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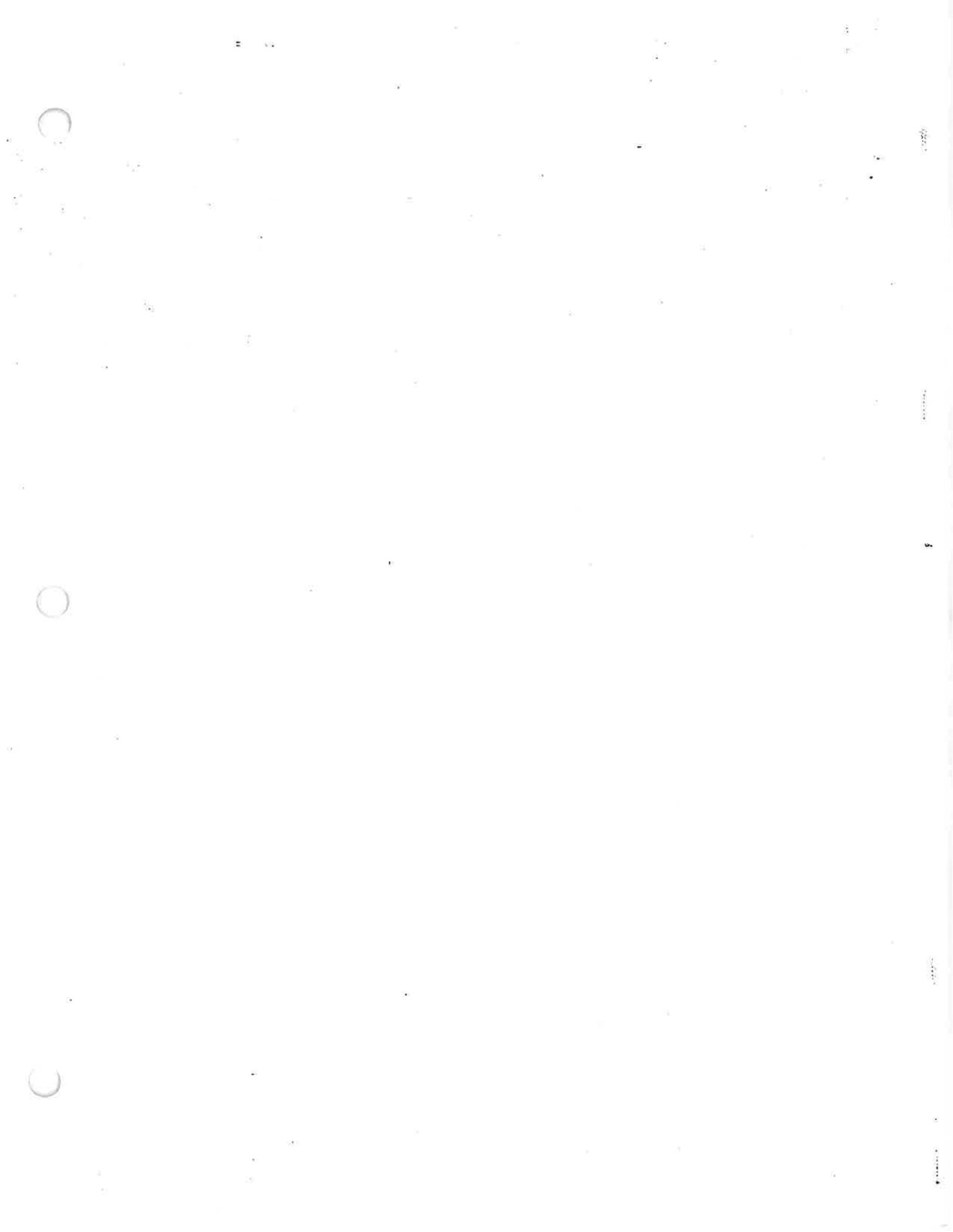
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# 1. INTRODUCTION



# 1. INTRODUCTION

## PURPOSE OF THE ENVIRONMENTAL IMPACT REPORT

An Environmental Impact Report (EIR) analyzes the environmental effects of a proposed project, indicates ways to reduce or avoid potential environmental damage resulting from the project, and identifies alternatives to the proposed action. An EIR must also disclose significant environmental effects that cannot be avoided; growth-inducing effects; effects not found to be significant; and significant cumulative impacts of the proposed project and all associated past present and reasonably anticipated future projects. The purpose of an EIR is not to recommend either approval or denial of the project, but to provide information to aid in the decision-making process.

## ENVIRONMENTAL PROCEDURES

This EIR has been prepared in accordance with the California Environmental Quality Act of 1970 (CEQA), as amended (Public Resources Code, Section 21000, et seq.) and the State Guidelines for Implementation of the California Environmental Quality Act of 1970, as amended (California Code of Regulations, Section 15000, et seq.). This report also complies with the rules, regulations, and procedures for implementation of the California Environmental Quality Act adopted by the City of Sacramento.

The State CEQA Guidelines require that each EIR contain areas of description and analysis. The following list identifies required components of an EIR and the corresponding chapters where located in this document:

Required Description and Analysis	Chapter of the EIR
1. <u>Summary</u> (CEQA Guidelines, Section 15123)	Chapter 2
2. <u>Description of Project</u> (CEQA Guidelines, Section 15124)	Chapter 3
3. <u>Alternatives to the Proposed Action</u> (CEQA Guidelines, Section 15126 [d])	Chapter 4
4. <u>Description of Environmental Setting</u> (CEQA Guidelines, Section 15125)	Chapter 5
5. <u>Environmental Impact</u> (CEQA Guidelines, Section 15126 and 15143)	Chapter 6
6. <u>Growth Inducing Impacts</u> (CEQA Guidelines, Section 15126)	Chapter 7
7. <u>Cumulative Impacts</u> (CEQA Guidelines, Section 15355)	Chapter 8

- |    |  |            |
|----|--|------------|
| 8. | <u>The Relationship Between Local Short-term Uses of Man's Environment and Long-term Productivity</u> (CEQA Guidelines, Section 15126) | Chapter 9  |
| 9. | <u>Unavoidable Adverse Environmental Effects</u> (CEQA Guidelines, Section 15126)  | Chapter 10 |

### TYPE OF EIR

This EIR is a Program EIR, pursuant to Section 15168 of the CEQA Guidelines. The Program EIR is an informational document designed to provide the basis for the local planning and decision-making process. A Program EIR assesses the impacts of a series of actions that can be characterized as one large project and are related in one of the four ways described in Section 15168(a) of the CEQA Guidelines:

- geographically;
- as logical parts in a chain of contemplated actions;
- in connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or
- as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

### EIR PROCESS

The EIR will initially be published as a Draft EIR and will be subject to review and comment by the public, as well as, all responsible and other interested jurisdictions, agencies and organizations during a period of 45 days. Written responses to comments on the Draft EIR will be prepared. The responses to comments may specify changes to the Draft EIR. The responses to comments and any changes to the Draft EIR therein specified will become the Final EIR. The Final EIR will be presented to the Sacramento City Council for certification as to its adequacy under CEQA.

## PROJECT SPONSOR AND CONTACT PERSONS

The Lead Agency in preparing this EIR is the City of Sacramento. The environmental consultant to the City is EIP Associates and the transportation consultant is kd Anderson Transportation Engineers. The project applicant is the City of Sacramento, Department of Planning and Development. Preparers and Contributors to this report are listed in Chapter 11 of this EIR. Key contact persons are as follows:

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## EIR FORMAT AND ORGANIZATION

This document provides a wide array of environmental information in different levels of detail. The document is structured in a manner to allow the reader to easily track information from the Summary (Chapter 2) through the Project Description (Chapter 3) and the Impact Analyses (Chapter 6). Impacts are numbered consecutively according to their location in Chapter 6 and where appropriate, are associated with a mitigation measure which is correspondingly numbered. This numbering system is carried over into the summary to allow easy location of the document's suggestions regarding a particular impact.

The document can be read in a number of ways depending on the reader's available time or interest in a particular issue. The briefest approach to the document involves reading only the summary. A somewhat more detailed reading of the document might involve careful reading of the full project description (Chapter 3) and description of alternatives (Chapter 4), as well as the summary. For those with an interest in a particular issue, it may be appropriate to add to the above a specific chapter or set of chapters. Finally, one can read the document in its entirety for a detailed presentation of all potential environmental effects of the project as proposed and alternatives to the project.

## EIR SECTIONS

The environmental sections were identified by the lead agency in the Notice of Preparation for this EIR. This EIR addresses in detail the following technical issues:

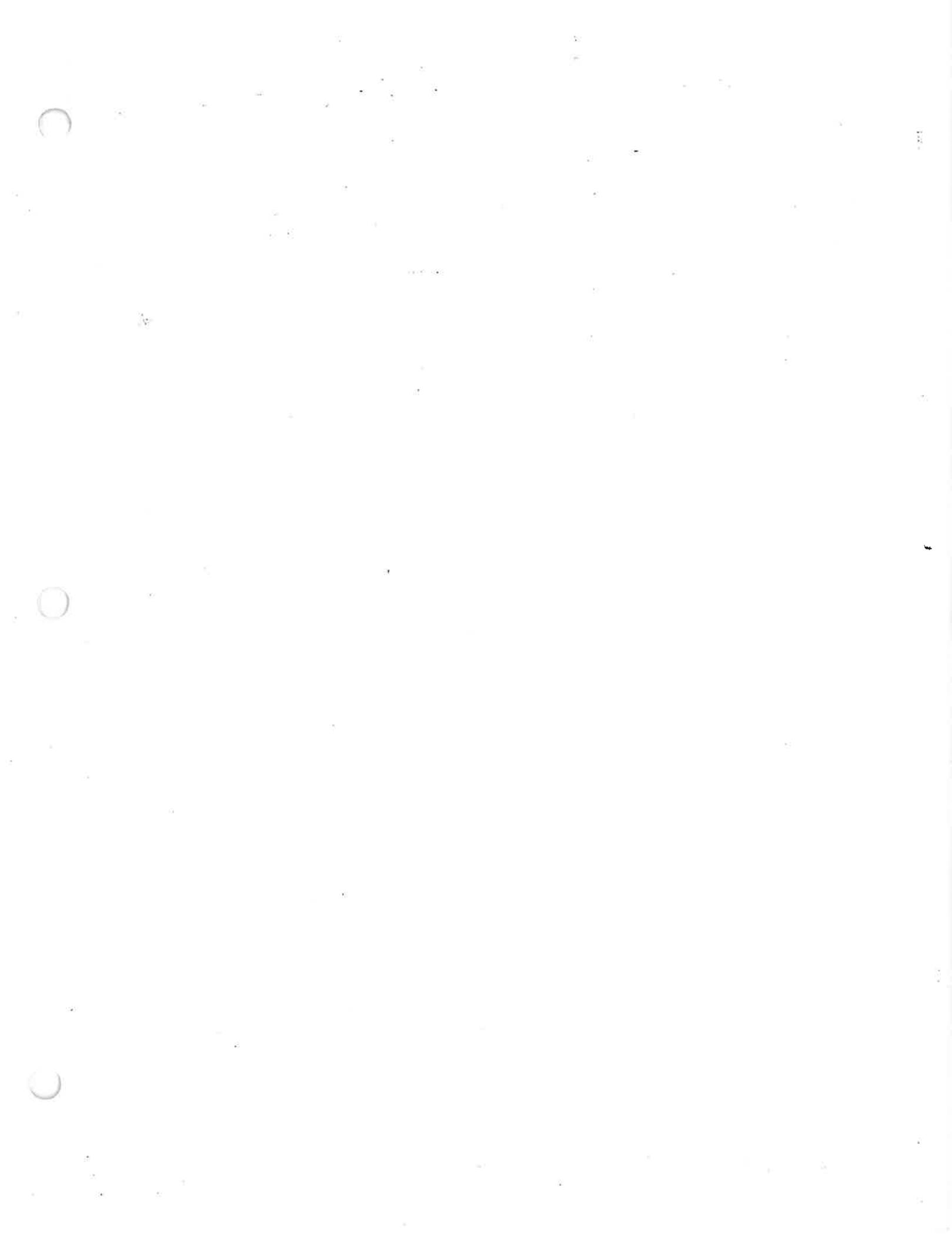
- Transportation and Circulation
- Air Quality
- Hydrology and Water Quality
- Biological Resources
- Public Services
- Hazardous Substances

## ARMY DEPOT DISPOSAL AND REUSE ENVIRONMENTAL IMPACT STATEMENT

The Department of the Army has prepared a Draft Environmental Impact Statement (EIS) in compliance with the National Environmental Policy Act. This EIS considered several land use alternatives for the Army Depot site. The EIS and preliminary analyses prepared pursuant to the National Environmental Policy Act have been used for the development of this DEIR and are incorporated by reference. Copies of the EIS are available for public review at the following locations:

- Sacramento Army Depot, Visitor Control Building, 8350 Fruitridge Road, Sacramento, CA 95813, 9:00 am to 3:00 pm Monday through Friday.
- Sacramento Central Public Library, Governments Documents Department (3rd floor), 828 I Street, Sacramento, CA 95814, 11:00 am to 6:00 pm, Tuesday through Saturday.
- California State University-Sacramento, Library, 2000 Jed Smith Drive, Sacramento, CA 95819, call 278-6926 for hours open.
- George Sim Community Center, 6207 Logan Street, Sacramento, CA 95824, 8:00 am to 8:00 pm, Monday through Friday, and 10:00 am to 2:00 pm Saturday.

## 2. SUMMARY



## 2. SUMMARY

### INTRODUCTION

This summary provides an overview of the proposed Sacramento Army Depot Reuse, which is described in detail in Chapter 3-1, Project Description. This summary also identifies the alternatives to the project that are described in Chapter 4-1, Alternatives to the Proposed Project.

Table 2-1, at the end of the chapter, compiles the environmental effects of the project and the alternatives identified in each technical issue section. The table consists of the environmental impacts, the significance of the impact, the proposed mitigation measure, and the significance of the impact after the mitigation measure is implemented.

### SUMMARY OF PROJECT DESCRIPTION

#### Location

The Army Depot project site is located approximately seven miles southeast of downtown Sacramento. It occupies 485.2 acres and is surrounded by medium to heavy industrial uses. The Sacramento Army Depot site is bounded by Fruitridge Road on the north, Florin Perkins Road on the east, Elder Creek Road on the south, and the Southern Pacific Railroad Tracks on the west. The project site is within the jurisdiction of the City of Sacramento and is located in the South Sacramento Community Plan area.

#### Description

The City of Sacramento proposes to develop a Reuse Plan to enable transfer of the majority of the current Sacramento Army Depot site from federal to private ownership and to facilitate industrial redevelopment of this closing military facility. The Plan will result in 323 acres of industrial land, 79.1 acres of public/quasi public land, and 83 acres designated for open-space. Subject to the availability of financing, the Plan may include the demolition of a substantial portion of the existing buildings on the site. The Plan will enable the development of as much as 3,000,000 square feet of building space. This could result in the employment of as many as 6,000 people, including the 90 anticipated employees for the public/quasi public land. The open-space portion of the site would be utilized for drainage facilities and/or habitat preservation.

### SUMMARY OF PROJECT ALTERNATIVES

The following describes the two alternatives to the proposed project that are evaluated in this Draft EIR:

**Alternative A: No Project Alternative (AA)**

This alternative assumes that no reuse of the Army Depot occurs on the 406.1 acres not designated for public/quasi public use in the proposed project. Development of the public/quasi public area involves land transfer mandated by law and will be unaffected by local reuse planning. Therefore, the 90 anticipated employees in the public/quasi public area serves as the total employment for this alternative.

**Alternative B: Existing Circulation Plan (AB)**

The Employment Center Alternative retains the Public/Quasi Public designation for 79.1 acres. The remaining 406.1 acres are designated as either Employment Center 50 or Employment Center 35. These designations refer to the number of Employees per net acre of land. The intent of the Employment Center designation is to provide a flexible zone for primarily employment generation uses, allowing for any type of development (commercial, industrial, or residential) as long as total intensity (employees per acre) of an area fall at or below the designated intensity (this would apply to the entire designated area of the project, not on a project by project basis). The total employment anticipated for the Army Depot site under the Employment Center Alternative would be approximately 14,600 employees.

**SUMMARY TABLE**

Information in the following table, Table 2-1, Summary of Environmental Impacts, has been organized to correspond with environmental issues discussed in Chapter 6-1. The summary table is arranged in four columns:

- 1) Environmental impacts;
- 2) Level of significance without mitigation;
- 3) Recommended mitigation measures; and
- 4) The level of significance after implementation of mitigation measures.

A series of mitigation measures are noted where more than one mitigation measure may be required to reduce the impact to a less-than-significant level.

