sec):	100	Critical Vol./Cap. (X):	0.674
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	15.3
Optimal Cycle:	0	Level Of Service:	C

Street Name:	Kegle Dr						Cummins Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	10	370	30	40	330	10	10	10	10	60	20	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	370	30	40	330	10	10	10	10	60	20	60
Added Vol:	0	27	0	0	102	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	397	30	40	432	10	10	10	10	60	20	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	397	30	40	432	10	10	10	10	60	20	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	397	30	40	432	10	10	10	10	60	20	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	10	397	30	40	432	10	10	10	10	60	20	60
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.02	0.91	0.07	0.08	0.90	0.02	0.34	0.33	0.33	0.43	0.14	0.43
Final Sat.:	16	645	49	59	640	15	163	163	163	236	79	236
Capacity Analysis Module:												
Vol/Sat:	0.62	0.62	0.62	0.67	0.67	0.67	0.06	0.06	0.06	0.25	0.25	0.25
Crit Moves:		****		****			****			****		
Delay/Veh:	15.2	15.2	15.2	17.1	17.1	17.1	9.5	9.5	9.5	10.6	10.6	10.6
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	15.2	15.2	15.2	17.1	17.1	17.1	9.5	9.5	9.5	10.6	10.6	10.6
LOS by Move:	C	C	C	C	C	C	A	A	A	B	B	B
ApproachDel:		15.2			17.1			9.5			10.6	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		15.2			17.1			9.5			10.6	
LOS by Appr:		C			C			A			B	

The Rivers Phase II
Cumulative Plus Project (Scenario B)
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Sacramento Ave / Kegle Dr & Jefferson Blvd

Cycle (sec):	100	Critical Vol./Cap. (X):	1.138
Loss Time (sec):	16 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Kegld Dr & Jefferson Blvd						Sacramento Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	1	0	1	1	0	0	1	0	1	0	2	0	1	1	0	1	1	0
Volume Module:												
Base Vol:	550	460	220	30	500	130	120	390	800	210	360	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	550	460	220	30	500	130	120	390	800	210	360	10
Added Vol:	0	18	5	0	71	31	8	3	0	18	13	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	550	478	225	30	571	161	128	393	800	228	373	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	550	478	225	30	571	161	128	393	0	228	373	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	550	478	225	30	571	161	128	393	0	228	373	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Final Vol.:	550	478	225	30	571	161	128	393	0	228	373	10
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Lanes:	1.00	1.00	1.00	1.00	0.78	0.22	1.00	2.00	1.00	1.00	1.95	0.05
Final Sat.:	1500	1500	1500	1500	1170	330	1500	3000	1500	1500	2922	78
Capacity Analysis Module:												
Vol/Sat:	0.37	0.32	0.15	0.02	0.49	0.49	0.09	0.13	0.00	0.15	0.13	0.13
Crit Vol:	550					732		196		228		
Crit Moves:	****					****		****		****		

The Rivers Phase II
Cumulative Plus Project (Scenario B)
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

****

Intersection #4 Lighthouse Dr / Douglas St

****

Cycle (sec):	100	Critical Vol./Cap. (X):	0.348	
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	9.9	
Optimal Cycle:	0	Level Of Service:	A	

****

Street Name:	Douglas St						Lighthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	0	0 1	0	0 1!	0 0	1	0	0 1 0	1	0	0 1 0
Volume Module:												
Base Vol:	40	10	60	20	10	20	20	140	50	60	100	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	40	10	60	20	10	20	20	140	50	60	100	10
Added Vol:	0	3	5	33	11	18	5	41	0	20	40	8
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	40	13	65	53	21	38	25	181	50	80	140	18
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	40	13	65	53	21	38	25	181	50	80	140	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	13	65	53	21	38	25	181	50	80	140	18
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	40	13	65	53	21	38	25	181	50	80	140	18
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.75	0.25	1.00	0.47	0.19	0.34	1.00	0.78	0.22	1.00	0.89	0.11
Final Sat.:	407	132	643	276	109	198	590	520	144	589	578	74
Capacity Analysis Module:												
Vol/Sat:	0.10	0.10	0.10	0.19	0.19	0.19	0.04	0.35	0.35	0.14	0.24	0.24
Crit Moves:			****	****					****		****	
Delay/Veh:	9.6	9.6	8.4	10.1	10.1	10.1	8.9	10.6	10.6	9.5	9.7	9.7
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.6	9.6	8.4	10.1	10.1	10.1	8.9	10.6	10.6	9.5	9.7	9.7
LOS by Move:	A	A	A	B	B	B	A	B	B	A	A	A
ApproachDel:		8.9			10.1			10.4			9.6	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		8.9			10.1			10.4			9.6	
LOS by Appr:		A			B			B			A	

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The Rivers Phase II
Cumulative Plus Project (Scenario B)
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #5 Cummins Way / Douglas St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.248
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	8.6
Optimal Cycle:	0	Level Of Service:	A

Street Name:	Douglas St						Cummins Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	40	80	20	30	100	30	10	50	20	20	70	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	40	80	20	30	100	30	10	50	20	20	70	40
Added Vol:	0	8	0	0	31	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	40	88	20	30	131	30	10	50	20	20	70	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	40	88	20	30	131	30	10	50	20	20	70	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	88	20	30	131	30	10	50	20	20	70	40
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	40	88	20	30	131	30	10	50	20	20	70	40
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.27	0.59	0.14	0.16	0.68	0.16	0.12	0.63	0.25	0.15	0.54	0.31
Final Sat.:	203	447	102	121	528	121	89	447	179	113	396	226
Capacity Analysis Module:												
Vol/Sat:	0.20	0.20	0.20	0.25	0.25	0.25	0.11	0.11	0.11	0.18	0.18	0.18
Crit Moves:		****			****			****			****	
Delay/Veh:	8.6	8.6	8.6	8.9	8.9	8.9	8.2	8.2	8.2	8.5	8.5	8.5
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.6	8.6	8.6	8.9	8.9	8.9	8.2	8.2	8.2	8.5	8.5	8.5
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		8.6			8.9			8.2			8.5	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		8.6			8.9			8.2			8.5	
LOS by Appr:		A			A			A			A	

The Rivers Phase II
Cumulative Plus Project (Scenario B)
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 Sacramento Ave / Douglas St

Average Delay (sec/veh): 11.3 Worst Case Level Of Service: F[56.8]

Street Name:	Douglas St						Sacramento Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	10	10	10	30	10	150	160	390	10	10	340	20
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	10	10	30	10	150	160	390	10	10	340	20
Added Vol:	0	0	0	0	0	31	8	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	10	10	30	10	181	168	390	10	10	340	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	10	10	30	10	181	168	390	10	10	340	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	10	10	10	30	10	181	168	390	10	10	340	20
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1441	1338	446	1338	1332	393	281	xxxx	xxxxx	322	xxxx	xxxxx
Potent Cap.:	93	128	546	109	129	587	1151	xxxx	xxxxx	1106	xxxx	xxxxx
Move Cap.:	52	107	546	87	108	587	1151	xxxx	xxxxx	1106	xxxx	xxxxx
Volume/Cap:	0.19	0.09	0.02	0.35	0.09	0.31	0.15	xxxx	xxxx	0.01	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.5	xxxx	xxxxx	0.0	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.7	xxxx	xxxxx	8.3	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	98	xxxxx	xxxx	296	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	1.2	xxxxx	xxxxx	5.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	56.8	xxxxx	xxxxx	45.9	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	F	*	*	E	*	*	*	*	*	*	*
ApproachDel:		56.8			45.9			xxxxxx			xxxxxx	
ApproachLOS:		F			E			*			*	

The Rivers Phase II
Cumulative Plus Project (Scenario B)
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #7 Lighthouse Dr / Fountain Dr

Cycle (sec):	100	Critical Vol./Cap. (X):	0.297
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxx
Optimal Cycle:	32	Level Of Service:	A

Street Name:	Fountain Dr						LIghthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1! 0	0	1 0	0 1	0	1 0	1 1	0	0 1	0 0	1
Volume Module:												
Base Vol:	10	10	10	70	0	30	30	130	10	10	90	80
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	10	10	70	0	30	30	130	10	10	90	80
Added Vol:	0	0	0	65	0	24	6	98	0	0	25	17
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	10	10	135	0	54	36	228	10	10	115	97
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	10	10	10	135	0	54	36	228	10	10	115	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	10	10	135	0	54	36	228	10	10	115	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Final Vol.:	10	10	10	135	0	54	36	228	10	10	115	0
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.34	0.33	0.33	1.00	0.00	1.00	1.00	1.92	0.08	0.08	0.92	1.00
Final Sat.:	458	458	458	1375	0	1375	1375	2634	116	110	1265	1375
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.02	0.10	0.00	0.04	0.03	0.09	0.09	0.09	0.09	0.00
Crit Vol:		30		135				119			125	
Crit Moves:		****		****				****			****	

The Rivers Phase II
Cumulative Plus Project (Scenario B)
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #8 C St / 5th St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.530
Loss Time (sec):	16 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	60	Level Of Service:	A

Street Name:	5th St						C St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	100	190	220	80	250	30	20	240	200	230	220	160
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	100	190	220	80	250	30	20	240	200	230	220	160
Added Vol:	0	31	0	44	118	0	0	0	0	0	0	12
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	100	221	220	124	368	30	20	240	200	230	220	172
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	100	221	220	124	368	30	20	240	200	230	220	172
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	100	221	220	124	368	30	20	240	200	230	220	172
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	100	221	220	124	368	30	20	240	200	230	220	172
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Lanes:	1.00	1.00	1.00	1.00	1.85	0.15	1.00	1.09	0.91	1.00	2.00	1.00
Final Sat.:	1500	1503	1497	1500	2774	226	1500	1636	1364	1500	3000	1500
Capacity Analysis Module:												
Vol/Sat:	0.07	0.15	0.15	0.08	0.13	0.13	0.01	0.15	0.15	0.15	0.07	0.11
Crit Vol:		221		124				220		230		
Crit Moves:		****		****				****		****		

The Rivers Phase II
Cumulative Plus Project (Scenario B)
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

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Intersection #1 Lighthouse Dr / Kegle Dr

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Average Delay (sec/veh): 8.2 Worst Case Level Of Service: C[20.1]

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Street Name:	Kegle Dr						Lighthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1!	0 0		0 0 1!	0 0		0 0 1!	0 0		0 0 1!	0 0	
Volume Module:												
Base Vol:	20	90	150	40	90	10	10	10	10	180	10	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	20	90	150	40	90	10	10	10	10	180	10	50
Added Vol:	0	0	105	0	0	0	0	0	0	58	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	20	90	255	40	90	10	10	10	10	238	10	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	20	90	255	40	90	10	10	10	10	238	10	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	20	90	255	40	90	10	10	10	10	238	10	50
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	100	xxxx	xxxxx	345	xxxx	xxxxx	463	560	95	443	438	217
Potent Cap.:	1505	xxxx	xxxxx	1225	xxxx	xxxxx	513	440	967	529	516	827
Move Cap.:	1505	xxxx	xxxxx	1225	xxxx	xxxxx	458	419	967	496	492	827
Volume/Cap:	0.01	xxxx	xxxx	0.03	xxxx	xxxx	0.02	0.02	0.01	0.48	0.02	0.06
Level Of Service Module:												
Queue:	0.0	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	7.4	xxxx	xxxxx	8.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	535	xxxxx	xxxx	531	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.2	xxxxx	xxxxx	3.4	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	12.1	xxxxx	xxxxx	20.1	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	C	*
ApproachDel:	xxxxxx			xxxxxx			12.1			20.1		
ApproachLOS:	*			*			B			C		

The Rivers Phase II
Cumulative Plus Project (Scenario B)
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #2 Cummins Way / Kegle Dr

Cycle (sec):	100	Critical Vol./Cap. (X):	0.690
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	14.8
Optimal Cycle:	0	Level Of Service:	B

Street Name:	Kegle Dr						Cummins Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	30	320	60	50	270	10	10	10	10	60	20	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	30	320	60	50	270	10	10	10	10	60	20	40
Added Vol:	0	105	0	0	58	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	30	425	60	50	328	10	10	10	10	60	20	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	30	425	60	50	328	10	10	10	10	60	20	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	425	60	50	328	10	10	10	10	60	20	40
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	30	425	60	50	328	10	10	10	10	60	20	40
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.06	0.82	0.12	0.13	0.84	0.03	0.34	0.33	0.33	0.50	0.17	0.33
Final Sat.:	43	616	87	91	599	18	169	169	169	275	92	183
Capacity Analysis Module:												
Vol/Sat:	0.69	0.69	0.69	0.55	0.55	0.55	0.06	0.06	0.06	0.22	0.22	0.22
Crit Moves:		****			****		****					****
Delay/Veh:	17.2	17.2	17.2	13.5	13.5	13.5	9.3	9.3	9.3	10.3	10.3	10.3
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.2	17.2	17.2	13.5	13.5	13.5	9.3	9.3	9.3	10.3	10.3	10.3
LOS by Move:	C	C	C	B	B	B	A	A	A	B	B	B
ApproachDel:		17.2			13.5			9.3			10.3	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		17.2			13.5			9.3			10.3	
LOS by Appr:		C			B			A			B	

The Rivers Phase II
Cumulative Plus Project (Scenario B)
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Sacramento Ave / Kegle Dr & Jefferson Blvd

Cycle (sec):	100	Critical Vol./Cap. (X):	1.023
Loss Time (sec):	16 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Kegld Dr & Jefferson Blvd						Sacramento Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	1	1 0	0 1	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	470	460	290	20	350	140	180	480	740	260	270	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	470	460	290	20	350	140	180	480	740	260	270	40
Added Vol:	0	73	18	0	40	18	32	14	0	10	8	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	470	533	308	20	390	158	212	494	740	270	278	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	470	533	308	20	390	158	212	494	0	270	278	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	470	533	308	20	390	158	212	494	0	270	278	40
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Final Vol.:	470	533	308	20	390	158	212	494	0	270	278	40
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Lanes:	1.00	1.00	1.00	1.00	0.71	0.29	1.00	2.00	1.00	1.00	1.75	0.25
Final Sat.:	1500	1500	1500	1500	1068	432	1500	3000	1500	1500	2623	377
Capacity Analysis Module:												
Vol/Sat:	0.31	0.36	0.21	0.01	0.37	0.37	0.14	0.16	0.00	0.18	0.11	0.11
Crit Vol:	470				548			247		270		
Crit Moves:	****				****			****		****		

The Rivers Phase II
Cumulative Plus Project (Scenario B)
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #4 Lighthouse Dr / Douglas St

Cycle (sec): 100 Critical Vol./Cap. (X): 0.307
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 9.3
Optimal Cycle: 0 Level Of Service: A

Street Name:	Douglas St						Lighthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	0	0 1	0	0 1!	0 0	1	0	0 1 0	1	0	0 1 0
Volume Module:												
Base Vol:	20	10	60	10	10	10	10	90	20	50	110	20
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	20	10	60	10	10	10	10	90	20	50	110	20
Added Vol:	0	11	21	18	6	10	18	51	0	11	51	34
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	20	21	81	28	16	20	28	141	20	61	161	54
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	20	21	81	28	16	20	28	141	20	61	161	54
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	20	21	81	28	16	20	28	141	20	61	161	54
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	20	21	81	28	16	20	28	141	20	61	161	54
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.49	0.51	1.00	0.44	0.25	0.31	1.00	0.88	0.12	1.00	0.75	0.25
Final Sat.:	278	292	671	259	148	185	606	591	84	618	525	176
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.12	0.11	0.11	0.11	0.05	0.24	0.24	0.10	0.31	0.31
Crit Moves:			****	****				****			****	
Delay/Veh:	9.1	9.1	8.3	9.3	9.3	9.3	8.7	9.4	9.4	9.0	9.8	9.8
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.1	9.1	8.3	9.3	9.3	9.3	8.7	9.4	9.4	9.0	9.8	9.8
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		8.6			9.3			9.3			9.6	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		8.6			9.3			9.3			9.6	
LOS by Appr:		A			A			A			A	

The Rivers Phase II
Cumulative Plus Project (Scenario B)
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #5 Cummins Way / Douglas St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.231
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	8.4
Optimal Cycle:	0	Level Of Service:	A

Street Name:	Douglas St						Cummins Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	20	100	30	20	50	20	10	70	30	20	60	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	20	100	30	20	50	20	10	70	30	20	60	10
Added Vol:	0	32	0	0	18	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	20	132	30	20	68	20	10	70	30	20	60	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	20	132	30	20	68	20	10	70	30	20	60	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	20	132	30	20	68	20	10	70	30	20	60	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	20	132	30	20	68	20	10	70	30	20	60	10
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.11	0.73	0.16	0.18	0.63	0.19	0.09	0.64	0.27	0.22	0.67	0.11
Final Sat.:	87	571	130	142	483	142	69	481	206	163	488	81
Capacity Analysis Module:												
Vol/Sat:	0.23	0.23	0.23	0.14	0.14	0.14	0.15	0.15	0.15	0.12	0.12	0.12
Crit Moves:			****	****				****		****		
Delay/Veh:	8.7	8.7	8.7	8.2	8.2	8.2	8.2	8.2	8.2	8.3	8.3	8.3
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.7	8.7	8.7	8.2	8.2	8.2	8.2	8.2	8.2	8.3	8.3	8.3
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		8.7			8.2			8.2			8.3	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		8.7			8.2			8.2			8.3	
LOS by Appr:		A			A			A			A	

The Rivers Phase II
Cumulative Plus Project (Scenario B)
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 Sacramento Ave / Douglas St

Average Delay (sec/veh): 183.2 Worst Case Level Of Service: F[1822.1]

Street Name:	Douglas St						Sacramento Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0
Volume Module:												
Base Vol:	10 10	10	20	10	130	190	510	10	10	560	40	
Growth Adj:	1.00 1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Initial Bse:	10 10	10	20	10	130	190	510	10	10	560	40	
Added Vol:	0 0	0	0	0	18	32	0	0	0	0	0	
PasserByVol:	0 0	0	0	0	0	0	0	0	0	0	0	
Initial Fut:	10 10	10	20	10	148	222	510	10	10	560	40	
User Adj:	1.00 1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PHF Adj:	1.00 1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PHF Volume:	10 10	10	20	10	148	222	510	10	10	560	40	
Reduct Vol:	0 0	0	0	0	0	0	0	0	0	0	0	
Final Vol.:	10 10	10	20	10	148	222	510	10	10	560	40	
Critical Gap Module:												
Critical Gp:	7.1 6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	
FollowUpTim:	3.5 4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	
Capacity Module:												
Cnflict Vol:	2399 2313	602	2298	2291	768	470	xxxx	xxxxx	439	xxxx	xxxxx	
Potent Cap.:	16 26	431	19	27	306	832	xxxx	xxxxx	968	xxxx	xxxxx	
Move Cap.:	4 18	431	8	19	306	832	xxxx	xxxxx	968	xxxx	xxxxx	
Volume/Cap:	2.69 0.55	0.02	2.46	0.54	0.48	0.27	xxxx	xxxx	0.01	xxxx	xxxx	
Level Of Service Module:												
Queue:	xxxxx xxxx	xxxxx	xxxxx	xxxx	xxxxx	1.1	xxxx	xxxxx	0.0	xxxx	xxxxx	
Stopped Del:	xxxxx xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.9	xxxx	xxxxx	8.8	xxxx	xxxxx	
LOS by Move:	* *	*	*	*	*	B	*	*	A	*	*	
Movement:	LT - LTR	- RT	LT - LTR	- RT	LT - LTR	- RT	LT - LTR	- RT	LT - LTR	- RT		
Shared Cap.:	xxxx 9	xxxxx	xxxx 51	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx		
SharedQueue:	xxxxx 4.9	xxxxx	xxxxx 19.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
Shrd StpDel:	xxxxx 1822	xxxxx	xxxxx 1284	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
Shared LOS:	* F	*	* F	*	*	*	*	*	*	*		
ApproachDel:	1822.1		1284.3		xxxxxx		xxxxxx					
ApproachLOS:	F		F		*		*					

The Rivers Phase II
Cumulative Plus Project (Scenario B)
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #7 Lighthouse Dr / Fountain Dr

Cycle (sec):	100	Critical Vol./Cap. (X):	0.349
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	35	Level Of Service:	A

Street Name:	Fountain Dr						LIghthouse Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0	0	1	0	0	1	0	1	0	1	1	0	0	1	0	0	1
Volume Module:												
Base Vol:	10	10	10	80	0	20	20	100	10	30	120	80
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	10	10	80	0	20	20	100	10	30	120	80
Added Vol:	0	0	0	37	0	14	25	55	0	0	101	67
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	10	10	117	0	34	45	155	10	30	221	147
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	10	10	10	117	0	34	45	155	10	30	221	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	10	10	117	0	34	45	155	10	30	221	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Final Vol.:	10	10	10	117	0	34	45	155	10	30	221	0
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.34	0.33	0.33	1.00	0.00	1.00	1.00	1.88	0.12	0.12	0.88	1.00
Final Sat.:	458	458	458	1375	0	1375	1375	2583	167	164	1211	1375
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.02	0.09	0.00	0.02	0.03	0.06	0.06	0.18	0.18	0.00
Crit Vol:		30		117				83			251	
Crit Moves:		****		****				****			****	

The Rivers Phase II
Cumulative Plus Project (Scenario B)
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #8 C St / 5th St

Cycle (sec):	100	Critical Vol./Cap. (X):	0.612
Loss Time (sec):	16 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	73	Level Of Service:	B

Street Name:	5th St						C St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1
Volume Module:												
Base Vol:	230	270	230	80	300	20	30	340	170	240	420	70
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	230	270	230	80	300	20	30	340	170	240	420	70
Added Vol:	0	122	0	25	67	0	0	0	0	0	0	46
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	230	392	230	105	367	20	30	340	170	240	420	116
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	230	392	230	105	367	20	30	340	170	240	420	116
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	230	392	230	105	367	20	30	340	170	240	420	116
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	230	392	230	105	367	20	30	340	170	240	420	116
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Lanes:	1.00	1.26	0.74	1.00	1.90	0.10	1.00	1.33	0.67	1.00	2.00	1.00
Final Sat.:	1500	1891	1109	1500	2845	155	1500	2000	1000	1500	3000	1500
Capacity Analysis Module:												
Vol/Sat:	0.15	0.21	0.21	0.07	0.13	0.13	0.02	0.17	0.17	0.16	0.14	0.08
Crit Vol:	230				194			255		240		
Crit Moves:	****				****			****		****		

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APPENDICES

Appendix A: Traffic Counts

Appendix B: Existing Conditions LOS Calculations Worksheets

Appendix C: Traffic Signal Warrant Calculation Worksheets

Appendix D: Existing Plus Project Conditions LOS Calculation Worksheets

Appendix E: Cumulative (2025) Conditions LOS Calculation Worksheets

LIST OF FIGURES

LIST OF TABLES

EXECUTIVE SUMMARY

This report presents the results of the traffic impact analysis for The Rivers Phase II proposed development.

PROJECT DESCRIPTION

The Rivers Phase II is located south of the Sacramento River, north of Lighthouse Drive, and east and west of Fountain Drive in the City of West Sacramento. The project site is currently zoned Waterfront (WF) PD 29 which allows mix-use development ranging from low to high densities for residential uses, retail and commercial uses, offices, and marina uses. As part of the project, PD 29 would be amended to change the land use designations of the 67.9 acre project site.

The Washington School Unified School District is currently negotiating with the developer, West Riverview LLC, for acquisition of approximately 12.3 acres of the total 67.9 acres to construct a K-8 school. The K-8 school would be located at the northwest corner of the Lighthouse Drive/Fountain Drive intersection. As outlined in the *Fundamental Academy Initial Planning Phase Report* (Washington Unified School District, March 3, 2005), there would be approximately 600 students (i.e., 420 students in grades K-6, 120 students in grades 7-8, and 12 special education students). It is uncertain whether the school district will acquire this site; therefore, this study focuses on two land use scenarios.

A. Development of the 67.9 acres with 626 residential units including 220 single-family homes and 406 condominiums and a K-8 school with 600 students.

B. Development of the 67.9 acres with 802 residential units including 220 single-family homes and 582 condominiums (i.e., 176 condominiums would be developed on the 12.3 acre school site).

The construction of a neighborhood park is also proposed as part of this project.

STUDY AREA

The following eight study intersections were selected in consultation with the City of West Sacramento staff as the intersections most likely to be impacted by this project.

1. Kegle Drive/Lighthouse Drive/Pierce Street (2-way stop)
2. Kegle Drive/Cummins Way (4-way stop)
3. Kegle Drive/Jefferson Boulevard/Sacramento Avenue (signalized)
4. Douglas Street/Lighthouse Avenue (4-way stop)
5. Douglas Street/Cummins Way (4-way stop)
6. Douglas Street/Sacramento Avenue (1-way stop)
7. Fountain Drive/Lighthouse Drive (signalized)
8. 5th Street/C Street (signalized)

SCENARIOS

The following scenarios were evaluated:

- ***Existing*** – represents existing (2005) conditions from recent traffic counts.
- ***Existing Plus Project (Scenario A)*** – represents near-term conditions based on existing traffic volumes plus residential & school project related traffic (i.e., 626 residential units and 600 student school).
- ***Existing Plus Project (Scenario B)*** – represents near-term conditions based on existing traffic volumes plus residential only project related traffic (i.e., 802 residential units).
- ***Cumulative No Project*** – represents future forecasted conditions based on build-out of the City of West Sacramento General Plan and completion of funded roadway improvements.
- ***Cumulative Plus Proposed Project (Scenario A)*** – represents future forecasted conditions plus proposed residential & school project related traffic.
- ***Cumulative Plus Proposed Project (Scenario B)*** – represents future forecasted conditions plus proposed residential only project related traffic.

FINDINGS

Trip Generation

Scenario A is expected to generate 4,841 daily trips, 511 morning (AM) peak hour trips, and 462 evening (PM) peak hour trips. Scenario B is expected to generate 5,016 daily trips, 373 AM peak hour trips, and 473 PM peak hour trips. Scenario B would generate more daily and PM peak hour trips (i.e., 175 more daily trips and 11 more PM peak hour trips) than Scenario A. During the AM peak hour, Scenario A would generate about 138 more trips than Scenario B.

Intersection Operations

Existing Plus Project

Under both project scenarios, the Douglas Street/Sacramento Avenue intersection would continue to operate at an unacceptable LOS E during the PM peak hours. This intersection operates at a deficient level due to the heavy eastbound and westbound through movements and lack of available gaps for the side-street traffic. The northbound approach serves about ten vehicles and would continue to operate at an unacceptable LOS E (Note: the project does not add traffic to the northbound approach).

The project would increase the intersection delay by more than five seconds; however, the forecasted AM and PM peak hour intersection volumes do not satisfy the MUTCD peak hour traffic signal warrant. Therefore, the project impact would be considered ***less than significant***.

Cumulative Plus Project

The project would cause a ***significant impact*** at the Kegle Drive/Lighthouse Drive/Pierce Street (under project Scenario A only), Kegle Drive/Jefferson Boulevard/Sacramento Avenue, and Douglas Street/Sacramento Avenue intersections.

Mitigation of unacceptable conditions at the Kegle Drive/Lighthouse Drive/Pierce Street intersection can be achieved through installation of a traffic signal. No funding sources have been identified for this project. The proposed project would contribute by paying its fair share of the cost.

Mitigation of unacceptable conditions at the Kegle Drive/Jefferson Boulevard/Sacramento Avenue intersection can be achieved by providing a southbound right-turn lane. No funding sources have been identified for this project. The proposed project would contribute by paying its fair share of the cost.

Mitigation of unacceptable conditions at the Douglas Street/Sacramento Avenue intersection can be achieved through installation of a traffic signal and the addition of an eastbound left-turn lane. No funding sources have been identified for this project. The proposed project would contribute by paying its fair share of the cost.

Bicycle and Pedestrian Operations

The proposed project would have a ***less than significant*** impact on bicycle and pedestrian operations.

Transit Operations

The project could adversely affect existing or planned features or programs that support public transit and this is considered a ***significant impact***. To mitigate this impact, the project applicant shall make a fair share contribution to the Yolo County Transportation District for the purchase of a bus. The project applicant shall also modify the proposed project to identify the specific locations of sheltered transit stops with bus turnouts. The City of West Sacramento Engineering Division and YCTD shall approve the location, design, and implementation timing of the sheltered transit stops and bus turnouts prior to the issuance of building permits. Construction of these facilities shall be phased consistent with the phased development of the project.

Parking

The proposed project would result in a ***less than significant*** impact on parking capacity.

PROJECT ALTERNATIVES

A trip generation analysis of the following three alternatives to the project was conducted:

- Alternative 1 – No Project
- Alternative 2 – Existing PD-29 Ordinance / No Action Alternative
- Alternative 3 – Estate Parcel

This no project alternative includes no increased traffic generated by the project. It also would not increase the V/C ratio by more than 0.05 or the delay by more than 5 seconds at intersections expected to operate at LOS E or F, so impacts are considered less than significant.

Alternative 2 would generate 5,897 daily trips, 567 AM peak hour trips, and 638 PM peak hour trips. Trip generation for this alternative would be greater than both the project scenarios; therefore, the impacts of this alternative would likely be worse than the proposed project scenarios.

Alternative 3 would generate 4,036 daily trips, 455 AM peak hour trips, and 385 PM peak hour trips. Daily trip generation for this alternative would be less than both the project scenarios; therefore, the impacts of this alternative would likely be less than the proposed project scenarios.

1. INTRODUCTION

This chapter discusses the project description, the purpose and organization of this report, and the method used in the report preparation.

PROJECT DESCRIPTION

As shown on Figure 1, The Rivers Phase II is located south of the Sacramento River, north of Lighthouse Drive, and east and west of Fountain Drive in the City of West Sacramento. The project site is currently zoned Waterfront (WF) PD 29 which allows mix-use development ranging from low to high densities for residential uses, retail and commercial uses, offices, and marina uses. As part of the project, PD 29 would be amended to change the land use designations of the 67.9 acre project site.

The Washington School Unified School District is currently negotiating with the developer, West Riverview LLC, for acquisition of approximately 12.3 acres of the total 67.9 acres to construct a K-8 school. The K-8 school would be located at the northwest corner of the Lighthouse Drive/Fountain Drive intersection. As outlined in the *Fundamental Academy Initial Planning Phase Report* (Washington Unified School District, March 3, 2005), there would be approximately 600 students. It is uncertain whether the school district will acquire this site; therefore, this study focuses on two land use scenarios.

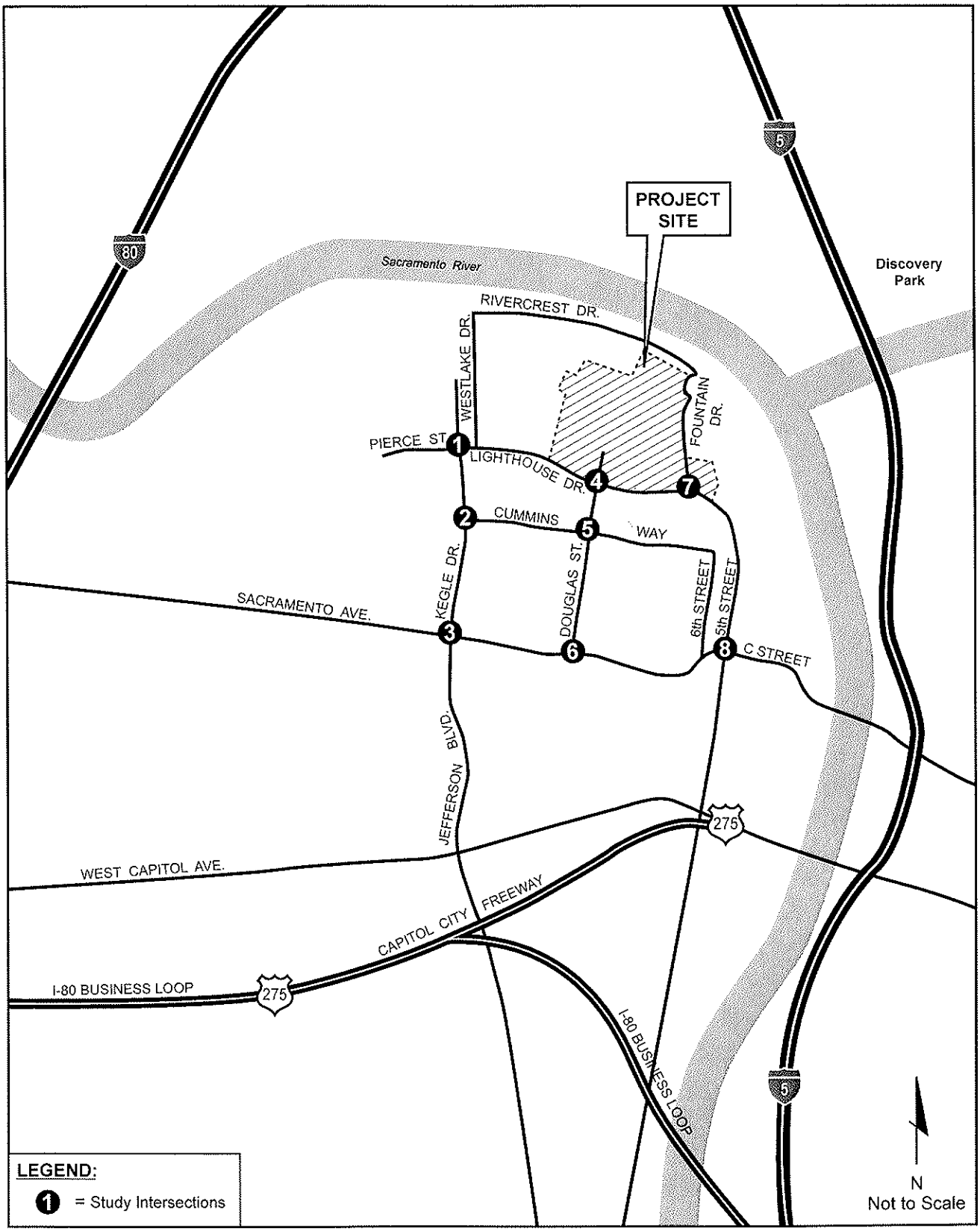
A. Development of the 67.9 acres with 626 residential units including 220 single-family homes and 406 condominiums and a K-8 school with 600 students.

B. Development of the 67.9 acres with 802 residential units including 220 single-family homes and 582 condominiums (i.e., 176 condominiums would be developed on the 12.3 acre school site).

The construction of a neighborhood park is also proposed as part of this project. The trips generated by the park portion of the project are assumed to remain internal to the site, as the majority of users would originate within the project site. Figure 2 shows the proposed project site plan with the school site.

STUDY PURPOSE

The purpose of this study is to identify the off-site transportation impacts associated with the proposed project scenarios and to determine measures necessary to mitigate significant project impacts.



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PROJECT VICINITY

FIGURE 1

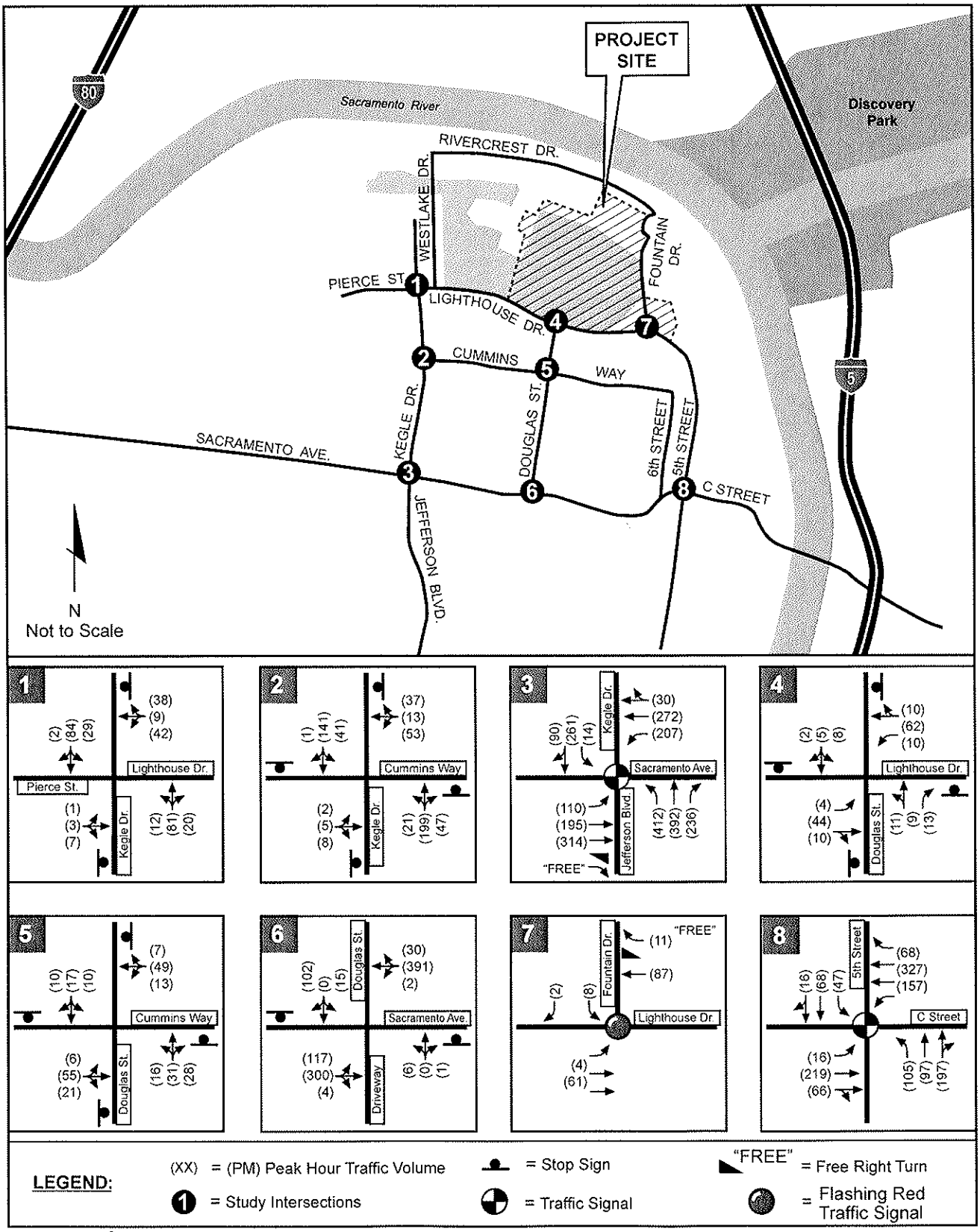

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FIGURE 2

REPORT ORGANIZATION

This report is divided into six chapters as described below.

- ***Chapter 1 – Introduction*** discusses the purpose and organization of this report.
- ***Chapter 2 – Existing Conditions*** describes the project vicinity, including surrounding roadway network, morning (AM) and evening (PM) peak-hour vehicle traffic volumes, and intersection levels of service.
- ***Chapter 3 – Project Characteristics*** presents relevant project information, such as project components, trip generation, distribution, and assignment.
- ***Chapter 4 – Existing Plus Project Conditions*** discusses the existing with project conditions and vehicular impacts as well as impacts to the transit, bicycle, and pedestrian system.
- ***Chapter 5 – Cumulative Conditions*** discusses future conditions, both without and with the project, and vehicular impacts as well as impacts to the transit, bicycle, and pedestrian system.
- ***Chapter 6 – Alternatives*** compares the proposed project to two alternative projects.

STUDY INTERSECTIONS AND FORECAST SCENARIOS

The following eight study intersections (also shown on Figure 1) were selected in consultation with the City of West Sacramento staff as the intersections most likely to be impacted by this project.

1. Kegle Drive/Lighthouse Drive/Pierce Street (2-way stop)
2. Kegle Drive/Cummins Way (4-way stop)
3. Kegle Drive/Jefferson Boulevard/Sacramento Avenue (signalized)
4. Douglas Street/Lighthouse Avenue (4-way stop)
5. Douglas Street/Cummins Way (4-way stop)
6. Douglas Street/Sacramento Avenue (1-way stop)
7. Fountain Drive/Lighthouse Drive (signalized)
8. 5th Street/C Street (signalized)

The following scenarios were evaluated:

- ***Existing*** – represents existing (2005) conditions from recent traffic counts.
- ***Existing Plus Project (Scenario A)*** – represents near-term conditions based on existing traffic volumes plus residential & school project related traffic (i.e., 626 residential units and 600 student school).
- ***Existing Plus Project (Scenario B)*** – represents near-term conditions based on existing traffic volumes plus residential only project related traffic (i.e., 802 residential units).

- ***Cumulative No Project*** – represents future forecasted conditions based on build-out of the City of West Sacramento General Plan and completion of funded roadway improvements.
- ***Cumulative Plus Proposed Project (Scenario A)*** – represents future forecasted conditions plus proposed residential & school project related traffic.
- ***Cumulative Plus Proposed Project (Scenario B)*** – represents future forecasted conditions plus proposed residential only project related traffic.

ANALYSIS METHODOLOGY

The methodology applied in the following traffic analysis, and summarized below, is based on the City of West Sacramento Traffic Impact Analysis Guidelines (April 2005). Level of service (LOS) is a term that describes the operating performance of an intersection or roadway. LOS is measured quantitatively and reported qualitatively on a scale from A to F, with A representing the best performance and F the worst. Tables 1 and 3 relate the operational characteristics associated with each level of service category for signalized and unsignalized intersections, respectively.

The analysis methods presented in the Transportation Research Board's *Circular 212* (February 1980) and *Highway Capacity Manual* (HCM, 2000) is utilized for level of service calculations for signalized and unsignalized intersections, respectively.

Signalized Intersections

As required by the City of West Sacramento Traffic Impact Analysis Guidelines, the Circular 212 planning method is used to determine level of service (LOS) rating at signalized intersections. This method is based on the volume-to-capacity (V/C) ratio which relates the total traffic volume for critical opposing movements to the theoretical capacity for those movements. Table 1 summarizes the relationship between V/C ratio and LOS for signalized intersections.

TABLE 1
SIGNALIZED INTERSECTION LOS CRITERIA

Level of Service	Description	V/C Ratio
A	Stable flow – Very slight or no delay. Conditions are such that no approach phase is fully utilized by traffic and no vehicle waits longer than one red indication.	0.00-0.60
B	Stable flow – Slight delay. An occasional approach phase is fully utilized.	0.61-0.70
C	Stable flow – Acceptable delay. A few drivers arriving at the end of a queue may have to wait through one signal cycle.	0.71-0.80
D	Approaching unstable flow – Tolerable delay. Delay may be substantial during short periods, but excessive back ups do not occur.	0.81-0.90
E	Unstable flow – Intolerable delay. Delay may be great – up to several signal cycles. Long queues form upstream of intersection.	0.91-1.00
F	Forced flow – Excessive delay. Volumes vary widely, depending on downstream queue conditions.	> 1.00

Source: *Circular 212*, Transportation Research Board, January 1980.

As required by the City of West Sacramento Traffic Impact Analysis Guidelines, the critical volumes shown in Table 2 are used for the analysis and a peak hour factor of 1.00 is assumed for all conditions. TRAFFIX for Windows (version 7.7, 2004) software program is used to determine the intersection operations.

TABLE 2
MAXIMUM INTERSECTION CRITICAL VOLUMES

Number of Phases	Study Critical Lane Volumes
2	1,650
3	1,550
≥4	1,500

Source: City of West Sacramento Traffic Impact Analysis Guidelines (April 2005).

Unsignalized Intersections

As required by the City of West Sacramento Traffic Impact Analysis Guidelines, the 2000 HCM method is utilized for unsignalized (all-way stop-controlled and side-street stop-controlled) intersections. With this method, operations are defined by average control delay per vehicle (measured in seconds) for each stop-controlled movement. This incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. For side-street stop-controlled intersections, delay for the worst movement is reported. Table 3 summarizes the relationship between delay and LOS for unsignalized intersections. A peak hour factor of 1.00 is assumed for all conditions.

TABLE 3
UNSIGNALIZED INTERSECTION CRITERIA

Level of Service	Description	Average Control Per Vehicle (Seconds)1
A	Little or no delays	≤ 10.0
B	Short traffic delays	> 10.0 to 15.0
C	Average traffic delays	> 15.0 to 25.0
D	Long traffic delays	> 25.0 to 35.0
E	Very long traffic delays	> 35.0 to 50.0
F	Extreme traffic delays with intersection capacity exceeded	> 50.0

Source: *Highway Capacity Manual* (Transportation Research Board, 2000).

LEVEL OF SERVICE POLICY AND SIGNIFICANCE CRITERIA

The following is the City of West Sacramento policy on transportation and circulation related to intersections:

> *The City shall endeavor to maintain Level of Service "C" on all streets within the City, except at intersections and on roadway segments within one-quarter mile of a freeway interchange or bridge crossing of the Deep Water Ship Channel, barge canal, or Sacramento River, where a Level of Service "D" shall be deemed acceptable.*

All of the study intersections are more than one-quarter mile of a freeway interchange or bridge crossing; therefore, LOS C or better should be maintained at these intersections. Based on this policy statement and the City of West Sacramento *Traffic Impact Analysis Guidelines* (April 2005), the following thresholds of significance will be used to determine if the project causes a significant impact:

- Cause a signalized intersection to deteriorate from an acceptable LOS (i.e., LOS C) to an unacceptable LOS (i.e., LOS D or worse);
- Cause a signalized intersection V/C ratio to increase by more than 0.05 for a signalized intersection operating at an unacceptable LOS (i.e., LOS D or worse) without the project;
- Cause an unsignalized intersection to deteriorate from an acceptable LOS (i.e., LOS C) to an unacceptable LOS (i.e., LOS D or worse) and the project causes the intersection to meet traffic signal warrants;
- Increase a delay by more than 5 seconds for an approach operating at an unacceptable LOS (i.e., LOS D or worse) at an unsignalized intersection which meets signal warrants without the project;
- Result in a change in traffic patterns, including either an increase in traffic levels or a change in location, that results in substantial safety risks;
- Adversely affect an existing bikeway or pedestrian facility such that access and/or usage of the facility is discouraged or conflicts are created;
- Impact or affect aspects defined in the City's *Bicycle and Pedestrian Path Master Plan* or conflict with adopted policies, plans, or programs supporting alternative transportation (i.e., bus turnouts); or
- Result in inadequate parking capacity.

2. EXISTING CONDITIONS

This chapter describes the transportation characteristics of the project study area, including the surrounding roadway network and transit, pedestrian, and bicycle facilities in the vicinity of the project site.

EXISTING TRANSPORTATION SYSTEM

Roadway Network

The City of West Sacramento is located in Yolo County between Interstate 80 (I-80), Interstate 5 (I-5), and U.S. Highway 50 (US-50). It is west of Sacramento and east of Davis. The project site is north of Lighthouse Drive, and east and west of Fountain Drive. The land use surrounding the project site is residential.

The study area includes intersections along Lighthouse Drive and major roadways south of the project site (see Figure 1). The area selected for the study is most likely to experience traffic impacts from the proposed project. The following discusses the roadways in the study area that would provide access to the project site. The existing lane configurations and traffic control at each study intersection are shown on Figure 3.

US-50 is a major regional freeway extending from I-80 in West Sacramento through the Sacramento metropolitan area into the Sierra Nevada Mountains and the State of Nevada. In the study area, US-50 (also known as the Capital City Freeway or Business Loop 80) is an eight-lane freeway with an interchange at Jefferson Boulevard. It has an average daily traffic (ADT) volume of about 105,000 vehicles east of Jefferson Boulevard[1].

I-5 is a major north-south freeway that traverses the western United States, originating in southern California and continuing north to Sacramento and beyond. It runs through the City of Sacramento east of West Sacramento and over the Sacramento River. Access to the project site from I-5 is provided via the I-Street Bridge and State Route 275 (SR 275). Three mixed-flow lanes are provided in each direction in the vicinity of the project. I-5 has an average daily traffic (ADT) volume of about 170,000 vehicles north of I-Street[1].

SR 275 connects the study area to the I-80 Business Loop and provides access to the City of Sacramento via the Tower Bridge. The West Capitol Avenue and Jefferson Boulevard interchanges provide access to SR 275. Two mix-flow lanes are provided in each direction. SR 275 has an ADT volume of about 7,000 vehicles east of Fifth Street[1].

Sacramento Avenue is a major arterial that extends from C Street west to the Yolo Shortline Railroad. West of the Yolo Shortline Railroad, this roadway becomes Reed Avenue. East of 6th Street, it becomes C Street and provides access to the I Street Bridge. Posted speed limits range from 35 miles per hour (mph) east of Jefferson Boulevard to 40 mph west of Jefferson Boulevard. It is a four-lane road and a truck route.

Jefferson Boulevard is a four-lane major arterial and truck route that extends from Sacramento Avenue to south of I-80/SR 275. The posted speed limit on this roadway is 40 mph. North of Sacramento Avenue Jefferson Boulevard becomes Kegle Drive. Kegle Drive is a two-lane minor arterial providing access to residential uses. It has a posted speed limit of 25 mph. The daily traffic volume on Kegle Drive south of Hobson Avenue is about 7,100 vehicles[2].

1. Year 2003 counts as presented on Caltrans website (http://www.dot.ca.gov/hq/traffops/saferesr/trafdata)
2. Twenty-four hour traffic counts conducted on February 2, 2005.

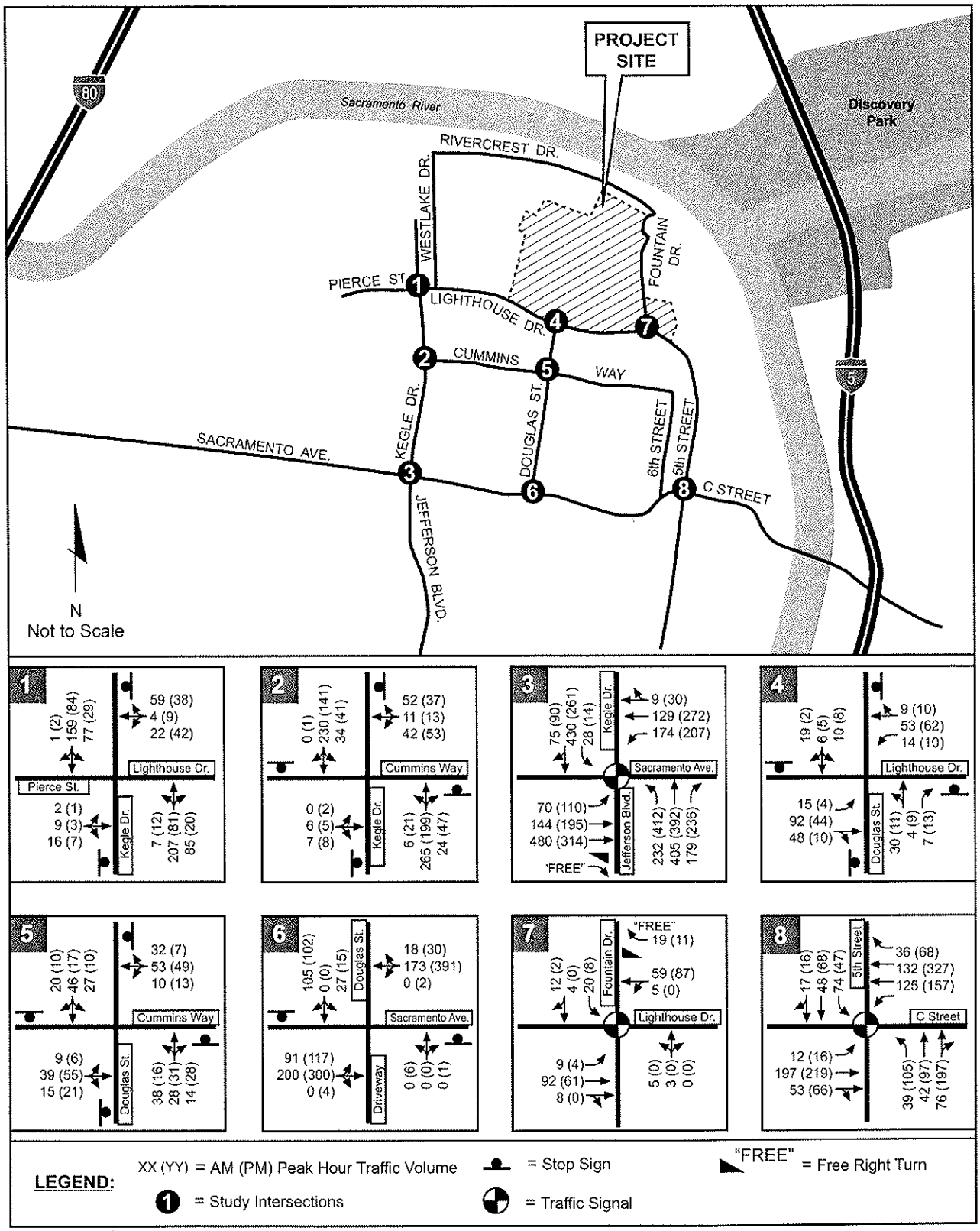

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FIGURE 3

Fifth Street is a four-lane arterial that runs north-south from A Street to West Capitol Avenue. The posted speed on this roadway is 35 mph. From 8:00 a.m. to 5:00 p.m. on-street parking for Fifth Street is limited to one-hour except for vehicles with permits. North of A Street, Fifth Street becomes Lighthouse Drive. Two to four-lanes are provided on Lighthouse Drive. No parking is allowed on Lighthouse Drive. The daily traffic volume on Fifth Street south of A Street is about 2,600 vehicles[3].

Cummins Way, Douglas Street, and Fountain Drive are local collector streets that provide access to residential uses. The daily traffic volume on Douglas Street south of Andrew Street is about 2,200 vehicles[3].

Bicycle and Pedestrian Facilities

Class II bicycle lanes and Class III bicycle routes are provided within the study area. Bicycle lanes are provided on portions of Lighthouse Drive and bicycle route signage is provided on those areas without bicycle lanes. Sacramento Avenue has Class II bike lanes between Kegle Drive and 8th Street. Bicycle lanes are also provided on Jefferson Boulevard between Sacramento Avenue and West Capitol Avenue. Sidewalks are provided in the project vicinity on all the study roadways.

The City of West Sacramento *Bicycle and Pedestrian Path Master Plan* (1995 Addendum), which is in the process of being updated, provides objectives and policies related to developing a system of public bicycle and pedestrian paths within the City. Virtually all of the policies affect the development of the project; however the following policies are particularly important to this project:

- *Develop and maintain a safe, continuous, and convenient system of bicycle and pedestrian paths that connects residential areas to major destinations within the City, including the central business district, shopping areas, employment areas, and public facilities.*
- *Coordinate with Yolo Transit to integrate bicycle and pedestrian facilities with bus service.*
- *Adopt Caltrans standards, as required by state law, for bike paths (Class I), bike lanes (Class II), and bike routes (Class III).*
- *Provide bike paths and sidewalks, separated from each other and vehicle traffic, at all new arterial and collector streets.*

Future planned facilities within the project vicinity include bicycle lanes on Fifth Street and a recreational trail along the Sacramento River. The Master Plan diagram also shows bicycle lanes along Cummings Way and Kegle Drive.

Transit Facilities

The Yolo County Transportation District (YCTD) operates 32 buses and 10 Paratransit vehicles in Yolo County. Yolobus transit service operates within the City of West Sacramento and provides access to the surrounding communities including Davis, West Sacramento, Winters, Woodland, downtown Sacramento, Sacramento International Airport, Cache Creek Casino, Esparto, Madison and Knights Landing. It also provides connections to other public transportation systems including Unitrans, Citylink Amtrak in Davis, and Regional Transit and Light Rail in Sacramento.

3. Twenty-four hour traffic counts conducted on February 2, 2005.

Yolobus route 40/41 operates on West Capitol Avenue, Jefferson Boulevard, Kegle Drive, Fifth Street, and Cummins Way. Within the project vicinity, there are stops on Fifth Street at C Street, Kegle Drive at Cummins Way, and Cummins Way at Douglas Street. The service operates from about 6:00 a.m. to 10:15 p.m. on weekdays, 7:00 a.m. to 9:00 p.m. on Saturdays, and 8:30 a.m. to 7:00 p.m. on Sundays. Headways range from 40 to 60 minutes.

TRAFFIC COUNTS

Turning movement counts were conducted at the study intersections in March 2005 during the morning (7:00 to 9:00 a.m.) peak period and February 2005 during the evening (4:00 to 6:00 p.m.) peak period. For each intersection count period, the hour with the highest traffic volume was identified as the peak hour. The AM peak hour generally occurred from 7:15 to 8:15 a.m. The PM peak hour generally occurred from 5:00 to 6:00 p.m. Existing peak hour turning movement volumes, lane configuration, and traffic control are shown on Figure 3.

INTERSECTION OPERATIONS

As required by the City of West Sacramento Traffic Impact Analysis Guidelines, the Circular 212 planning and HCM 2000 methods were applied to determine the study intersection operations.

Level of Service

Existing intersection operations were evaluated for the weekday AM and PM peak hours. Table 4 summarizes the intersection analysis results, and detailed LOS calculation worksheets are presented in Appendix B. As shown in the table, all intersections operate at acceptable levels during both the AM and PM peak hours except the Douglas Street/Sacramento Avenue intersection which operates at LOS E during the PM peak hour. This intersection operates at a deficient level due to the heavy eastbound and westbound through movements and lack of available gaps for the side-street traffic. The northbound approach serves about ten vehicles and operates at LOS E. The southbound approach operates at LOS C and overall the intersection operations are LOS A.

Traffic Signal Warrant Analysis

A peak hour volume traffic signal warrant analysis was conducted for the Kegle Drive/Lighthouse Drive/Pierce Street, Kegle Drive/Cummins Way, Douglas Street/Lighthouse Avenue, Douglas Street/Cummins Way, Douglas Street/Sacramento Avenue, and Fountain Drive/Lighthouse Drive intersections using the criteria described in the Federal Highway Administration's *Manual of Uniform Traffic Control Devices* (MUTCD). The MUTCD contains eight warrants. The peak-hour volume warrant analysis was conducted due to the available data. The results of the peak hour volume warrant analysis indicate that none of the intersections meet signal warrant criteria. Appendix C contains the peak hour volume warrant calculation worksheets.

The analysis of unsignalized intersections is intended to examine the general correlation existing conditions and the need to install new traffic signals. The existing traffic conditions are compared against a sub-set of the standard traffic signal warrants recommended in the MUTCD and associated Caltrans guidelines. This analysis should not serve as the only basis for deciding whether and when to install a signal. To reach such a decision, the full set of warrants should be investigated based on field-measured traffic data and a thorough study of traffic and roadway conditions by an experienced engineer. In addition, factors such as congestion, approach conditions, and driver confusion should be considered since the installation of signals can lead to certain types of collisions. The City of West Sacramento should undertake regular monitoring of actual traffic

conditions and accident data and should conduct a timely re-evaluation of the full set of warrants in order to prioritize and program intersections for signalization.

TABLE 4
EXISTING CONDITIONS
PEAK HOUR INTERSECTION LEVEL OF SERVICE

Intersections	Traffic Control	AM Peak Hour		PM Peak Hour	
		V/C Ratio or Delay	LOS	V/C Ratio or Delay	LOS
1. Kegle Drive/Lighthouse Drive/Pierce Street[1]	Side-Street Stop	12	B	10	B
2. Kegle Drive/Cummins Way[2]	All-Way Stop	10	A	9	A
3. Kegle Drive/Jefferson Boulevard/Sacramento Avenue[3]	Signal	0.66	B	0.71	C
4. Douglas Street/Lighthouse Avenue[2]	All-Way Stop	8	A	8	A
5. Douglas Street/Cummins Way[2]	All-Way Stop	8	A	8	A
6. Douglas Street/Sacramento Avenue[1]	Side-Street Stop	12	B	**38**	**E**
7. Fountain Drive/Lighthouse Drive[3]	Signal	0.10	A	0.09	A
8. 5th Street/C Street[3]	Signal	0.27	A	0.36	A

Notes: V/C = volume-to-capacity ratio. Delay is shown in seconds per vehicle. **Bold** indicates unacceptable operations.

1. Side-street stop-controlled intersection level of service is based on average delay per vehicle (in seconds) to the *Highway Capacity Manual – Special Report 209* (Transportation Research Board, 2000). The worst case movement delays are presented.
2. All-way stop-controlled intersection level of service is based on average delay per vehicle (in seconds) to the *Highway Capacity Manual – Special Report 209* (Transportation Research Board, 2000).
3. Signalized intersection level of service is based on V/C ratio according to *Circular 212 Interim Materials on Highway Capacity* (Transportation Research Board, 1980).

Source: Fehr & Peers, 2005.

3. PROJECT CHARACTERISTICS

This chapter provides an overview of the project components and describes the project's trip generation, distribution, and assignment characteristics. This allows for an evaluation of the project impacts on the surrounding roadway network.

The proposed project would develop one of the following land use scenarios:

A. 626 residential units including 220 single-family homes and 406 condominiums and a K-8 school with 600 students.

B. 802 residential units including 220 single-family homes and 582 condominiums (i.e., 176 condominiums would be developed on the 11.5 acre school site).

TRIP GENERATION

Standard Institute of Transportation Engineers (ITE) trip generation rates, as presented in *Trip Generation* (7th Edition), were utilized to estimate project trips for all uses. Based on the *Fundamental Academy Initial Planning Phase Report* (Washington Unified School District, March 3, 2005), 50 percent of the students enrolled in the school are expected to come from within the development; therefore, only 50 percent of the trips generated by the school would impact the surrounding roadway system. The students living in the proposed project development would likely bike or walk to school; therefore, it was assumed 80 percent of the students from within the development would bike or walk and the remaining 20 percent would be dropped off and picked up. Table 5 summarizes the project trip generation for Scenario A (i.e., 220 single-family homes, 406 condominiums, and 600 student school). As shown in the table, the proposed project with the school is expected to generate 4,841 daily trips, 511 morning (AM) peak hour trips, and 462 evening (PM) peak hour trips.

Table 6 shows the trip generation for the Scenario B assuming 176 condominium units in place of the site. As shown in the table, the proposed project with the condominiums is expected to generate 5,016 daily trips, 373 AM peak hour trips, and 473 PM peak hour trips.

Scenario B would generate more daily and PM peak hour trips (i.e., 175 more daily trips and 11 more PM peak hour trips) than Scenario A. During the AM peak hour, Scenario A would generate about 138 more trips than Scenario B.

TRIP DISTRIBUTION

The project trip distribution is based on existing peak hour traffic counts, knowledge of the surrounding roadway network, and consultation with City staff. In addition, the school would give priority to residents living within the proposed development; therefore, 50 percent of the trips for the school are assumed to come from within the development. Eighty percent of the school trips from within the proposed development are assumed to walk to the school and 20 percent are assumed to drive. Figure 4 presents the project trip distribution and assignment for project Scenario A and Figure 5 shows assignment and distribution for project Scenario B.