The following initials are used to identify the project and alternatives:

PP	=	Proposed Project
AA	=	No Project Alternative
AB	=	Employment Center Alternative

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
<b>6.2 TRANSPORTATION AND CIRCULATION</b>			
<b>6.2-1 Intersection Power Inn Rd/Folsom Blvd (Project Specific)</b>			
PP Traffic generated by the proposed reuse plan would result in a level of service below "C" at the intersection of Power Inn Road/Folsom Boulevard.	S	Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of a southbound through lane on Power Inn Road, a westbound through lane on Folsom Blvd and a westbound left turn lane; or, the construction of an urban interchange grade separation.	LTS
AA The No Project Alternative would result in no new vehicle trips.	NI	None required.	NA
AB Traffic generated by Alternative B would be substantially greater than traffic increases identified for the proposed project.	S	Same as PP.	SU
<b>6.2-2 Intersection at Power Inn Road/14th Avenue (Project Specific)</b>			
PP Traffic generated by the proposed reuse plan would result in a level of service below "C" at the intersection of Power Inn Road/14th Avenue.	S	Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of a southbound right turn lane on Power Inn Road.	LTS
AA The No Project Alternative would result in now new vehicle trips.	NI	None required.	NA
AB Traffic generated by Alternative B would be substantially greater than traffic increases identified for the proposed project.	S	Same as PP.	SU
<b>6.2-3 Intersection at Fruitridge Rd/65th Street (Project Specific)</b>			
PP Traffic generated by the proposed reuse plan would result in a level of service below "C" at the intersection of Fruitridge Rd/65th Street.	S	Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of a southbound left turn lane on 65th Street.	LTS

LTS=Less Than Significant

S=Significant

NI=No Impact

SU=Significant Unavoidable

NA=Not Applicable

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
AA The No Project Alternative would result in new vehicle trips.	NI	None required.	NA
AB Traffic generated by Alternative B would be substantially greater than traffic increases identified for the proposed project.	S	Same as PP.	SU
<b>6.2-4</b> Intersection at Power Inn Road/Fruitridge Road (Project Specific)			
PP Traffic generated by the proposed reuse plan would result in a level of service below "C" at the intersection of Power Inn Road/Fruitridge Road.	S	Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of a right turn lane at the northbound, southbound and eastbound approaches and an additional northbound and southbound through lane on Power Inn Road.	LTS
AA The No Project Alternative would result in no new vehicle trips.	NI	None required.	NA
AB Traffic generated by Alternative B would be substantially greater than traffic increases identified for the proposed project.	S	Same as PP.	SU
<b>6.2-5</b> Intersection at Power Inn Road/Elder Creek Road (Project Specific)			
PP Traffic generated by the proposed reuse plan would result in a level of service below "C" at the intersection of Power Inn Road/Elder Creek Road.	S	Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of a northbound and southbound left turn lane on Power Inn Road and a westbound right turn lane on Elder Creek Road.	LTS
AA The No Project Alternative would result in no new vehicle trips.	NI	None required.	NA
AB Traffic generated by Alternative B would be substantially greater than traffic increases identified for the proposed project.	S	Same as PP.	SU

LTS=Less Than Significant      S=Significant      NI=No Impact      SU=Significant Unavoidable      NA=Not Applicable

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
6.2-6 Power Inn Road/Florin Road (Project Specific)	S	Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of an eastbound and westbound left turn lane on Florin Road and a northbound right turn lane on Power Inn Road.	LTS
PP Traffic generated by the proposed reuse plan would result in a level of service below "C" at the intersection of Power Inn Road/Florin Road.	S		LTS
AA The No Project Alternative would result in no new vehicle trips.	NI	None required.	NA
AB Traffic generated by Alternative B would be substantially greater than traffic increases identified for the proposed project.	S	Same as PP.	SU
6.2-7 Intersection at Elk Grove Florin Road/Fruitridge Road (Project Specific)	S	Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the signalization of the intersection, left turn channelization at all approaches and the addition of southbound right turn lane on Elk Grove Florin Road.	LTS
PP Traffic generated by the proposed reuse plan would result in a level of service below "C" at the intersection of Elk Grove Florin Road/Fruitridge Road.	S		LTS
AA The No Project Alternative would result in no new vehicle trips.	NI	None required.	NA
AB Traffic generated by Alternative B would be substantially greater than traffic increases identified for the proposed project.	S	Same as PP.	SU
6.2-8 Intersection at Elk Grove Florin Road/Elder Creek Road (Project Specific)	S	Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the signalization of the intersection and left turn channelization at all approaches.	LTS
PP Traffic generated by the proposed reuse plan would result in a level of service below "C" at the intersection of Elk Grove Florin Road/Elder Creek Road.	S		LTS
AA The No Project Alternative would result in no new vehicle trips.	NI	None required.	NA

LTS=Less Than Significant      S=Significant      NI=No Impact      SU=Significant Unavoidable      NA=Not Applicable  
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Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
AB Traffic generated by Alternative B would be substantially greater than traffic increases identified for the proposed project.	S	Same as PP.	SU
<b>6.2-9</b> Power Inn Road, Folsom Blvd to Florin Road (Project Specific)			
PP Traffic generated by the proposed reuse plan would result in a level of service below "C" for the roadway segments of Power Inn Road and Folsom Blvd to Florin Road.	S	Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the widening to six travel lanes. Widening will require additional right of way and will impact adjacent development.	LTS
AA The No Project Alternative would result in no new vehicle trips.	NI	None required.	NA
AB Traffic generated by Alternative B would be substantially greater than traffic increases identified for the proposed project.	S	Same as PP.	SU
<b>6.2-10</b> Elder Creek Road, Power Inn Road to Florin Perkins Road (Project Specific)			
PP Traffic generated by the proposed reuse plan would result in a level of service below "C" for the roadway segments of Elder Creek Road and Power Inn Road to Florin Perkins Road.	S	Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the widening to four travel lanes.	LTS
AA The No Project Alternative would result in no new vehicle trips.	NI	None required.	NA
AB Traffic generated by Alternative B would be substantially greater than traffic increases identified for the proposed project.	S	Same as PP.	SU
<b>6.2-11</b> Elk Grove Florin Road, north of Fruitridge Road and south of Elder Creek Road (Project Specific)			
PP Traffic generated by the proposed reuse plan would result in a level of service below "C" for the roadway segments of Elk Grove Florin Road, north of Fruitridge Road and south of Elder Creek Road.	S	Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the widening to four travel lanes.	LTS

LTS=Less Than Significant      S=Significant      NI=No Impact      SU=Significant Unavoidable      NA=Not Applicable

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
AA The No Project Alternative would result in no new vehicle trips.	NI	None required.	NA
AB Traffic generated by Alternative B would be substantially greater than traffic increases identified for the proposed project.	S	Same as PP.	SU
<b>6.2-12 Transit (Project Specific)</b>			
PP Development of the site will increase the need for transit service to the area.	S	<i>Development of a Transportation Management Plan (TMP) is required by City Ordinance. As planning for reuse of the site progresses, development of a comprehensive TMP for the entire site is recommended early in the planning process. This is likely best implemented by forming a Transportation Management Organization (TMO) for the site. As part of this plan, measures to provide adequate transit capacity to the site should be included. Recommended elements of the plan which should be required of the site to address transit needs include: capital expenditure to augment Regional Transit service to the site and provide shuttle service to link the site to the RT Metro line to the north, funding for transit shelters on the site in accordance with RT requirements and pedestrian facilities providing direct access to transit facilities.</i>	LTS
AA The No Project Alternative would result in no new transit needs.	NI	None required.	NA
AB Buildout of Alternative B would result in approximately twice the number of employees on the site compared with the proposed project. Therefore, it is expected that demand for bus and light rail service would similarly be about double that identified for the proposed plan. This demand will result in the need for expanded transit service.	S	Same as PP.	SU

LTS=Less Than Significant

S=Significant

NI=No Impact

SU=Significant Unavoidable

NA=Not Applicable

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
<b>6.2-13 Intersection at Folsom Blvd/Power Inn Road (Cumulative)</b>			
PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road.	S	(a) The City of Sacramento Transportation Division shall develop a capital improvement program to ensure the construction of an eastbound right turn lane or westbound left turn lane on Folsom Blvd.  (b) Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of an eastbound right turn lane or westbound left turn lane on Folsom Blvd.	LTS
AA The No Project Alternative would not add additional traffic to the cumulative scenario.	NI	None required.	NA
AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations.	S	Same as PP.	SU
<b>6.2-14 Intersection at Folsom Blvd/Jackson Hwy (Cumulative)</b>			
PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road.	S	(a) The City of Sacramento Transportation Division shall develop a capital improvement program to ensure the construction of an eastbound left turn lane on Folsom Blvd.  (b) Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of an eastbound left turn lane on Folsom Blvd.	LTS
AA The No Project Alternative would not add additional traffic to the cumulative scenario.	NI	None required.	NA
AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations.	S	Same as PP.	SU

LTS=Less Than Significant      S=Significant      NI=No Impact      SU=Significant Unavoidable      NA=Not Applicable

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
<b>6.2-15 Intersection at Folsom Blvd/Florin Perkins Road (Cumulative)</b>			
PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road.	S	(a) The City of Sacramento Transportation Division shall develop a capital improvement program to ensure the construction of a westbound left turn lane on Folsom Blvd.  (b) Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of a westbound left turn lane on Folsom Blvd.	LTS
AA The No Project Alternative would not add additional traffic to the cumulative scenario.	NI	None required.	NA
AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations.	S	Same as PP.	SU
<b>6.2-16 Intersection at Power Inn Road/14th Avenue (Cumulative)</b>			
PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road.	S	(a) The City of Sacramento Transportation Division shall develop a capital improvement program to ensure the construction of a southbound right turn lane or a northbound left turn lane on Power Inn Road.  (b) Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of a southbound right turn lane or a northbound left turn lane on Power Inn Road.	LTS
AA The No Project Alternative would not add additional traffic to the cumulative scenario.	NI	None required.	NA
AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations.	S	Same as PP.	SU

LTS=Less Than Significant      S=Significant      NI=No Impact      SU=Significant Unavoidable      NA=Not Applicable

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
<b>6.2-18 Intersection at Fruitridge Road/65th Street (Cumulative)</b>			
PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road.	S	Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete an additional (3rd) northbound through lane on 65th Street.	LTS
AA The No Project Alternative would not add additional traffic to the cumulative scenario.	NI	None required.	NA
AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations.	S	Same as PP.	SU
<b>6.2-19 Intersection at Fruitridge Road/Power Inn Road (Cumulative)</b>			
PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road.	S	Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of an eastbound right turn lane on Fruitridge Road.	LTS
AA The No Project Alternative would not add additional traffic to the cumulative scenario.	NI	None required.	NA
AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations.	S	Same as PP.	SU
<b>6.2-20 Intersection at Fruitridge Road/Florin Perkins Road (Cumulative)</b>			
PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road.	S	Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of a northbound left turn lane on Florin Perkins Road.	LTS
AA The No Project Alternative would not add additional traffic to the cumulative scenario.	NI	None required.	NA

LTS=Less Than Significant      S=Significant      NI=No Impact      SU=Significant Unavoidable      NA=Not Applicable

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations.	S	Same as PP.	SU
<b>6.2-21 Intersection at Fruitridge Road/Elk Grove Florin Road (Cumulative)</b>			
PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road.	S	Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of an eastbound left turn lane on Fruitridge Road.	LTS
AA The No Project Alternative would not add additional traffic to the cumulative scenario.	NI	None required.	NA
AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations.	S	Same as PP.	SU
<b>6.2-22 Intersection at Elder Creek Road/65th Street (Cumulative)</b>			
PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road.	S	Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of a westbound left turn lane on Elder Creek Road.	LTS
AA The No Project Alternative would not add additional traffic to the cumulative scenario.	NI	None required.	NA
AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations.	S	Same as PP.	SU
<b>6.2-23 Intersection at Elder Creek Road/Power Inn Road (Cumulative)</b>			
PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road.	S	Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of an eastbound left turn lane and a westbound right turn lane on Elder Creek Road.	LTS

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Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
AA The No Project Alternative would not add additional traffic to the cumulative scenario.	NI	None required.	NA
AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations.	S	Same as PP.	SU
<b>6.2-24 Intersection at Elder Creek Road/Florin Perkins Road (Cumulative)</b>			
PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road.	S	Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of a third southbound through lane and a northbound left turn lane on Florin Perkins Road.	LTS
AA The No Project Alternative would not add additional traffic to the cumulative scenario.	NI	None required.	NA
AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations.	S	Same as PP.	SU
<b>6.2-25 Intersection at Elder Creek Road/Elk Grove Florin Road (Cumulative)</b>			
PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road.	S	Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of a westbound left turn lane on Elder Creek Road.	LTS
AA The No Project Alternative would not add additional traffic to the cumulative scenario.	NI	None required.	NA
AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations.	S	Same as PP.	SU

LTS=Less Than Significant      S=Significant      NI=No Impact      SU=Significant Unavoidable      NA=Not Applicable

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
<b>6.2-26 Intersection at Florin Road/Power Inn Road (Cumulative)</b>			
PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road.	S	<i>Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of an eastbound left turn lane and a westbound left turn lane on Florin Road.</i>	LTS
AA The No Project Alternative would not add additional traffic to the cumulative scenario.	NI	None required.	NA
AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations.	S	Same as PP.	SU
<b>6.2-27 Roadway Operations (Cumulative)</b>			
PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road.	S	None available.	SU
AA The No Project Alternative would not add additional traffic to the cumulative scenario.	NI	None required.	NA
AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations.	S	None available.	SU
<b>6.2-28 Fruitridge Road (Cumulative)</b>			
PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road.	S	<i>Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of six travel lanes. This improvement need is also as identified to accommodate cumulative base conditions without development of the proposed reuse plan. Widening will require additional right of way and may impact adjacent development.</i>	LTS
AA The No Project Alternative would not add additional traffic to the cumulative scenario.	NI	None required.	NA

LTS=Less Than Significant      S=Significant      NI=No Impact      SU=Significant Unavoidable      NA=Not Applicable

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations.	S	Same as PP.	SU
6.2-29 Elder Creek Road, 65th Street to Power Inn Road (Cumulative)			
PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road.	S	Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of six travel lanes. This improvement need is also as identified to accommodate cumulative base conditions without development of the proposed reuse plan. Widening will require additional right of way and may impact adjacent development.	LTS
AA The No Project Alternative would not add additional traffic to the cumulative scenario.	NI	None required.	NA
AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations.	S	Same as PP.	SU
6.2-30 65th Street, south of Elder Creek Road (Cumulative)			
PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road.	S	Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of six travel lanes.	LTS
AA The No Project Alternative would not add additional traffic to the cumulative scenario.	NI	None required.	NA
AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations.	S	Same as PP.	SU

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Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
6.2-31 Power Inn Road, Folsom Blvd to Elder Creek Road (Cumulative)			
PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road.	S	Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of six travel lanes. Widening will require additional right of way and may impact adjacent development.	LTS
AA The No Project Alternative would not add additional traffic to the cumulative scenario.	NI	None required.	NA
AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations.	S	Same as PP.	SU
6.2-32 Florin Perkins Road, north of Fruitridge Road (Cumulative)			
PP Traffic generated by the proposed reuse plan would result in an unacceptable level of service for Florin Perkins Road, north of Fruitridge Road.	S	Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of six travel lanes. This improvement need is also as identified to accommodate cumulative base conditions without development of the proposed reuse plan. Widening will require additional right of way and may impact adjacent development.	LTS
AA The No Project Alternative would result in no new vehicle trips.	NI	None required.	NA
AB Traffic generated by Alternative B would be substantially greater than traffic increases identified for the proposed project.	S	Same as PP.	SU
6.2-33 Elk Grove Florin Road, north of Fruitridge Road and south of Elder Creek Road (Cumulative)			
PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road.	S	Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of six travel lanes.	LTS

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
AA The No Project Alternative would not add additional traffic to the cumulative scenario.	NI	None required.	NA
AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations.	S	Same as PP.	SU

LTS=Less Than Significant    S=Significant    NI=No Impact    SU=Significant Unavoidable    NA=Not Applicable

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
<b>6.3 AIR QUALITY</b>			
6.3-1 Ozone (Project Specific)	S	<p>The City of Sacramento shall incorporate the following air quality mitigation measures into the Special Planning District (SPD) guidelines developed for the Final Army Depot Reuse Plan. These measures were identified by the SMAQMD in their Draft Air Quality Thresholds of Significance.</p> <ul style="list-style-type: none"> <li>Bicycle lockers or racks should be available at all buildings.</li> <li>Multiple and direct access routes, access routes connecting clearly defined origins and destinations, safe access routes providing buffers from automobile travel, proper lighting and clearly defined paths, and a heterogeneous land use mix incorporated into or located immediately adjacent to the project should be provided to the project's building.</li> <li>If feasible, the project's buildings should be within 1,500 feet of a transit stop. The transit headways shall be equal to or greater than thirty minutes. There should be bench, route information, and bike locker(s) transit stops within 1,500 feet of these areas.</li> <li>Preferential parking spaces for carpools/carpools should be located closer to employee entrances than single occupant vehicle parking.</li> </ul>	SU
PP Vehicle trips associated with the proposed project will generate ROG and NO <sub>x</sub> emissions that would contribute to an increase in regional ozone levels. The traffic associated with use of the project site is estimated to produce 484.8 pounds per day of ROG, while producing 453.1 pounds per day pounds of NO <sub>x</sub> (Table 6.3-5). Because Sacramento is a non-attainment area for ozone, this increase of ozone precursors over the existing setting is considered a <i>significant impact</i> .			
AA The No Project Alternative would have no increase on ROG and NO <sub>x</sub> emissions.	NI	None required.	NA