TABLE 5
PROPOSED PROJECT SCENARIO A TRIP GENERATION

Land Use	Size	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
			In	Out	Total	In	Out	Total
Single Family[1]	220 d.u.	2,147	42	121	163	136	81	217
Condominium[2]	406 d.u.	2,111	28	130	158	126	65	191
School[3]	600 students	972	174	144	318	48	42	90
Subtotal		*5,230*	*244*	*395*	*639*	*310*	*188*	*498*
Reduction of School Trips for Students Biking or Walking to the Site[4]		*-389*	*-70*	*-58*	*-128*	*-19*	*-17*	*-36*
Total		***4,841***	***174***	***337***	***511***	***291***	***171***	***462***

Note: d.u. = dwelling units

1. Trip generation determined from regression equation for Single Family Detached Housing (Land Use 210) in the Institute of Transportation Engineers (ITE) *Trip Generation* (7th Edition), as presented below.
   Daily Equation: Ln(T) = 0.92 Ln(X) + 2.71
   AM Equation: T = 0.70(X) +9.43 (inbound = 25 percent, outbound = 75 percent)
   PM Equation: Ln(T) = 0.90 Ln(X) +0.53 (inbound = 63 percent, outbound = 37 percent)
2. Trip generation determined from regression equation for Residential Condominium/Townhouse (Land Use 230) in the ITE *Trip Generation* (7th Edition), as presented below.
   Daily Equation: Ln(T) = 0.85 Ln(X) + 2.55
   AM Equation: Ln(T) = 0.80 Ln(X) + 0.26 (inbound = 17 percent, outbound = 83 percent)
   PM Equation: Ln(T) = 0.82 Ln(X) +0.32 (inbound = 67 percent, outbound = 33 percent)
3. Trip generation determined from average rate (Land Use 522) in the ITE *Trip Generation* (7th Edition), as presented below.
   Daily Equation: 1.62 trips per student
   AM Equation: 0.53 trip per student (inbound = 55 percent, outbound = 45 percent)
   PM Equation: 0.15 trips per student (inbound = 52 percent, outbound = 48 percent)
4. Fifty percent of the students are from within the project site and 80 percent of those students bike or walk to the school (i.e., 240 students walk to school). Trip generation for the 240 students was determined from average rate (Land Use 522) in the ITE *Trip Generation* (7th Edition), as presented in note 3.

Where: T = trip ends, LN = logarithmic equation, and X = number of dwelling units or students

Source: ITE, Fehr & Peers, 2005

TABLE 6
PROPOSED PROJECT SCENARIO B TRIP GENERATION

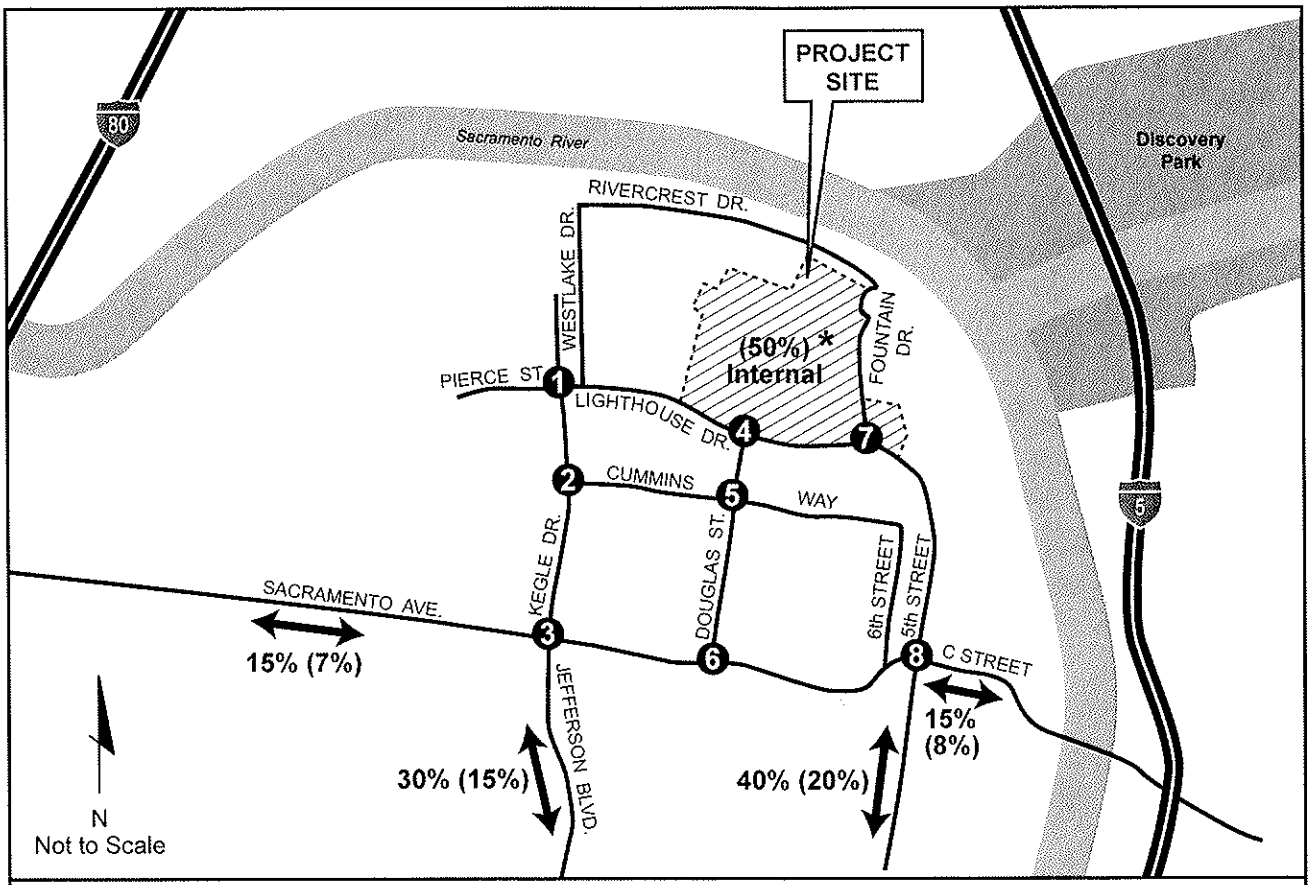
Land Use	Size	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
			In	Out	Total	In	Out	Total
Single Family[1]	220 d.u.	2,147	42	121	163	136	81	217
Condominium[2]	582 d.u.	2,869	35	175	210	169	87	256
	Total	***5,016***	***77***	***296***	***373***	***305***	***168***	***473***

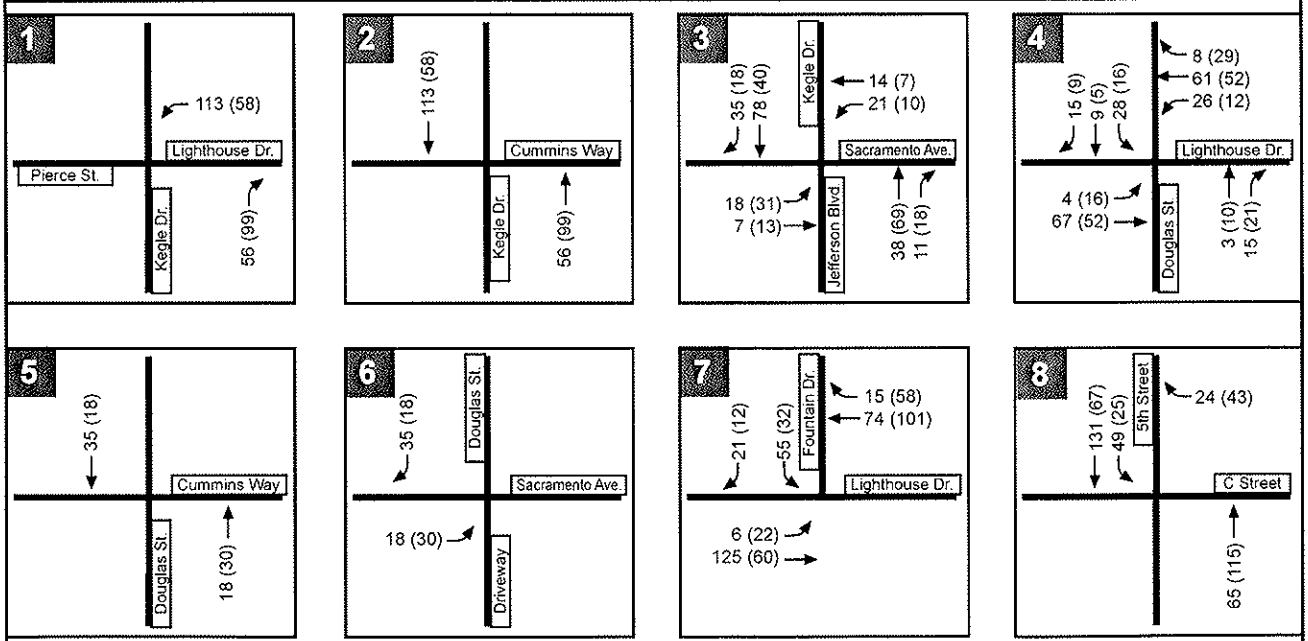
Note: d.u. = dwelling units

1. Trip generation determined from regression equation for Single Family Detached Housing (Land Use 210) in the Institute of Transportation Engineers (ITE) *Trip Generation* (7th Edition), as presented below.
   Daily Equation: Ln(T) = 0.92 Ln(X) + 2.71
   AM Equation: T = 0.70(X) +9.43 (inbound = 25 percent, outbound = 75 percent)
   PM Equation: Ln(T) = 0.90 Ln(X) +0.53 (inbound = 63 percent, outbound = 37 percent)
2. Trip generation determined from regression equation for Residential Condominium/Townhouse (Land Use 230) in the ITE *Trip Generation* (7th Edition), as presented below.
   Daily Equation: Ln(T) = 0.85 Ln(X) + 2.55
   AM Equation: Ln(T) = 0.80 Ln(X) + 0.26 (inbound = 17 percent, outbound = 83 percent)
   PM Equation: Ln(T) = 0.82 Ln(X) +0.32 (inbound = 67 percent, outbound = 33 percent)

Where: T = trip ends, LN = logarithmic equation, and X = number of dwelling units or students

Source: ITE, Fehr & Peers, 2005





NOTE: * 80 Percent of the school internal trips are assumed to be walking.

LEGEND:

1 = Study Intersections

XX (YY) = AM (PM) Peak Hour Project Trips

XX% (YY%) = Residential (School) Trip Distribution

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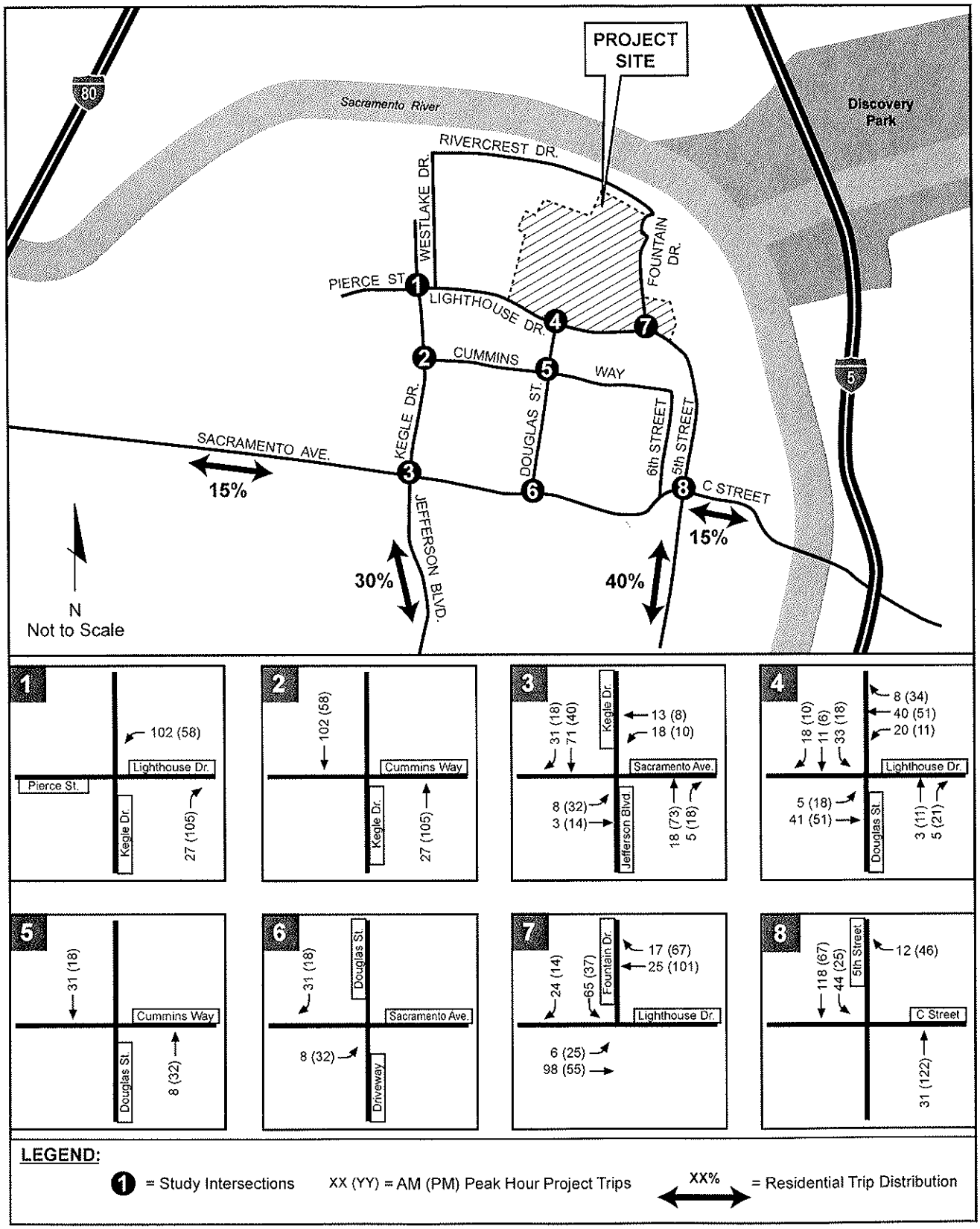
PROJECT TRIP DISTRIBUTION AND ASSIGNMENT (SCENARIO A)

FIGURE 4



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PROJECT TRIP DISTRIBUTION AND ASSIGNMENT (SCENARIO B)

FIGURE 5

4. EXISTING PLUS PROJECT CONDITIONS

This chapter discusses existing conditions with the proposed project and recommends mitigations for intersections impacted by the project.

The proposed project would develop one of the following land use scenarios:

A. 626 residential units including 220 single-family homes and 406 condominiums and a K-8 school with 600 students.

B. 802 residential units including 220 single-family homes and 582 condominiums (i.e., 176 condominiums would be developed on the 11.5 acre school site).

INTERSECTION OPERATIONS

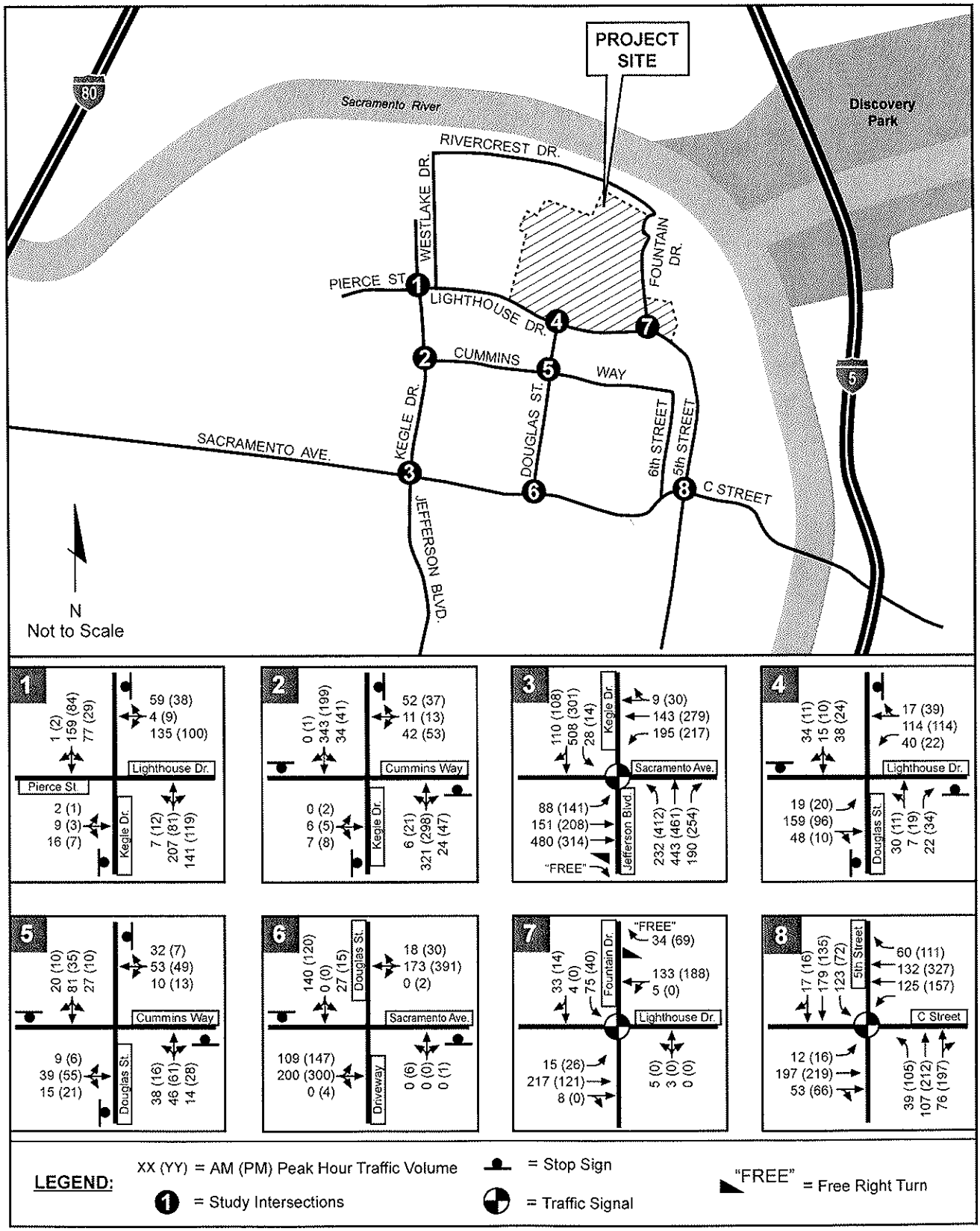
Project traffic for Scenarios A and B are added to existing traffic volumes at the eight study intersections, as shown on Figure 6 and 7, to form the basis for the Existing Plus Project analysis. Figures 6 and 7 show the lane configuration and traffic control for the with project conditions.

Level of Service

The AM and PM peak hour operations are evaluated at each study intersection, as shown in Table 7. The detailed peak hour intersection LOS calculations are presented in Appendix D. Under project scenarios A & B, the Douglas Street/Sacramento Avenue intersection would continue to operate at an unacceptable LOS E during the PM peak hours. This intersection operates at a deficient level due to the heavy eastbound and westbound through movements and lack of available gaps for the side-street traffic. The northbound approach serves about ten vehicles in the PM peak hour and would continue to operate at an unacceptable LOS E (Note: the project does not add traffic to the northbound or westbound approaches). With the project, the southbound approach would continue to operate at an acceptable LOS C and the overall intersection operations would be LOS A.

Traffic Signal Warrant

A peak hour volume traffic signal warrant analysis was conducted for the Kegle Drive/Lighthouse Drive/Pierce Street, Kegle Drive/Cummins Way, Douglas Street/Lighthouse Avenue, Douglas Street/Cummins Way, and Douglas Street/Sacramento Avenue intersections using the criteria described in the MUTCD. The results indicate that the intersections would not meet this signal warrant's criteria (see Appendix C). It should be noted that the peak hour signal warrant analysis should not serve as the only basis for deciding whether and when to install a signal. To reach such a decision, the full set of warrants should be investigated based on field-measured, rather than forecast, traffic data and a thorough study of traffic and roadway conditions by an experienced engineer. In addition, factors such as congestion, approach conditions, and driver confusion should be considered before deciding to install signals. Since the forecasted AM and PM peak hour intersection volumes do not satisfy the MUTCD peak hour traffic signal warrant, the project impact is considered ***less than significant***.



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EXISTING PLUS PROJECT (SCENARIO A) TRAFFIC VOLUMES, LANE CONFIGURATIONS AND TRAFFIC CONTROLS

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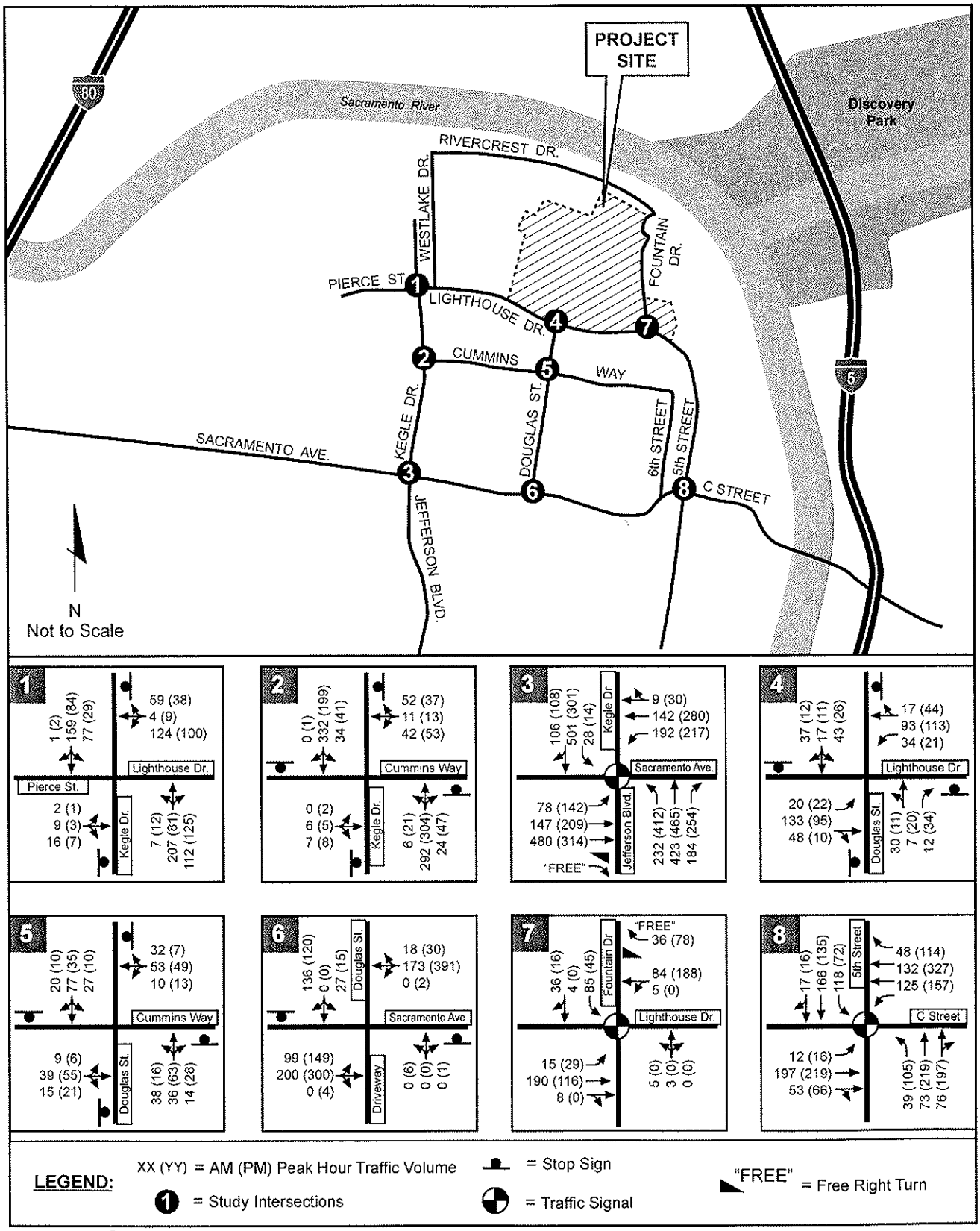
FIGURE 6



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EXISTING PLUS PROJECT (SCENARIO B) TRAFFIC VOLUMES, LANE CONFIGURATIONS AND TRAFFIC CONTROLS

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FIGURE 7

TABLE 7
EXISTING WITH AND WITHOUT PROJECT CONDITIONS
PEAK HOUR INTERSECTION LEVEL OF SERVICE

Intersection	Traffic Control	Peak Hour	Existing		Existing Plus Project (Scenario A)		Existing Plus Project (Scenario B)	
			V/C Ratio or Delay	LOS	V/C Ratio or Delay	LOS	V/C Ratio or Delay	LOS
1. Kegle Drive/Lighthouse Drive/Pierce Street[1]	Side-Street Stop	AM	12	B	20	C	19	C
		PM	10	B	12	B	12	B
2. Kegle Drive/ Cummins Way[2]	All-Way Stop	AM	10	A	11	B	11	B
		PM	9	A	10	B	10	B
3. Kegle Drive/ Jefferson Boulevard/ Sacramento Avenue[3]	Signal	AM	0.66	B	0.75	C	0.74	C
		PM	0.71	C	0.76	C	0.76	C
4. Douglas Street/ Lighthouse Avenue[2]	All-Way Stop	AM	8	A	9	A	9	A
		PM	8	A	8	A	8	A
5. Douglas Street/ Cummins Way[2]	All-Way Stop	AM	8	A	8	A	8	A
		PM	8	A	8	A	8	A
6. Douglas Street/ Sacramento Avenue[1]	Side-Street Stop	AM	12	B	12	B	12	B
		PM	38	E	48	E	48	E
7. Fountain Drive/ Lighthouse Drive[3]	Signal	AM	8	A	0.24	A	0.20	A
		PM	8	A	0.21	A	0.21	A
8. 5th Street/C Street[3]	Signal	AM	0.27	A	0.31	A	0.30	A
		PM	0.36	A	0.38	A	0.39	A

Notes: V/C = volume-to-capacity ratio. Delay is shown in seconds per vehicle.

1. Side-street stop-controlled intersection level of service is based on average delay per vehicle (in seconds) to the *Highway Capacity Manual – Special Report 209* (Transportation Research Board, 2000). The worst case movement delays are presented.
2. All-way stop-controlled intersection level of service is based on average delay per vehicle (in seconds) to the *Highway Capacity Manual – Special Report 209* (Transportation Research Board, 2000).
3. Signalized intersection level of service is based on V/C ratio according to *Circular 212 Interim Materials on Highway Capacity* (Transportation Research Board, 1980).

Source: Fehr & Peers, 2005.

BICYCLE AND PEDESTRIAN OPERATIONS

Class II bicycle lanes are provided on portions of Lighthouse Drive and bicycle route signage is provided on those areas without bicycle lanes. Sidewalks are currently provided on Lighthouse Drive and Fountain Drive.

Planned facilities within the project vicinity, but not proposed as part of the Rivers Phase II project, include bicycle lanes on Fifth Street and a recreational trail along the Sacramento River. The *West Sacramento Bicycle and Pedestrian Master Plan* (1995 Addendum), which is being updated, shows bicycle lanes along Cummings Way and Kegle Drive. The Master Plan does not indicate planned bicycle lanes/paths or pedestrian paths within the proposed project area.

The project would not affect the access or usage of these or other bicycle and pedestrian facilities. As such, the project would have a less than significant impact on bicycle or pedestrian facilities.

TRANSIT OPERATIONS

The City of West Sacramento General Plan includes policies that promote public and private transit. The City requires new development to install indented curbs for bus pullouts, bus shelters and other transit-related public improvements where appropriate. These improvements would be required as part of the City's approval of the proposed Rivers Phase II project development.

The Yolo County Transportation District (YCTD) plans to provide bus service to the proposed project. The YCTD, through Yolobus Transit Service, operates within the City of West Sacramento and provides bus access to the surrounding communities.

YCTD policy prefers a bus stop within one-quarter mile of a residence. According to YCTD, the southern edge of the proposed project site is just under one-quarter mile from the closest stop, with the northeast corner of the property site over one-half mile away.

The increased number of residences in the northeast area of the City, in addition to the residences proposed by the Rivers Phase II project, would result in the need for the YCTD to acquire an additional bus. The additional bus would not result in the need for the District to expand or construct new facilities. In addition, new development, consistent with City standards, would require the installation of indented curbs for bus pullouts, bus shelters, and other transit-related public improvements. The need to provide additional transit-related public improvements would be considered a **significant impact** and the project's contribution would be considerable.

PARKING

The proposed project includes residential uses that would increase the demand for on- and off-street parking over that which currently exists. Under Scenario A, a school would be developed that would also contribute to an increased parking demand.

Both the City's Zoning and PD-29 Ordinances require adequate off-street parking, with the intent to reduce on-street parking. On-street parking for single-family lots would be required pursuant to the City's Standard Specifications.

For Scenario A, the proposed project with a school, the Washington Unified School District would use, as guidance, the site design standards prepared by the California Office of Public School Construction. Based on the anticipated number of teachers, support staff, and administrators at the school, the District would determine the amount of required parking for the proposed school. Because on-street parking would not be allowed on the west side of Fountain Drive and along Lighthouse Drive, all parking for the proposed school must be accommodated on-site.

The proposed project would increase the demand for parking to accommodate proposed uses; therefore, the proposed project would result in a **significant impact**.

IMPACTS AND MITIGATION MEASURES

The project impacts would be ***less than significant*** at all study intersections for both Scenarios A & B under Existing Plus Project conditions. With the addition of project traffic generated by both Scenario A and B, the Douglas Street/Sacramento Avenue intersection would operate at unacceptable LOS E during the PM peak

hours. The project would increase the intersection delay by more than five seconds; however, the forecasted AM and PM peak hour intersection volumes do not satisfy the MUTCD peak hour traffic signal warrant. Therefore, the project impact is considered ***less than significant***.

The project could adversely affect existing or planned features or programs that support public transit and this is considered a significant impact. To mitigate this impact, the project applicant shall make a fair share contribution to the Yolo County Transportation District for the purchase of a bus. The project applicant shall also modify the proposed project to identify the specific locations of sheltered transit stops with bus turnouts. The City of West Sacramento Engineering Division and YCTD shall approve the location, design, and implementation timing of the sheltered transit stops and bus turnouts prior to the issuance of building permits. Construction of these facilities shall be phased consistent with the phased development of the project.

The proposed project would result in a less-than-significant impact to existing pedestrian or bicycle facilities. Therefore, no mitigation measures are required.

The proposed project would result in a less-than-significant impact to parking capacity. Therefore, no mitigation measures are required.

5. CUMULATIVE CONDITIONS

This chapter discusses Cumulative traffic conditions, both without and with the project. The analysis of future traffic conditions considered future development within the City of West Sacramento.

This discussion does not include the potential cumulative impacts to parking facilities, existing or future transit facilities, or existing or future bicycle and pedestrian facilities. The proposed Rivers Phase II project would develop residential and school (Scenario A) or only residential (Scenario B) uses. The PD-29, the Zoning Ordinance and the City's Standard Specifications require that sufficient residential parking be included within the proposed project site. The WUSD would require that the school site design include sufficient parking for employees at the school. Therefore, neither land use proposed as part of the project would contribute to off-site impacts and there would be no cumulative parking impact.

The proposed project would be required to comply with the City of West Sacramento and YCTD requirements for the provision of on-site transit facilities. The proposed project would not affect the access or usage of off-site transit facilities. Therefore, the proposed Rivers Phase II project would not contribute to cumulative impacts to such facilities.

Similarly, the proposed project would be required to comply with the City of West Sacramento requirements for the provision of on-site bicycle and pedestrian facilities. As previously discussed, the proposed project would not affect the access or usage of off-site bicycle and/or pedestrian facilities. Therefore, the proposed Rivers Phase II project would not contribute to cumulative impacts to such facilities.

PLANNED TRANSPORTATION IMPROVEMENTS

As with the Existing Plus Project conditions, the Fountain Drive/Lighthouse Drive intersection is signalized under cumulative conditions. There are no other planned improvements to the roadway network within the study area; therefore, the existing lane configuration and traffic control are assumed. The future lane configurations and traffic controls of the study intersections are shown in Figure 8.