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
AB Vehicle trips associated with Alternative B are estimated to produce 1163.3 pounds per day of ROG and 1143.0 pounds per day of NO <sub>x</sub> (Table 6.3-5). This would contribute to an increase of ozone levels over the existing setting.	S	Same as PP.	SU
<b>6.3-2 Ozone (Cumulative)</b>			
PP Implementation of the proposed project in conjunction with buildout of the Sacramento region would increase the level of ozone precursors. Table 6.3-6 shows the percent of total emissions that can be expected from the project when compared with expected cumulative regional emissions for ozone precursors. The cumulative impact on regional ozone represents an unavoidable adverse impact, which would hinder the SMAQMD ability to meet the attainment standards for O <sub>3</sub> . The proposed project traffic in conjunction with the traffic from the buildout of the General Plan would result in a <i>significant impact</i> .	S	None available.	SU
AA The traffic associated with Alternative A would not produce additional ROG and/or NO <sub>x</sub> emissions.	NI	None required.	NA

LS=Less than Significant    S=Significant    NI=No Impact    SU=Significant Unavoidable    NA=Not Applicable

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
<p>AB The increase in traffic associated with Alternative B would contribute ROG and NO<sub>x</sub> emissions greater than previously evaluated in the SGPU DEIR (see Table 6.3-6). NO<sub>x</sub> emissions were overridden with adoption of the General Plan. The cumulative impact on regional ozone represents an unavoidable adverse impact which reduces the ability for the SMAQMD to meet the attainment standards for ozone. The traffic associated with Alternative B, in conjunction with the traffic from the buildout of the General Plan, would result in a <i>significant impact</i>.</p>	S	None available.	SU
<p>6.3-3 Intersection Analysis for Carbon Monoxide (Project Specific)</p>			
<p>PP The proposed project would not result in a violation of state or federal standards. As shown in Tables 6.3-7 and 6.3-8, vehicle emissions through the six intersections would result in a CO concentration increase above the no project concentrations at two intersections. The maximum increase due to the project is 0.1 parts per million.</p>	LTS	None required.	NA
<p>AA The traffic associated with the No Project Alternative would not increase trips in the project site area; therefore, no increase would result in CO concentrations and no impact would occur.</p>	NI	None required.	NA

LS=Less than Significant    S=Significant    NI=No Impact    SU=Significant Unavoidable    NA=Not Applicable

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
<p>AB Alternative B would exceed the state eight-hour standard at the intersection of Power Inn Road and Folsom Boulevard. Alternative B would result in a higher traffic volume through the intersection of Power Inn Road and Folsom Boulevard than the proposed project. The proposed project results in an eight-hour CO concentration of 9.0 parts per million (ppm) at the intersection of Power Inn Road and Folsom Boulevard. Therefore, Alternative B would most likely result in an exceeding of the state eight-hour CO standard of 9.0 ppm.</p>	S	None available.	SU
<p><b>6.3-4 Intersection Analysis for Carbon Monoxide (Cumulative)</b></p>			
<p>PP As shown in Tables 6.3-7 and 6.3-8, vehicle trips associated with the proposed project in conjunction with the total vehicle trips projected for the region would not violate the state or federal one-hour or eight-hour standards at any of the intersections analyzed.</p>	LTS	None required.	NA
<p>AA The No Project Alternative would not contribute to a cumulative exceedence of CO concentrations as shown in Tables 6.3-7 and 6.3-8.</p>	NI	None required.	NA

LS=Less than Significant    S=Significant    NI=No Impact    SU=Significant Unavoidable    NA=Not Applicable  
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Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
<p>AB Vehicle trips associated with Alternative B, in conjunction with the vehicle trips resulting from the buildout of the General Plan, would exceed the state eight-hour standard at the intersection of Power Inn Road and Folsom Boulevard. Alternative B would result in a higher traffic volume through the intersection of Power Inn Road and Folsom Boulevard than the proposed project. The proposed project results in an eight-hour CO concentration of 9.0 parts per million (ppm) at the intersection of Power Inn Road and Folsom Boulevard. Therefore, Alternative B would most likely result in an exceeding the state eight-hour CO standard of 9.0 ppm.</p>	S	None available.	SU
<p><b>6.3-5 Particulate Matter (Project Specific-Operational)</b></p>			
<p>PP The traffic associated with the proposed project will result in 1017.8 pounds per day of PM<sub>10</sub> (see Table 6.3-9). An increase of PM<sub>10</sub> levels would impact surrounding land uses, motorists, and pedestrians. Sacramento is considered a non-attainment area for PM<sub>10</sub>.</p>	S	None available.	SU
<p>AA The No Project Alternative will not increase the PM levels along the project site. Therefore, no impact would occur.</p>	NI	None required.	NA
<p>AB The traffic associated with Alternative B will result in 2,794.8 pounds per day of PM<sub>10</sub> (see Table 6.3-9). An increase of PM<sub>10</sub> levels would impact surrounding land uses, motorists, and pedestrians. Sacramento is considered a non-attainment area for PM<sub>10</sub>.</p>	S	None available.	SU

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
<b>6.3-6 Particulate Matter (Project Specific - Construction)</b>			
PP Construction of the proposed project could potentially result in various short-term construction PM <sub>10</sub> emissions from new industrial and public/quasi public land uses. Exhaust and fugitive dust from grading equipment, employee trips, stationary equipment, and mobile equipment could result in significant PM <sub>10</sub> impacts which would reduce SMAQMD's ability to achieve attainment for PM <sub>10</sub> . The largest portion of PM <sub>10</sub> could be produced by grading equipment.	S	<p>The City of Sacramento shall apply the following dust reducing mitigation measures on a project-by-project basis for any development applications for the Army Depot site.</p> <ul style="list-style-type: none"> <li>■ The contractors shall continuously, on an as-needed basis, water all earth surfaces during clearing, grading, earthmoving and other site preparation activities.</li> <li>■ The contractors shall use tarpaulins or other effective covers for haul trucks that travel on public streets.</li> <li>■ The contractors shall sweep streets within and adjacent to the project at the end of the day as needed.</li> <li>■ The contractors shall schedule clearing, grading and earthmoving activities during periods of low wind speeds, and restrict those construction activities during high wind conditions as determined SMAQMD.</li> <li>■ The contractors shall control construction and site vehicle speed to 15 mph on unpaved roads.</li> <li>■ The contractors shall minimize open burning of wood and vegetative waste materials from both construction and operation of the project. No open burning shall occur unless it can be demonstrated to the SMAQMD that alternatives have been explored. These alternatives may include, but are not limited to chipping, mulching and conversion to biomass fuel. For any open burning, an AQMD permit must first be obtained in conformance with AQMD Rules and Regulations.</li> </ul>	LTS
AA The No Project Alternative will not result in construction activities.	NI	None required.	NA

LS=Less than Significant S=Significant NI=No Impact SU=Significant Unavoidable NA=Not Applicable

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
AB Construction of Alternative B could potentially result in various short-term construction PM <sub>10</sub> emissions from new employment center land uses. Exhaust and fugitive dust from grading equipment, employee trips, stationary equipment, and mobile equipment could result in significant PM <sub>10</sub> impacts which would reduce SMAQMD's ability to achieve attainment for PM <sub>10</sub> . The largest portion of PM <sub>10</sub> could be produced by grading equipment.	S	Same as PP.	LTS
6.3-7 Particulate Matter (Cumulative)			
PP The traffic associated with the proposed project and cumulative development will result in increased levels of PM <sub>10</sub> . An increase of PM <sub>10</sub> levels would impact surrounding land uses, motorists, and pedestrians. An increase of PM <sub>10</sub> would also reduce the ability for the SVAB to meet the attainment standards for PM <sub>10</sub> . The proposed project was identified as having a significant impact to project specific PM <sub>10</sub> problems.	S	None available.	SU
AA The No Project Alternative will not increase the PM levels along the project site.	NI	None required.	NA

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
<p>AB The traffic associated with Alternative B will contribute to the cumulative increase in PM<sub>10</sub> levels. An increase of PM<sub>10</sub> levels would impact surrounding land uses, motorists, and pedestrians. The cumulative impact of regional PM<sub>10</sub> would reduce the ability of the SMAQMD to meet the attainment standards for PM<sub>10</sub>. Alternative B was identified as having a significant impact to project specific PM<sub>10</sub> problems.</p>	S	None available.	SU

LS=Less than Significant      S=Significant      NI=No Impact      SU=Significant Unavoidable      NA=Not Applicable  
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Table 2-1 - Summary of Impacts and Mitigation Measures

Level of Significance  
After Mitigation

Level of Significance  
Prior to Mitigation

Impact

Mitigation  
Measure(s)

6.4 HYDROLOGY AND WATER QUALITY

6.4-1 Hydrology-Site Flooding (Project Specific)

PP Approval of the proposed project could allow development within the 100-year flood plain. However, any new construction must be developed in compliance with the City of Sacramento Flood Control Policy for development within the 100-year flood plain (A99 Zone).

None required.

LTS

NA

AA The No Project Alternative would not include future development within the 100-year flood plain.

None required.

LTS

NA

AB Alternative B could include new development within the 100-year flood plain. However, any new construction must be developed in compliance with the City of Sacramento Flood Control Policy for development within the 100-year flood plain (A99 Zone).

None required.

LTS

NA

6.4-2 Hydrology-Drainage Facility Capacity Impact (Project Specific)

PP Implementation of the proposed project could result in the construction of new impervious surfaces.

S

LTS

The City of Sacramento shall review each development application for the Army Depot site for effects on drainage facility capacity. Each project reviewed shall identify the rate and amount of surface water runoff generated by proposed development and the effects on drainage facility capacity. Modifications to existing facilities and new facilities to regulate rate and volume of runoff released to Morrison Creek shall be identified, and each project shall pay a fair share portion of any improvement identified. Drainage facilities could include, but would not be limited to:

(a) The expansion or modification of existing storm drain facilities;

(b) Single-project detention basins; or

(c) The preservation of natural drainage areas.

LTS=Less Than Significant

S=Significant

NI=No Impact

SU=Significant Unavoidable

NA=Not Applicable

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
AA The No Project Alternative would not result in additional construction of impervious surfaces; therefore, there would be no associated increase in surface water runoff.	NI	None required.	NA
AB Implementation of the Alternative B could include construction of new impervious surfaces over the existing 226 acres of undeveloped land on the Army Depot site. An increase in impervious surface would result in an increase in the rate and volume of storm water runoff. As identified for the proposed project, the increase could exceed the existing drainage system capacity or contribute to local flooding in the Morrison Creek Drainage Basin.	S	Same as PP.	LTS
<b>6.4-3 Hydrology-Drainage Facility Capacity Impact (Cumulative)</b>			
PP Development of the proposed project, in conjunction with the urban development in the Morrison Creek watershed, would increase the amount of impervious surface, increasing the rate and amount of surface water runoff entering the existing drainage system. Increased surface water runoff could exceed existing drainage system capacity and contribute to localized flooding.	S	<p>(a) The City of Sacramento shall continue to coordinate with the United States Army Corps of Engineers and the County of Sacramento to assess the level of flood protection provided by the Morrison Creek Flood Control System.</p> <p>(b) The City of Sacramento shall participate in the development of alternatives to increase the capacity of the Morrison Creek Flood Control System to accommodate existing flows, and flows which would result from future development. These alternatives may include, but are not limited to, the following:</p> <ul style="list-style-type: none"> <li>i) raising levees,</li> <li>ii) channel widening,</li> <li>iii) floodwalls; and</li> <li>iv) detention basins.</li> </ul> <p>(c) Since it is highly unlikely that 100-year level of protection will be attained on Morrison Creek prior to Depot redevelopment, mitigation for increased peak flow rate and volume is required. The detailed drainage study as required in project specific mitigation (6.4-2) shall identify the stormwater management facilities to regulate rate and volume of runoff released to Morrison Creek.</p>	

LTS=Less Than Significant  
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S=Significant

NI=No Impact

SU=Significant Unavoidable  
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NA=Not Applicable

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
PP Development of the proposed project would include the construction of roadways and structures which would involve grading, excavation or other construction-related activities which could cause soil erosion at an accelerated rate during storm events. As previously described, sediment from erosion can have long and short-term effects on water quality in affected streams including adverse impacts on fish and wildlife habitat, reduced water pump life due to abrasion, increased municipal/industrial water treatment costs for turbidity removal, impaired recreation and aesthetic values, and increased flooding hazard due to reduced channel capacity.	S	(a) For construction activities which will disturb five acres or more of land, the project applicant shall file a Notice of Intent for coverage and comply with requirements contained in the State General Construction Activity Storm Water Permit. All erosion, sediment and pollution control measures to be implemented shall be approved by the City's Department of Utilities prior to the commencement of construction activities.  (b) Staging of heavy equipment shall be established so that spills of oil, grease or other petroleum by-products shall not be discharged into the stream course. All machinery shall be properly maintained and cleaned to prevent spills.	NA
AA Because there would be no construction with the No Project Alternative, there would be no contribution to a cumulative water quality impact.	NI	None required.	NA
AB Development under Alternative B would have the same cumulative impact as the proposed project, including the construction of roadways and structures which would involve grading, excavation or other construction-related activities which could cause soil erosion at an accelerated rate during storm events. As previously described, sediment from erosion can have long and short-term effects on water quality in affected streams including adverse impacts on fish and wildlife habitat, reduced water pump life due to abrasion, increased municipal/industrial water treatment costs for turbidity removal, impaired recreation and aesthetic values, and increased flooding hazard due to reduced channel capacity.	S	Same as PP	SU
<b>6.4-6 Water Quality-Surface Runoff (Project Specific)</b>			
PP Implementation of the proposed project could generate increased rates of surface runoff. Increased rates of surface runoff associated with additional impervious surfaces could alter existing receiving water quality.	LTS	None required.	NA

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Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
AA The No Project Alternative does not include any new development and would not contribute to a cumulative drainage impact.	NI	None required.	NA
AB Development of Alternative B, in conjunction with the urban development in the Morrison Creek watershed, would increase the amount of impervious surface, increasing the rate and amount of surface water runoff entering the existing drainage system. The magnitude of this impact is the same as that with the proposed project. Increased surface water runoff could exceed existing drainage system capacity and contribute to localized flooding.	S	Same as PP.	
<b>6.4-4 Water Quality-Construction (Project Specific)</b>			
PP Implementation of the proposed project or any of the alternatives could include the construction of and demolition of buildings and other structures on the site which would involve grading, excavation or other construction-related activities which could cause soil erosion at an accelerated rate during storm events.	LTS	None required.	NA
AA The No Project Alternative would not result in any construction activities, therefore, there would be no adverse affects to receiving water quality.	NI	None required.	NA
AB Implementation of Alternative B would be similar to the impact identified in the proposed project. Potential construction related activities for development of Alternative B would be performed in compliance with the City of Sacramento Grading, Erosion and Sediment Control Ordinance, and would be required to file for a Notice of Intent for coverage with requirements contained in the State General Construction Activity Storm Water Permit.	LTS	None required.	NA
<b>6.4-5 Water Quality-Construction (Cumulative)</b>			

**Table 2-1 - Summary of Impacts and Mitigation Measures**

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
AA The No Project Alternative would not result in new impervious surfaces; therefore, there would be no adverse effects on receiving water quality.	NI	None required.	NA
AB Implementation of Alternative B would add approximately the same amount of impervious surfaces as the proposed project.	LTS	None required.	NA
<b>6.4-7 Water Quality-Surface Runoff (Cumulative)</b>			
PP Development of the proposed project, in conjunction with other development within the Morrison Creek watershed, could alter the existing receiving water quality.	S	<i>Prior to issuance of any building permits for new construction within the Morrison Creek watershed the City of Sacramento shall ensure that each project proponent include as part of the project design Best Management Practices, approved by the City's Utilities Department and in compliance with the City's NPDES permit, which mitigate for urban contaminants in storm water runoff.</i>	NA
AA The No Project Alternative would not result in any new development.	NI	None required.	NA
AB Development of Alternative B, in combination with other development in the Morrison Creek watershed, would increase the amount of impervious surface. The associated increase in surface runoff would most likely contain heavy metals, oil, grease, petroleum by-products, and nutrients at levels which exceed existing conditions, and adversely affect water quality in Morrison Creek. This impact would be the same level of magnitude as that of the proposed project.	S		