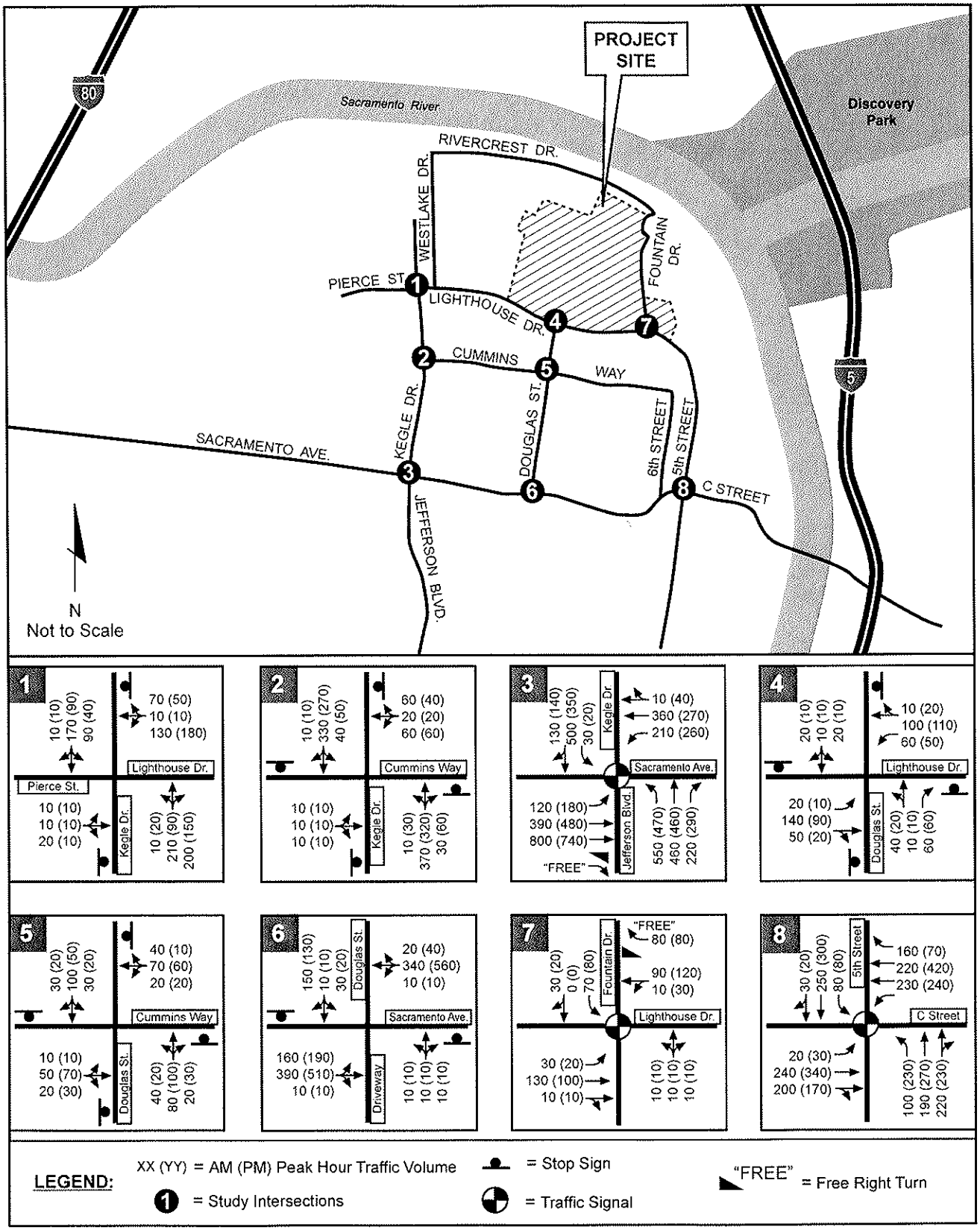
TRAFFIC FORECASTS

The City of West Sacramento 2025 traffic model was used to develop intersection volumes for the Cumulative (year 2025) No Project conditions. The model generates year 2025 volumes based on cumulative land use data and roadway network assumptions. Figure 8 displays the anticipated year 2025 AM and PM peak hour turning movements and lane configurations at the study intersections. Project traffic was added to the year 2025 turning movements to form the basis of the Cumulative Plus Project analysis. Figures 9 and 10 show the Cumulative Plus Project traffic volumes for Scenarios A and B.

Adjustments to Raw Model Forecasts

Using the existing traffic volumes and knowledge of the future roadway improvements, the raw model forecast volumes were compared to the existing traffic volumes to determine if existing and future travel patterns are reflected in the traffic model. The following adjustments were made:

- The project development was removed from traffic analysis zone (TAZ) 1146 to form the basis of the Cumulative No Project conditions (Note: TAZ 1146 has other development besides the project; therefore, only the project was removed).



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CUMULATIVE NO PROJECT TRAFFIC VOLUMES, LANE CONFIGURATIONS AND TRAFFIC CONTROLS

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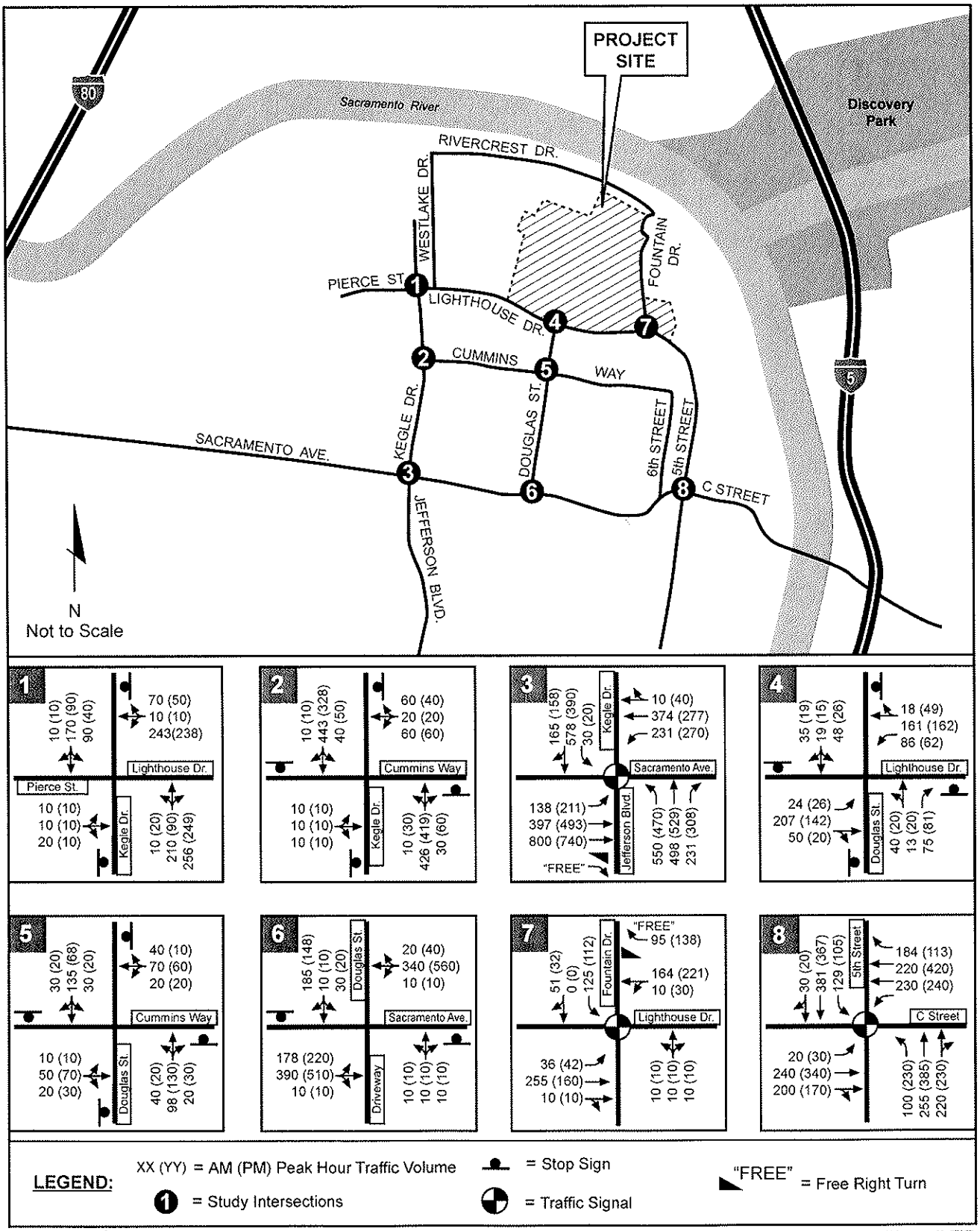
FIGURE 8



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CUMULATIVE PLUS PROJECT (SCENARIO A) TRAFFIC VOLUMES, LANE CONFIGURATIONS AND TRAFFIC CONTROLS

FIGURE 9

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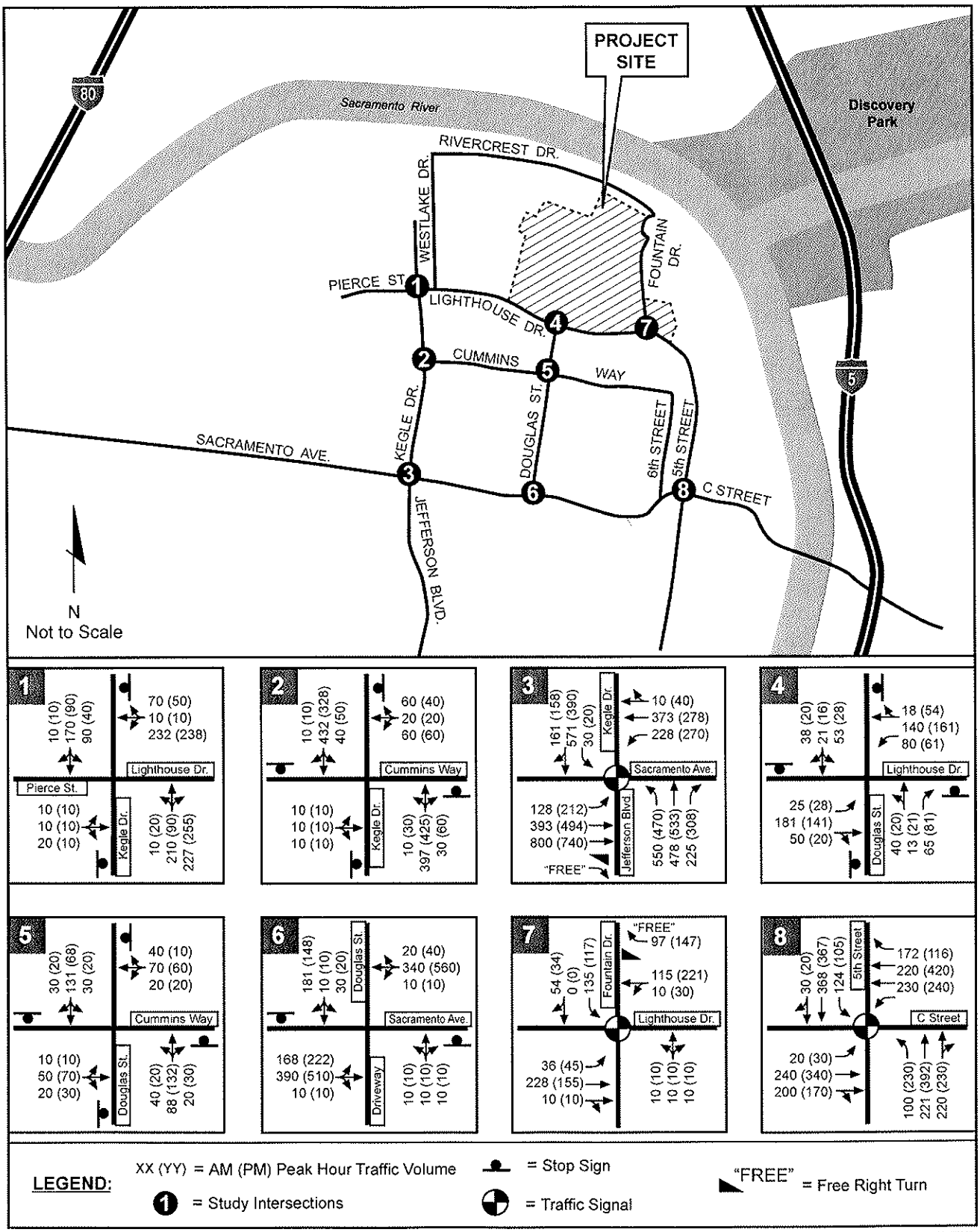
SA05-0014-9



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CUMULATIVE PLUS PROJECT (SCENARIO B)
TRAFFIC VOLUMES, LANE CONFIGURATIONS
AND TRAFFIC CONTROLS

FIGURE 10

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- The model has traffic from TAZ 1146 loading at the Fountain Drive/Lighthouse Drive intersection; however, most of the non-project traffic would access Lighthouse Drive at a point east of Fountain Drive. Seventy-five percent of the traffic (i.e., non-project development) generated by TAZ 1146 was shifted to the driveway east of Fountain Drive.

- The growth between year 2002 (model baseline conditions) and year 2025 was interpolated to reflect the existing traffic count year 2005.

INTERSECTION OPERATIONS

As required by the City of West Sacramento Traffic Impact Analysis Guidelines, the analysis of Cumulative conditions was performed using the Circular 212 planning and HCM 2000 methods.

Level of Service

The AM and PM peak hour operations are evaluated at each study intersection, as shown in Table 8. The detailed peak hour intersection LOS calculations are presented in Appendix E. Under Cumulative No Project conditions, the Kegle Drive/Jefferson Boulevard/Sacramento Avenue and Douglas Street/Sacramento Avenue intersections would operate at unacceptable service levels during both the AM and PM peak hours. With the addition of project traffic, these intersections would operate at an unacceptable LOS F during both the AM and PM peak hours. In addition, both project scenarios would cause the Kegle Drive/Lighthouse Drive/Pierce Street intersection to degrade from LOS C to LOS F during the AM peak hour. These are considered **significant impacts** and the project's contribution would be considerable.

Traffic Signal Warrant

A peak hour volume traffic signal warrant analysis was conducted for the Kegle Drive/Lighthouse Drive/Pierce Street, Kegle Drive/Cummins Way, Douglas Street/Lighthouse Avenue, Douglas Street/Cummins Way, and Douglas Street/Sacramento Avenue intersections using the criteria described in the MUTCD. The results indicate that under Cumulative No Project conditions, the intersection of Douglas Street/Sacramento Avenue would satisfy the peak hour signal warrant criteria. The remaining intersections would not meet the peak hour signal warrant criteria.

With the addition of project traffic, the Kegle Drive/Lighthouse Drive/Pierce Street and Douglas Street/Sacramento Avenue intersections would satisfy peak hour signal warrant criteria under Scenario A. Under Scenario B, the Douglas Street/Sacramento Avenue intersection would satisfy peak hour signal warrant criteria. The remaining intersections would not meet the peak hour signal warrant criteria with the project.

It should be noted that the peak hour signal warrant analysis should not serve as the only basis for deciding whether and when to install a signal. To reach such a decision, the full set of warrants should be investigated based on field-measured, rather than forecast, traffic data and a thorough study of traffic and roadway conditions by an experienced engineer. In addition, factors such as congestion, approach conditions, and driver confusion should be considered before deciding to install signals.

Appendix C contains the traffic signal warrant calculation worksheets.

TABLE 8
CUMULATIVE WITH AND WITHOUT PROJECT CONDITIONS
PEAK HOUR INTERSECTION LEVEL OF SERVICE

Intersection	Traffic Control	Peak Hour	Cumulative No Project		Cumulative Plus Project (Scenario A)		Cumulative Plus Project (Scenario B)	
			V/C Ratio or Delay	LOS	V/C Ratio or Delay	LOS	V/C Ratio or Delay	LOS
1. Kegle Drive/Lighthouse Drive/Pierce Street[1]	Side-Street Stop	AM	24	C	**>50**	**F**	**>50**	**F**
		PM	15	C	20	C	20	C
2. Kegle Drive/ Cummins Way[2]	All-Way Stop	AM	13	B	16	C	15	C
		PM	12	B	15	B	15	C
3. Kegle Drive/ Jefferson Boulevard/ Sacramento Avenue[3]	Signal	AM	1.06	F	**1.15**	**F**	**1.14**	**F**
		PM	0.97	E	1.02	F	1.02	F
4. Douglas Street/ Lighthouse Avenue[2]	All-Way Stop	AM	9	A	10	B	10	B
		PM	8	A	9	A	9	A
5. Douglas Street/ Cummins Way[2]	All-Way Stop	AM	8	A	9	A	9	A
		PM	8	A	8	A	8	A
6. Douglas Street/ Sacramento Avenue[1]	Side-Street Stop	AM	>50	F	**>50**	**F**	**>50**	**F**
		PM	>50	F	**>50**	**F**	**>50**	**F**
7. Fountain Drive/ Lighthouse Drive[3]	Signal	AM	0.20	A	0.34	A	0.30	A
		PM	0.23	A	0.35	A	0.35	A
8. 5th Street/C Street[3]	Signal	AM	0.50	A	0.54	A	0.53	A
		PM	0.59	A	0.61	B	0.61	B

Notes: V/C = volume-to-capacity ratio. Delay is shown in seconds per vehicle. **Bold** indicates project significant impact.

1. Side-street stop-controlled intersection level of service is based on average delay per vehicle (in seconds) to the *Highway Capacity Manual – Special Report 209* (Transportation Research Board, 2000). The worst case movement delays are presented.
2. All-way stop-controlled intersection level of service is based on average delay per vehicle (in seconds) to the *Highway Capacity Manual – Special Report 209* (Transportation Research Board, 2000).
3. Signalized intersection level of service is based on V/C ratio according to *Circular 212 Interim Materials on Highway Capacity* (Transportation Research Board, 1980).

Source: Fehr & Peers, 2005.

IMPACTS AND MITIGATION MEASURES

Based on the application of the City's significance criteria, four significant impacts were identified. The following discusses the project impacts and mitigation measures.

IMPACT #1: The addition of project traffic causes the Kegle Drive/Lighthouse Drive/Pierce Street intersection to operate at unacceptable LOS F during the AM peak hour and LOS C during the PM peak hour under Cumulative Plus Project (Scenario A) conditions. The addition of project traffic would cause the intersection to satisfy the MUTCD peak hour traffic warrant during the AM peak hour under Scenario A. This is considered a **significant impact**.

Analysis: The intersection would degrade from LOS C to LOS F (more than 50 seconds of delay) during the AM peak hour under Scenario A. This intersection would operate at a deficient level due to the heavy northbound and southbound through movements and the lack of available gaps for the side-street traffic. Scenario A would increase the westbound left-turn movement by over 100 vehicles causing this approach to operate at LOS F. The addition of project traffic would cause the Kegle Drive/Lighthouse Drive/Pierce Street intersection to satisfy the MUTCD peak hour traffic signal warrant during the AM peak hour under Scenario A.

Mitigation #1: Mitigation of unacceptable conditions at this intersection can be achieved through installation of a traffic signal. No funding sources have been identified for this project. The proposed project would contribute by paying its fair share of the cost.

Note: The Kegle Drive/Lighthouse Drive/Pierce Street intersection would operate at LOS D (V/C = 0.81) during the AM peak hour and LOS B (V/C = 0.60) during the PM peak hour with the mitigation under Cumulative Plus Project (Scenario A) conditions.

IMPACT #2: With the addition of project traffic, the Kegle Drive/Jefferson Boulevard/Sacramento Avenue intersection would operate at unacceptable LOS F during both the AM peak hour and PM peak hours and the V/C ratio would increase by more than 0.05 during the AM peak hour under Cumulative Plus Project conditions. This is considered a **significant impact**.

Analysis: The intersection would operate at LOS F (V/C = 1.15) during the AM peak hour with the proposed project Scenario A. The intersection would operate at LOS F (V/C = 1.14) during the AM peak hour with the proposed project Scenario B. The intersection would operate at a deficient level due to the heavy northbound through, southbound through, and southbound right-turn movements.

Mitigation #2: Mitigation of unacceptable conditions at this intersection can be achieved by providing a southbound right-turn lane. No funding sources have been identified for this project. The proposed project would contribute by paying its fair share of the cost.

Note: The Kegle Drive/Jefferson Boulevard/Sacramento Avenue intersection would continue to operate at an unacceptable service level (i.e., LOS E or LOS F) with this mitigation due to the projected future traffic volumes (without the project) at this intersection; however, this measure would mitigate the project's impact. Under Cumulative Plus Project conditions with the mitigation, the intersection would operate at LOS F (V/C = 1.04) during the AM peak hour and LOS E (V/C = 0.92) during the PM peak hour under Scenario A and LOS F (V/C = 1.03) during the AM peak hour and LOS E (V/C = 0.92) during the PM peak hour under Scenario B.

IMPACT #3 The addition of project traffic causes the Douglas Street/Sacramento Avenue intersection to satisfy the MUTCD peak hour signal warrant. This is considered a **significant impact**.

Analysis: The intersection would operate at LOS F (more than 50 seconds of delay) during both the AM and PM peak hour. The intersection operates at deficient level due to the heavy eastbound and westbound through movements and lack of available gaps for the side-street traffic.

Mitigation #3: Mitigation of unacceptable conditions at this intersection can be achieved through installation of a traffic signal and the addition of an eastbound left-turn lane. No funding

sources have been identified for this project. The proposed project would contribute by paying its fair share of the cost.

Note: The Douglas Street/Sacramento Avenue intersection would operate at LOS A (V/C = 0.56) during the AM peak hour and LOS C (V/C = 0.73) during the PM peak hour with the mitigation under Cumulative Plus Project (Scenario A) conditions. The intersection would operate at LOS A (V/C = 0.55) during the AM peak hour and LOS C (V/C = 0.73) during the PM peak hour with the mitigation under Cumulative Plus Project (Scenario B) conditions.

IMPACT #4 The project would have a ***less than significant*** impact on bicycle or pedestrian facilities.

Analysis: The project would provide sidewalks on all roadways within the study area. The project would not affect the access to, or usage of, bicycle and pedestrian facilities in the project vicinity.

Mitigation #4: None required.

Note: None.

IMPACT #5 The project could adversely affect existing or planned features or programs that support alternative transportation and this is considered a **significant impact**.

Analysis: The City of West Sacramento General Plan includes policies that promote public and private transit. The City requires new development to install indented curbs for bus pullouts, bus shelters and other transit-related public improvements where appropriate. These improvements would be required as part of the City's approval of the proposed Rivers Phase II project development. The Yolo County Transportation District (YCTD) policy prefers a bus stop within one-quarter mile of a residence. According to YCTD, the southern edge of the proposed project site is just under one-quarter mile from the closest stop, with the northeast corner of the property site over one-half mile away. The recent development of properties in the vicinity of the Rivers Phase II site has triggered the need for an additional YCTD bus to provide transit service in the northeast corner of the City.

Mitigation #5: The applicant shall be required to provide public transit facilities including bus turnouts, bus shelters and adequate lighting as required by the City's Engineering Division and the Yolo County Transportation District. Construction of these facilities shall be phased consistent with the phase development of the project.

Note: None.

IMPACT #6 The project would have a ***less than significant*** impact on parking facilities.

Analysis: The project would not affect the access or usage of parking facilities in the project vicinity.

Mitigation #6: The applicant shall comply with City standards and District parking requirements (i.e., under Scenario A).

(a) All on-site and off-site parking shall be designed consistent with PD-29, the Zoning Ordinance, and the City's Standard Specifications for residential development.

In addition, the applicant shall implement the following mitigation measure for Scenario A only.

(b) The school shall be designed to accommodate all parking on-site.

Note: None.

6. ALTERNATIVES

This chapter presents a cursory analysis of three alternatives to the project. The analysis is based on the project evaluation presented in the previous chapters and is intended to make a determination of each alternative's potential impacts.

ALTERNATIVE 1 – NO PROJECT

The no project alternative is represented by the No Project condition discussed in Chapter 2 and Chapter 5. Table 4 summarizes the intersection operations without the project under the existing traffic conditions. Table 8 summarizes the expected intersection operations under Cumulative (Year 2025) conditions. As indicated in the tables, all of the intersections operate at an acceptable service level under Existing Conditions. Under Cumulative Conditions, the Kegle Drive/Jefferson Boulevard/Sacramento Avenue and Douglas Street/ Sacramento Avenue intersections operate at unacceptable LOS E or F conditions.

This alternative includes no increased traffic generated by the project. It also would not increase the V/C ratio by more than 0.05 or the delay by more than 5 seconds at intersections expected to operate at LOS E or F, so impacts are considered less than significant.

ALTERNATIVE 2 – EXISTING PD-29 ORDINANCE / NO ACTION ALTERNATIVE

This alternative would develop the proposed project area (67.9 acres) consistent with the currently approved land use intensities identified in PD-29 (Ordinance 89-9). The approved development includes 169 single-family homes, 247 condominiums, a 42.2 acre golf course, 190,000 square-feet of office, and 10,000 square-feet of commercial. In addition, Ordinance 89-9 allows for land use such as day care centers, public or neighborhood day-use areas, or concessionaire stands for use of Lighthouse Marina Association members. Trip generation for these additional uses was assumed to remain internal to the site, as the majority of users would originate within the project site. Table 9 shows a comparison between alternative 2 and the proposed project scenarios. As shown in the table, this alternative would generate 5,897 daily trips, 567 AM peak hour trips, and 638 PM peak hour trips. Alternative 2 trip generation would be greater than both the project scenarios; therefore, the impacts of this alternative would likely be worse than the proposed project scenarios.

ALTERNATIVE 3 – ESTATE PARCEL

The estate parcel alternative would develop a 13.0 acre estate mansion, 486 residential units including 148 single-family homes and 338 condominiums, and a 12.3 acre school site with 600 students. Table 9 shows a comparison between alternative 3 and the proposed project scenarios. The trip generation for the estate mansion was based on the following assumptions:

- There would be five guest quarters for staff and/or visitors. Trip generation for the living quarters was based on Apartment (Land Use Code 220) in the ITE *Trip Generation* (7th Edition).
- The estate (i.e., the area besides the five guest quarters) was assumed to be equivalent to three single-family homes. Trip generation for the single-family homes was based on Single Family Detached Housing (Land Use Code 210) in the ITE *Trip Generation* (7th Edition).
- Ten employees would work at the mansion. These employees would generate three trips per day (Note: This assumption accounts for employees carpooling and/or driving to lunch). Fifteen percent of the daily trips are assumed to occur during the peak hours. The peak hour trips are assumed to occur

only in the peak direction (i.e., 5 AM inbound trips and 0 AM outbound trips, and 0 PM inbound trips and 5 PM outbound trips).

- Twenty trips per day are assumed for each delivery, security, and visitors (i.e., a total of 60 trips per day). Ten percent of these daily trips are assumed to occur during the peak hour with 50 percent of the trips inbound and 50 percent of the trips outbound (i.e., a total of 3 AM inbound trips and 3 AM outbound trips, and 3 PM inbound trips and 3 PM outbound trips).

As shown in the Table 9, this alternative would generate 4,036 daily trips, 455 AM peak hour trips, and 385 PM peak hour trips. Alternative 3 trip generation would generate fewer daily trips than both the project scenarios; therefore, the impacts of this alternative would likely be less than the proposed project scenarios.

TABLE 9
TRIP GENERATION COMPARISON FOR THE PROJECT AND PROJECT ALTERNATIVES[1]

	Project Scenario A	Project Scenario B	Alternative 2 No Action	Alternative 3 Estate Parcel
Daily Trips	4,841	5,016	5,897	4,036
AM Peak Hour Trips	511	373	567	455
PM Peak Hour Trips	462	473	638	385

1. Trip generation determined using ITE *Trip Generation* (7th Edition) except for portions of the estate parcel alternative which are based assumptions discussed in Chapter 6 of *Transportation Study – The Rivers Phase II* (Fehr & Peers, 2005).

Source: Fehr & Peers, 2005.

APPENDIX J
Draft Water Supply Assessment

City of West Sacramento

Draft

Water Supply Assessment

for the

Proposed Rivers

Phase II Project

September 2005

Prepared by:

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DRAFT WATER SUPPLY ASSESSMENT FOR THE PROPOSED RIVERS PHASE II PROJECT

INTRODUCTION

The Rivers Phase II Project (proposed project) includes development of approximately 626 single-family homes, an approximately 12.3-acre K-8 school, a two-acre park, and supporting infrastructure on approximately 68 acres of the approved Lighthouse Marina and Riverbend Development Project area in the City of West Sacramento. If the Washington Unified School District (WUSD) does not construct and operate the school, then the project would construct an additional 176 residential units on the 12.3-acre site for a total of 802 units. The proposed project also includes installation of approximately 3,000 linear feet of bank stabilization along the Sacramento River between River Mile 60.5 and 61.3. Finally, the proposed project includes text amendments to PD-29, approval of a small lot (vesting) tentative subdivision map.

As part of its consideration of the proposed project, the City is conducting an environmental review under the requirements of the California Environmental Quality Act (CEQA). The environmental review for the proposed project includes the need for an assessment of adequate water supplies available to serve the project. The requirements for such a water supply assessment (WSA) are described in the sections of the California Water Code (Water Code) amended by the enactment of Senate Bill 610 (SB 610) in 2002 (primarily Sections 10910 through 10915). In addition, the proposed project also includes consideration of a large lot tentative subdivision map. Approval of the tentative subdivision map will also require a written verification of available water supplies under the sections of the Public Resources Code amended by the enactment of Senate Bill 221 (SB 221) in 2002 (primarily Section 66473.7). This report is designed to fulfill the requirements of these two laws.

Senate Bill 610 and SB 221 provide a nexus between the regional land use planning process and the environmental review process. As noted above, the core of these laws is an assessment of whether available water supplies are sufficient to serve the demand generated by a project, as well as the reasonably foreseeable cumulative demand in the region over the

next 20 years under a range of hydrologic conditions. This WSA provides information with regards to an assessment of the available water supply to serve the proposed project, based on the sections of the Water Code amended by SB 610. Subsequently, this information may be used as part of the written verification of water supplies, as required under SB 221.

PROJECT DESCRIPTION

The proposed Rivers Phase II project residential development is located on approximately 68 acres of the approved Lighthouse Marina and Riverbend Development Project area within the boundaries of the former Lighthouse Golf Course (Figures 1 and 2). The residential development site is bordered by the Sacramento River on the north, East Fountain Drive on the east, Lighthouse Drive on the south, and West Fountain Drive and Westlake Drive on the west. The area has a typical climate for the central Sacramento Valley, as precipitation averages roughly 20 inches per year (primarily in the form of winter rains) and average high temperatures range in the upper 50s during the winter months and upper 90s during the dry summer months.

This mixed-use development will include approximately 626 single-family residences, a 12.3-acre K-8 public school, a two-acre park, a trail system and supporting infrastructure on roughly 68 acres in the northern portion of the City (Scenario A). Under Scenario A, there will be 338 Single-Family Attached units (SFA) and 288 Single-Family Detached units (SFD). However, if the Washington Unified School District (WUSD) determines that it does not want to construct the proposed school, then the project will construct an additional 176 residential units for a total of 802 units (Scenario B). Under Scenario B, there will be 514 SFA units and 288 SFD units. A summary of the proposed land uses for these two scenarios within the Rivers Phase II Project area can be found in Table 1.

TABLE 1

SUMMARY OF PROPOSED PROJECT LAND USES

	Scenario A With School		Scenario B Without School	
Proposed Project Uses	**Acres**	**Units**	**Acres**	**Units**
Single-Family Residential	53.5	626	65.8	802
K-8 School	12.3			
Park	2.0		2.0	
Total	***67.8***	**626**	**67.8**	**802**

Source: Correspondence from Alberto Esquivel, Project Manager, The Grupe Company to EIP, March 3, 2005

Figure 1. Proposed Project Location.

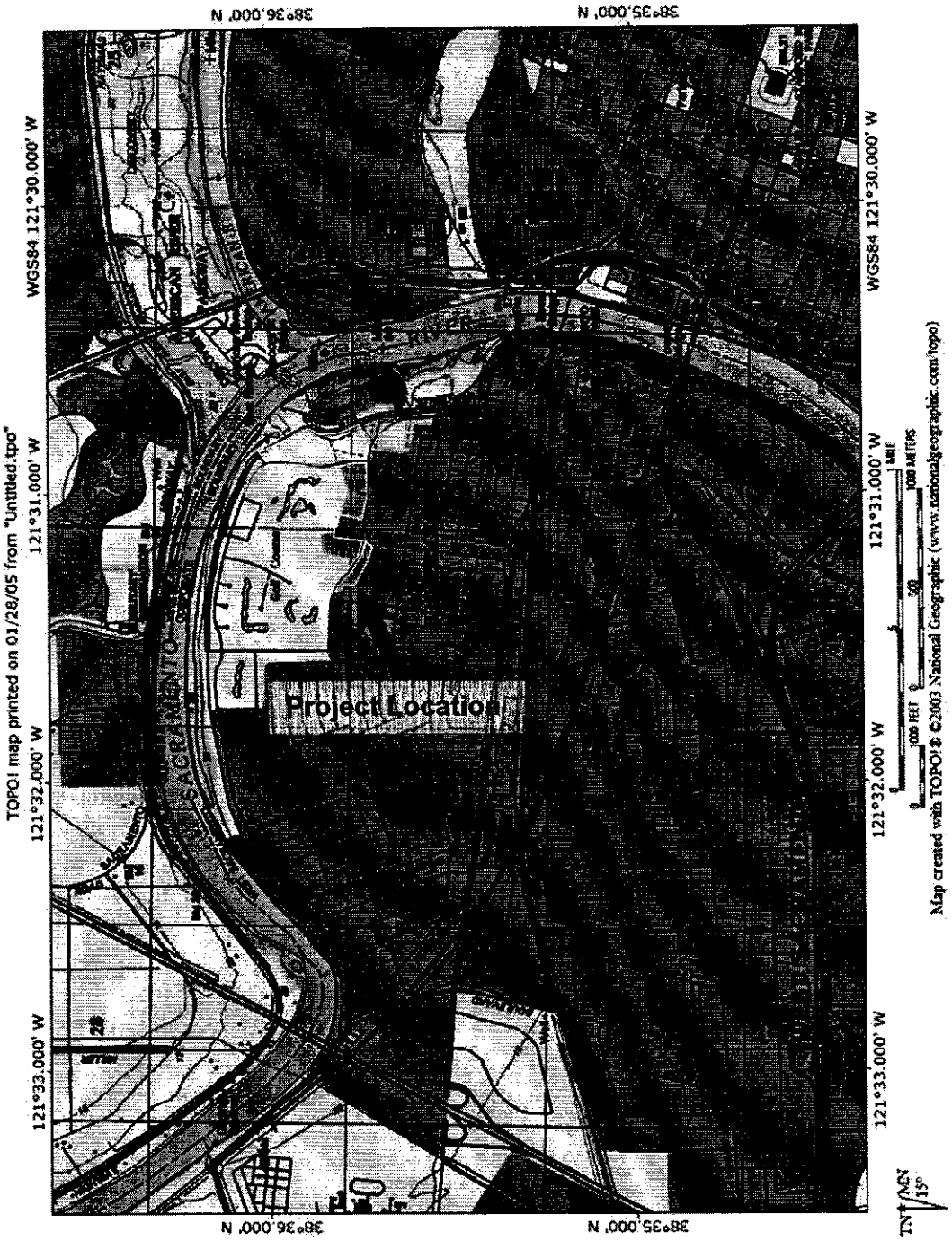

Figure 2. Proposed Project Area

WATER SUPPLY PLANNING UNDER SB 610 and SB 221

Senate Bill 610 and SB 221 were passed into law on January 1, 2002. These laws reflect the need to incorporate water supply and demand analysis at the earliest possible stage in the planning process. SB 610 amended portions of the Water Code, including Section 10631, which contains the Urban Water Management Planning Act, and Sections 10656, 10910, 10911, 10912, 10913 and 10915. SB 221 amended Section 65867.5 and added Sections 66455.3 and 66473.7 to the Government Code relating to land use. Upon signing these bills, Governor Davis stated, "Most notably, these bills will coordinate local water supply and land use decisions to help provide California's cities, farms and rural communities with adequate water supplies. Additionally, these bills increase requirements and incentives for urban water suppliers to prepare and adopt comprehensive management plans on a timely basis."[1]

The primary effect of SB 610 was to modify Sections 10910 through 10915 of the Water Code, as well as Section 10631, which relates to Urban Water Management Plans (UWMPs). SB 610 is designed to build on the information that is typically contained in a UWMP, and the amendments to Water Code Section 10631 were designed to make the two processes consistent. A key difference is that UWMPs are required to be revised every five years, in years ending with either zero or five, while WSAs are required as part of the environmental review process for each individually qualifying project. As a result, the 20-year planning horizons for each document may cover slightly different planning periods than other WSAs or the current UWMP. Additionally, not all water providers who must prepare a WSA under SB 610 are required to prepare a UWMP.

Under SB 221, approval by a city or county of certain residential subdivisions, as defined by California Government Code Section 66473.7 (a) (1), requires an affirmative written verification of sufficient water supply. SB 221 is designed as a "fail-safe" mechanism to ensure that collaboration on finding the needed water supplies to serve a new large subdivision occurs early in the planning process. This verification must also include documentation of historical water deliveries for the previous 20 years, as well as a description of reasonably foreseeable impacts of the proposed subdivision on the availability of water resources of the region. As a result of the information contained in the written verification, the city or county may attach conditions to assure that water supply is part of the map approval process.

SB 610 Water Supply Assessment

The SB 610 water supply assessment process involves answering the following questions:

1. Is the project subject to CEQA?
2. Is it a project under SB 610?
3. Is there a public water system?
4. Is there a current UWMP that accounts for the project demand?
5. Is groundwater a component of the supplies for the project?
6. Are there sufficient supplies available to serve the project over the next 20 years?

"Is the Project Subject to CEQA?"

The first step in the SB 610 process is determining whether the project is subject to CEQA. SB 610 amended Public Resources Code Section 21151.9 to read: "Whenever a city or county determines that a project, as defined in Section 10912 of the Water Code, is subject to this division [i.e., CEQA], it shall comply with part 2.10 (commencing with Section 10910) of Division 6 of the Water Code." Section 15083.5 of the CEQA Guidelines addresses consultation between a city or county and the local water supplier for specific projects. The proposed project is subject to CEQA at a project-level analysis.

"Is It a Project Under SB 610?"

The second step in the SB 610 process is to determine if a project meets the definition of "Project" under Water Code Section 10912 (a). Under this section, a "Project" is defined as meeting any of the following criteria:

1. A proposed residential development of more than 500 dwelling units;
2. A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet (ft^2) of floor space;
3. A commercial building employing more than 1,000 persons or having more than 250,000 ft^2 of floor space;
4. A hotel or motel with more than 500 rooms;

5. A proposed industrial, manufacturing, or processing plant, or an industrial park, planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 ft^2 of floor area;
6. A mixed-use project that includes one or more of these elements; or
7. A project creating the equivalent demand of 500 residential units.

Alternately, if a public water system has less than 5,000 service connections, the definition of a "Project" also includes any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of service connections for the public water system. The proposed Rivers Phase II project plan includes more than 500 residential dwelling units; therefore, Rivers Phase II qualifies as a "Project" under Section 10912 (a) of the Water Code.

"Is There a Public Water System?"

The third step in the SB 610 process is determining if there is a "public water system" to serve the project. Section 10912 (c) of the California Water Code (Water Code) states: "[A] public water system means a system for the provision of piped water to the public for human consumption that has 3,000 or more service connections." The City is the water supplier to this area. Although the City has used groundwater in the past to meet demand, the City now relies solely on surface water to meet demand, primarily in the form of diversions from the Sacramento River under agreement between the North Delta Water Agency and the State of California, and an appropriative water right entitlement (Permit #18150), issued to the City by the State Water Resources Control Board, as well as a contract with the U.S. Bureau of Reclamation for delivery of Central Valley Project (CVP) supplies.

"Is There a Current UWMP That Accounts for the Project Demand?"

Step four in the SB 610 process involves determining if there is a current UWMP that considers the projected water demand for the project area. The Water Code requires that all public water systems providing water for municipal purposes to more than 3,000 customers, or supplying more than 3,000 acre-feet per annum (afa), must prepare a UWMP, and this plan must be updated at least every five years on or before December 31, in years ending in five and zero.

Water Code Section 10910 (c)(2) states, "If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g) [i.e., the WSA]."

The City's current UWMP was adopted in December 2000 and revised in July 2002. Therefore, the information contained in the current UWMP serves as the foundation for this assessment. As required by law, a new update will be prepared for release in December 2005. However, this information has not yet been developed or made available. In addition, the City has a current Water System Master Plan. Finally, a Water Modeling Study for the proposed project was prepared in December 2004 for the City of West Sacramento by Nolte Engineering (Nolte 2004). These documents are also used for reference in determining available water supplies in this assessment.

"Is Groundwater a Component of the Supplies for the Project?"

This section addresses the requirements of Water Code Section 10910 (f), paragraphs 1 through 5, which apply if groundwater is a source of supply for a proposed project. In the past, the City did receive some of its potable water supplies from local groundwater sources. However, due to the poor water quality in these wells, the City has made a decision to discontinue the use of groundwater and formally abandon its wells.[2] The Technical Memorandum prepared by the engineering firm of West Yost & Associates states, "The City used groundwater as its only supply source in the past, and still has some existing wells. In general, however, the wells are not in good operating condition and the quality of water they produce is poor. Use of groundwater in the City thus also involves the need to treat the water to remove iron, manganese, methane, and possible arsenic."[3] As a result, groundwater supplies will not be considered part of the City's available water supplies, and no further discussion of groundwater or the groundwater basin is necessary in this assessment.

"Are There Sufficient Supplies to Serve the Project Over the Next Twenty Years?"

The next step in the SB 610 process is to prepare the actual assessment of the available water supplies, including the availability of these supplies in all water-year conditions over a 20-year

planning horizon, and an assessment of how these supplies relate to project-specific and cumulative demands over that same 20-year period. In this case, that period will cover the years 2005 to 2025.

Water Code Section 10910 (c)(4) states: "If the city or county is required to comply with this part pursuant to subdivision (b), the water assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses."

There are three primary areas to be addressed in a water supply assessment. Each of these will be discussed in the following sections, and include: the relevant water supply entitlements, water rights and water contracts; a description of the available water supplies; and an analysis of the demand placed on those supplies, both by the project and on a cumulative basis.

Water Supply Entitlements and Water Rights

Water Code Section 10910 (d)(1) states: "The assessment required by this section shall include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights or water service contracts."

The State Water Resources Control Board (SWRCB) is charged with coordinating the water rights and water quality functions of the state, as well as managing the Water Code. The Water Code applies only to surface water resources, and those "subterranean streams flowing through known and identifiable channels [Section 1200]," although according to the SWRCB, "California law also recognizes and protects rights to extract and use waters percolating beneath the surface of the land. Again, while the Water Code implies the existence of these groundwater rights, their doctrinal bases and characteristics are essentially the product of the decisions of our courts."[4]

The majority of the City is located within the boundaries of the North Delta Water Agency (NDWA), and therefore water supplies for these sections of the City are guaranteed by the contract between the NDWA and the State of California. The remainder of the City receives surface water under two other entitlements: an appropriative water right (Permit 18150, issued by the SWRCB) and a contract with the U.S. Bureau of Reclamation (USBR). Copies of contracts are included in Appendix A.

North Delta Water Agency

A large portion of the City's surface water supplies are guaranteed under the contract between the NDWA and the State of California. This contract, which was negotiated in 1981, includes supplies from both the State Water Project (SWP) and Central Valley Project (CVP). These deliveries have never been reduced under drought conditions. However, the northern boundary for the NDWA is the Union Pacific Railroad, which lies to the south of the proposed Rivers Phase II project area. According to the City's current UWMP (2002 UWMP), the area north of the railroad is served either by the City's appropriative rights, or under contractual entitlements (i.e. CVP deliveries), as the NDWA supply is not available. Therefore, the NDWA supply cannot be considered as a source for the proposed Rivers Phase II project.[5]

Permit 18150

The City holds an appropriative right for diversions from the Sacramento River under Permit 18150, which was issued by the SWRCB in 1981. Permit 18150 allows the City to divert up to 18,350 acre-feet per annum (afa) from the Sacramento River at the Bryte Bend Water Treatment Plant intake structure. However, this permit also limits the diversion of water to the periods of January 1 through June 30, and September 1 through December 31 of each year. In addition, the maximum instantaneous rate of diversion for municipal use under this permit is 62 cubic feet per second (cfs), which is equivalent to approximately 40 million gallons per day (mgd). Furthermore, this permit is subject to reduction by the SWRCB in the event of drought conditions and/or to meet downstream water quality objectives. The City's appropriative rights under Permit 18150 were reduced by 100 percent during the drought years of 1991 and 1992 between the months of June and October.[6]

Bureau of Reclamation Contract No. 0-07-20-W0187

In 1980, the City entered into a 40-year agreement with the USBR authorizing diversion from the Sacramento River as part of the CVP in order to "obtain a firm surface water supply during the summer months."[7] Under the terms of this contract (W0187), the City is allowed to divert up to a combined 23,600 afa from the Sacramento River under its appropriative rights (Permit 18150) and CVP water. The CVP contract does not limit the maximum rate or months of diversion. The contract does, however, require the City to pay for specified percentages of diverted water during the months of June through September. Provisions in the contract allow for the renewal of the contract for successive periods, and to increase or decrease the amount of water available to the City. The contract also states that the USBR will use all reasonable means to prevent shortages in the quantity of water available to the City. Under the drought conditions of 1992, CVP diversions were reduced by 75 percent, which is the maximum reduction the City has experienced.[8]

Reliability of Available Water Supplies

The City receives surface water diversions from the Sacramento River for use in the proposed project area under Permit 18150 and USBR Contract W0187. The City's UWMP states, "Because water supply in the portions of the City lying within the NDWA is ensured in all years, diversions from the Sacramento River under the City's water right and CVP contract can be used to provide water supply to just the area of the City lying outside the NDWA boundary"[9] (UWMP 2002). These entitlements provide the proposed project area with sufficient supplies to meet all demand, except during the period of June 1 through October 31, when the City's water right is restricted and the USBR contract supplies could be reduced. Therefore, this five-month period is the focus of this analysis.

The City's UWMP states, "Based on historical restrictions, the worst case scenario for the City appears to be a 100% restriction in diversion under the City's water right from June 1 through October 31, with a simultaneous restriction in [USBR] delivery of 25% of contractual entitlement. Based on a [USBR] entitlement of 23,600 afa, and City use during the months of no restriction (November through May) equal to about 43% of annual demand, the USBR contract water available to the City in the months of likely diversion restrictions would be equal to about 57% of the [USBR] entitlement, or about 13,452 afa."[10]

The City developed four drought supply scenarios based on this calculation (i.e., normal water year supply during the summer months equals 13,452 afa in the area outside of the NDWA boundary). The first assumed a 100 percent restriction in diversion under the City's water rights from June 1 through October 31 and a 25 percent restriction of CVP supplies for a total five-month supply of 10,089 afa. The second scenario assumed a 100 percent restriction on the City's water rights and a 50 percent restriction in CVP supplies for a total five-month supply of 6,726 afa. The third scenario assumed a 100 percent reduction to the City's water rights, and a 75 percent restriction on CVP supplies for a total five-month supply of 3,363 afa. The fourth scenario assumed 100 percent restrictions on both the City's water rights and the CVP diversion.

These scenarios were further analyzed in a technical memorandum prepared for the City in March 2004. This memo stated: "At full build-out of the [City's] current General Plan, the City's diversion under its water right could be reduced to zero during the months of June through October, and the City would still have sufficient water to meet demands in the portion of the City lying outside the NDWA boundary [i.e., the proposed project area], unless the water diverted under the Bureau of Reclamation contract was reduced below 25% of its face value. This means that the City's diversion would have to be cut by 100%, and the diversion under the USBR contract would have to be cut by more than 75% during the months of June through October, before the City would experience a shortfall in water supply."[11]

According to the City's UWMP, "If both the [USBR] contract and water right diversion entitlements are reduced to zero, the City would have to pump groundwater from its wells to meet demand [during the summer months]."[12] However, the City has never faced such a scenario: "This severe a reduction in surface water diversion entitlements has never occurred on the Sacramento River, even during the severe droughts of 1976-77 and 1992-98. The most severe historical reduction in diversion by the municipal water utilities holding contracts with the USBR has been 25% (allowing for a diversion of 75% of the contractual entitlement). The most severe scenario outlined in the UWMP would reduce the City's diversions to one-third of the historic minimum level experienced during the worst droughts on record."[13] The four scenarios shown in the City's UWMP are displayed in Table 2 below.

TABLE 2

"OUTSIDE NDWA" WATER SUPPLIES DURING THE PERIOD JUNE 1 THROUGH OCTOBER 31 UNDER VARIOUS DROUGHT SCENARIOS (afa)

	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Surface Water	10,089	6,726	3,363	0
Project Area Total	**10,089**	**6,726**	**3,363**	**0**

Source: City of West Sacramento's 2000 UWMP, Pages 3-3 and 5-4 (not including NDWA supplies).
Scenario 1 – 100 percent reduction of Permit 18150 and 25 percent reduction in CVP supplies
Scenario 2 – 100 percent reduction of Permit 18150 and 50 percent reduction in CVP supplies
Scenario 3 – 100 percent reduction of Permit 18150 and 75 percent reduction in CVP supplies (maximum historic reduction)
Scenario 4 – 100 percent reduction of all surface water supplies

Water Demand Projections

Water Code Section 10910 (c)(3) states, "If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, dry and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses." Based on the projections included in the City's 2002 UWMP, the demand for the portion of the City lying outside of the NDWA boundary will increase from a historic demand of 2,417 afa in 1999 to approximately 4,826 afa in 2020, as shown in Table 3 below. Upon reaching build-out in 2020, demand from June 1 through October 31 will average approximately 2,771 afa (57.4 percent of annual average demand)..

TABLE 3

ANNUAL ESTIMATED TOTAL "OUTSIDE NDWA" AREA WATER DEMAND THROUGH 2020

	1999 Demand (afa)	Unit Demand Factor* (gpd/du or gpd/ac)	Additional Units @ Build-out 2020	Additional Demand (afa)	Demand @ Build-out 2020 (afa)
Single Family Residential	1,713	560 gpd/du	674 du	423	2,136
Multi-Family Residential	295	290 gpd/du	1,219 du	396	691
Commercial	206	2,950 gpd/ac	279 ac	922	1,128
Industrial	5	2,950 gpd/ac	132 ac	436	441
Schools	68	25 gpd/student	0	0	68
Parks/Other	130	1,800 gpd/ ac	115 ac	232	362
Total	**2,417**			**2,409**	**4,826**

Source: City of West Sacramento's 2002 UWMP page 4-4.
* Note: Demand for residential uses is calculated in gallons per day per dwelling unit (gpd/du), while demand for commercial or other uses is calculated as gallons per day per acre (gpd/ac) and schools are calculated on gallons per student.

Water demand information is found in a series of tables on page 4-4 of the City's 2002 revised UWMP and reproduced Table 3. For the purpose of this assessment, SFD demand is given the demand estimate of 560 gallons per day per dwelling unit (gpd/du) for Single-Family Residential, while SFA units are assessed the demand factor for Multi-Family Residential (290 gpd/du). Table 4 shows the projected water demand for the proposed project under the two scenarios. Based on the unit demand factors presented in the City's 2002 UWMP, the proposed project under Scenario A would be expected to add a demand of approximately 310.1 afa, while Scenario B would add approximately 353.2 afa or a difference of roughly 43.1 afa. Based on the total estimates of future demand outside of the NDWA area, either scenario would only account for approximately 13 percent and 15 percent respectively of the project increase in demand of 2,409 afa. The 68 acres of the proposed project represents 15 percent (Shown in Appendix B) of the major development projects outside the NDWA and therefore can be assumed to be included in 2002 UWMP build out demand projections.

TABLE 4

ESTIMATED RIVERS PHASE II DEMAND SCENARIO A VS. SCENARIO B

Land use	Unit Demand Factor	Scenario A			Scenario B		
		Unit	Demand (afa)	Percent demand increase Outside NDWA	Unit	Demand (afa)	Percent demand increase Outside NDWA
Single-Family Detached	560 gpd/du	220 du	138.0	33%	220 du	138.0	33%
Single-Family Attached	290 gpd/du	406 du	131.9	33%	586 du	190.4	48%
Commercial	2,950 gpd/ac	0	0.0	0%	0	0.0	0%
Industrial	2,950 gpd/ac	0	0.0	0%	0	0.0	0%
Schools	25 gpd/student	550 students	15.4	NC	0	0.0	NC
Parks/Other	1,800 gpd/ ac	2.0 ac	24.8	11%	2.0 ac	24.8	11%
Total			**310.1**	13%		**353.2**	15%

Unit Demand factors from City of West Sacramento's 2002 UWMP.
NC = not calculated because project growth is 0.

COMPARISON OF WATER SUPPLY VS. DEMAND

Due to the unique supply issues associated with the City's water supplies for that portion of the City located outside of the NDWA boundary (including the Proposed Project area), this analysis does not consider the City's entire water supplies and demand. Therefore, this discussion will address the area outside of the NDWA, which includes the Proposed Project area. In addition, the demand analysis is focused on the period of June 1 through October 31, when supply reliability for this area under the City's entitlements may be restricted; the City's entitlements ensure adequate water supplies throughout the balance of the year.

The four drought supply scenarios are described in the City's 2002 UWMP. The first assumed a 100 percent restriction in diversion under the City's water rights from June 1 through October 31 and 25 percent restriction of CVP supplies for a total five-month supply of 10,089 afa. The second scenario assumed a 100 percent restriction on the City's water rights and a 50 percent restriction in CVP supplies for a total five-month supply of 6,726 afa. The third scenario assumed a 100 percent reduction to the City's water rights, and a 75 percent restriction on CVP supplies for a total five-month supply of 3,363 afa. The fourth scenario assumed 100 percent restrictions on both the City's water rights and the CVP diversion.

TABLE 5

"OUTSIDE NDWA" WATER SUPPLIES VS. DEMAND AT BUILD-OUT DURING THE PERIOD JUNE 1 THROUGH OCTOBER 31 UNDER VARIOUS DROUGHT SCENARIOS

	Scenario 1 (afa)	Scenario 2 (afa)	Scenario 3 (afa)	Scenario 4 (afa)
Total Project Area Supplies	10,089	6,726	3,363	0
Total Demand at Build Out	2,771	2,771	2,771	2,771
Difference	**7,318**	**3,995**	**592**	**-2,771**

Source: City of West Sacramento's 2002 UWMP, page 5-4; West Yost Technical Memorandum 2004.

Table 5 shows a comparison of the available water supply for the portion of the City outside of the NDWA boundary during the critical period (June 1 through October 31) under each of the four scenarios, as described in the UWMP. Build-out of the General Plan is expected to occur prior to the year 2020. The total demand figures would be adjusted slightly if Scenario B is implemented, but the difference is less than two percent of the total demand. Based on this information, the City would have sufficient water supplies to meet future demand under Scenario 1, Scenario 2 and Scenario 3. The restrictions listed under Scenario 4 (i.e., no surface water supplies from either entitlement) have never been implemented, even during the worst drought periods on record (i.e., 1976-77 and 1992-98).

In the extreme and unlikely event that Scenario 4 restrictions are implemented in the future, the City would have to find an emergency supply, or implement an aggressive demand reduction program, or a combination of the two. However, there is little chance that Scenario 4 would ever occur, as this would jeopardize the City's ability to meet its public health and safety requirements as a municipal water supplier. The most important qualifier, according to the West Yost report stated, "It is extremely unlikely that the Bureau would ever be able to reduce water diversions below this level in any drought." (West Yost, 2004)

FINDING OF ASSURED WATER SUPPLY FOR THE PROJECT

Section 10911(c) of the Water Code states, "The city or county shall determine, based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses." A finding can be made that there is an assured water supply for the proposed Rivers Phase II project based on the analysis contained in the City's current Urban Water Management Plan, as well as this WSA under Scenarios 1, 2

and 3. Although the City would not have sufficient water to meet demand under Scenario 4 during the summer months, the City has never experienced the restrictions included in Scenario 4 and could adopt a finding to that effect. This analysis concludes that the City will have sufficient supplies to meet demand under all conditions through 2025, including those portions of the City lying outside of the NDWA boundary, except in the event of an extended drought during the period of June 1 through October 31 as presented in Scenario 4. In all other months (and in the portion of the City within the NDWA boundary) and Scenarios 1 through 3, the City will have sufficient surface water supplies to meet projected demand.

In order to adopt a finding of an assured water supply, the City will need to also adopt the following findings:

- The City finds that it is extremely unlikely that the surface water diversions allowed under USBR Contract No. W0187 will ever be restricted under Scenario 4.
- The City finds that if the entitlements are restricted between June 1 and October 31, the City will have to implement an aggressive demand reduction, seek an emergency supply source, or more likely, use both measures simultaneously.

FUTURE ACTIONS

The City will need to adopt this assessment as part of the environmental review for the proposed Rivers Phase II project, including the findings described above. Section 10911 (b) of the Water Code states, "The city or county shall include the water assessment provided pursuant to Section 10910, and any information provided pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code [i.e., CEQA]."

Additionally, this project is subject to the changes in the Government Code resulting from SB 221. As a result, as a condition of the tentative subdivision map for the proposed project, the City will need to produce a Written Verification of available water supplies. In order to meet the requirements for Written Verification, the potential shortfall between supply and demand during the period of June 1 through October 31 under Scenario 4 will need to be addressed.

ENDNOTES

1. Department of Water Resources, *Guidebook for Implementation of SB 610 and SB 221 of 2001,* 2003.

2. Michael Bessette, Associate Civil Engineer, City of West Sacramento, Engineering Division, personal communication, March 15, 2005.

3. West Yost & Associates, Inc., Technical Memorandum, Subject: Treated Water Storage, to the City of West Sacramento, dated March 8, 2004, page 2.

4. State Water Resources Control Board, *Statutory Water Rights Law*, Sacramento, CA, 1999, page vi.

5. City of West Sacramento, 2000 *Urban Water Management Plan*, revised 2002, page 3-4.

6. City of West Sacramento, 2000 *Urban Water Management Plan,* revised 2002, page 3-3.

7. City of West Sacramento, 2000 *Urban Water Management Plan,* revised 2002, page 3-3.

8. City of West Sacramento, 2000 *Urban Water Management Plan,* revised 2002, page 3-3.

9. City of West Sacramento, 2000 *Urban Water Management Plan,* revised 2002, page 5-1.

10. City of West Sacramento, *Urban Water Management Plan,* 2002 revised, page 5-4.

11. West Yost, *Technical Memorandum,* March 2004, page 9.

12. City of West Sacramento, 2000 *Urban Water Management Plan,* revised 2002, page 5-4.

13. West Yost, *Technical Memorandum,* March 2004, page 4.

Appendix A

Contracts for Dependable Water Supply

for the

Proposed Rivers Phase II Project

STATE OF CALIFORNIA - RESOURCES AGENCY
STATE WATER RESOURCES CONTROL BOARD
DIVISION OF WATER RIGHTS
77 Cadillac Drive, Sacramento, CA 95825
(916) 920-6307

JAN 1 3 19[illegible]

EDMUND G. BROWN JR., Governor

IN REPLY REFER
TO: 333:DEN:25616

JANUARY 14 1981

East Yolo Community Services District
General Manager
P. O. Box 802
West Sacramento, CA 95691

APPLICATION 25616 PERMIT 18150

YOUR WATER RIGHT PERMIT IS ENCLOSED. THE BOARD REQUIRES THAT YOU SUBMIT ANNUAL REPORTS SHOWING THE PROGRESS YOU HAVE MADE IN THE CONSTRUCTION OF YOUR PROJECT OR, IF CONSTRUCTED, THE USE MADE UNDER YOUR PERMIT WHICH WOULD QUALIFY FOR LICENSING PURPOSES. WE WILL MAIL THE FORMS TO YOU WHEN THE REPORTS ARE DUE.

PLEASE NOTE THAT, WITH RESPECT TO OTHER RIGHTS ATTACHING TO THIS SOURCE, THE PRIORITY OF THIS RIGHT COMMENCES WITH THE DATE OF THE APPLICATION. THEREFORE, IN TIME OF WATER SHORTAGE, THOSE WITH RIGHTS SENIOR TO YOURS CAN TAKE THEIR WATER FIRST. ADDITIONAL LIMITATIONS ON THE DIVERSION OF WATER ARE SPECIFIED BY THE TERMS OF THIS PERMIT. YOU SHOULD READ THE TERMS AND CONDITIONS CAREFULLY SO THAT YOU ARE FAMILIAR WITH YOUR RESPONSIBILITIES AS AN APPROPRIATOR OF WATER UNDER THIS ENTITLEMENT.

AFTER THE PROJECT HAS BEEN COMPLETED, AN INSPECTION WILL BE MADE TO DETERMINE THE AMOUNT OF WATER WHICH HAS BEEN PLACED TO BENEFICIAL USE WITHIN THE TERMS OF THE PERMIT. A LICENSE WILL THEN BE ISSUED CONFIRMING A RIGHT TO THAT AMOUNT OF WATER.

PLEASE INFORM US OF ANY CHANGE IN ADDRESS OR OWNERSHIP.

D. W. SABISTON
PROGRAM MANAGER
HEARING SECTION

ENCLOSURE

SWRCB 14a (7/79)

STATE OF CALIFORNIA
THE RESOURCES AGENCY
STATE WATER RESOURCES CONTROL BOARD
DIVISION OF WATER RIGHTS

PERMIT FOR DIVERSION AND USE OF WATER

PERMIT 18150

Application 25616 of EAST YOLO COMMUNITY SERVICES DISTRICT

19515 SOUTH RIVER ROAD, WEST SACRAMENTO, CALIFORNIA 95691

filed on DECEMBER 22, 1977, has been approved by the State Water Resources Control Board SUBJECT TO VESTED RIGHTS and to the limitations and conditions of this Permit.

Permittee is hereby authorized to divert and use water as follows:

1. Source: SACRAMENTO RIVER

Tributary to: SUISUN BAY

2. Location of point of diversion:	40-acre subdivision of public land survey or projection thereof	Section	Township	Range	Base and Meridian
ON THE WEST BANK OF THE SACRAMENTO RIVER ABOUT 750 FEET NORTH OF THE CENTER LINE OF THE PIONEER MEMORIAL BRIDGE	NW1/4 OF NE1/4	3	8N	4E	MD

County of YOLO

3. Purpose of use:	4. Place of use:	Section	Township	Range	Base and Meridian	Acres
MUNICIPAL	EAST YOLO COMMUNITY SERVICES DISTRICT WITHIN PROJECTED SECTIONS 26 TO 35, T9N, R4E, AND SECTIONS 7 TO 10, 15 TO 18, 19 TO 22, AND 29 AND 30, T8N, R4E, MDB&M.					

The place of use is shown on map filed with the State Water Resources Control Board.

5. THE WATER APPROPRIATED SHALL BE LIMITED TO THE QUANTITY WHICH CAN BE BENEFICIALLY USED AND SHALL NOT EXCEED 62 CUBIC FEET PER SECOND TO BE DIVERTED FROM JANUARY 1 TO JUNE 30 AND FROM SEPTEMBER 1 TO DECEMBER 31 OF EACH YEAR. THE MAXIMUM AMOUNT DIVERTED UNDER THIS PERMIT SHALL NOT EXCEED 18,350 ACRE-FEET PER YEAR.