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
<b>6.5 BIOLOGICAL RESOURCES</b>			
<b>6.5-1 Loss of Wetland Habitat</b>			
PP Several areas on the Army Depot site have been identified as containing ponded water. Most of these ponds have formed in the recreation areas of the Army Depot site, and the ponds are considered small in size. Figure 6.5-3 identifies the areas considered as potential wetlands are only identified along the western edge of the Army Depot property. This area has been designated as habitat preservation reserve in the proposed Sacramento Army Depot Reuse Plan, and this area is not anticipated to be disturbed throughout the development of the project site.	LTS	None required.	NA
AA The No Project Alternative would not result in any impacts to wetland resources.	NI	None required.	NA
AB Alternative B does not include the preservation of the potential wetlands along the western edge of the Army Depot property. The development of the site under this alternative could result in the fill or alteration of wetlands. These wetland areas may be considered waters of the United States and, therefore, fall under the jurisdiction of the U.S. Army Corps of Engineers (ACOE) pursuant to Section 404 of the Clean Water Act.	S	(a) Prior to the approval of any development on the Army Depot site, the City of Sacramento shall review the project for the occurrence of any wetland areas that may be disturbed or lost due to construction activities. If the City of Sacramento determines that wetlands would not be affected by the construction of the proposed project, then no further mitigation would be required for the loss of wetland habitat  (b) If the City of Sacramento determines that a development application for the Army Depot site could affect known or existing wetlands, the applicant for the roadway project shall consult with the Army Corps of Engineers and the Department of Fish and Game to obtain the appropriate permits.	LTS
<b>6.5-2 Swainson's Hawk Foraging Habitat</b>			
LTS=Less Than Significant	S=Significant	NI=No Impact	NA=Not Applicable

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
PP Based on CDFG mitigation guidelines for the Swainson's hawk, a site may provide suitable foraging habitat if a known nesting territory is within a 10-mile radius and the site contains fallow field/annual grassland type habitat. Section 2080 of the Fish and Game Code prohibits the take of threatened species. CDFG considers loss of suitable foraging habitat as a "take." However, Swainson's hawk nesting territories have not been identified near the Army Depot and the grasslands on the site are surrounded by development and are not considered high-quality foraging habitat.	LTS	None required.	NA
AA The No Project Alternative would not result in impacts to the existing site or result in a loss of potential Swainson's hawk foraging habitat.	NI	None required.	NA
AB Alternative B could result in the loss of grasslands; however, these areas are not considered high-quality Swainson's hawk foraging habitat.	LTS	None required.	NA
<b>6.5-3 Burrowing Owls</b>			
PP The Army Depot site provides suitable habitat for burrowing owls. During species surveys on the Army Depot, burrowing owls were observed on the western and central portions of the project site. Burrowing owls may continue to colonize on the site prior to implementation of the project and would likely be impacted during any earth moving activities. The proposed project designates approximately 83 acres of the site as Open Space, of which approximately 64 acres has been identified as habitat preservation area. This area contains the majority of the known and presumed nests on the project site. However, other nests exist on the site and may be affected by future development on the site.	S	(a) Prior to the approval of any development project on the Army Depot site, the City of Sacramento shall review the project for the occurrence of any burrowing owls nest that may be disturbed or lost due to construction activities. If the City of Sacramento determines that burrowing owl nests would not be affected by the construction of the proposed project, then no further mitigation would be required.  (b) If the City of Sacramento determines that the construction of a proposed development project may affect a known or existing burrowing owl nest, the project applicant shall consult with DFG and/or USFWS in order to conduct a burrowing owl survey. This survey shall be conducted on the project site by a qualified biologist in accordance with the most current DFG/USFWS guidelines or protocols and shall be completed during the appropriate survey period. If the species specific surveys do not identify any burrowing owl habitats or burrowing owls on the project site, then no further mitigation would be required.	LTS

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Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
AA The No Project Alternative would not result in development of the existing site.	NI	None required.	NA
AB Alternative B would include development that could affect burrowing owls and burrowing owl habitat. Alternative B does not include the designation of Open Space and habitat preservation area along the western edge of the property like the proposed project; therefore, this alternative is anticipated to have a greater impact on burrowing owls.	S	Same as PP.	LTS
(c) <i>If burrowing owls or burrowing owl habitat are identified within an area that may be disturbed by the construction of the project, then the project applicant, in consultation with the City of Sacramento, DFG, and USFWS, shall prepare and implement a mitigation plan in accordance with any applicable State and/or Federal statutes or laws that reduces the impact to a level of insignificance.</i>			
6.5-4 Special-Status Shrimp	LTS	None required.	NA
PP Special Status Shrimp have been identified on the Army Depot site. There are three special-status freshwater invertebrates that potentially occur in the study area. Special-status freshwater shrimp have been identified in areas that may be developed in the future; however, the majority of the shrimp species are located on the western edge of the Army Depot site. This area has been designated as a habitat preservation area in the Army Depot Reuse Plan and will be protected and enhanced so that the species will not be disturbed throughout the development of the project site.	NI	None required.	NA
AA The No Project Alternative does not include construction activities that would impact any potential special status freshwater shrimp species habitat.	NI	None required.	NA

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Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
AB Implementation of Alternative B does not include the designation of a habitat conservation area that would protect the special status shrimp species on the site.	S	(a) Prior to the approval of any development projects on the Army Depot site, the City of Sacramento shall review the project for the occurrence of any wetland areas that may be disturbed or lost due to construction activities. If the City of Sacramento determines that wetlands would not be affected by the construction of the proposed project, then no further mitigation would be required for the loss of special status invertebrate and vertebrate species.  (b) If the City of Sacramento determines that the construction of the project could affect known or existing wetlands, the project applicant shall consult with DFG and/or USFWS and shall conduct species specific surveys for special status shrimp species. Surveys shall be conducted on the project site by a qualified biologist in accordance with the most current DFG/USFWS guidelines or protocols and shall be completed during the appropriate survey period. If the species specific surveys do not identify any special status shrimp species on the project site, then no further mitigation would be required for the loss of these species.  (c) If a special status shrimp species is identified within the area to be disturbed by the construction of the roadway, then the project applicant, in consultation with the City of Sacramento, DFG, and USFWS, shall prepare and implement a mitigation plan in accordance with any applicable State and/or Federal statutes or laws that reduces the impact to a level of insignificance.	LTS
6.5-5 Loss of Wetland Habitat (Cumulative)			
PP The proposed project is not anticipated to add to the cumulative loss of wetlands in the Sacramento area. The proposed project includes 64 acres of habitat preservation area, which includes the potential wetlands identified on the site.	LTS	None required.	NA
AA The No Project Alternative will not contribute to the cumulative loss of wetland habitat; therefore, no impact would occur.	NI	None required.	NA
AB Alternative B does not include the designation of a habitat preservation area and would add to the cumulative loss of wetlands in the Sacramento area.	S	None available.	SU

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NA=Not Applicable

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
6.5-6 Loss of Wildlife Habitat (Cumulative)			
PP The proposed project in conjunction with cumulative development will potentially result in the loss of wildlife habitat.	S	None available.	SU
AA The No Project Alternative will not contribute to the loss cumulative loss of wildlife habitat.	NI	None required.	NA
AB The proposed project in conjunction with cumulative development will potentially result in the loss of Swainson's Hawk foraging habitat.	S		

LTS=Less Than Significant S=Significant NI=No Impact SU=Significant Unavoidable NA=Not Applicable  
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Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
<b>6.6 PUBLIC SERVICES</b>			
6.6-1 Water Supply System (Project Specific)			
PP Approval of the proposed project would allow additional industrial development to occur on the site. This would require water supply for both industrial uses and fire suppression. The existing system would need to be upgraded to meet the anticipated domestic and fire protection water demand on the Army Depot site.	S	Prior to the issuance of any occupancy permits for the Army Depot site, the City of Sacramento shall review each development application to determine whatever adequate water supply is available. If adequate water supplies are not available, the City of Sacramento shall require that water supply infrastructure improvements be constructed to adequately serve each project. The City of Sacramento shall require each project to pay its fair share of any on-site improvements necessary to serve the entire site. These on-site infrastructure improvements may include an additional connection from the City's 30-inch main along Fruitridge Avenue or from the 24-inch main along Elder Creek Road.	LTS
AA With the No Project Alternative the site would remain under caretaker status and no reuse of the Army Depot would occur. There would be no additional demand for water or for on-site water capacity.	NI	None required.	NA
AB As a result of the increased employment levels anticipated under Alternative B, the demand for water under this alternative would be higher than the proposed project. The modifications to the internal water distribution system required for the proposed project would also be required for this alternative.	S	Same as PP.	LTS

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
6.6-2 Wastewater Conveyance and Treatment Impacts on Collection/Interceptor Facilities and SRWTP (Project Specific)			
PP Assuming the Sacramento County wastewater standards for commercial/industrial land uses of an average dry-weather flow of 1,550 gallons per acre per day, and 2,750 gallons per acre per day peak wet-weather, the 402 developed acres at the Army Depot site would generate an estimated peak flow of 1.1 mgd of wastewater. The site is served by the Sacramento Regional Wastewater Treatment Plant (SRWTP). This plant is currently undergoing expansion, and is projected to have adequate capacity to accommodate growth within its service area through the year 2010. However, the permitted hydraulic capacity of the Army Depot site is 17 mgm, and this would not be adequate to serve the future development potential of the site. Additionally, the on-site sewage collection system will need to be upgraded, and the system would need to be extended to serve the southerly portion of the site (Willdan, 1993).	S	<i>Prior to the issuance of any occupancy permits for the Army Depot site, the City of Sacramento shall review each development application to determine whether an adequate waste water infrastructure is available to the project site. If an adequate waste water infrastructure is not available, the City of Sacramento shall require that a wastewater infrastructure improvement be constructed to adequately serve each project. The City of Sacramento shall require each project to pay its fair share of any on-site improvements necessary to serve the entire site.</i>	LTS
AA Under the No Project Alternative no reuse of the site would occur, and the site would remain in caretaker status. Due to the anticipated lower level of activity, the wastewater flows from the site would be reduced, and no modification of the wastewater system would be required.	NI	None required.	NA

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Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
<p>AB Under this alternative wastewater flows would be slightly higher than the proposed projected due to the higher on-site employment levels, but would still be within the projected capacity of the SRWTP. The anticipated need to improve and expand the on-site sewage collection system would also be required under this alternative, and this alternative would also require special consideration to identify specific high wastewater dischargers and their effect on the on-site sewage collection system (Willdan, 1993). Future development under this alternative would also exceed the current permitted discharge limits of the Army Depot site from the Sacramento Regional County Sanitation District, and require further permitting from this agency.</p>	S	Same as PP.	LTS
<p><b>6.6-3 Solid Waste Generation (Project Specific)</b></p>			
<p>PP Assuming a generation rate of 130 pounds per day per acre, the proposed project would generate an additional 52,260 pounds of solid waste to be disposed of at the County's Kiefer Boulevard Landfill. In addition, demolition of the existing structures on the Army Depot site would result in the disposal of construction wastes at the County Landfill. These increased flows to the solid waste stream would occur on a temporary basis.</p>	LTS	None required.	NA
<p>AA The No Project Alternative would not result in additional solid waste generation.</p>	NI	None required.	NA
<p>AB The additional waste generated by the estimated number of employees under this alternative would be higher than anticipated for the proposed project, but would not have a significant effect on the life span of the Kiefer Boulevard Landfill, which would be the primary repository.</p>	LTS	None required.	NA

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Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
<p><b>6.6-4 Electricity</b></p> <p><b>PP</b> The proposed project would not generate a demand that would require SMUD to secure a new electrical source beyond their current suppliers. Therefore, an impact on regional electrical service would not occur. However, development of the project site would require the existing systems to be upgraded or replaced to accommodate additional demand. The Army may convey the existing electrical system to SMUD to upgrade and maintain. Increased electrical demands would either be met by current infrastructure, upgraded facilities, or new electrical distribution systems, if the demand is increased beyond existing local infrastructure capacity.</p>	S	<p><i>Prior to the issuance of any occupancy permits for the Army Depot site, the City of Sacramento shall coordinate with SMUD to determine the necessary upgrades required to serve the future anticipated development of the site and require each project pay its fair share of any on-site improvements necessary to serve the entire site.</i></p>	LTS
<p><b>AA</b> The No Project Alternative would not result in additional impacts to the existing systems.</p>	NI	None required.	NA
<p><b>AB</b> Alternative B would not generate a demand that would require SMUD to secure a new electrical source beyond their current suppliers. Therefore, an impact on regional electrical service would not occur. However, development of the project site would require the existing systems to be upgraded or replaced to accommodate additional demand. The Army may convey the existing electrical system to SMUD to upgrade and maintain. Increased electrical demands would either be met by current infrastructure, upgraded facilities, or new electrical distribution systems, if the demand is increased beyond existing local infrastructure capacity.</p>	S	Same as PP.	LTS

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Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
6.6-5 Natural Gas (Project Specific)			
PP Increased demands on gas resources are met either by current PG&E infrastructure or by upgrading or adding new facilities if the demand is increased beyond existing local infrastructure capacity. The applicant and/or assessment district would be assessed the cost of upgraded/new facilities if required because of the increased demand. New developments are required to coordinate through PG&E to assure that gas is efficiently supplied. Implementation of the proposed project would not generate a demand that would require PG&E to secure a new gas source beyond their current suppliers. Therefore, a physical environmental impact related to an increased in the regional gas demand would not occur. However, development of the project site could require the existing gas distribution systems to be upgraded or replaced to accommodate the anticipated demand.	S	Prior to the issuance of any occupancy permits for the Army Depot site, the City of Sacramento shall coordinate with PG&E to determine the necessary natural gas distribution upgrades required to serve the future anticipated development of the site. The City of Sacramento shall require each project pay its fair share of any on-site improvements necessary to serve the entire site.	LTS
AA The No Project Alternative would not result in additional impacts to the existing systems.	NI	None required.	NA
AB Increased demands on gas resources are met either by current PG&E infrastructure or by upgrading or adding new facilities if the demand is increased beyond existing local infrastructure capacity. The applicant and/or assessment district would be assessed the cost of upgraded/new facilities if required because of the increased demand. New developments are required to coordinate through PG&E to assure that gas is efficiently supplied. Implementation of the proposed project would not generate a demand that would require PG&E to secure a new gas source beyond their current suppliers. Therefore, a physical environmental impact related to an increased in the regional gas demand would not occur. However, development of the project site could require the existing gas distribution systems to be upgraded or replaced to accommodate the anticipated demand.	S	Same as PP.	LTS

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
6.6-6 Telecommunications (Project Specific)			
PP Pacific Bell and the other telecommunication service providers in the Sacramento area are anticipated to be able to serve the future growth of the region. Increased demands for telecommunication services will be met either by current infrastructure or by upgrading or adding new facilities. Implementation of the proposed project will require modification of the existing telecommunication infrastructure to provide adequate service to project area.	S	Prior to the issuance of any occupancy permits for the Army Depot site, the City of Sacramento shall coordinate with Pacific Bell to determine the necessary telecommunication upgrades required to serve the future anticipated development of the site. The City of Sacramento shall require that Telecommunication improvements be constructed to adequately serve each project. The City shall also require that each project pay its fair share of any on-site improvements necessary to serve the entire site.	LTS
AA The No Project Alternative would not result in additional impacts to the existing systems.	NI	None required.	NA
AB Pacific Bell and the other telecommunication service providers in the Sacramento area are anticipated to be able to serve the future growth of the region. Increased demands for telecommunication services will be met either by current infrastructure or by upgrading or adding new facilities. The implementation of the Alternative B will result in similar impacts as the proposed project, and will require modification of the existing telecommunication infrastructure to provide adequate service to the project area.	S	Same as PP.	LTS

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Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
<b>6.6-7 Police Protection (Project Specific)</b>			
PP The proposed project would transfer the project site from the jurisdiction of the U.S. military to the City of Sacramento Police Department. This would, in effect, increase the degree of commercial development in the department's service area, thereby increasing the demand for service. This project would not, however, result in increased residential development at the site, or an increased residential population. While the increased commercial development would place additional demands for service from the Sacramento Police Department, it is not estimated that the department would require additional resources in order to maintain adequate levels of service.	NI	None required.	NA
AA The No Project Alternative would not increase the demand for services from the Sacramento Police Department.	NI	None required.	NA
AB Alternative B would result in increased employment levels at the project site, and would, therefore, result in greater demands for service from the Sacramento Police Department than would the proposed project. The increased demands for service under this impact would not, however, be expected to require additional resources for the Sacramento Police Department to maintain adequate levels of service.	LTS	None required.	NA
<b>6.6-8 Fire Protection Services (Project Specific)</b>			
PP The fire stations serving the Army Depot are adequately staffed to provide service to the project site as long as structures comply with fire code standards. (U.S. Army Corps of Engineers, 1994).	NI	None required.	NA
AA The fire stations serving the Army Depot are adequately staffed to provide service to the project site as long as structures comply with fire code standards. (U.S. Army Corps of Engineers, 1994).	NI	None required.	NA

**Table 2-1 - Summary of Impacts and Mitigation Measures**

**Impact**

**Level of Significance  
Prior to Mitigation**

**Mitigation  
Measure(s)**

**Level of Significance  
After Mitigation**

NA

None required.

NI

AB The fire stations serving the Army Depot are adequately staffed to provide service to the project site as long as structures comply with fire code standards. (U.S. Army Corps of Engineers, 1994).

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Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
<b>6.7 HAZARDOUS SUBSTANCES</b>			
<b>6.7-1 Construction Activities, Contaminated Soil (Project Specific)</b>			
PP	S	(a) Development consistent with the Sacramento Army Depot Reuse Plan could involve construction activities that could expose construction workers to previously unidentified contaminated soil.	LTS
		(b) If the potential for contamination is suspected, construction activities shall stop and sampling shall be conducted by qualified personnel, in accordance with all applicable regulations to determine the constituent levels and the extent of the contamination.	
AA	NI	The No Project Alternative would have no construction activities.	NA
AB	S	Development consistent with Alternative B would result in construction related hazardous substance impacts. These impacts would be similar to those identified in the proposed project.	LTS
<b>6.7-2 Construction Activities, Asbestos (Project Specific)</b>			
pp	S	(a) Development consistent with the Sacramento Army Depot Reuse Plan Amendment could involve construction activities at Sacramento Army Depot which could require the demolition and/or renovation of existing structures, possibly containing asbestos material, thereby exposing construction workers and the public to associated hazards.	LTS
		(b) If asbestos fibers are suspected or identified in soils or existing building materials, then additional sampling shall be performed prior to any construction activities to identify asbestos-containing materials that may be contained in building materials or obscured behind walls, above ceilings, and beneath floors.	
AA	NI	The No Project Alternative would have no construction activities.	NA

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
AB Development consistent with Alternative B would result in construction related asbestos impacts. These impacts would be similar to those identified in the proposed project	S	Same as PP.	LTS
<b>6.7-3 Hazardous Substances (Project Specific)</b>			
PP Development consistent with the Sacramento Army Depot Reuse Plan could occur incrementally so that early stages of development could be completed prior to complete remediation of the entire site, thereby potentially exposing inhabitants and users to hazardous substances.	S	(a) Unacceptable exposures to active remediation sites, areas of encapsulation or remaining contamination, and unremediated portions of Sacramento Army Depot shall be prevented by measures determined appropriate by regulatory agencies.  (b) For property to be leased, transferred, or conveyed to the City by the Army, the City of Sacramento shall require that future development at Sacramento Army Depot comply with any limitations or restrictions pertaining to hazardous substance remediation identified in any lease, transfer, or conveyance agreement. These agreements are currently under negotiation with the EPA, the California EPA, the U.S. Army, and the City.	LTS
AA The No Project Alternative would have no construction activities.	NI	None required.	NA
AB Development consistent with Alternative B would result in hazardous substance impacts. These impacts would be similar to those identified in the proposed project.	S	Same as PP.	LTS

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Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
<p><b>6.7-4 Cleanup Interference (Project Specific)</b></p> <p>PP Development under the Reuse Plan would occur incrementally over many years. Similarly, the anticipated schedule of remediation activities would occur at least throughout the 1990s. Development consistent with the Sacramento Army Reuse Plan could interfere with cleanup efforts of existing contaminated sites.</p>	S	<p>(a) The City shall coordinate with the U.S. Army, the U.S. EPA, the California EPA, and other involved agencies as appropriate to assure that the proposed development at Sacramento Army Depot does not interfere with any adjacent, and/or on-site remediation activities, or unduly delay either project development or area remediation.</p> <p>(b) All contractors shall coordinate with the City, the U.S. Army, the U.S. EPA, the California EPA, and other involved agencies, as appropriate, to assure that construction activities do not interfere with any adjacent and/or on-site remediation activities or unduly delay either project development or site remediation.</p> <p>(c) The City shall cooperate with the U.S. Army and the U.S. EPA and California EPA to ensure that EPA remediation priorities for Sacramento Army Depot are maintained.</p>	LTS
<p>AA The No Project Alternative would have no construction activities.</p> <p>AB Development consistent with Alternative B would result in the interference of cleanup efforts of existing contaminated sites. These impacts would be similar to those identified in the proposed project.</p>	NI	<p>None required.</p> <p>Same as PP.</p>	NA
<p><b>6.7-5 Contaminated Soil and/or Groundwater (Project)</b></p> <p>PP Development consistent with the Sacramento Army Depot Reuse Plan could result in exposure of inhabitants and users to contaminated soil and/or groundwater.</p> <p>AA The No Project Alternative would have no construction activities.</p>	S	<p>(a) Implement Mitigation Measures 6.7-1(a) and 6.7-1(b).</p> <p>(b) Individual site plans for each project phase or subphase at Sacramento Army Depot shall be coordinated with locations of groundwater extraction wells, and other groundwater treatment facilities.</p> <p>None required.</p>	LTS

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
AB	S	Same as PP.	LTS
Development consistent with Alternative B would result in contaminated soil and/or groundwater impacts. These impacts would be similar to those identified in the proposed project.			
<b>6.7-6 Contaminated Soils and/or Groundwater (Project Specific)</b>			
PP	S	(a) Redevelopment or change of use of any portion of the Sacramento Army Depot site shall comply with limitations or restrictions identified in the lease, transfer or conveyance agreement with the U.S. Army, the U.S. EPA and the California EPA and the City.	LTS
		(b) The City shall review and comment on all remediation plans proposed by the regulatory and enforcement agencies.	
AA	NI	None required.	NA
AB	S	Same as PP.	LTS
Development consistent with Alternative B would result in contaminated soil and/or groundwater impacts. These impacts would be similar to those identified in the proposed project.			
<b>6.7-7 Hazardous Substances Transportation (Project Specific)</b>			
PP	S	Prior to issuance of any entitlement to construct at the Sacramento Army Depot site, a Hazardous Substances Transportation Program shall be prepared for incorporation into project design. The transportation program shall be in compliance with the Sacramento County Hazardous Waste Management Plan.	LTS
AA	NI	None required.	NA
AB	S	Same as PP.	LTS
Development consistent with Alternative B would result in hazardous substances transportation impacts. These impacts would be similar to those identified in the proposed project.			

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
6.7-8 Hazardous Materials (Project Specific)			
PP Location of industrial and commercial uses on the Sacramento Army Depot site adjacent to existing residential uses could expose residents to hazardous materials.	S	(a) As part of the information required to apply for a development permit at the site, the City shall require, as appropriate, studies, such as air toxics evaluations, to determine if the proposed use will create an unreasonable risk to adjoining properties. Such studies shall suggest measures that would mitigate the unacceptable effects of hazardous material on adjoining properties.	LTS
		(b) The City shall require businesses at the Sacramento Army Depot site that use solvents and/or other toxic or hazardous materials to present Hazardous Substance Management Plans for the review and approval of the Sacramento County Environmental Management Department, and the Sacramento Fire Districts Chiefs, prior to final building inspection. The plans shall demonstrate that adequate safety precautions have been taken for the storage and handling of hazardous materials and/or wastes.	
		(c) The City shall require that all buildings or structures containing hazardous materials be labeled at all doorways with easy-to-read signs that provide emergency response teams with information on the hazardous contents of the building or structure, and proper containment procedures. Labeling should be based on existing systems (such as the national Fire Protection Association 704 System) and approved by the City Fire Department.	
		(d) Outdoor storage of materials on the site shall be minimized. Materials which emit odors, fumes, or otherwise cause a nuisance or hazard to neighboring properties shall not be stored outdoors. Any outdoor storage shall be done in compliance with all applicable federal, state, and local regulations.	
AA The No Project Alternative would have no construction activities.	NI	None required.	NA
AB Development consistent with Alternative B would result in hazardous materials impacts. These impacts would be similar to those identified in the proposed project.	S	Same as PP.	LTS

Table 2-1 - Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
<b>6.7-9 Hazardous Materials (Cumulative)</b>			
PP Cumulative development in the region, including development of the Sacramento Army Depot site, could increase the number of people exposed to risks associated with hazardous materials.	S	Implementation of Mitigation Measures 6.7-1 through 6.7-8.	LTS
AA The No Project Alternative would have no construction activities.	NI	None required.	NA
AB Cumulative development in the region; including development consistent with Alternative B, would result in hazardous materials impacts. These impacts would be similar to those identified in the proposed project.	S	Same as PP.	LTS

LTS=Less Than Significant      S=Significant      NI=No Impact      SU=Significant Unavoidable      NA=Not Applicable  
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### 3. PROJECT DESCRIPTION

### 3. PROJECT DESCRIPTION

#### PROJECT LOCATION

The Sacramento Army Depot is located approximately seven miles southeast of downtown Sacramento (see Figure 3-1). The Sacramento Army Depot occupies approximately 485 acres of land and is bounded by Fruitridge Road on the north, Florin-Perkins Road on the east, Elder Creek Road on the south, and the Southern Pacific Railroad on the west (see Figure 3-2).

The project site is completely within the boundaries of the City of Sacramento and located along the northern edge of the South Sacramento Community Plan area. Immediately north of the project site is the East Broadway Community Plan area. The Sacramento Army Depot is located in a predominately industrial area.

#### PROJECT DESCRIPTION

The City of Sacramento has developed a draft Sacramento Army Depot Reuse Plan to enable a smooth transition from base closure to the reuse of the Army Depot property. The proposed Sacramento Army Depot Reuse Plan describes the history and background of the Army Depot site, describes the reuse vision, discusses the opportunities and constraints of the site, and provides a marketing analysis and strategy. In addition, the Reuse Plan identifies the demolition and public conveyance recommendations and describes the preferred land use plan as well as the development plan.

#### History and Background

As stated in the Reuse Plan, the Sacramento Army Depot has served as a primary depot for repair, rebuilding, and modification, storage and distribution of electronic military equipment. During the Korean and Vietnam wars, the Depot facilities were expanded to provide additional services, including the addition of repair and maintenance work for night vision systems, laser systems, and electro-optics.

In response to changing global security requirements, the Department of the Army has decided to reduce its force, resulting in fewer Army installations. The process to determine which installations would be closed or realigned was established in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510). In 1991, the Defense Base Realignment and Closure Commission (BRAC 91) included recommendations for base realignments and closure. The BRAC 91 identified that the Sacramento Army Depot was to be closed no later than July 1997. The Army has ceased its maintenance mission in April 1994 and is seeking to dispose of the real property at the Sacramento Army Depot by the Summer of 1995 (Reuse Plan, p. 1-1).

To oversee the reuse and disposal process of the Sacramento Army Depot, the Sacramento City Council established the Sacramento Army Depot Reuse Commission on April 21, 1992. The mission statement of the Reuse Commission is: "To produce a reuse plan which will increase

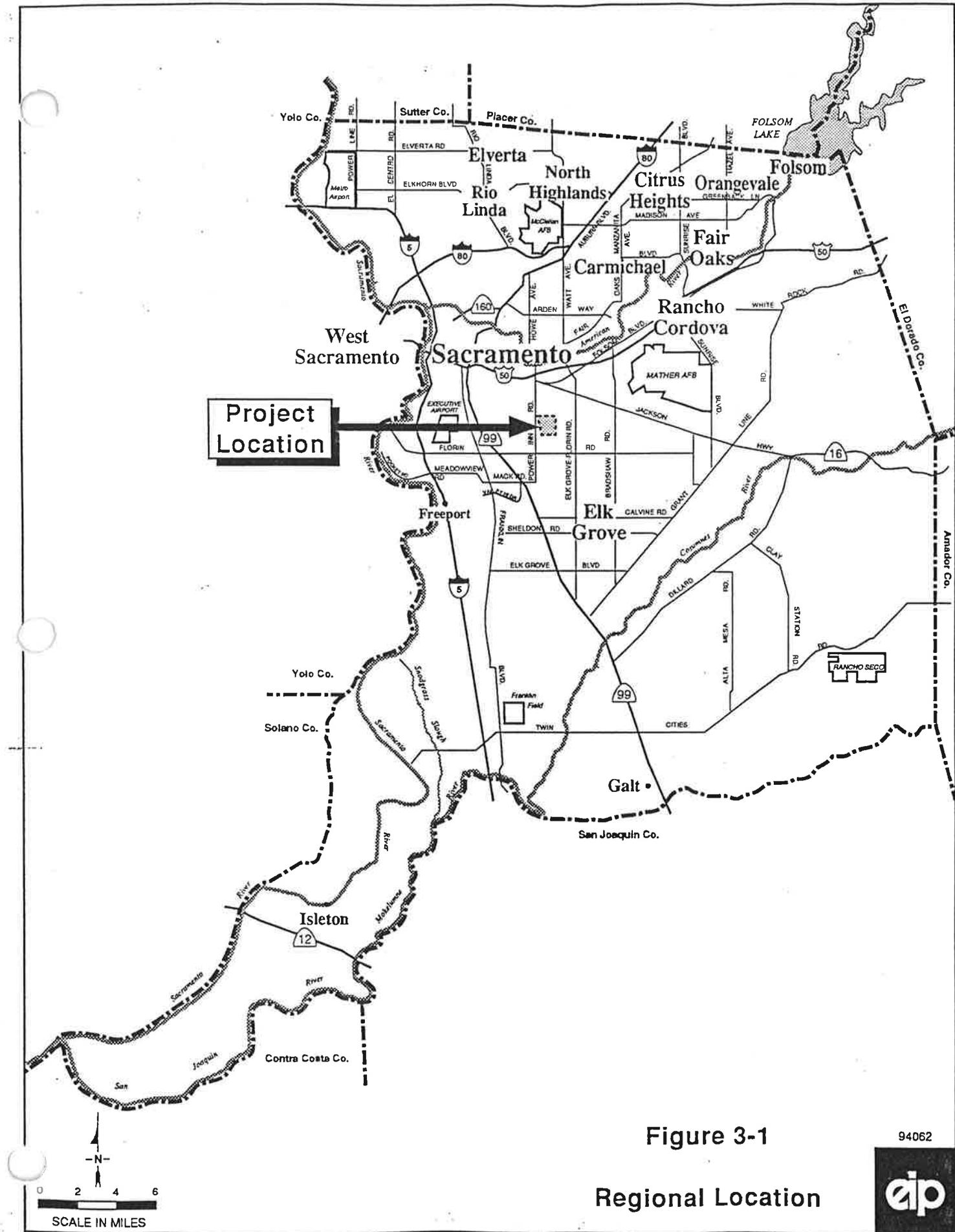


Figure 3-1

Regional Location

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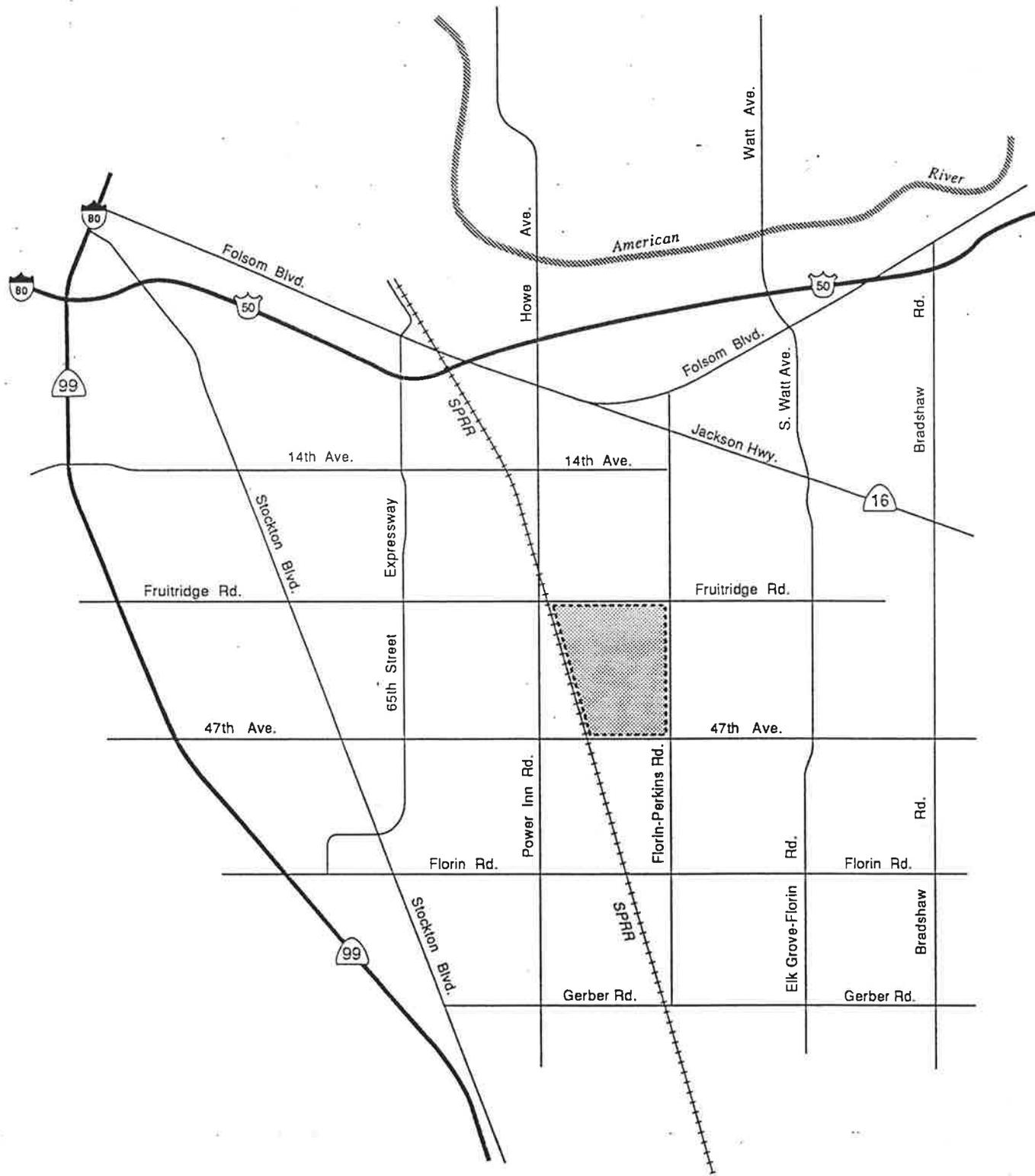
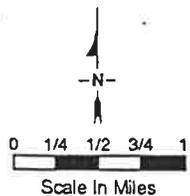


Figure 3-2

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 Sacramento Army Depot

Local Location



economic and employment opportunities consistent with land-use zoning for interim and long-term use." A primary goal of this mission statement is the attraction of business that can utilize the existing work force and facilities at the Army Depot (Strategic Plan, 1994).