6. THE AMOUNT AUTHORIZED FOR APPROPRIATION MAY BE REDUCED IN THE LICENSE IF INVESTIGATION WARRANTS.

7. CONSTRUCTION WORK SHALL BE COMMENCED WITHIN TWO YEARS FROM DATE OF PERMIT AND SHALL BE COMPLETED BY DECEMBER 1, 1995.

8. COMPLETE APPLICATION OF THE WATER TO THE AUTHORIZED USE SHALL BE MADE BY DECEMBER 1, 2000.

9. PROGRESS REPORTS SHALL BE SUBMITTED PROMPTLY BY PERMITTEE WHEN REQUESTED BY THE STATE WATER RESOURCES CONTROL BOARD UNTIL LICENSE IS ISSUED.

10. PERMITTEE SHALL ALLOW REPRESENTATIVES OF THE STATE WATER RESOURCES CONTROL BOARD AND OTHER PARTIES AS MAY BE AUTHORIZED FROM TIME TO TIME BY SAID BOARD, REASONABLE ACCESS TO PROJECT WORKS TO DETERMINE COMPLIANCE WITH THE TERMS OF THIS PERMIT.

11. PURSUANT TO CALIFORNIA WATER CODE SECTIONS 100 AND 275, ALL RIGHTS AND PRIVILEGES UNDER THIS PERMIT AND UNDER ANY LICENSE ISSUED PURSUANT THERETO, INCLUDING METHOD OF DIVERSION, METHOD OF USE, AND QUANTITY OF WATER DIVERTED, ARE SUBJECT TO THE CONTINUING AUTHORITY OF THE STATE WATER RESOURCES CONTROL BOARD IN ACCORDANCE WITH LAW AND IN THE INTEREST OF THE PUBLIC WELFARE TO PREVENT WASTE, UNREASONABLE USE, UNREASONABLE METHOD OF USE, OR UNREASONABLE METHOD OF DIVERSION OF SAID WATER.

THE CONTINUING AUTHORITY OF THE BOARD MAY BE EXERCISED BY IMPOSING SPECIFIC REQUIREMENTS OVER AND ABOVE THOSE CONTAINED IN THIS PERMIT WITH A VIEW TO MINIMIZING WASTE OF WATER AND TO MEETING THE REASONABLE WATER REQUIREMENTS OF PERMITTEE WITHOUT UNREASONABLE DRAFT ON THE SOURCE. PERMITTEE MAY BE REQUIRED TO IMPLEMENT SUCH PROGRAMS AS (1) REUSING OR RECLAIMING THE WATER ALLOCATED; (2) USING WATER RECLAIMED BY ANOTHER ENTITY INSTEAD OF ALL OR PART OF THE WATER ALLOCATED; (3) RESTRICTING DIVERSIONS SO AS TO ELIMINATE AGRICULTURAL TAILWATER OR TO REDUCE RETURN FLOW; (4) SUPPRESSING EVAPORATION LOSSES FROM WATER SURFACES; (5) CONTROLLING PHREATOPHYTIC GROWTH; AND (6) INSTALLING, MAINTAINING, AND OPERATING EFFICIENT WATER MEASURING DEVICES TO ASSURE COMPLIANCE WITH THE QUANTITY LIMITATIONS OF THIS PERMIT AND TO DETERMINE ACCURATELY WATER USE AS AGAINST REASONABLE WATER REQUIREMENTS FOR THE AUTHORIZED PROJECT. NO ACTION WILL BE TAKEN PURSUANT TO THIS PARAGRAPH UNLESS THE BOARD DETERMINES, AFTER NOTICE TO AFFECTED PARTIES AND OPPORTUNITY FOR HEARING, THAT SUCH SPECIFIC REQUIREMENTS ARE PHYSICALLY AND FINANCIALLY FEASIBLE AND ARE APPROPRIATE TO THE PARTICULAR SITUATION.

12. THE QUANTITY OF WATER DIVERTED UNDER THIS PERMIT AND UNDER ANY LICENSE ISSUED PURSUANT THERETO IS SUBJECT TO MODIFICATION BY THE STATE WATER RESOURCES CONTROL BOARD IF, AFTER NOTICE TO THE PERMITTEE AND AN OPPORTUNITY FOR HEARING, THE BOARD FINDS THAT SUCH MODIFICATION IS NECESSARY TO MEET WATER QUALITY OBJECTIVES IN WATER QUALITY CONTROL PLANS WHICH HAVE BEEN OR HEREAFTER MAY BE ESTABLISHED OR MODIFIED PURSUANT TO DIVISION 7 OF THE WATER CODE. NO ACTION WILL BE TAKEN PURSUANT TO THIS PARAGRAPH UNLESS THE BOARD FINDS THAT (1) ADEQUATE WASTE DISCHARGE REQUIREMENTS HAVE BEEN PRESCRIBED AND ARE IN EFFE WITH RESPECT TO ALL WASTE DISCHARGES WHICH HAVE ANY SUBSTANTIAL EFFECT UPON WATER QUALITY IN THE AREA INVOLVED, AND (2) THE WATER QUALITY OBJECTIVES CANNOT BE ACHIEVED SOLELY THROUGH THE CONTROL OF WASTE DISCHARGES.

13. IN ACCORDANCE WITH SECTION 1603 AND/OR SECTION 6100 OF THE FISH AND GAME CODE, NO DIVERSION FACILITY SHALL BE CONSTRUCTED OR WATER DIVERTED UNDER THIS PERMIT UNTIL APPLICANT HAS CONSUMATED A STREAM OR LAKE ALTERATION AGREEMENT WITH THE DEPARTMENT OF FISH AND GAME AND/OR THE DEPARTMENT HAS DETERMINED THAT MEASURES NECESSARY TO PROTECT FISHLIFE HAVE BEEN INCORPORATED INTO THE PLANS AND CONSTRUCTION OF SUCH DIVERSION FACILITY. THE CONSTRUCTION, OPERATION, OR MAINTENANCE COSTS OF ANY FACILITY REQUIRED PURSUANT TO THIS PROVISION SHALL BE BORNE BY THE PERMITTEE.

14. THE STATE WATER RESOURCES CONTROL BOARD RESERVES JURISDICTION OVER THIS PERMIT TO CHANGE THE SEASON OF DIVERSION TO CONFORM TO THE RESULTS OF A COMPREHENSIVE ANALYSIS OF THE AVAILABILITY OF UNAPPROPRIATED WATER IN THE SACRAMENTO RIVER BASIN. ACTION TO CHANGE THE SEASON OF DIVERSION WILL BE TAKEN ONLY AFTER NOTICE TO INTERESTED PARTIES AND OPPORTUNITY FOR HEARING.

15. THIS PERMIT IS SUBJECT TO PRIOR RIGHTS. PERMITTEE IS PUT ON NOTICE THAT DURING SOME YEARS WATER WILL NOT BE AVAILABLE FOR DIVERSION DURING PORTIONS OR ALL OF THE SEASON AUTHORIZED HEREIN. THE ANNUAL VARIATIONS IN DEMANDS AND HYDROLOGIC CONDITIONS IN THE SACRAMENTO RIVER BASIN ARE SUCH THAT IN ANY YEAR OF WATER SCARCITY THE SEASON OF OF DIVERSION AUTHORIZED HEREIN MAY BE REDUCED OR COMPLETELY ELIMINATED ON ORDER OF THIS BOARD MADE AFTER NOTICE TO INTERESTED PARTIES AND OPPORTUNITY FOR HEARING.

[illegible]ication 25516 Permit 18159

16. NO DIVERSION IS AUTHORIZED BY THIS PERMIT WHEN SATISFACTION OF INBASIN ENTITLEMENTS REQUIRES RELEASE OF SUPPLEMENTAL PROJECT WATER. THE BOARD SHALL ADVISE PERMITTEE OF THE PROBABILITY OF IMMINENT CURTAILMENT OF DIVERSIONS AS FAR IN ADVANCE AS PRACTICABLE BASED ON ANTICIPATED REQUIREMENTS FOR SUPPLEMENTAL PROJECT WATER PROVIDED BY THE CENTRAL VALLEY PROJECT OR THE STATE WATER PROJECT OPERATORS. THE BOARD SHALL NOTIFY THE PERMITTEE OF CURTAILMENT OF DIVERSIONS WHEN IT FINDS THAT NO WATER IS AVAILABLE FOR DIVERSION UNDER THIS PERMIT.

FOR THE PURPOSE OF INITIALLY DETERMINING SUPPLEMENTAL PROJECT WATER REQUIRED FOR INBASIN ENTITLEMENTS, THE FOLLOWING DEFINITIONS SHALL APPLY:

A. INBASIN ENTITLEMENTS ARE DEFINED AS ALL RIGHTS TO DIVERT WATER FROM STREAMS TRIBUTARY TO THE SACRAMENTO-SAN JOAQUIN DELTA OR THE DELTA FOR USE WITHIN THE RESPECTIVE BASINS OF ORIGIN OR THE LEGAL DELTA, UNAVOIDABLE NATURAL REQUIREMENTS FOR RIPARIAN HABITAT AND CONVEYANCE LOSSES, AND FLOWS REQUIRED BY THE BOARD FOR MAINTENANCE OF WATER QUALITY AND FISH AND WILDLIFE. EXPORT DIVERSIONS AND PROJECT CARRIAGE WATER ARE SPECIFICALLY EXCLUDED FROM THE DEFINITION OF INBASIN ENTITLEMENTS.

B. SUPPLEMENTAL PROJECT WATER IS DEFINED AS WATER IMPORTED TO THE BASIN BY THE PROJECTS, AND WATER RELEASED FROM PROJECT STORAGE, WHICH IS IN EXCESS OF WATER REQUIRED FOR PROJECT EXPORT AND PROJECT INBASIN DELIVERIES.

NOTICE OF CURTAILMENT OF DIVERSION UNDER THIS TERM SHALL NOT BE ISSUED BY THE BOARD UNTIL:

1. PROJECT OPERATORS JOINTLY DEVELOP AND DEMONSTRATE TO THE BOARD A REASONABLY ACCURATE METHOD OF CALCULATING SUPPLEMENTAL PROJECT WATER.

2. THE BOARD HAS APPROVED THE METHOD OF CALCULATING SUPPLEMENTAL PROJECT WATER AND HAS CONFIRMED THE DEFINITIONS OF INBASIN ENTITLEMENTS AND SUPPLEMENTAL PROJECT WATER AFTER PUBLIC HEARING.

3. THE PROJECT OPERATORS HAVE NOTIFIED THE BOARD THAT THE RELEASE OF SUPPLEMENTAL PROJECT WATER IS IMMINENT OR HAS OCCURRED. SUCH NOTICE SHOULD INCLUDE THE TIMES AND AMOUNTS OF RELEASES OR POTENTIAL RELEASES.

4. THE BOARD FINDS THAT SUPPLEMENTAL PROJECT WATER HAS BEEN RELEASED OR WILL BE RELEASED.

17. IN ORDER TO PREVENT DEGRADATION OF THE QUALITY OF WATER DURING AND AFTER CONSTRUCTION OF THE PROJECT, PRIOR TO COMMENCEMENT OF CONSTRUCTION PERMITTEE SHALL FILE A REPORT PURSUANT TO WATER CODE SECTION 13260 AND SHALL COMPLY WITH ANY WASTE DISCHARGE REQUIREMENTS IMPOSED BY THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, CENTRAL VALLEY REGION, OR BY THE STATE WATER RESOURCES CONTROL BOARD.

18. THE STATE WATER RESOURCES CONTROL BOARD RETAINS CONTINUING AUTHORITY OVER THIS PERMIT AND ANY LICENSE ISSUED PURSUANT THERETO TO REQUIRE PERMITTEE TO IMPLEMENT A WATER CONSERVATION PROGRAM TO ASSURE THAT WATER IS NOT BEING USED IN A WASTEFUL OR UNREASONABLE MANNER.

19. THE TOTAL QUANTITY OF WATER DIVERTED UNDER THIS PERMIT, TOGETHER WITH THAT DIVERTED UNDER CONTRACT WITH THE UNITED STATES SHALL NOT EXCEED 23,600 ACRE-FEET PER ANNUM.

This permit is issued and permittee takes it subject to the following provisions of the Water Code:

Section 1390. A permit shall be effective for such time as the water actually appropriated under it is used for a useful and beneficial purpose in conformity with this division (of the Water Code), but no longer.

Section 1391. Every permit shall include the enumeration of conditions therein which in substance shall include all of the provisions of this article and the statement that any appropriator of water to whom a permit is issued takes it subject to the conditions therein expressed.

Section 1392. Every permittee, if he accepts a permit, does so under the conditions precedent that no value whatsoever in excess of the actual amount paid to the State therefor shall at any time be assigned to or claimed for any permit granted or issued under the provisions of this division (of the Water Code), or for any rights granted or acquired under the provisions of this division (of the Water Code), in respect to the regulation by any competent public authority of the services or the price of the services to be rendered by any permittee or by the holder of any rights granted or acquired under the provisions of this division (of the Water Code) or in respect to any valuation for purposes of sale to or purchase, whether through condemnation proceedings or otherwise, by the State or any city, city and county, municipal water district, irrigation district, lighting district, or any political subdivision of the State, of the rights and property of any permittee, or the possessor of any rights granted, issued, or acquired under the provisions of this division (of the Water Code).

Dated: JANUARY 14 1981

STATE WATER RESOURCES CONTROL BOARD

/S/ L. C. Spencer, for
CHIEF, DIVISION OF WATER RIGHTS

ASSUMPTION OF CONTRACT AND CONSENT THERETO

CONTRACT BETWEEN THE UNITED STATES OF AMERICA AND EAST YOLO COMMUNITY SERVICES DISTRICT, diverter of water from Sacramento River sources, providing for Project water service and agreement on diversion of water.

CONTRACT NO. 0-07-20-W0187

ASSUMPTION OF CONTRACT

CITY OF WEST SACRAMENTO hereby assumes Contract No. 0-07-20-W0187 and agrees to be bound by and perform all the terms and conditions of said contract, dated July 1, 1980, a copy of which is attached hereto as Exhibit "A" and incorporated herein by this reference.

CITY OF WEST SACRAMENTO

Dated: May 17, 1989 By _____

CONSENT TO ASSUMPTION OF CONTRACT

THE UNITED STATES OF AMERICA hereby consents to the assumption by the CITY OF WEST SACRAMENTO of Contract No. 0-07-20-W0187 between the UNITED STATES and EAST YOLO COMMUNITY SERVICES DISTRICT.

THE UNITED STATES OF AMERICA

Dated: _____ By _____

DTWSAC5

R.O. Draft 4/6-1978
Rev. R.O. 3/21-1979
Rev. R.O. 5/30-1979
Rev. W.O. 7/18-1979

EXHIBIT A

UNITED STATES
DEPARTMENT OF THE INTERIOR
WATER AND POWER RESOURCES SERVICE
Central Valley Project, California

Contract No.
0-07-20-W0187

CONTRACT BETWEEN THE UNITED STATES OF AMERICA AND EAST YOLO COMMUNITY SERVICES DISTRICT, DIVERTER OF WATER FROM SACRAMENTO RIVER SOURCES, PROVIDING FOR PROJECT WATER SERVICE AND AGREEMENT ON DIVERSION OF WATER

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UNITED STATES
DEPARTMENT OF THE INTERIOR
WATER AND POWER RESOURCES SERVICE
Central Valley Project, California

Contract No.
0-07-20-W0187

CONTRACT BETWEEN THE UNITED STATES OF AMERICA AND EAST YOLO COMMUNITY SERVICES DISTRICT, DIVERTER OF WATER FROM SACRAMENTO RIVER SOURCES, PROVIDING FOR PROJECT WATER SERVICE AND AGREEMENT ON DIVERSION OF WATER

THIS CONTRACT, made this 1st day of July, 1980, in pursuance generally of the Act of June 17, 1902 (32 Stat. 388), and acts amendatory or supplementary thereto, between THE UNITED STATES OF AMERICA, hereinafter referred to as the United States, acting through the Secretary of the Interior, and the EAST YOLO COMMUNITY SERVICES DISTRICT, hereinafter referred to as the District or Contractor, a public agency of the State of California, duly organized, existing, and acting pursuant to the laws thereof, with its principal place of business in West Sacramento, California.

WITNESSETH, That:

EXPLANATORY RECITALS

WHEREAS, pursuant to authorizing acts, the United States has under construction and is operating the Central Valley Project, California for the development, conservation, and utilization of water resources in California in the Sacramento, the American, the San Joaquin, and the Trinity River Basins; and

WHEREAS, the Contractor asserts that it will obtain rights to divert, and will divert, for reasonable beneficial use, water from the natural flow of the Sacramento River; and

WHEREAS, the construction and operation of the integrated and coordinated Central Valley Project have changed and will further change the regimen of the Sacramento, American, San Joaquin, and Trinity Rivers and the Sacramento-San Joaquin Delta from unregulated flow to regulated flow; and

WHEREAS, the United States asserts that it has rights to divert, is diverting, and will continue to divert waters from said Rivers and said Delta in connection with the operation of the said Central Valley Project; and

WHEREAS, to assure the Contractor of the enjoyment and use of the regulated flow of said Rivers and Delta, and to provide for the economical operation of the Central Valley Project by, and the reimbursement to, the United States for expenditures made for said Project;

NOW, THEREFORE, in consideration of the performance of the herein contained provisions, conditions, and covenants, it is agreed as follows:

DEFINITIONS

1. When used herein, unless otherwise expressed or incompatible with the intent hereof, the term:

(a) "Secretary" or "Contracting Officer" shall mean the Secretary of the United States Department of the Interior or his duly authorized representative;

(b) "Project" shall mean the Central Valley Project, California, of the Water and Power Resources Service;

(c) "year" shall mean a calendar year;

(d) "base supply" shall mean the quantity of water established in Article 7 which the United States agrees may be diverted by the Contractor from Sacramento River each year without payment to the United States for such quantities diverted;

(e) "Project water" shall mean the quantity of water established in Article 7 to be diverted each year by the Contractor from Sacramento River for which payment shall be made by the Contractor;

(f) "total supply" shall mean the sum of the base supply and Project water; and

(g) "municipal, industrial, and domestic water" (hereinafter referred to as M&I) shall mean water furnished to municipalities, to industrial establishments, for commercial recreation, and for other non-agricultural uses.

TERM OF CONTRACT

2. This contract shall be effective on the date first hereinabove written for a period of 40 years; Provided, That under terms and conditions agreeable to the parties renewals may be made by the Contractor for successive periods not to exceed 40 years each. The terms and conditions of each renewal shall be agreed upon not later than 1 year prior to the expiration of the then existing contract; Provided further, That if the Contractor has not acquired title to the facilities of the Washington Water and Light Company and become the sole purveyor of water within its service area by January 1, 1981, this contract shall terminate; And provided further, That the Contracting Officer may extend said termination date at his discretion if in his opinion the Contractor is actively pursuing acquisition of said facilities and attempting to become said sole purveyor of water.

WATER TO BE FURNISHED TO THE CONTRACTOR

3. (a) Subject to the conditions, limitations, and provisions hereinafter expressed, the Contractor is hereby entitled and authorized to divert from the Sacramento River for beneficial use within its service area delineated on Exhibit A, attached hereto and made a part hereof, a maximum of 23,600 acre-feet of water annually.

(b) If at any time on the basis of studies conducted by the Contracting Officer and the Contractor jointly it is determined that the water needs of the Contractor for the remainder of the term of this contract are for quantities greater or lesser than the maximum quantity established in this article, the parties may amend this contract so as to decrease, or to the extent that additional water is available, as determined by the Contracting Officer, increase the quantities of water to be furnished by the United States. It also shall be the right of the Contractor to contract with other parties or develop its own additional water supplies provided that the development of such water supplies shall not involve the use of any facilities or water rights of the United States without its permission.

(c) Water diverted by the Contractor under this contract shall be used or furnished by the Contractor only for M&I purposes.

(d) No sale or other disposal of any water or the right to the use thereof for use on land other than that shown on Exhibit A shall be made by the Contractor without first obtaining the written consent of the United States thereto.

(e) The Contractor shall develop and implement an effective water conservation program for all water diverted under this contract. That water conservation program shall contain definite goals, appropriate water conservation measures, and time schedules for meeting the

water conservation objectives. While the contents and standards of a given water conservation program are primarily matters of State and local determination, there is a strong Federal interest in developing an effective water conservation program because of this contract.

(f) A water conservation program, acceptable to the Contracting Officer, shall be in existence prior to diversion of water pursuant to this contract. At 5-year intervals, thereafter, the Contractor shall resubmit, and the Contracting Officer shall review the water conservation program. After consultation with the Contractor, the Contracting Officer may require modifications to the water conservation program.

(g) The United States assumes no responsibility for and neither it nor its officers, agents, or employees shall have any liability for or on account of:

(1) The control, carriage, handling, use, disposal, or distribution of said water outside the facilities constructed and then being operated and maintained by the United States;

(2) Claims of damage of any nature whatsoever, including, but not limited to, property loss or damage, personal injury or death arising out of or connected with the control, carriage, handling, use, disposal, or distribution of said water outside of the hereinabove referred to facilities; and

(3) Any damage whether direct or indirect arising out of or in any manner caused by a shortage of water whether such shortage be on account of errors in operation, drought, or unavoidable causes.

QUALITY OF WATER

4. The United States assumes no responsibility with respect to the quality of water to be furnished pursuant to this contract, it being understood and agreed that the Contractor shall be solely responsible for such treatment as may be required to render such water suitable for the purposes for which it is to be used.

RETURN FLOW

5. The United States reserves the right to the use of all waste, seepage, and return-flow water derived from Project water diverted from the Sacramento River by the Contractor and which escapes or is discharged beyond the boundaries of the area shown on Exhibit A and nothing herein shall be construed as an abandonment or a relinquishment by the United States of the right to use any such water.

WATER SHORTAGE AND APPORTIONMENT

6. (a) In its operation of the Project, the United States will use all reasonable means to guard against a condition of shortage in the quantity of water available to the Contractor pursuant to this contract. Nevertheless, if a shortage does occur during any year because of drought, or other causes which, in the opinion of the Contracting Officer, are beyond the control of the United States, no liability shall accrue against the United States or any of its officers, agents, or employees for any damage, direct or indirect, arising therefrom.

(b) In any year that the Contracting Officer determines there is a shortage in the quantity of water available to customers of the United States from the Project, the Contracting Officer will apportion available water among the water users by reducing deliveries to all users by the same percentage, unless he is prohibited by existing contract, Project authorizations, or he determines that some other method of apportionment is required to prevent undue hardship.

RATE OF PAYMENT AND QUANTITY OF WATER TO BE PAID FOR

7. (a) The Contractor shall make payments to the United States each year at the rate of $9.00 for each acre-foot of Project water required to be paid for in accordance with subdivision (d) of this article.

(b) The water rate shall be adjusted effective January 1, 1981, and every 5th year thereafter to account for changes in costs (including operation, maintenance and replacement) for Project water supply, as appropriate, in accordance with the then current M&I rate setting policies of the Project.

(c) The Contracting Officer will make available to the Contractor the computations, appropriate rate policy, and cost allocation upon which any proposed rate adjustment is based and will afford the Contractor not less than 3 months to study, to comment, and the opportunity to consult on the proposed adjustment of rates, the rate policies, or the cost allocation procedures before announcing an adjustment of the rate. Final determination of an adjustment will be announced by the Contracting Officer after consideration of the Contractor's comments but not less than 6 months prior to the effective date thereof.

(d) The Contractor shall pay for the quantity of water determined in accordance with the following:

(1) Twenty percent of all water diverted from the Sacramento River during the month of June of each year;

(2) Eighty-eight percent of all water diverted from the Sacramento River during the month of July each year; and

(3) One Hundred percent of the water diverted from the Sacramento River during the months of August and September of each year.

(e) Notwithstanding the provisions of subdivision (d) of this article the Contractor shall have paid for, by October 31 of each year, the quantity of water shown on the following table (years shown in the table refer to the year of execution of this contract and the following years): Provided, That if the Contractor is unable in any year to accept quantity sufficient to satisfy the total minimum for that year, the amount of payments for water not used may be applied to meet the payment for water taken in excess of the minimum requirement in any of the subsequent 5 years but not thereafter: Provided further, That payments for water received in excess of the annual minimum may be used to satisfy minimum payments due during any of the subsequent 5 years but not thereafter.

TABLE OF MINIMUM DELIVERIES

Year	Acre-Feet
1	105
2	215
3	320
4	430
5	535
6	640
7	750
8	855
9	965
10	1,070
11	6,300
12	6,450
13	6,610
14	6,770
15	6,910
16	7,060
17	7,210
18	7,360
19	7,500
20	7,630
21	7,750
22	7,870
23	8,000
24	8,120
25	8,230
26	8,330
27	8,440
28	8,540
29	8,650
30	8,760
31	8,860
32	8,970
33	9,080
34	9,180
35	9,270
36	9,350
37	9,430
38	9,510
39	9,590
40	9,680

(f) In the event the United States is unable to deliver the scheduled quantity of water due to water shortage or other disruption of service and part or all of the undelivered water was required to meet the contract minimum then the minimum amount which the Contractor shall be required to pay for in such year will be reduced to the amount determined pursuant to subdivision (d) of this article.

METHOD OF PAYMENT FOR WATER

8. The method of payments to be made by the Contractor for water furnished pursuant to this contract shall be as follows:

(a) Prior to June 1 of each year the Contractor shall pay for the Project water scheduled to be diverted during June and July. Before the end of June and July, the Contractor shall pay for the Project water to be diverted pursuant to the latest approved schedule during the second month immediately following: Provided, That if the Contractor does not begin diversion of water before January 1, 1981, before the first day of each month of that year and the first day of each month of each year thereafter until the Contractor begins diversion of water, the Contractor shall pay for 1/12th of the quantity of water that will fulfill the total minimum quantity requirement for that year specified in Article 7.

(b) Adjustment for any difference between the payment for the scheduled quantities of water and payment for the quantities of water actually diverted in any month shall be made in the month immediately following: Provided, That the quantity of water paid for in any year shall not be less than the quantity necessary to fulfill the minimum quantity requirement or the actual quantity delivered in that year, as specified and provided in subdivision (c) of Article 7. By November 1 the Contractor shall make any additional payment necessary to pay for the total quantity of water the Contractor is obligated to pay for that year pursuant to Article 7.

(c) In the event the Contractor is unable, fails, or refuses to divert the quantities of water available for diversion by it and which it is required to pay for pursuant to this contract, said inability, failure, or refusal shall not relieve the Contractor of the obligation to pay for such water, and the Contractor agrees to make payment in the same manner as if such water had been diverted by the Contractor.

AGREEMENT ON WATER QUANTITIES

9. (a) During the term of this contract and any renewal thereof:

(1) It shall constitute full agreement as between the United States and the Contractor as to the quantity of water and the allocation thereof between base supply and Project water which may be diverted by the Contractor from the Sacramento River for beneficial use within the area shown on Exhibit A which said diversion, use, and allocation shall not be disturbed so long as the Contractor shall fulfill all of its obligations hereunder; and

(2) The Contractor shall not claim any right against the United States in conflict with the provisions hereof.

(b) Nothing herein contained is intended to or does limit rights of the Contractor against others than the United States or of the United States against any person other than the Contractor: Provided, however, That in the event the Contractor, the United States, or any other person shall become a party to a general adjudication of rights to the use of water of the Sacramento River system, this contract shall not jeopardize the rights or position of either party hereto or of any other person and the rights of all such persons in respect to the use of such water shall be determined in such proceedings the same as if this contract had not been entered into, and if final judgment in any such general adjudication shall determine that the rights of the parties hereto are different from

the rights as assumed herein, the United States shall submit to the Contractor an amendment to give effect to such judgment and the contract shall be deemed to have been amended accordingly unless within 60 days after submission of such amendment to the Contractor the Contractor elects to terminate the contract or within the same period of time the parties agree upon mutually satisfactory amendments to give effect to such judgment.

(c) In the event this contract terminates, the rights of the parties to thereafter divert and use water shall exist as if this contract had not been entered into. However, the fact that this contract places a limit on the total supply to be diverted annually by the Contractor during the contract term and segregates it into base supply and Project water, shall not jeopardize the rights or position of either party with respect to its water rights or the yield thereof at all times after the contract terminates. It is further agreed that the Contractor at all times will first use water to the use of which it is entitled by virtue of its own water rights, and neither the provisions of this contract, action taken thereunder, nor payments made thereunder to the United States by the Contractor shall be construed as an admission that any part of the water used by the Contractor during the term of this contract was in fact water to which it would not have been entitled under water rights owned by it nor shall

receipt of payments thereunder by the United States from the Contractor be construed as an admission that any part of the water used by the Contractor during the term of this contract was in fact water to which it would have been entitled under water rights owned by it.

POINT OF DIVERSION AND MEASUREMENT OF WATER

10. (a) All water diverted by the Contractor from Sacramento River will be diverted at such point or points as may be mutually agreed upon in writing by the Contracting Officer and the Contractor.

(b) All water diverted by the Contractor at the point or points established pursuant to subdivision (a) of this article through metering facilities installed and operated and maintained by the Contractor at the Contractor's expense. Upon request of the Contracting Officer the accuracy of such measurements may be investigated by either of the parties and any errors appearing therein adjusted.

(c) A computation of the total quantity of water diverted each month by the Contractor from the Sacramento River shall be furnished by the Contractor to the Contracting Officer on or before the 7th day of the following month or at other times upon the request of the Contracting Officer.

SCHEDULES

11. (a) Before November 1 of each year, the Contractor shall submit a schedule in writing to the Contracting Officer in a form and from an operational standpoint satisfactory to the Contracting Officer indicating the desired times and quantities for the delivery of water pursuant to this contract during the following year. Within the provisions hereof, the United States shall attempt to make said water available in accordance with said schedule or any revision thereof satisfactory to the Contracting Officer submitted by the Contractor within a reasonable time before the desired change of times or quantities, or both, for delivery.

(b) If in any year after the Contracting Officer has approved a schedule or any revision thereof submitted by the Contractor pursuant to subdivision (a) of this article, the United States is unable to furnish any portion of the water in the quantities and at the times requested in the schedule and the Contractor does not elect to divert and does not divert such water at other times during such year, the Contractor shall be entitled to an adjustment as provided in Article 8 hereof.

(c) If the Contractor during any month diverts a quantity of water in addition to that which it has requested for such month in its schedule, the Contractor shall be deemed to have revised its

schedule and ordered such additional water and the United States shall be deemed to have accepted such revision as satisfactory. As soon thereafter as possible the Contractor shall submit a revised schedule to the United States for the remaining quantity to be diverted during that year.

COMPLIANCE WITH RULES AND REGULATIONS

12. The Secretary may from time to time promulgate rules and regulations to implement the reclamation laws. The Contractor agrees to abide by such final rules and regulations lawfully adopted. This contract is subject to all such lawful rules and regulations now or hereafter in force when not inconsistent with any express and specific provisions herein. Such rules and regulations are made a part of this contract.

PENALTY FOR DELINQUENT PAYMENTS

13. The Contractor shall pay a penalty on installments or charges which become delinquent computed at the rate of 1% per month of the amount of such delinquent installments or charges for each day from such delinquency until paid: Provided, That no penalty shall be charged to the Contractor unless such delinquency continues for more than 30 days in which event the penalty shall accrue from the initial date of delinquency.

ASSIGNMENT LIMITED--SUCCESSORS AND ASSIGNS OBLIGATED

14. The provisions of this contract shall apply to and bind the successors and assigns of the parties hereto, but no assignment or transfer of this contract or any part or interest therein shall be valid until approved by the Contracting Officer.

OFFICIALS NOT TO BENEFIT

15. (a) No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this contract or to any benefit that may arise herefrom, but this restriction shall not be construed to extend to this contract if made with a corporation for its general benefit.

(b) No official of the Contractor shall receive any benefit that may arise by reason of this contract other than as a water user within the Project and in the same manner as other water users within the Project.

CONTINGENT ON APPROPRIATION OR ALLOTMENT OF FUNDS

16. The expenditure or advance of any money or the performance of any work by the United States hereunder which may require appropriation of money by the Congress or the allotment of funds shall be contingent upon such appropriation or allotment being made. The failure of the Congress to appropriate funds or the absence of any allotment of funds shall not relieve the Contractor from any obligations then accrued under this contract and no liability shall accrue to the United States in case such funds are not aporopriated or allotted.

BOOKS, RECORDS, AND REPORTS

17. The Contractor shall establish and maintain accounts and other books and records pertaining to its financial transactions, land use and crop census, water supply, water use, and to other matters as the Contracting Officer may require for purposes of this contract. Reports thereon shall be furnished to the Contracting Officer in such form and on such date or dates as he may require. Subject to applicable Federal laws and regulations, each party shall have the right during office hours to examine and make copies of each other's books and records relating to matters covered by this contract.

EQUAL OPPORTUNITY

18. During the performance of this contract, the Contractor agrees as follows:

(1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Contracting Officer setting forth the provisions of this nondiscrimination clause.

(2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without discrimination because of race, color, religion, sex, or national origin.

(3) The Contractor will send to each labor union or representative of workers, with which it has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the Contracting Officer, advising the said labor union or workers' representative of the Contractor's commitments under Section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The Contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, as amended, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(5) The Contractor will furnish all information and reports required by said amended Executive Order and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to its books, records, and accounts by the Contracting Officer and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(6) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended, in whole or in part, and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in said amended Executive Order, and such other sanctions may be imposed and remedies invoked as provided in said Executive Order, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(7) The Contractor will include the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by the rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of said amended Executive Order, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, That in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

TITLE VI, CIVIL RIGHTS ACT OF 1964

19. (a) The Contractor agrees that it will comply with Title VI of the Civil Rights Act of July 2, 1964 (78 Stat. 241) and all requirements imposed by or pursuant to the Department of the Interior Regulation (43 CFR 17) issued pursuant to that title, to the end that, in accordance with Title VI of that Act and the Regulation, no person in the United States shall, on the grounds of race, color, sex, or national origin be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which the Contractor receives financial assistance from the United States and hereby gives assurance that it will immediately take any measures to effectuate this agreement.

(b) If any real property or structure thereon is provided or improved with the aid of Federal financial assistance extended to the Contractor by the United States, this assurance obligates the Contractor, or, in the case of any transfer of such property, any transferee for the period during which the real property or structure is used for a purpose involving the provision of similar services or benefits. If any personal property is so provided, this assurance obligates the Contractor for the period during which it retains ownership or possession of the property. In all other cases, this assurance obligates the Contractor for the period during which the Federal financial assistance is extended to it by the United States.

(c) This assurance is given in consideration of and for the purpose of obtaining any and all Federal grants, loans, contracts, property, discounts, or other Federal financial assistance extended after the date hereof to the Contractor by the United States, including installment payments after such date on account of arrangements for Federal financial assistance which were approved before such date. The Contractor recognizes and agrees that such Federal financial assistance will be extended in reliance on the representations and agreements made in this assurance, and that the United States shall reserve the right to seek judicial enforcement of this assurance. This assurance is binding on the Contractor, its successors, transferees, and assignees.

WATER AND AIR POLLUTION CONTROL

20. The Contractor, in carrying out this contract, shall comply with all applicable water and air pollution laws and regulations of the United States and the State of California and shall obtain all required permits or licenses from the appropriate Federal, State, or local authorities.

GENERAL OBLIGATION--BENEFITS CONDITIONED UPON PAYMENT

21. (a) The obligation of the Contractor to pay the United States as provided in this contract is a general obligation of the Contractor notwithstanding the manner in which the obligation may be distributed among the Contractor's water users and notwithstanding the default of individual water users in their obligations to the Contractor.

(b) The payment of charges becoming due hereunder is a condition precedent to receiving benefits under this contract. No water will be made available to the Contractor through Project facilities during any period in which the Contractor may be in arrears in the advance payment of any charges due the United States. The Contractor shall not furnish water made available pursuant to this contract for lands or parties which are in arrears more than 12 months in the advance payment of charges as levied or established.

NOTICES

22. Any notice, demand, or request authorized or required by this contract shall be deemed to have been given, on behalf of the Contractor, when mailed, postage prepaid, or delivered to the Regional Director, Mid-Pacific Region, Water and Power Resources Service, 2800 Cottage Way, Sacramento, California 95825, and on behalf of the United States, when mailed, postage prepaid, or delivered to the Board of Directors, of the East Yolo Community Services District, Post Office Box 802, West Sacramento, California 95691. The designation of the addressee or the address may be changed by notice given in the same manner as provided in this article for other notices.

CONFIRMATION OF CONTRACT

23. The execution of this contract shall be authorized or ratified by the qualified electors of the Contractor at an election held for that purpose. The Contractor, after the election and upon the execution of this contract, shall promptly secure a final decree of the proper court

of the State of California approving and confirming the contract and decreeing and adjudging it and the apportionment of the benefits made thereunder to be lawful, valid, and binding on the Contractor. The Contractor shall furnish to the United States a certified copy of such decree and of all pertinent supporting records.

CHANGES IN CONTRACTOR'S SERVICE AREA

24. While this contract is in effect, no change shall be made in the Contractor's service area by inclusion or exclusion of lands, by dissolution, consolidation, merger, or otherwise except upon the Contracting Officer's written consent in advance.

IN WITNESS WHEREOF, the parties hereto have executed this contract the day and year first hereinabove written.

THE UNITED STATES OF AMERICA

By M. A. Gatins
Acting Regional Director, Mid-Pacific Region
Water and Power Resources Service

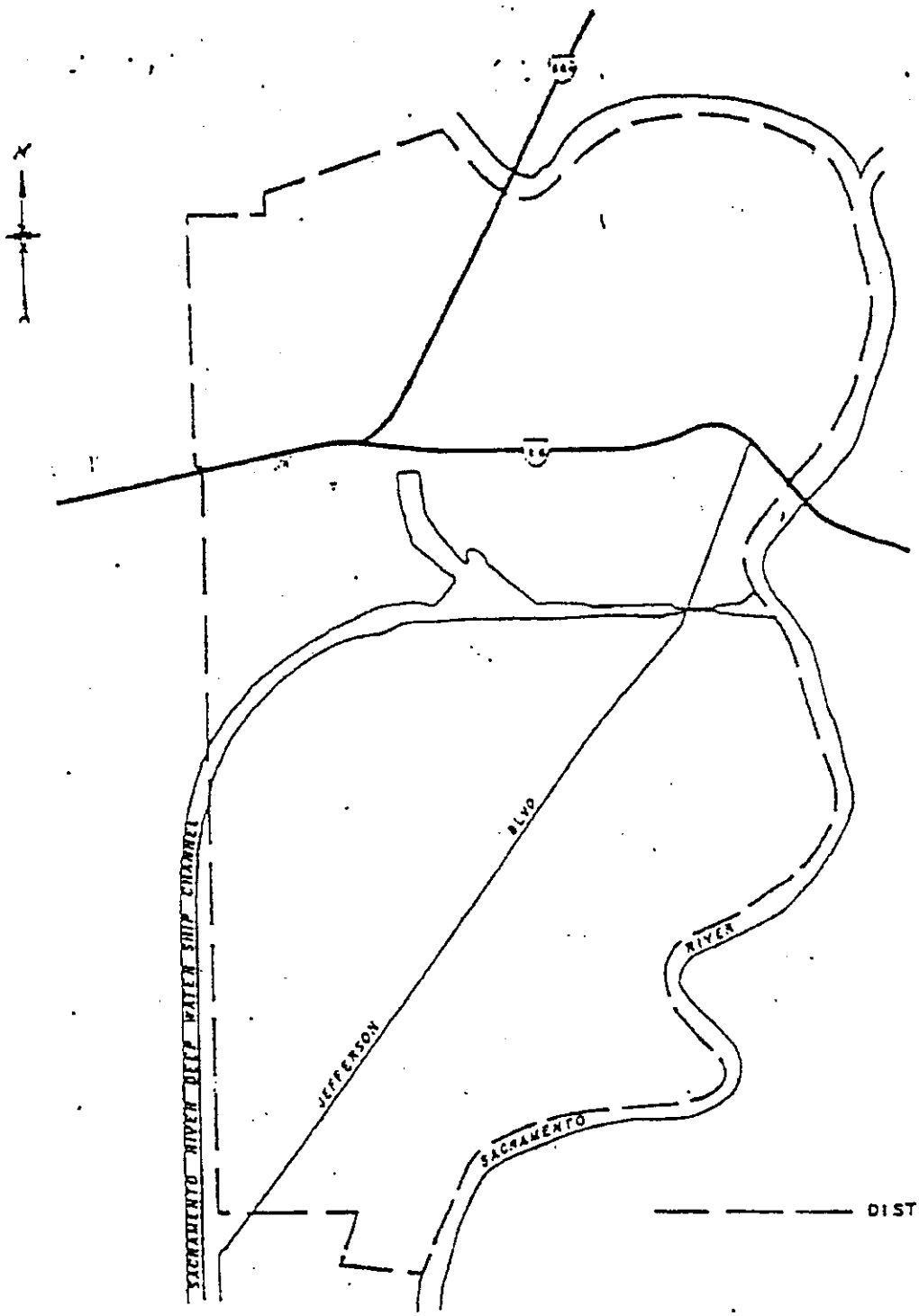
EAST YOLO COMMUNITY SERVICES DISTRICT

(SEAL)

By
President

Attest:

Secretary



UNITED STATES
DEPARTMENT OF THE INTERIOR
WATER AND POWER RESOURCES SERVICE
CENTRAL VALLEY PROJECT
SACRAMENTO RIVER DIVISION - CALIF.
EAST YOLO COMMUNITY SERVICE DISTRIC
DISTRICT BOUNDARY
EXHIBIT A

SEPT. 1979

214-208-E

RESOLUTION NO. 79- 40

OF THE BOARD OF DIRECTORS OF THE EAST YOLO COMMUNITY SERVICES DISTRICT APPROVING CONTRACT BETWEEN THE UNITED STATES OF AMERICA AND THE EAST YOLO COMMUNITY SERVICES DISTRICT FOR DIVERSION OF WATER AND AUTHORIZING EXECUTION

WHEREAS, the East Yolo Community Services District has negotiated a contract with the United States of America, Department of Interior, Water and Power Resources Service, for a surface water supply for the District and its inhabitants; and

WHEREAS, the United States Department of Interior has forwarded the contract to the District for execution pursuant to a cover letter dated December 7, 1979; and

WHEREAS, said contract has been approved by the voters o this District, and by the Board of Directors, and appears to be in appropriate form;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the East Yolo Community Services District that the Contract Between The United States of America and The East Yolo Community Services District, Diverter of Water From Sacramento River Sources Providing for Project Water Service and Agreement on Diversion of Water REV.W.O. 7/18/79 is hereby approved by the Board of Director of this District and the President and the Secretary of the District are hereby authorized and directed to execute same.

The foregoing resolution was duly passed at a regular meeting of the Board of Directors of the East Yolo Community Services District held on the 20th day of December, 1979 by the following vote on roll call:

///

AYES: Kristoff, Misfeldt, Landerman, Collins, Cameron

NOES: NONE

ABSENT: NONE

President, Board of Directors

ATTEST:

David A. Breninger
Secretary, Board of Directors

C E R T I F I C A T I O N

I, David A. Breninger, Secretary of the Board of Directors of the East Yolo Community Services District, certify that the foregoing Resolution No. 79-40 is a true copy of the same resolution adopted by a meeting of the East Yolo Community Services District held on December 20, 1979 and the foregoing is in full force and effect on this date.

Dated: December 24, 1979

David A. Breninger
Secretary, Board of Directors
East Yolo Community
Services District

United States Department of the Interior

BUREAU OF RECLAMATION
MID-PACIFIC REGIONAL OFFICE
2800 COTTAGE WAY
SACRAMENTO, CALIFORNIA 95825-1898

TAKE PRIDE IN AMERICA

IN REPLY
REFER TO:

MP-440
832

APR 24 1989

Mr. Larry S. Gossett
Department of Public Works
City of West Sacramento
PO Box 449
West Sacramento CA 95691

Subject: Contract Assumption, Commencement of Diversions, and Critical Year Reductions, City of West Sacramento, Central Valley Project (Your Letters Dated August 30, 1988; December 30, 1988; and January 23, 1989) (Water Service)

Dear Mr. Gossett:

Thank you for enclosing a copy of Resolution No. 85-13 (Resolution), dated October 23, 1985, of the Yolo County Local Agency Formation Commission in your December 30, 1988, letter to the Bureau of Reclamation (Reclamation). This letter is also intended to facilitate the completion of the contract assumption, and to formally advise the City of West Sacramento (City) of the restoration of Central Valley Project (CVP) long-term water entitlements.

The Resolution provides, among other matters, for the dissolution of the East Yolo Community Services District (East Yolo) and assumption by the City of the functions of East Yolo. We are enclosing for signature by the proper official of the City a consent of assumption form. Execution of the consent form by the City, and thereafter by the Regional Director of Reclamation's Mid-Pacific Region, will formalize and complete the assumption of Contract No. 0-07-20-W0187 (Contract W0187) by the City.

Your August 30, 1988, letter states the City intends to initiate delivery of CVP water in 1989 pursuant to Contract W0187. Reclamation is pleased to be able to provide water service to the City. As a result of the initiation of diversions and pursuant to subdivision (d) of Article 7 of Contract W0187, the City must pay the United States for the following quantities of water:

1. Twenty percent of all water diverted during the month of June of each year;

2. Eighty eight percent of all water diverted during the month of July of each year; and,

3. One hundred percent of all water diverted during the months of August and September of each year.

Commencement of diversions by the City will institute a change in the method of payments relative to those made in prior years. In accordance with the requirements of subdivision (a) of Article 8 of Contract W0187, the City is required to pay prior to June 1 of each year for all CVP water to be diverted during June and July. Before the end of June and July the City is required to pay for all CVP Project water scheduled to be diverted during the month thereafter. All such payments will include credit for water not used but previously paid for, if the City takes in excess of its minimum requirements in any of the subsequent 5 years as provided by subdivision (e) of Article 7.

On March 31, 1989, Reclamation announced full restoration of long-term CVP water entitlements. Due to heavy precipitation and snowfall in March 1989, the United States has withdrawn the scheduled imposition of water deficiencies upon CVP contractors.

We request the City to submit its future water schedules and other contract matter to Reclamation's Willows Office, PO Box 988, Willows, CA 95988-0988. Mr. Jaklitsch is available at the Willows Office to answer questions regarding your contract or other related matters. He may be contacted at (916) 934-7066.

Sincerely,

NEIL W. SCHILD
ASSISTANT REGIONAL DIRECTOR

Enclosure

CITY OF WEST SACRAMENTO AGENDA REPORT

MEETING DATE: May 17, 1989 ITEM #

SUBJECT:

CONSIDERATION OF RESOLUTION NO. 89-67
APPROVING ASSUMPTION OF CONTRACT NO. 0-07-20-20187
BETWEEN THE UNITED STATES OF AMERICA AND THE CITY OF WEST SACRAMENTO

INITIATED OR REQUESTED BY: [ ] Council [X] Staff [ ] Other

REPORT COORDINATED OR PREPARED BY:

Larry S. Gossett, Director of Public Works

ATTACHMENT [X] [ ] No [X] INFORMATION [ ] DIRECTION [X] ACTION

RECOMMENDED ACTION

IT IS RECOMMENDED that your Council adopt Resolution No. 89-67, approving the Assumption of Contract No. 0-07-20-W0187 between the United States of America and the City of West Sacramento.

REASON FOR RECOMMENDED ACTION

To formalize the assumption of the contract for Sacramento River Water diversion originally entered into between the US Bureau of Reclamation and East Yolo Community Services District.

BACKGROUND AND DISCUSSION

On July 1, 1980, East Yolo Community Services District Board of Directors entered into a contract with the U.S. Department of Interior, Bureau of Reclamation to divert Central Valley Project water from the Sacramento River for treatment in the Bryte Bend Water Treatment Plant. The contract provides for diversion of a maximum of 23,600 acre feet of water annually for 40 years at an initial rate of $9.00 for each acre foot. This rate is to be adjusted every 5th year to account for changes in costs for project water.

The City of West Sacramento uses water provided by the State of California Department of Water Resources, at no cost, from 1 October thru 31 May each year. However, only Bureau of Reclamation Central Valley Project Water is available June thru September each year.

ATTACHMENTS

1. Resolution No. 89-67
2. Bureau Letter with Contract

RESOLUTION NO. 89-67
APPROVING ASSUMPTION OF CONTRACT NO. 0-07-20-W0187
BETWEEN THE UNITED STATES OF AMERICA AND THE CITY OF WEST SACRAMENTO
FOR DIVERSION OF WATER AND AUTHORIZING EXECUTION

WHEREAS, on July 1, 1980 the Board of Directors of the East Yolo Community Services District entered into Contract No. 0-07-20-W01987 with the United States of America, Department of the Interior which authorized the diverision of Central Valley Project water from Sacramento River sources for a surface water supply for the residents of West Sacramento and surrounding areas; and

WHEREAS, on January 1, 1987, the East Yolo Community Services District was dissolved by the incorporation of the City of West Sacramento ("City"); and

WHEREAS, the City is the successor to all rights, duties, and obligations of the dissolved District; and

WHEREAS, the United States Department of the Interior requires that City assume said contract by executing the Consent of Assumption attached hereto as Exhibit A and incorported herein.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of West Sacramento hereby approved the assumption of Contract No. 0-07-20-W0187 and agrees to be bound by and perform all the terms and conditions of said contract dated July 1, 1980 and that the Mayor is hereby authorized to execute said contract on behalf of the City.

PASSED AND ADOPTED by the City Council of the City of West Sacramento at a regular meeting held on this 17th day of May, 1989 by the following vote on roll call:

AYES:
NOES:
ABSENT:

Fidel A. Martinez, Mayor

ATTEST:

Helen M. Kanowsky, Deputy City Clerk

CONTRACT
BETWEEN
STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
AND
NORTH DELTA WATER AGENCY

FOR THE ASSURANCE
OF A DEPENDABLE WATER SUPPLY OF SUITABLE QUALITY

TABLE OF CONTENTS

CONTRACT BETWEEN THE STATE OF CALIFORNIA DEPARTMENT OF WATER RESOURCES AND THE NORTH DELTA WATER AGENCY FOR THE ASSURANCE OF A DEPENDABLE WATER SUPPLY OF SUITABLE QUALITY

THIS CONTRACT, made this 28 day of Jan, 1981, between the STATE OF CALIFORNIA, acting by and through its DEPARTMENT OF WATER RESOURCES (State), and the NORTH DELTA WATER AGENCY (Agency), a political subdivision of the State of California, duly organized and existing pursuant to the laws thereof, with its principal place of business in Sacramento, California.

RECITALS

(a) The purpose of this contract is to assure that the State will maintain within the Agency a dependable water supply of adequate quantity and quality for agricultural uses and, consistent with the water quality standards of Attachment A, for municipal and industrial uses, that the State will recognize the right to the use of water for agricultural, municipal, and industrial uses within the Agency, and that the Agency will pay compensation for any reimbursable benefits allocated to water users within the Agency resulting from the Federal Central Valley Project and the State Water Project, and offset by any detriments caused thereby.

(b) The United States, acting through its Department of the Interior, has under construction and is operating the Federal Central Valley Project (FCVP).

(c) The State has under construction and is operating the State Water Project (SWP).

(d) The construction and operation of the FCVP and SWP at times have changed and will further change the regimen of rivers tributary to the Sacramento-San Joaquin Delta (Delta) and the regimen of the Delta channels from unregulated flow to regulated flow. This regulation at times improves the quality of water in the Delta and at times diminishes the quality from that which would exist in the absence of the FCVP and SWP. The regulation at times also alters the elevation of water in some Delta channels.

(e) Water problems within the Delta are unique within the State of California. As a result of the geographical location of the lands of the Delta and tidal influences, there is no physical shortage of water. Intrusion of saline ocean water and municipal, industrial and agricultural discharges and return flows, tend, however, to deteriorate the quality.

(f) The general welfare, as well as the rights and requirements of the water users in the Delta, require that there be maintained in the Delta an adequate supply of good quality water for agricultural, municipal and industrial uses.

(g) The law of the State of California requires protection of the areas within which water originates and the watersheds in which water is developed. The Delta is such an area and within such a watershed. Part 4.5 of Division 6 of the California Water Code affords a first priority to provision of salinity control and maintenance of an adequate water supply in the Delta for reasonable and beneficial uses of water and relegates to lesser priority all exports of water from the Delta to other areas for any purpose.

(h) The Agency asserts that water users within the Agency have the right to divert, are diverting, and will continue to divert, for reasonable beneficial use, water from the Delta that would have been available therein if the FCVP and SWP were not in existence, together with the right to enjoy or acquire such benefits to which the water users may be entitled as a result of the FCVP and SWP.

(i) Section 4.4 of the North Delta Water Agency Act, Chapter 283, Statutes of 1973, as amended, provides that the Agency has no authority or power to affect, bind, prejudice, impair, restrict, or limit vested water rights within the Agency.

(j) The State asserts that it has the right to divert, is diverting, and will continue to divert water from the Delta in connection with the operation of the SWP.

(k) Operation of SWP to provide the water quality and quantity described in this contract constitutes a reasonable and beneficial use of water.

(l) The Delta has an existing gradient or relationship in quality between the westerly portion most seriously affected by ocean salinity intrusion and the interior portions of the Delta where the effect of ocean salinity intrusion is diminished. The water quality criteria set forth in this contract establishes minimum water qualities at various monitoring locations. Although the water quality criteria at upstream locations is shown as equal in some periods of some years to the water quality at the downstream locations, a better quality will in fact exist at the upstream locations at almost all times. Similarly, a better water quality than that shown for any given monitoring location will also exist at interior points upstream from that location at almost all times.

(m) It is not the intention of the State to acquire by purchase or by proceeding in eminent domain or by any other manner the water rights of water users within the Agency, including rights acquired under this contract.

(n) The parties desire that the United States become an additional party to this contract.

AGREEMENTS

1. Definitions. When used herein, the term:

(a) "Agency" shall mean the North Delta Water Agency and shall include all of the lands within the boundaries at the time the contract is executed as described in Section 9.1 of the North Delta Water Agency Act, Chapter 283, Statutes of 1973, as amended.

(b) "Calendar year" shall mean the period January 1 through December 31.

(c) "Delta" shall mean the Sacramento-San Joaquin Delta as defined in Section 12220 of the California Water Code as of the date of the execution of the contract.

(d) "Electrical Conductivity" (EC) shall mean the electrical conductivity of a water sample measured in millimhos per centimeter per square centimeter corrected to a standard temperature of 25° Celsius determined in accordance with procedures set forth in the publication entitled "Standard Methods of Examination of Water and Waste Water", published jointly by the American Public Health Association, the American Water Works Association, and the Water Pollution Control Federation, 13th Edition, 1971, including such revisions thereof as may be made subsequent to the date of this contract which are approved in writing by the State and the Agency.

(e) "Federal Central Valley Project" (FCVP) shall mean the Central Valley Project of the United States.

(f) "Four-River Basin Index" shall mean the most current forecast of Sacramento Valley unimpaired runoff as presently published in the California Department of Water Resources Bulletin 120 for the sum of the flows of the following: Sacramento River above Bend Bridge near Red Bluff; Feather River, total inflow to Oroville Reservoir; Yuba River at Smartville; American River, total inflow to Folsom Reservoir. The May 1 forecast shall continue in effect until the February 1 forecast of the next succeeding year.

(g) "State Water Project" (SWP) shall mean the State Water Resources Development System as defined in Section 12931 of the Water Code of the State of California.

(h) "SWRCB" shall mean the State Water Resources Control Board.

(i) "Water year" shall mean the period October 1 of any year

hrough September 30 of the following year.

2. Water Quality.

(a) (i) The State will operate the SWP to provide water ualities at least equal to the better of: (1) the standards adopted by he SWRCB as they may be established from time to time; or (2) the criteria established in this contract as identified on the graphs ncluded as Attachment A.

(ii) The 14-day running average of the mean daily EC at the identified location shall not exceed the values determined from the Attachment A graphs using the Four-River Basin Index except or the period February through March of each year at the location n the Sacramento River at Emmaton for which the lower value of he 80 percent probability range shall be used.

(iii) The quality criteria described herein shall be met at all imes except for a transition period beginning one week before and extending one week after the date of change in periods as shown on he graphs of Attachment A. During this transition period, the SWP will be operated to provide as uniform a transition as possible over the two-week period from one set of criteria to the next so as to arrive at the new criteria one week after the date of change in eriod as shown on the graphs of Attachment A.

(b) While not committed affirmatively to achieving a better water quality at interior points upstream from Emmaton than hose set forth on Attachment A, the State agrees not to alter the Delta hydraulics in such manner as to cause a measurable adverse hange in the ocean salinity gradient or relationship among the various monitoring locations shown on Attachment B and interior oints upstream from those locations, with any particular flow ast Emmaton.

(c) Whenever the recorded 14-day running average of mean aily EC of water in the Sacramento River at Sacramento exceeds .25 mmhos, the quality criteria indicated on the graphs of Attchment A may be adjusted by adding to the value taken therefrom tne product of 1.5 times the amount that the recorded EC of the acramento River at Sacramento exceeds 0.25 mmhos.

3. Monitoring. The quality of water shall be measured by the tate as needed to monitor performance pursuant to Article 2 ereof with equipment installed, operated, and maintained by the tate, at locations indicated on "Attachment B". Records of such easurements shall at regular intervals be furnished to the Agency. All monitoring costs at North Fork Mokelumne River near Walut Grove, Sacramento River at Walnut Grove, and Steamboat lough at Sutter Slough incurred by the State solely for this ontract shall be shared equally by the Agency and the State. All onitoring costs to be borne by the Agency for monitoring at the bove locations are included in the payment under Article 10.

4. Emergency Provisions.

(a) If a structural emergency occurs such as a levee failure or failure of an SWP facility, which results in the State's failure to eet the water quality criteria, the State shall not be in breach of his contract if it makes all reasonable efforts to operate SWP acilities so that the water quality criteria will be met again as soon s possible. For any period in which SWP failure results in failure f the State to meet the water quality criteria, the State shall waive payment under Article 10, prorated for that period, and the mount shall be deducted from the next payment due.

(b) (i) A drought emergency shall exist when all of the ollowing occur:

(1) The Four-River Basin Index is less than an average f 9,000,000 acre feet in two consecutive years (which occurred in 933-4 and 1976-7); and

(2) An SWRCB emergency regulation is in effect proiding for the operation of the SWP to maintain water quality ifferent from that provided in this contract; and

(3) The water supplied to meet annual entitlements of SWP agricultural contractors in the San Joaquin Valley is being reduced by at least 50 percent of these agricultural entitlements (it being the objective of the SWP to avoid agricultural deficiencies in excess of 25 percent) or the total of water supplied to meet annual entitlements of all SWP contractors is being reduced by at least 15 percent of all entitlements, whichever results in the greater reduction in acre feet delivered.

(ii) A drought emergency shall terminate if any of the conditions in (b) (i) of this Article ceases to exist or if the flow past Sacramento after October 1 exceeds 20,000 cubic feet per second each day for a period of 30 days.

(iii) Notwithstanding the provisions of Article 2 (a), when a drought emergency exists, the emergency water quality criteria of the SWRCB shall supersede the water quality requirements of this contract to the extent of any inconsistency; provided, however, that the State shall use all reasonable efforts to preserve Delta water quality, taking into consideration both the limited water supply available for that purpose and recognizing the priority established for Delta protection referred to in Recital (g).

(iv) When a drought emergency exists, and an overland supply is not available to an individual water user comparable in quality and quantity to the water which would have been available to the user under Attachment A, the State shall compensate the user for loss of net income for each acre either (A) planted to a more salt-tolerant crop in the current year, (B) not planted to any crop in the current year provided such determination not to plant was reasonable based on the drought emergency, or (C) which had a reduced yield due to the drought emergency, calculated on the basis of the user's average net income for any three of the prior five years for each such acre. A special contract claims procedure shall be estalished by the State to expedite and facilitate the payment of such compensation.

5. Overland Water Supply Facilities.

(a) Within the general objectives of protecting the western Delta areas against the destruction of agricultural productivity as a result of the increased salinity of waters in the Delta channels resulting in part from SWP operation, the State may provide diversion and overland facilities to supply and distribute water to Sherman Island as described in the report entitled "Overland Agricultural Water Facilities Sherman Island" dated January 1980. Final design and operating specifications shall be subject to approval of the Agency and Reclamation District No. 341. The Agency or its transferee will assume full ownership, operation, and maintenance responsibility for such facilities after successful operation as specified. After the facilities are constructed and operating, the water quality criteria for the Sacramento River at Emmaton shall apply at the intake of the facilities in Three Mile Slough.

(b) The State and the Agency may agree to the construction and operation of additional overland water supply facilities within the Agency, so long as each landowner served by the overland facilities receives a quality of water not less than that specified in Attachment A for the upstream location nearest to his original point of diversion. The design and operation of such facilities and the cost sharing thereof are subject to approval of any reclamation district which includes within its boundaries the area to be served. The ownership, operation, and maintenance of diversion works and overland facilities shall be the subject of a separate agreement between the Agency or its transferees and the State.

6. Flow Impact. The State shall not convey SWP water so as to cause a decrease or increase in the natural flow, or reversal of the natural flow direction, or to cause the water surface elevation in Delta channels to be altered, to the detriment of Delta channels or water users within the Agency. If lands, levees, embankments, or revetments adjacent to Delta channels within the Agency incur seepage or erosion damage or if diversion facilities must be modi-

fied as a result of altered water surface elevations as a result of the conveyance of water from the SWP to lands outside the Agency after the date of this contract, the State shall repair or alleviate the damage, shall improve the channels as necessary, and shall be responsible for all diversion facility modifications required.

7. Place of Use of Water.

(a) Any subcontract entered into pursuant to Article 18 shall provide that water diverted under this contract for use within the Agency shall not be used or otherwise disposed of outside the boundaries of the Agency by the subcontractor.

(b) Any subcontract shall provide that all return flow water from water diverted within the Agency under this contract shall be returned to the Delta channels. Subject to the provisions of this contract concerning the quality and quantity of water to be made available to water users within the Agency, and to any reuse or recapture by water users within the Agency, the subcontractor relinquishes any right to such return flow, and as to any portion thereof which may be attributable to the SWP, the subcontractor recognizes that the State has not abandoned such water.

(c) If water is attempted to be used or otherwise disposed of outside the boundaries of the Agency so that the State's rights to return flow are interfered with, the State may seek appropriate administrative or judicial action against such use or disposal.

(d) This article shall not relieve any water user of the responsibility to meet discharge regulations legally imposed.

8. Scope of Contract.

(a) During the term of this contract

(i) This contract shall constitute the full and sole agreement between the State and the Agency as to (1) the quality of water which shall be in the Delta channels, and (2) the payment for the assurance given that water of such quality shall be in the Delta channels for reasonable and beneficial uses on lands within the Agency, and said diversions and uses shall not be disturbed or challenged by the State so long as this contract is in full force and effect.

(ii) The State recognizes the right of the water users of the Agency to divert from the Delta channels for reasonable and beneficial uses for agricultural, municipal and industrial purposes on lands within the Agency, and said diversions and uses shall not be disturbed or challenged by the State so long as this contract is in full force and effect, and the State shall furnish such water as may be required within the Agency to the extent not otherwise available under the water rights of water users.

(iii) The Agency shall not claim any right against the State in conflict with the provisions hereof so long as this contract remains in full force and effect.