### Objectives of the Project Applicant

The ultimate objective of the Sacramento Army Depot Reuse Plan is to create an environment which will accommodate reuse of the project site with job producing industrial uses as well as certain compatible public uses. This objective will be achieved by providing appropriate General Plan designations as well as identifying development standards and design guidelines which will result in an attractive and marketable site. The Reuse Plan will also include a strategy to market the property to targeted end users, and will suggest a financing strategy to fund necessary improvements. Development of the Reuse Plan was guided by a set of goals and objectives, adopted for the Sacramento Army Depot Reuse Commission by the Sacramento City Council in April of 1992. The following objectives will serve as planning principles that will be integrated into implementing documents to guide future development:

- promote the re-use and revitalization of the Army Depot site, and diversify the Sacramento economy through the attraction of targeted industries to the site;
- promote and maintain employment opportunities, particularly for the under employed;
- use the Army Depot site to expand the local industrial base through increased manufacturing activities;
- create a safe efficient transportation network throughout the Army Depot for the movement of people and goods and integrate the network with the existing street system outside the Army Depot;
- maximize alternatives to the single occupant gasoline driven vehicle;
- promote public transit to the Army Depot site;
- provide the necessary infrastructure to support industrial reuse of the Army Depot site;
- achieve economy and efficiency in the provision of services and facilities by coordinating infrastructure improvements and extensions with utility providers and by phasing the development of the site in a way which reduces costs to the maximum extent feasible;
- to the maximum extent possible, protect and enhance the physical features and settings, on the Army Depot site, that are unique (i.e. burrowing owl habitat, wetland resources);

- create a multi-purpose approach for future development that will enhance public service; and
- insure that land uses on the site are internally compatible, as well as being compatible with surrounding uses.

During the course of the development of the Sacramento Army Depot Reuse Plan, the following objectives were also identified:

- develop a Financing Plan which addresses funding of infrastructure improvements necessitated by on-site development and reuse activities;
- develop a marketing recruitment strategy based on a marketing analysis of the site, the area, and the region;
- make public conveyance proposal decisions based on the opportunity cost of not making the property available to private industry. Incorporate the Department of Corrections Reception Center proposal into the Reuse Plan;
- make existing building demolition/retention recommendations on the basis of building condition, building suitability, building spacing, circulation patterns, aesthetics, and future development goals;
- make parcelization approach recommendations as part of the Reuse Plan;
- develop a Phasing Plan which will make most efficient use of available financing for infrastructure improvements, and will not adversely effect the remainder of the Power Inn industrial submarket;
- develop a conceptual site plan which can be used for marketing the Army Depot site. Design guidelines which will accompany the site plan development can be used in the development of a Special Planning District, which should guide the development of an aesthetically pleasing yet economically affordable site; and
- ensure that there are adequate provisions for hazardous\toxic material cleanup.

#### Army Depot Land Use Plan

The Army Depot Land Use Plan is intended to be a guiding framework which will lead the Depot from its role in protecting national security to one which serves the interest of the local community economically, culturally, and environmentally. The opportunity presented at this time is significant in that the potential benefits to the City are vast, including the economic revitalization of the local neighborhood and to the City as a whole, business development, job creation, the restoration and preservation of environmentally sensitive areas and providing public open space.

The Land Use Plan takes 295 acres of developable area within the 485.2 total acres of the Army Depot and converts it to an attractive light industrial park with 3,000,000 square feet of both new and existing building area. Based on City of Sacramento General Plan Assumptions, the project will accommodate approximately 6,000 employees. The industrial park encourages a mix of appropriate uses that provides economic diversity, facilitates employment of displaced Army Depot employees, provides employment opportunities for local residents, provides jobs for increasing income levels and provides a stronger tax base for Sacramento.

The Land Use Plan includes development standards and design guidelines that:

- define districts within the reuse area;
- specify appropriate land uses within the development;
- encourage reuse of existing structures for building "recycling";
- specify design parameters of new structures;
- define a continuous pedestrian circulation system that encourages walking and alternative modes of transportation;
- provide a strong tree and landscape concept that creates a pedestrian-scaled and tree-shaded environment; and
- sensitively integrate natural resource areas as open space within the reuse area.

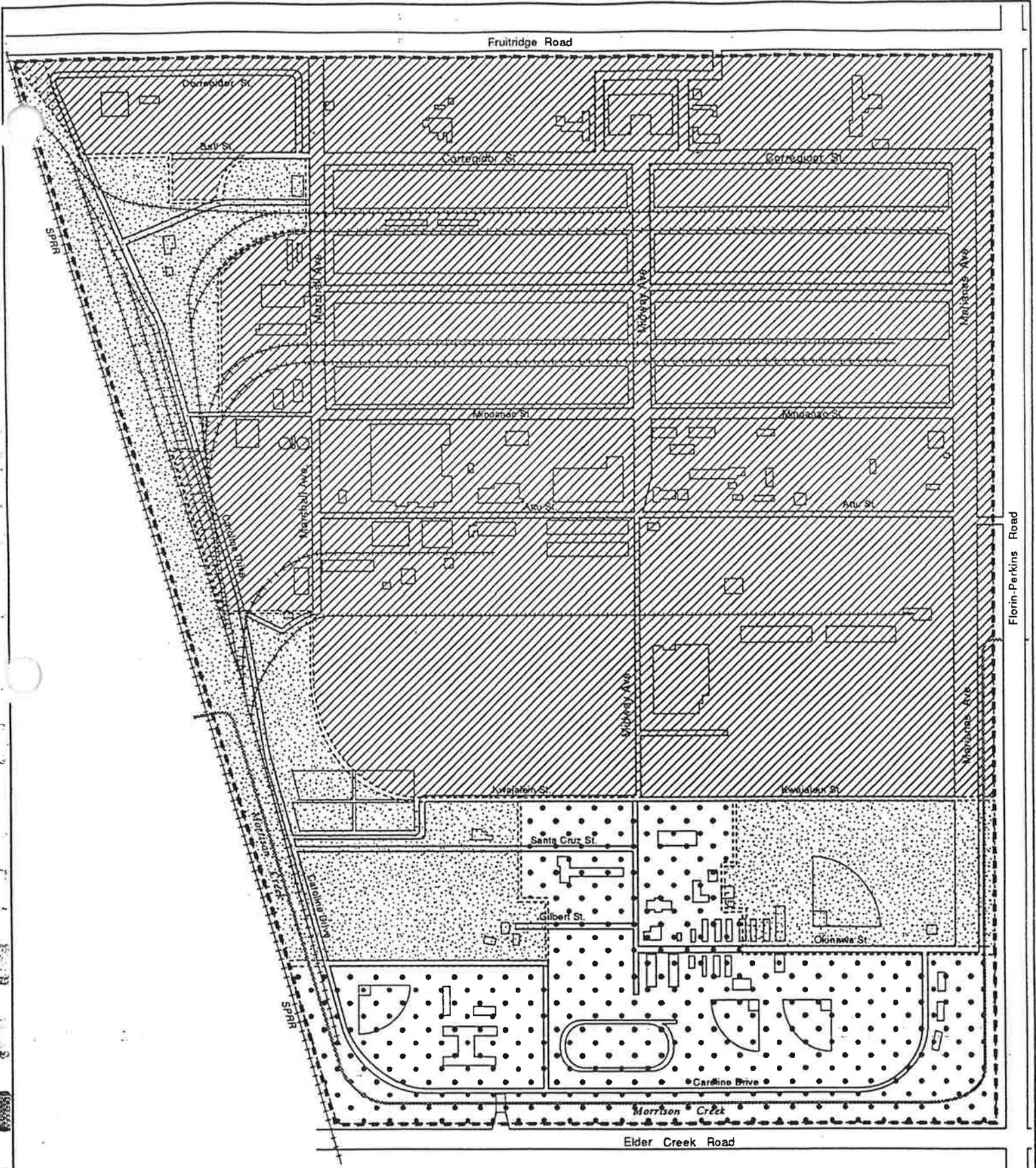
### **General Plan Land Use Designations**

The existing General Plan land use designation for Sacramento Army Depot is Public/Quasi-Public - Miscellaneous. The majority of the lands surrounding the Depot are designated Industrial and Heavy Commercial or Warehouse. This Plan maintains the existing General Plan designation for the reserve enclave portion of the property. The natural resource protection areas and little league field will be designated Parks, Recreation, Open Space. The remaining lands will be redesignated Industrial. The Industrial designation includes lands designated for most industrial manufacturing processes and activities.

The specific entitlement includes a General Plan Amendment of 406± acres from Public/Quasi-Public - Miscellaneous to 83± acres of Parks, Recreation, Open Space and 323± acres to Industrial (see General Plan designations, Figure 3-3).

### **Community Plan Land Use Designations**

The existing South Sacramento Community Plan designation for the site is Industrial. This designation is consistent with the proposed land use plan and will remain on the developed portion site. The Industrial Community Plan designation provides for a wide range of uses that fall within the industrial category, such as manufacturing, food processing or warehousing. The natural resource protection areas and little league field will be designated Parks and Open Space.



Florin-Perkins Road

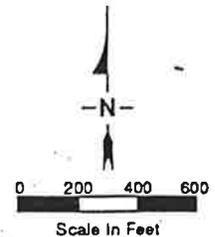
**LEGEND**

-  Parks, Recreation, Open Space (83 Acres)
-  Industrial (323 Acres)
-  Public/Quasi-Public-Miscellaneous (Military Use) (79 Acres)

SOURCE: EIP Associates, 1994.

**Figure 3-3**

**Proposed Project  
General Plan Designations**



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The specific entitlement includes a South Sacramento Community Plan Amendment of 83+ acres from Industrial to Parks and Open Space (see South Sacramento Community Plan Designations, Figure 3-4).

### Zoning Designations

Originally, the site was zoned Heavy Industrial (M-2). Upon the initiation of the Reuse Planning Process, the site was rezoned to be designated as an interim Special Planning District (SPD). The existing zoning of the site, therefore, is M-2(SP). The Interim Special Planning District addresses allowed and Special Permit uses, as well as performance standards. The Interim Special Planning District will remain in effect until the City sells the property to a private developer. Upon sale, the Interim Special Planning District is replaced with the permanent Special Planning District and specific development guidelines included in the Land Use Plan. The proposed zoning of the site is Agriculture-Open Space (A-OS SPD) for the natural resource protection areas and little league field, and Heavy Industrial (M-2 SPD) for the remainder of the site.

The specific entitlement includes a Rezone of 83+ acres from Heavy Industrial (M-2 SPD) to Agriculture-Open Space (A-OS SPD) (see Zoning, Figure 3-5).

### Description of Districts

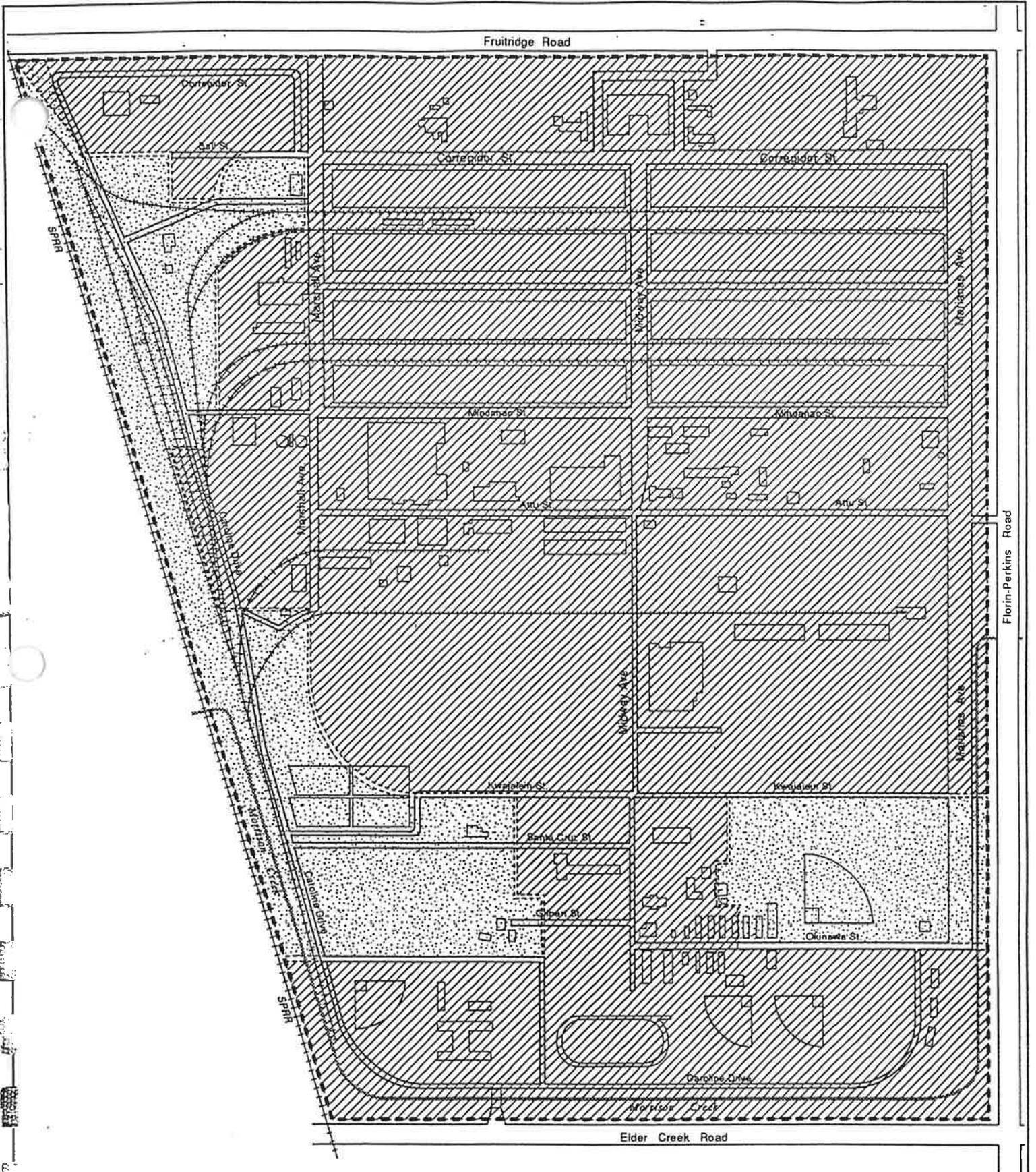
The land use plan has divided the Army Depot property into four districts. These districts will each have distinguishing characteristics as they develop according to the Reuse Plan. The Reuse Plan defines the districts as follows:

#### District A

The area bordering Fruitridge Road and Florin-Perkins Road, between Attu Street and Fruitridge Road is defined as District A. The goal of this district is to encourage mixed uses along the perimeter of the development to take advantage of the high visibility and create a strong visual image and edge along Fruitridge Road and Florin-Perkins Road. The land uses within the district encourage a mix of uses including office, research and development, educational/vocations/training, retail, and other services. The emphasis is on uses that provide a distinguished image for the development which take advantage of the excellent visibility, accessibility to public transit and proximity to the local neighborhoods. District A includes 62.5 acres.

#### District B

The existing warehouse area is defined as District B. The area is defined by the existing warehouses, bordered by Marshall Avenue on the west, Corregidor Street to the north, Mindanao Street to the south and Marianas Avenue to the east. As the "heart" of the project, the area will blend a significant amount of existing buildings into a functional, aesthetically pleasing and cohesive core for the remainder of the project. The adaptive reuse quality, the historic visual character of the buildings and their proximity to both Fruitridge Road and Florin-Perkins Road are important considerations within this area. Land uses within District B provide an appropriate mix to allow the flexibility of uses to utilize the existing warehouse buildings. Warehouse, light industrial, manufacturing, office, and service uses are encouraged. District B includes 71.5 acres.