(b) Nothing herein contained is intended to or does limit rights of the Agency against others than the State, or the State against any person other than the Agency and water users within the Agency.

(c) This contract shall not affect, bind, prejudice, impair, restrict, or limit vested water rights within the Agency.

(d) The Agency agrees to defend affirmatively as reasonable and beneficial the water qualities established in this contract. The State agrees to defend affirmatively as reasonable and beneficial the use of water required to provide and sustain the qualities established in this contract. The State agrees that such use should be examined only after determination by a court of competent jurisdiction that all uses of water exported from the Delta by the State and by the United States, for agricultural, municipal, and industrial purposes are reasonable and beneficial, and that irrigation practices, conservation efforts, and groundwater management within areas served by such exported water should be examined in particular.

(e) The Agency consents to the State's export of water from the Delta so long as this contract remains in full force and effect and the State is in compliance herewith.

9. Term of Contract.

(a) This contract shall continue in full force and effect until such time as it may be terminated by the written consent and agreement of the parties hereto, provided that 40 years after execution of this contract and every 40 years thereafter, there shall be a six-month period of adjustment during which any party to this contract can negotiate with the other parties to revise the contract as to the provisions set out in Article 10. If, during this period, agreement as to a requested revision cannot be achieved, the parties shall petition a court of competent jurisdiction to resolve the issue as to the appropriate payment to be made under Article 10. In revising Article 10, the court shall review water quality and supply conditions within the Agency under operation of the FCVP and SWP, and identify any reimbursable benefits allocated to water users within the Agency resulting from operation of the FCVP and SWP, offset by any detriments caused thereby. Until such time as any revision is final, including appeal from any ruling of the court, the contract shall remain in effect as without such revision.

(b) In the event this contract terminates, the parties' water rights to quality and quantity shall exist as if this contract had not been entered into.

10. Amount and Method of Payment for Water.

(a) The Agency shall pay each year as consideration for the assurance that an adequate water supply and the specific water quality set forth in this contract will be maintained and monitored, the sum of one hundred seventy thousand dollars ($170,000.00). The annual payments shall be made to the State one-half on or before January 1 and one-half on or before July 1 of each year commencing with January 1, 1982.

(b) The payment established in (a) above shall be subject to adjustment as of January 1, 1987, and every fifth year thereafter. The adjusted payment shall bear the same relation to the payment specified in (a) above that the mean of the State's latest projected Delta Water Rate for the five years beginning with the year of adjustment bears to $10.00 per acre foot; provided that, no adjusted payment shall exceed the previous payment by more than 25 percent.

(c) The payments provided for in this article shall be deposited by the State in trust in the California Water Resources Development System Revenue Account in the California Water Resources Development Bond Fund. The trust shall continue for five years (or such longer period as the State may determine) but shall be terminated when the United States executes a contract as provided in Article 11 with the State and the Agency at which time the proportion of the trust fund that reflects the degree to which the operation of the FCVP has contributed to meeting the water quality standard under this contract as determined solely by the State shall be paid to the United States (with a pro rata share of interest). In the event that the United States has not entered into such a contract before the termination of the trust, the trust fund shall become the sole property of the State.

11. Participation of the United States. The Agency will exercise its best efforts to secure United States joinder and concurrence with the terms of this contract and the State will diligently attempt to obtain the joinder and concurrence of the United States with the terms of this contract and its participation as a party hereto. Such concurrence and participation by the United States in this contract shall include a recognition ratified by the Congress that the excess land provisions of Federal reclamation law shall not apply to this contract.

12. Remedies.

(a) The Agency shall be entitled to obtain specific perfor-

mance of the provisions of this contract by a decree of the Superior Court in Sacramento County requiring the State to meet the standards set forth in this contract. If the water quality in Delta channels falls below that provided in this contract, then, at the request of the Agency, the State shall cease all diversions to storage in SWP reservoirs or release stored water from SWP reservoirs or cease all export by the SWP from Delta channels, or any combination of these, to the extent that such action will further State compliance with the water quality standards set forth in this contract, except that the State may continue to export from Delta channels to the extent required to meet water quality requirements in contracts with the Delta agencies specified in Section 11456 of the California Water code.

(b) To the extent permitted by law, the State agrees to forego the use of eminent domain proceedings to acquire water rights of water users within the Agency or any rights acquired under this contract for water or water quality maintenance for the purpose of exporting such water from the Delta. This provision shall not be construed to prohibit the utilization of eminent domain proceedings for the purpose of acquiring land or any other rights necessary for the construction of water facilities.

(c) Except as provided in the water quality assurances in Article 2 and the provisions of Article 6 and Article 8, neither the State nor its officers, agents, or employees shall be liable for or on account of:

(i) The control, carriage, handling, use, disposal, or distribution of any water outside the facilities constructed, operated and maintained by the State.

(ii) Claims of damage of any nature whatsoever, including but not limited to property loss or damage, personal injury or death arising out of or connected with the control, carriage, handling, use, disposal or distribution of any water outside of the facilities constructed, operated and maintained by the State.

(d) The use by the Agency or the State of any remedy specified herein for the enforcement of this contract is not exclusive and shall not deprive either from using any other remedy provided by law.

13. Comparable Treatment. In the event that the State gives on the whole substantially more favorable treatment to any other Delta entity under similar circumstances than that accorded under this contract to the Agency, the State agrees to renegotiate this contract to provide comparable treatment to the Agency under this contract.

GENERAL PROVISIONS

14. Amendments. This contract may be amended or terminated at any time by mutual agreement of the State and the Agency.

15. Reservation With Respect to State Laws. Nothing herein contained shall be construed as estopping or otherwise preventing the Agency, or any person, firm, association, corporation, or public body claiming by, through, or under the Agency, from contesting by litigation or other lawful means, the validity, constitutionality, construction or application of any law of the State of California.

16. Opinions and Determinations. Where the terms of this contract provide for action to be based upon the opinion, judgment, approval, review, or determination of either party hereto, such terms are not intended to be and shall never be construed as permitting such opinion, judgment, approval, review, or determination to be arbitrary, capricious, or unreasonable.

17. Successors and Assigns Obligated. This contract and all of its provisions shall apply to and bind the successors and assigns of the parties hereto.

18. Assignment and Subcontract. The Agency may enter into subcontracts with water users within the Agency boundaries in which the assurances and obligations provided in this contract as to such water user or users are assigned to the area covered by the subcontract. The Agency shall remain primarily liable and shall make all payments required under this contract. No assignment or transfer of this contract, or any part hereof, rights hereunder, or interest herein by the Agency, other than a subcontract containing the same terms and conditions, shall be valid unless and until it is approved by the State and made subject to such reasonable terms and conditions as the State may impose. No assignment or transfer of this contract or any part hereof, rights hereunder, or interest herein by the State shall be valid except as such assignment or transfer is made pursuant to and in conformity with applicable law.

19. Books, Records, Reports, and Inspections Thereof. Subject to applicable State laws and regulations, the Agency shall have full and free access at all reasonable times to the SWP account books and official records of the State insofar as the same pertain to the matters and things provided for in this contract, with the right at any time during office hours to make copies thereof, and the proper representatives of the State shall have similar rights with respect to the account books and records of the Agency.

20. Waiver of Rights. Any waiver at any time by either party hereto of its rights with respect to a default, or any other matter arising in connection with this contract, shall not be deemed to be a waiver with respect to any other default or matter.

21. Assurance Relating to Validity of Contract. This contract shall be effective after its execution by the Agency and the State. Promptly after the execution and delivery of this contract, the Agency shall file and prosecute to a final decree, including any appeal therefrom to the highest court of the State of California, in a court of competent jurisdiction a special proceeding for the judicial examination, approval, and confirmation of the proceedings of the Agency's Board of Directors and of the Agency leading up to and including the making of this contract and the validity of the provisions thereof as a binding and enforceable obligation upon the State and the Agency. If, in this proceeding or other proceeding before a court of competent jurisdiction, any portion of this contract should be determined to be constitutionally invalid, then the remaining portions of this contract shall remain in full force and effect unless modified by mutual consent of the parties.

22. Notices. All notices that are required either expressly or by implication to be given by one party to the other shall be deemed to have been given if delivered personally or if enclosed in a properly addressed, postage prepaid, envelope and deposited in a United States Post Office. Unless or until formally notified otherwise, the Agency shall address all notices to the State as follows:

Director, Department of Water Resources
P.O. Box 388
Sacramento, California 95802

and the State shall address all notices to the Agency as follows:

North Delta Water Agency
921 - 11th St., Rm. 703
Sacramento, California 95814

IN WITNESS WHEREOF, the parties hereto have executed this contract on the date first above written.

Approved as to legal form and sufficiency:

By /s/ P. A. TOWNER
Chief Counsel
Dept. of Water Resources

STATE OF CALIFORNIA

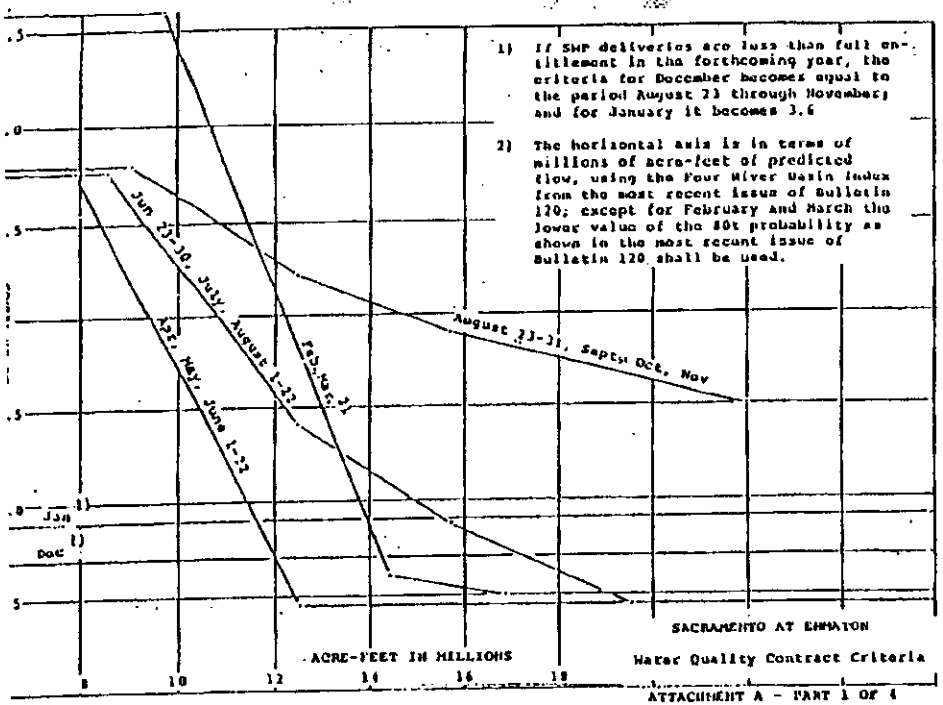
By /s/ RONALD B. ROBIE
Dept. of Water Resources

Approved as to legal form and sufficiency:

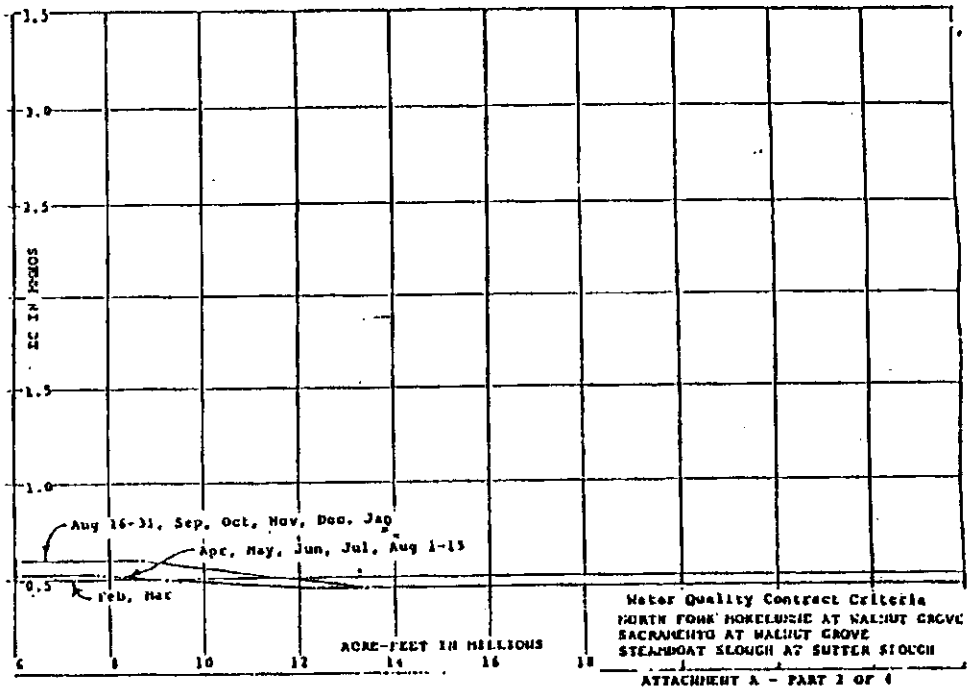
By /s/ GEORGE BASYE
General Counsel
North Delta Water Agency

NORTH DELTA WATER AGENCY

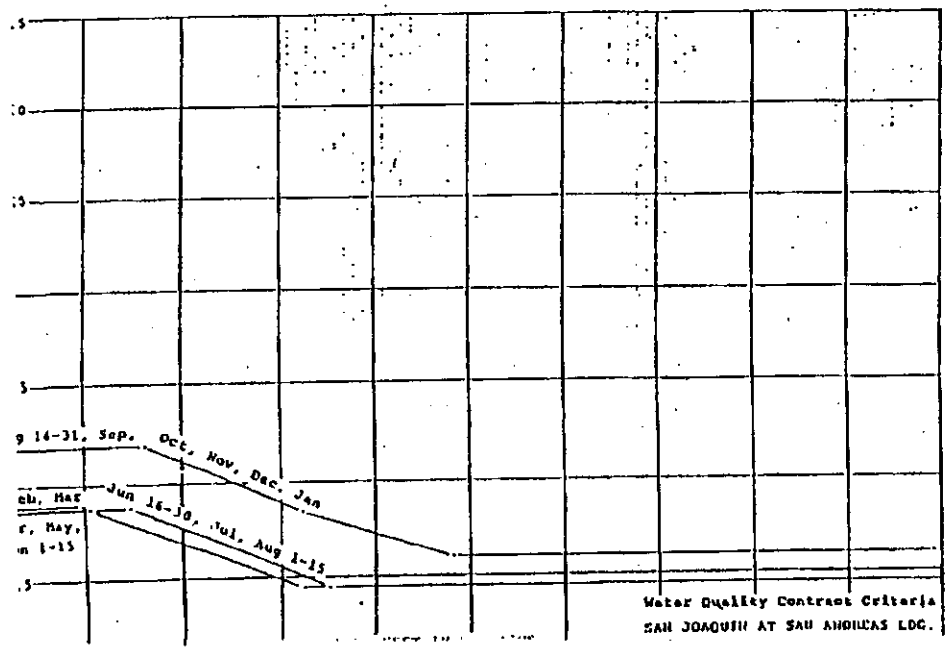
By /s/ W. R. DARSIE
Chairman
Board of Directors

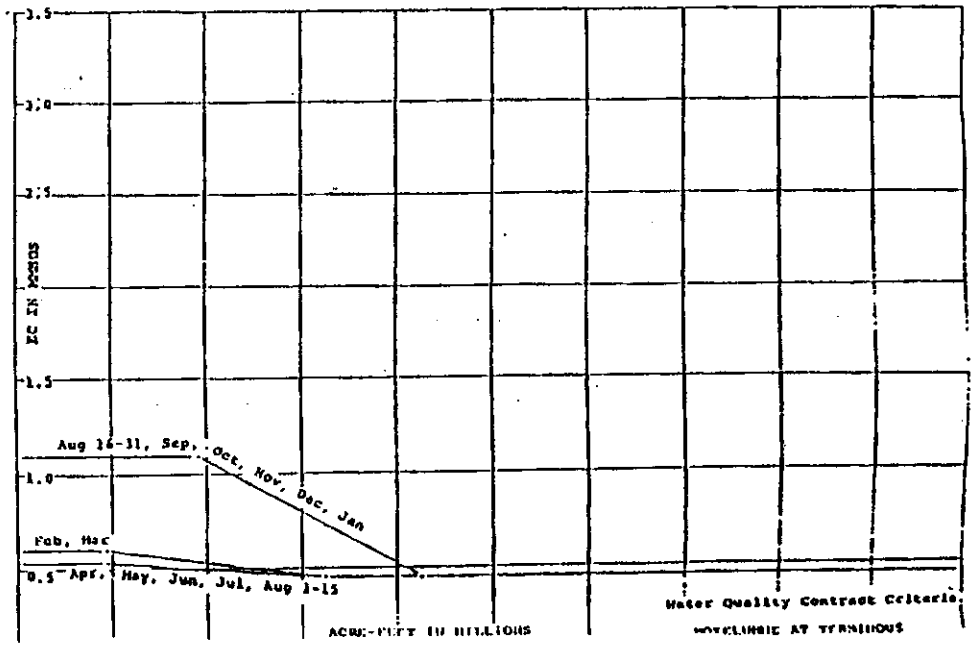


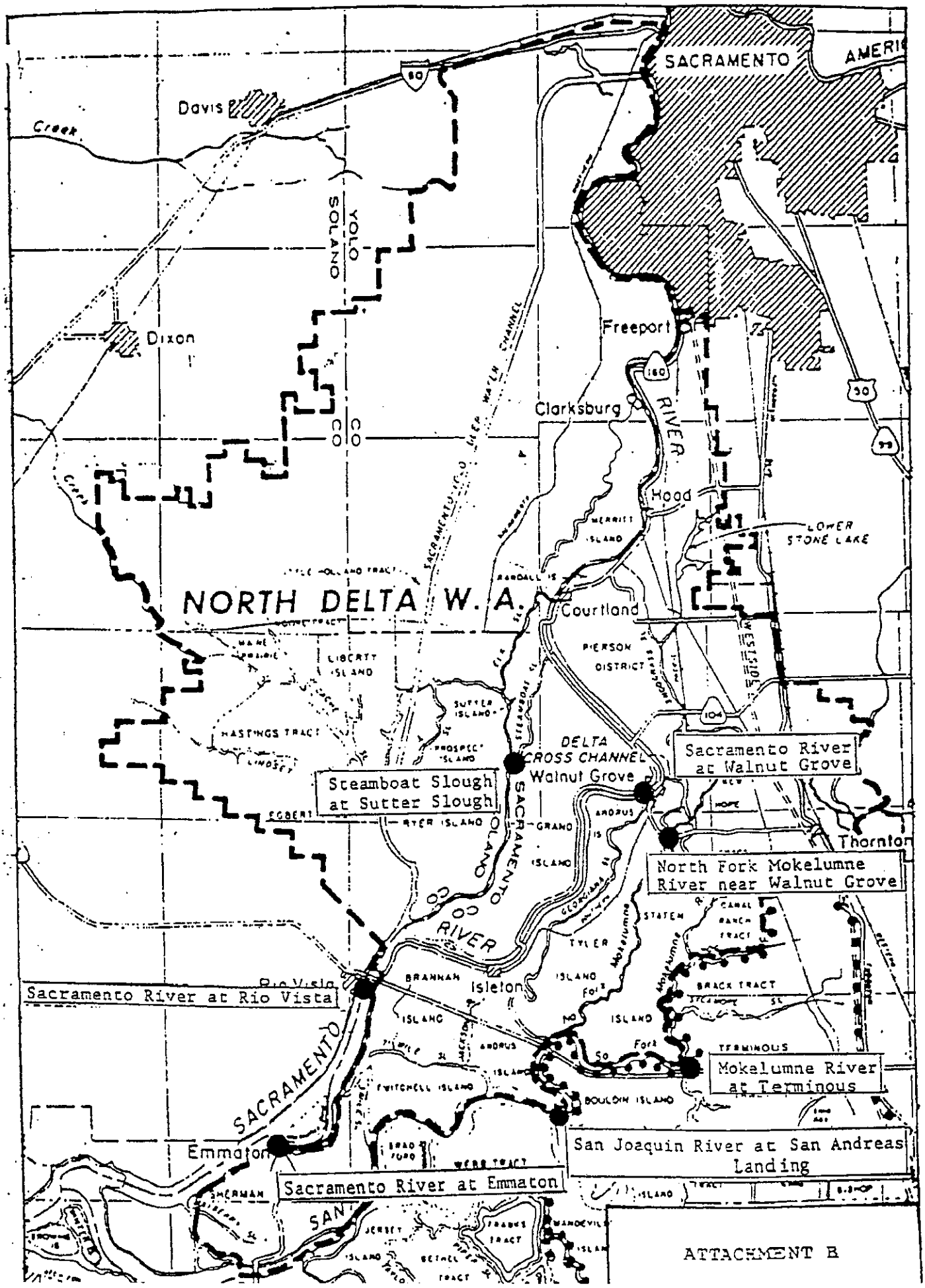
ATTACHMENT A - PART 1 OF 4



ATTACHMENT A - PART 2 OF 4






NORTH DELTA W. A.
Steamboat Slough at Sutter Slough
Sacramento River at Walnut Grove
North Fork Mokelumne River near Walnut Grove
Sacramento River at Rio Vista
Mokelumne River at Terminous
San Joaquin River at San Andreas Landing
Sacramento River at Emmaton
SACRAMENTO
Davis
Dixon
Freeport
Clarksburg
Hood
Courtland
Walnut Grove
Thornton
Isleton
Rio Vista
Emmaton
YOLO
SOLANO
DELTA CROSS CHANNEL
SACRAMENTO RIVER
LOWER STONE LAKE
ATTACHMENT B

AGREEMENT

WHEREAS, The State of California, through its Department of Water Resources (DWR), and the North Delta Water Agency entered into a Contract for the Assurance of a Dependable Water Supply of Suitable Quality on January 28, 1981 under which, inter alia, the State agreed to operate the State Water Project to provide water qualities at least equal to the better of (1) standards adopted by the State Water Resources Control Board, or (2) criteria identified on the graphs included as Attachment A;

WHEREAS, Article 5 of the 1981 Contract permits a shift of Attachment A water quality criteria for the Sacramento River at Emmaton to a location on Three Mile Slough upon completion of an overland facility to supply and distribute water to Sherman Island;

WHEREAS, with the concurrence of landowners on Sherman Island and NDWA, DWR commenced a program of land acquisition on Sherman Island in lieu of building the overland facility described in Article 5;

WHEREAS, DWR presented plans to Reclamation District 341 for an overland facility to service lands remaining in private ownership and R.D. 341 approved the plans;

WHEREAS, DWR presented the same plans to NDWA; but prior to NDWA reaching a decision to approve or disapprove the plans, DWR

reached agreement in principle with the remaining landowners to purchase their lands on Sherman Island, making an overland facility unnecessary;

WHEREAS, DWR and NDWA wish to amend the 1981 Contract to change the monitoring station at Emmaton to Three Mile Slough for the reason that DWR is pursuing its land acquisition program in lieu of the overland facility;

WHEREAS, the parties disagree on whether DWR should pay assessments on land it owns within NDWA's jurisdiction, and wish to resolve the issue herein;

IT IS HEREBY AGREED:

The State of California acting by and through its Department of Water Resources, hereinafter "State," and the North Delta Water Agency, hereinafter "NDWA," agree to amend the 1981 Contract Between State of California Department of Water Resources and North Delta Water Agency for the Assurance of a Dependable Water Supply of Suitable Quality ("the 1981 Contract") as follows:

1. Subject to the terms and conditions set forth in this agreement, NDWA approves the State's plans for acquisition of agricultural lands on Sherman Island and agrees that such acquisition is in lieu of the overland facility described in Article 5 of the 1981 Contract.

2. NDWA agrees that the water quality criteria for the Sacramento River at Emmaton shall apply at the monitoring station at Three Mile Slough, as shown on Exhibit A, attached hereto and incorporated herein by reference.

3. State agrees that NDWA's approval in paragraph 1 is contingent, and paragraph 2 shall only be effective, upon State's acquiring fee title to, or a water quality easement or similar waiver on, those agricultural lands on Sherman Island which are specified in the draft report entitled "Overland Agricultural Facilities Sherman Island" dated January 1980. The parties agree that the 1981 Contract imposes no obligation relating to the quality of water for domestic uses on Sherman Island.

4. State agrees to hold harmless from all costs, defend and indemnify NDWA for any claim or action brought by any person or entity based on this agreement, including any claim or action based on the change in water quality criteria for the Sacramento River under the 1981 Contract.

5. State agrees to reimburse NDWA for engineering costs paid for review of the plans for the overland facility, based on invoices received for work performed between May 12, 1995 and July 3, 1996, inclusive.

6. State agrees that NDWA may permanently reduce its annual payments due under Article 10 of the 1981 Contract by a percentage equal to the percentage of acreage of land owned or

hereafter acquired by the Department of Water Resources within NDWA's jurisdiction compared to all lands within NDWA's jurisdiction. NDWA agrees not to assess or assert any right to assess DWR-owned lands. In all other respects, payment obligations imposed by the 1981 Contract shall remain the same.

7. The term of this agreement is concurrent with that of the 1981 Contract.

8. This agreement shall be effective immediately after it is both signed by DWR and approved by the NDWA Board of Directors. NDWA agrees to deliver to DWR a copy of the resolution authorizing NDWA to enter into this agreement.

9. NDWA shall promptly notice a hearing on this amendment pursuant to California Water Code Appendix section 115-7.8 and hold a hearing pursuant to Water Code Appendix section 155-7.6. If a substantial written protest is received, NDWA shall promptly hold an election on this amendment pursuant to Water Code appendix section 115-7.6. If an election is held and the majority of the votes cast do not approve this amendment, the term of the agreement (as defined in paragraph 8), shall be changed to a one-year term as an interim agreement pursuant to Water Code Appendix section 115-7.1, and all other terms of this agreement shall remain valid for the one-year interim period.

10. Promptly after the execution and delivery of this contract, NDWA shall file and prosecute to a final decree,

including any appeal therefrom to the highest court of the State of California, in a court of competent jurisdiction a special proceeding for the judicial examination, approval, and confirmation of the proceedings of the NDWA Board of Directors and of NDWA leading up to and including the making of this contract and the validity of the provisions thereof as a binding and enforceable obligation upon the State and the NDWA. If, in this proceeding or other proceeding before a court of competent jurisdiction, any portion of this contract should be determined to be invalid, then the remaining portions of this contract shall remain in full force and effect unless modified by mutual consent of the parties.

NORTH DELTA WATER AGENCY

W.R. Darsie, Chairman
Board of Directors

Dated: 12-24-96

Approved as to legal form and sufficiency:

Steve Saxton
Attorney for North Delta Water Agency

Dated: 12/27/96

STATE OF CALIFORNIA,
DEPARTMENT OF WATER RESOURCES

David N. Kennedy
Director

Dated: 1-21-97

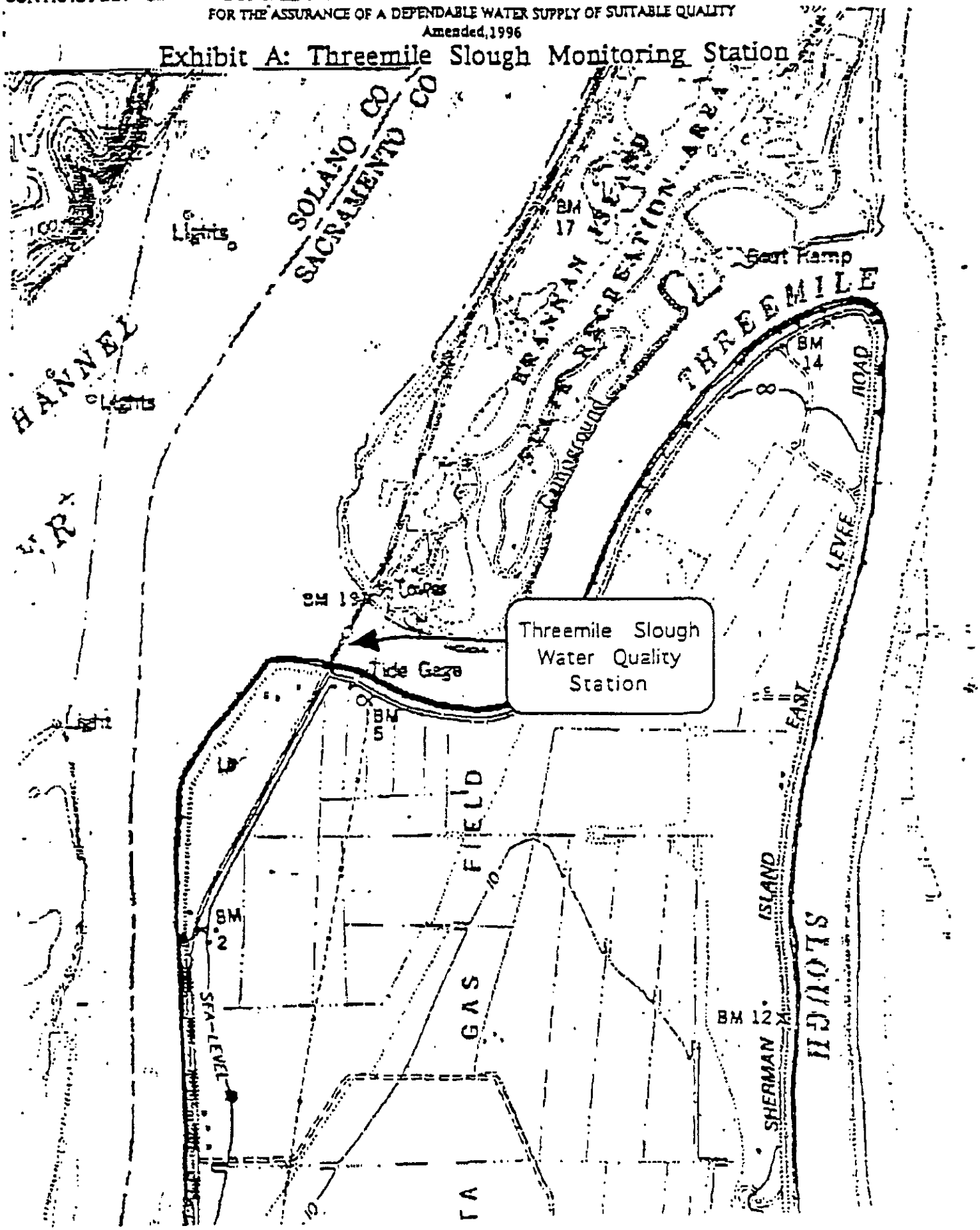
Approved as to legal form and sufficiency:

Susan N. Weber
Chief Counsel

Dated: 1/17/97

CONTRACT BETWEEN STATE OF CALIFORNIA DEPARTMENT OF WATER RESOURCES AND NORTH DELTA WATER AGENCY
FOR THE ASSURANCE OF A DEPENDABLE WATER SUPPLY OF SUITABLE QUALITY
Amended, 1996

Exhibit A: Threemile Slough Monitoring Station



Appendix B

Percentage of Major Development Projects

outside the

North Delta Water Agency

Major West Sacramento Development Outside of the NDWA

	Total acres	SF (DUs)	MF (DUs)	Commericial (acres)	School (acres)	Park Other (acres)
East Riverfront	43	1				41
The Rivers	250	832	37		12	2
Metro Place	3					
Capitol Place Apartments	9.4		192			
Harriet Lace	1.5		34			
Riverpoint Plaza	8			8		
Riverpoint Retail	82			82		
Riverside CenterPlaza	60			60		
TOTAL	**456.9**	**833**	**263**	**150**	**12**	**43**
River II	68	802	0	0	12	2
Percent of Total	15%	96%	0%	0%	100%	5%