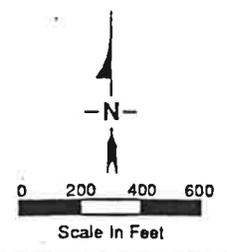


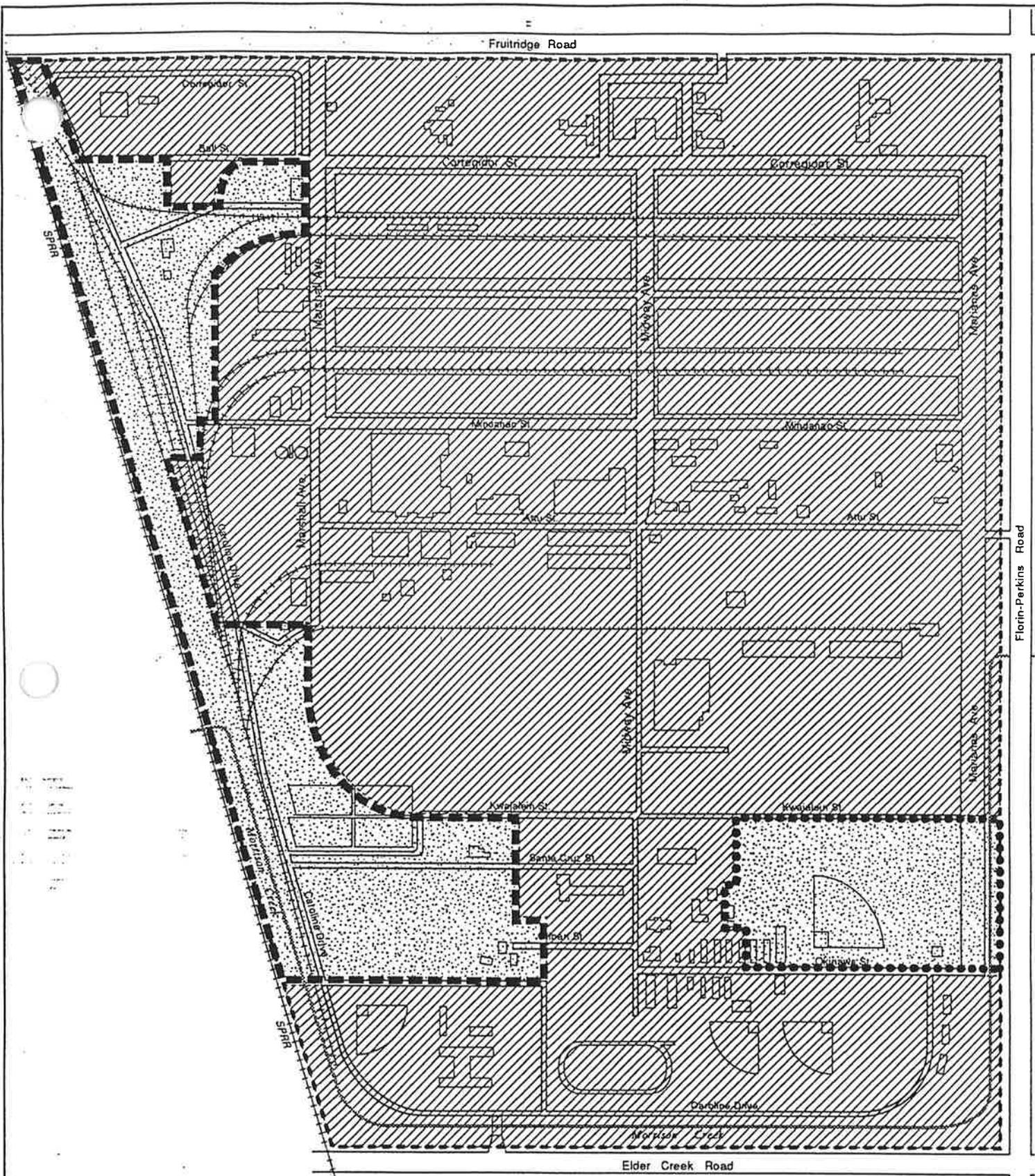
**LEGEND**

-  Parks and Open Space (83 Acres)
-  Industrial (402 Acres)

SOURCE: EIP Associates, 1994.

**Figure 3-4**  
**Proposed Project**  
**South Sacramento Community**  
**Plan Designations**





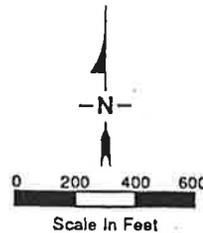
**LEGEND**

-  Agricultural-Open Space (A-OS SPD)
-  Habitat Preservation Area (64 Acres)
-  Recreation-Ballfield (19 Acres)
-  Heavy Industrial (M-2 SPD) (402 Acres)

SOURCE: EIP Associates, 1994.

**Figure 3-5**

**Proposed Project  
Zoning Designations**



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#### District C

The remainder of the developable area, excluding public conveyance requests, is recommended as District C. The area is bounded by the Southern Pacific Railroad to the west, Corregidor Street to the north, the Army Reserve Enclave to the South, and Marianas Avenue to the east. Land uses within this district shall be consistent with industrial-type uses, including office, industrial, manufacturing, research and development, distribution and warehousing. District C includes 78 acres.

#### District D

The area to the west of the existing warehouses and the area to the south of the Department of Corrections site is District D. This district is an open space area protecting existing sensitive natural resources and the existing baseball field south of the Department of Corrections. It is anticipated that active and passive open space uses, pedestrian and bicycle trails and habitat mitigation will be sensitively integrated in this area. District D includes 83 acres.

### Circulation Plan

The street system is designed to create a hierarchy of streets within the reuse area. The system designates primary roadways, secondary collectors and local roadways (see Figure 3-6). The streets and their respective categories are listed below:

#### Primary Roadways

Marshall Avenue  
Midway Avenue  
Kwajalein Street  
Attu Street

#### Secondary Collectors

Mindanao Street  
Corregidor Street  
Marianas Street  
Intermediate east-west and north-south streets

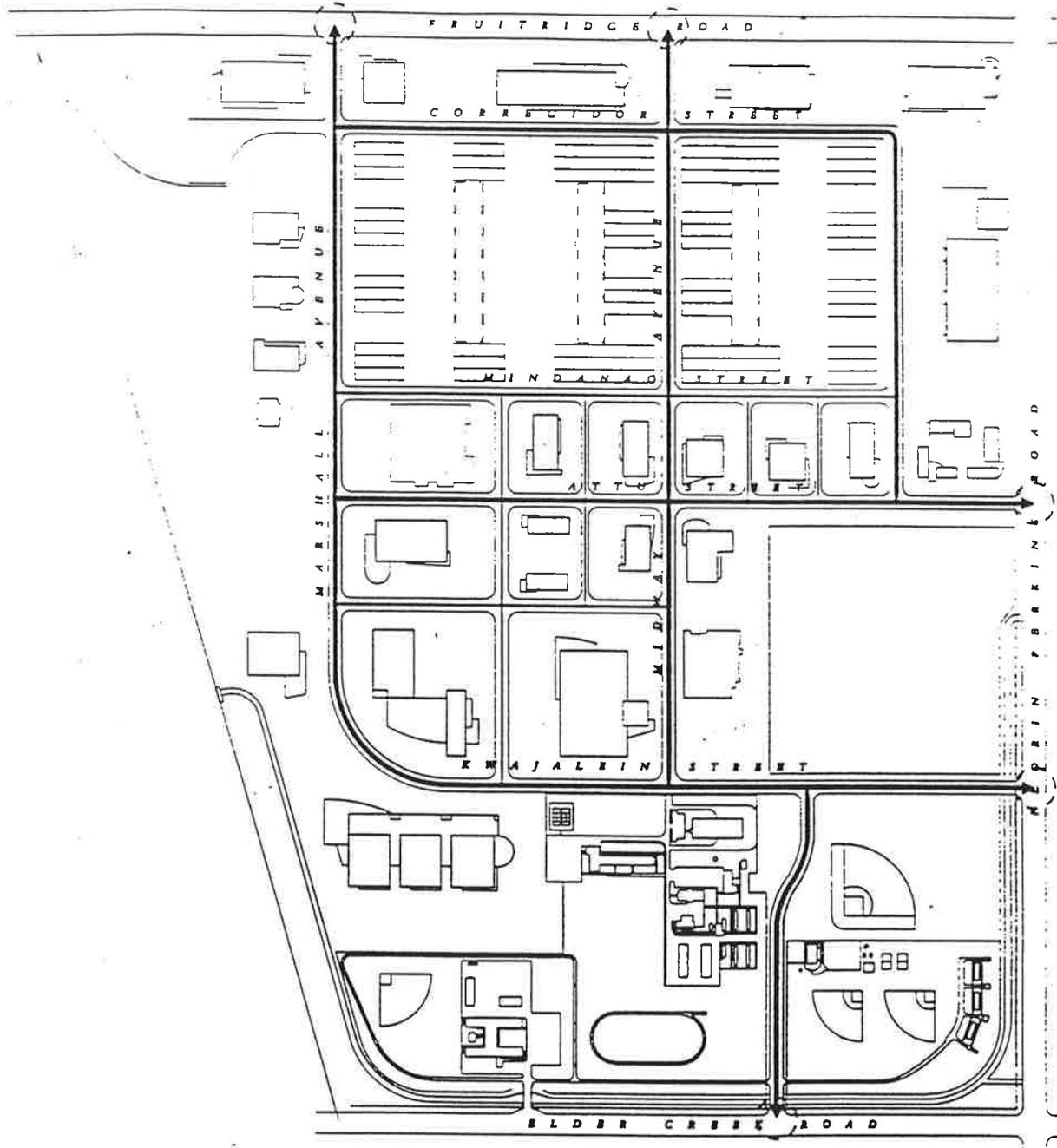
The Primary Roadway and Secondary Collector street right-of-ways are in accordance with the City of Sacramento's street design standards. The cross sections include a six-foot wide Class II bike lane on each side of the street, elimination of on-street parking, and detached sidewalks. Local roadways have right-of-ways and cross sections which are in accordance with City of Sacramento street design standards, including attached sidewalks and on-street parking.

### Implementation of the Reuse Plan

The following process is outlined in the proposed Sacramento Army Depot Reuse Plan for the implementation of the conveyance and future development of the project site:

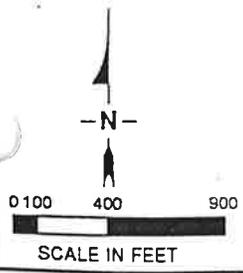
The following outlines the steps the City of Sacramento will complete prior to the sale of property to a private developer:

1. Adoption of the Reuse Plan.
2. Reuse Plan is approved or modified by the Department of Army.
3. City applies for Economic Development Conveyance (September 1994).
4. City begins an active role in leasing in as-is condition (November 1994).
5. Upon approval of an Economic Development Conveyance, the City will take control of the property (June 1995).



**LEGEND**

-  "Primary Roadway"
-  "Secondary Collector"
-  "Local Roadway"
-  Signal
-  "Community Rail Spur"



**Figure 3-6**

**Streets--Design Standards and Guidelines for Streets**

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6. When funds permit, the City will make investments necessary to prepare site for development in the order listed in the Phasing Plan.
  - a. trunkline infrastructure to serve the perimeter of proposed parcels
  - b. demolition
7. Upon sale, and prior to development, the SPD Development Guidelines become effective.

Once the property is sold to a private developer, the developer must complete the following steps:

1. Submit an application for a Parcel Map and Special Permit, as required by the SPD Guidelines, and any other necessary entitlements.
2. Once the application for Parcel Map and Special Permit is received, the City of Sacramento will conduct an environmental review and prepare the necessary document as required by CEQA.
3. The Parcel Map requires review by the Subdivision Review Committee.
4. The City Planning Commission must review and approve the Parcel Map and Special Permit.
5. The Parcel Map must be recorded, with all conditions of approval satisfied.
6. Any new structures or modification of existing structures require a Building Permit. The Building Permit will ensure compliance with all Special Permit Conditions of approval.

## PROJECT SCHEDULE AND PROCESS

### **Local EIR Process**

This Sacramento Army Depot Reuse Plan Draft EIR has been released for a 45-day public review period. At the close of the review period, responses will be prepared for any written comments received by the City of Sacramento Environmental Services Division. The Draft EIR, the responses to the written comments, and any changes to the document will constitute the Final EIR for the Sacramento Army Depot Reuse Plan.

Prior to considering the Sacramento Army Depot Reuse Plan, the City Council will be required to certify that the Final EIR has been adequately prepared under the California Environmental Quality Act. Once the Final EIR has been certified, the City Council may take action on the proposed Sacramento Army Depot Reuse Plan. If the City Council decides to approve the proposed plan, then the council must prepare findings stating that the economic benefits of the proposed project outweigh the significant and unavoidable effects identified in the Final EIR. The proposed Sacramento Army Depot Reuse Plan is anticipated to be considered by the Sacramento City Council in September 1994. Once the Reuse Plan is approved by the City of Sacramento, the Department of the Army will process the proposed plan through the federal process.

### **Federal EIS Process**

The Department of the Army has previously analyzed the environmental effects of several land use alternatives for the project site in the Draft Environmental Impact Statement (EIS) for the Sacramento Army Depot Disposal and Reuse. The proposed Sacramento Army Depot Reuse Plan (analyzed in this EIR) falls within the development intensities identified for these alternatives. The Draft EIS was released for public review and comment in January 1994.

Once the City of Sacramento has approved a Reuse Plan for the Army Depot site, the Department of the Army will complete the Final EIS to incorporate any variations in the proposed Plan from the alternatives previously considered. The Sacramento Army Depot Reuse Plan along with the Final EIS will be considered for approval by the Department of the Army. The approvals anticipated by the Department include the following:

- approval of the Sacramento Army Depot Reuse Plan for incorporation into the Environmental Impact Statement as the preferred alternative for disposal and reuse;
- approval of the application for economic development conveyance from the Department of the Army to the City of Sacramento; and
- approval of a Record of Decision enabling the transfer of land from the Department of the Army to the City of Sacramento, as well as other public agencies receiving transfers.

### REQUIRED DISCRETIONARY ACTIONS

The approval and implementation of the proposed Army Depot Reuse Plan will include design and environmental review on a project specific basis. The subject of this EIR is the approval of the Army Depot Reuse Plan. The following section describes the discretionary actions which are required by the City of Sacramento for project approval at this time:

- approval of the proposed Sacramento Army Depot Reuse Plan;
- approval of a General Plan Amendment to redesignate approximately 83 acres of the Army Depot site from Public/Quasi-Public to Parks, Recreation, and Open Space;
- approval of a General Plan Amendment to redesignate approximately 323 acres of the Army Depot site from Public/Quasi-Public to Industrial;
- approval of a South Sacramento Community Plan amendment to redesignate 83 acres of the Army Depot site from Industrial to Parks, Open Space;
- approval of a rezone for the 83 acres of the Army Depot site from Heavy Industrial (M-2.SPD) to Agriculture-Open Space (A-OS.SPD).

The remaining 79.1 acres would retain its current General Plan Public/Quasi Public land use designation.

### LEAD AND RESPONSIBLE AGENCIES

#### **Lead Agency**

The City of Sacramento is the lead agency for preparation of the Army Depot Reuse Plan Draft EIR. In conformance with Sections 15050 and 15367 of State CEQA Guidelines, the City of

Sacramento has been designated the "lead agency" which is defined as the "public agency which has the principal responsibility for carrying out or disapproving a project."

The Lead Agency Contact:

City of Sacramento Planning Department:

Mark Kraft, Project Coordinator  
Department of Planning and Development  
1231 I Street, Suite 200  
Sacramento, CA 95814  
(916) 264-8116

City of Sacramento Environmental Services Division:

Holly Keeler, Project Manager  
Department of Planning and Development  
Environmental Services Division  
1231 I Street, Suite 301  
Sacramento, CA 95814  
(916) 264-7037

**Responsible Agencies**

A Responsible Agency is a public agency which has discretionary approval over one or more actions involved with the development of a proposed project. The Public Works Department will apply for the permits and approvals necessary for the construction of the proposed interchange. The responsible agencies include, but are not limited to the following:

California Department of Fish and Game (CDFG)

The California Department of Fish and Game (CDFG) maintains jurisdiction over the "waters of the State" which includes any lake, stream, or river containing fish or wildlife resources. The Department of Fish and Game issues Streambed Alteration Agreements for projects within their jurisdiction.

A Streambed Alteration Agreement, while not technically a permit, is required when a project will alter the flow of any lake, stream, or river of the State. These waters begin at the mean high or flood water mark as determined by Fish and Game.

Streambed Alteration Agreements are issued by the Fish and Game Regional Offices and are intended to minimize water quality impacts, protect fish and wildlife habitat, and insure best operating practices, such as erosion control and revegetation. The issuance of a Streambed Alteration Agreement is an administrative, site specific process and is usually issued within 30 days of date of submittal. Since the Agreement is field oriented, submittal is delayed until other government approvals have been obtained so that project engineering and design features will

have been established. Issuance of the agreement is discretionary and subject to arbitration between the applicant and Fish and Game.

#### Additional CDFG Responsibilities

The CDFG, through responsibilities described in the Fish and Wildlife Coordination Act of 1958 and permit review procedures for the U.S. Army Corps of Engineers (USACE), has input to the review process of USACE permits Section 10 and Section 404. Where wetlands will be harmed or destroyed, the CDFG is authorized to comment on conditions to any USACE permit regarding wetlands compensation.

The California Fish and Wildlife Plan (1966, and revisions) states the Department's overall objective is "to maintain all species of fish and wildlife for their intrinsic and ecological values and for their direct benefit to man."

Department of Fish and Game, Region 2  
1701 Nimbus Road, Suite A  
Rancho Cordova, California 95670

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

Pursuant to Section 10 of the River and Harbor Act of 1899 and Section 404 of the Clean Water Act (originally the Federal Water Pollution Control Act of 1972, as amended), the U.S. Army Corps of Engineers (USACE) has jurisdiction over all "navigable waterways" and requires a permit for any work within these waterways.

The issuance of a USACE permit is discretionary and the agency must consider the following laws, orders and regulations in considering issuance of the permits. Section 10 of the River and Harbor Act of 1899 prohibits the unauthorized obstruction or alternation of any navigable waters of the United States. The construction of any structure in or over any navigable water, excavation or deposit of material in such waters, and various types of work performed in such water, including fill and partial stream channelization, are examples of activities requiring a Corps Permit.

Section 10 provides broad review criteria for permit applications including maintenance of navigability, flood control, fish and wildlife resources, and economic factors. In analyzing an application, the Corps generally balances the benefits of a project against potential impacts. application review is focused on proposed river uses and project design; detailed engineering data is usually not required.

Department of the Army Corps of Engineers  
Sacramento District  
1325 J Street  
Regulatory Sections  
Sacramento, Ca 95814-4794

State of California Department of Water Resources (DWR) and Regional Water Quality Control Board (RWQCB)

The State of California Department of Water Resources has water quality standards that are required by Section 303 of the Clean Water Act and the Porter-Cologne Water Quality Control Act. The Water Quality Control Plan, or Basin Plan, prepared by the Regional Water Quality Control Board has established water quality standards and objectives for the Sacramento River and its tributaries. In cases where the Basin Plan does not contain a standard for a particular pollutant, other criteria are used to establish a standard. Other criteria may be applied from State Water Resources Control Board documents (e.g., the Inland Surface Waters Plan, and the Pollutant Policy Document) or from EPA water quality criteria developed under Section 304(a) of the Clean Water Act. The Water Control board's main objective is to ensure that development does not have a negative impact upon the water quality of major waterways. The Regional Water Quality Control Board issues Certificates of Water Quality for projects within their jurisdiction that directly alter the water quality of major waterways or that have the potential to contribute to the degradation of water quality. The Regional Water Quality Control Board is also responsible for issuing National Pollutant Discharge Elimination System (NPDES) Permits. The NPDES Permit is required for any facility or activity that will discharge wastes into any surface waters of the State. If a development project discharges sewage into an existing community sewer system, and the conditions of the sewer system NPDES Permit does not require modification, no permit is required of the project. The City of Sacramento has obtained a National Pollutant Discharge Elimination System (NPDES) permit from the State Water Resources Control Board under the requirements of the Environmental Protection Agency and Section 402 of the Clean Water Act. This goal of this permit is to reduce pollutants found in urban stormwater runoff.

The State of California Department of Water Resources has water quality standards that are required by Section 303 of the Clean Water Act and the Porter-Cologne Water Quality Control Act. The Water Quality Control Plan, or Basin Plan, prepared by the Regional Water Quality Control Board has established water quality standards and objectives for the Sacramento River and its tributaries. These standards are in keeping with the State of California standards. In cases where the Basin Plan does not contain a standard for a particular pollutant, other criteria are used to establish a standard. Other criteria may be applied from State Water Resources Control Board documents (e.g., the Inland Surface Waters Plan, and the Pollutant Policy Document) or from EPA water quality criteria developed under Section 304(a) of the Clean Water Act.

State of California  
Department of Water Resources  
1416 Ninth Street, Room 455-6  
Sacramento, CA 95814  
(916) 445-9454

United States Department of Interior Fish and Wildlife Service

Under the Fish and Wildlife Coordination act, the U.S. Fish and Wildlife Service (USFWS) assesses the impacts on fish and wildlife of all water and related land resource development

projects which are Federally funded or are constructed under a Federal permit or license. The USFWS is also consulted specifically before the issuance of a Section 10 permit by the U.S. Army Corps of Engineers as required by the Fish and Wildlife Coordination Act.

United States Department of Interior  
Fish and Wildlife Service  
1230 N Street, 14th Floor  
Sacramento, CA 94814

## 4. ALTERNATIVES TO THE PROJECT

## 4. ALTERNATIVES TO THE PROJECT

### INTRODUCTION

The purpose of this chapter is to identify and describe the alternatives to the proposed project. Project alternatives are developed to reduce or eliminate the significant adverse environmental effects of the proposed project while attempting to meet the project objectives. The California Environmental Quality Act (CEQA) requires that a No Project Alternative be analyzed within each EIR.

### California Environmental Quality Act (CEQA) Requirements

An EIR is required to contain a discussion of a reasonable range of alternatives to the proposed project, or to the location of the proposed project, that could feasibly attain the basic objectives of the project (CEQA Guidelines, Section 15126[d]). The comparative merits of the alternatives should also be presented. CEQA provides the following guidelines for discussing alternatives to a proposed project:

- If there is a specific proposed project or a preferred alternative, explain why the other alternatives were rejected in favor of the proposal if they were considered in developing the proposal (CEQA Guidelines, Section 15126 [d][1]).
- The specific alternative of the "no project shall also be evaluated along with the impacts of this alternative. If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines, Section 15126 [d][2]).
- The discussion of alternatives shall focus on alternatives capable of eliminating significant adverse effects or reducing them to a level of insignificance, even if these alternatives would partially impede the attainment of the proposed objectives, or would be more costly (CEQA Guidelines, Section 15126 [d][3]).
- If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed (CEQA Guidelines, Section 15126, [d][4]).
- The range of alternatives required in an EIR is governed by the "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The key issue is whether the selection and discussion of alternatives fosters informed decision-making and informed public participation. An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative (CEQA Guidelines, Section 15126 [d][5]).

## ALTERNATIVES CONSIDERED WITHIN THIS EIR

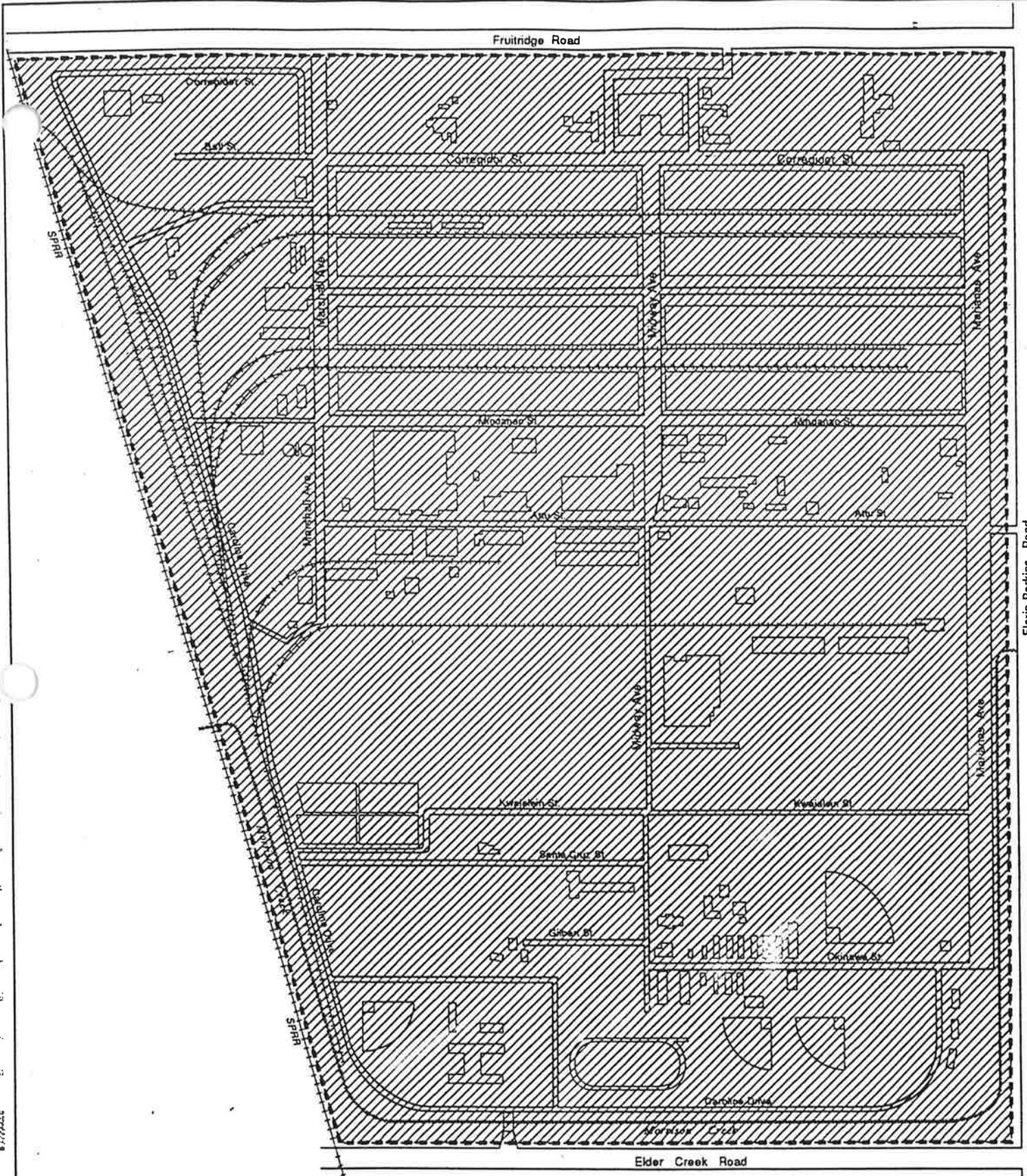
This EIR evaluates two alternatives to the proposed project. Alternative A is the No Project Alternative. Alternative B designates the Army Depot site as an Employment Center. The major characteristics of each alternative are described below. The impacts and mitigations for these alternatives are presented in the technical issue sections of Chapter 6-1.

### Alternative A (AA) - No Project

The No Project Alternative is required by CEQA. This alternative assumes that the entire 485 acres of the Army Depot site will remain designated as Public/Quasi Public (see Figure 4-1). The majority of the site will remain in "Caretaker" status. "Caretaker" status includes only those activities necessary to maintain buildings and landscaping in their current conditions. However, some military-related uses would remain on the site. These military uses employ up to 90 people. Therefore, the 90 anticipated employees in the public\quasi public area serves as the total employment for this alternative.

### Alternative B (AB) - Employment Center

This alternative is the similar to the Employment Center (High Intensity Reuse) alternative in the Federal EIS. As in the proposed project 79.1 acres are designated for public\quasi public use. The remaining 406.1 acres are designated as either Employment Center 50 or Employment Center 35 (see Figure 4.2). These designations refer to the number of Employees per net acre of land. The intent of the Employment Center designation is to provide a flexible zone for primarily employment generation uses, allowing for any type of development (commercial, industrial, or residential) as long as total intensity (employees per acre) of an area fall at or below the designated intensity (this would apply to the entire designated area of the project, not on a project by project basis). The total employment in the Employment Center areas plus the public\quasi public areas is 14,600.



**LEGEND**

 Public/Quasi-Public  
(485 Acres)

**Figure 4-1**

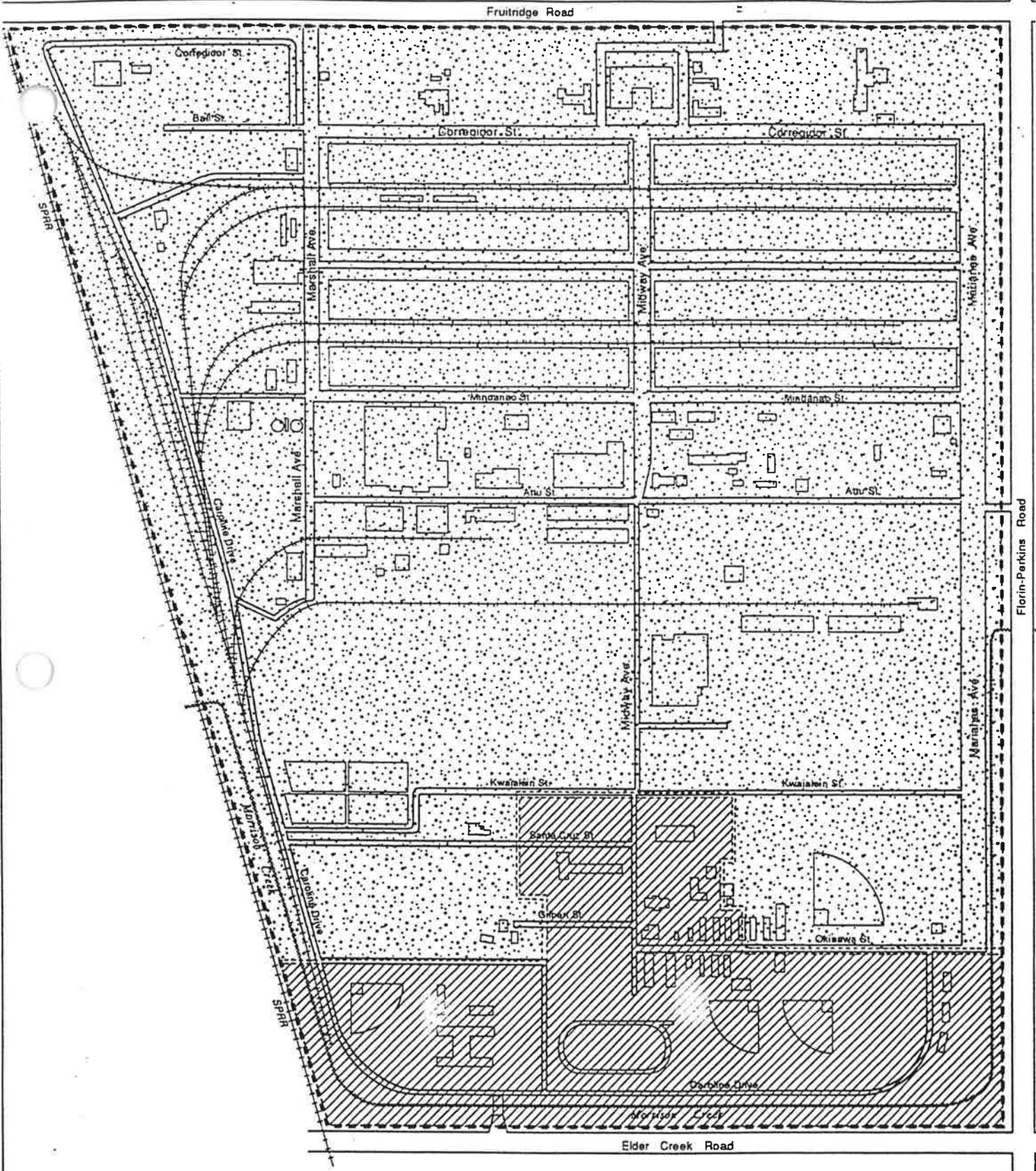
**No Project Alternative**



0 200 400 600  
Scale In Feet

84062





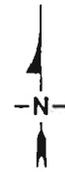
**LEGEND**

-  Public/Quasi-Public (Military Use) (79.1 Acres)
-  Employment Center 35/50 (406.1 Acres)

SOURCE: EIP Associates, 1994.

**Figure 4-2**

**Employment Center Alternative**



0 200 400 600  
Scale In Feet

94062



**5. LAND USE, ZONING, AND CONSISTENCY WITH  
ADOPTED PLANS AND POLICIES**

## 5. LAND USE, ZONING, AND CONSISTENCY WITH ADOPTED PLANS AND POLICIES

### INTRODUCTION

This chapter provides information on the current land use policies and designations applicable to the Army Depot and adjacent area. This section also describes the existing land use on and in the vicinity of the project site.

The proposed Army Depot Reuse Plan is assessed for inconsistencies with the City of Sacramento General Plan, the South Sacramento Community Plan, and the City's Comprehensive Zoning Ordinance. The buildout of the proposed plan is also checked for compatibility with the existing land uses in the area.

This discussion differs from the technical issue sections of this EIR. In this section, consistencies and inconsistencies with local land use plans are identified and addressed. This section does not identify environmental impacts and mitigation measures. Physical environmental impacts that could result from the proposed project or alternatives are discussed in the technical environmental sections of this EIR.

### **Actions Required**

Based on a preliminary review of the proposed project, the City of Sacramento Planning and Development Department has determined that the following approvals would be required by the City Council of Sacramento to implement the proposed plan:

1. *Certification of this EIR* and any other environmental documentation required under CEQA.
2. General Plan Amendment to redesignate 323 acres of the Army Depot from Public/Quasi-Public to Industrial.
3. General Plan Amendment to redesignate 83 acres of the Army Depot from Public/Quasi-Public to Open Space.
4. South Sacramento Community Plan Amendment to redesignate 83 acres of the Army Depot from Industrial to Open Space.
5. Approval of the Sacramento Army Depot Reuse Plan.

The remaining 79.1 acres would retain its current General Plan Public/Quasi-Public land use designation.

## EXISTING CONDITIONS

### Land Use

#### **South Sacramento Community Plan Area**

The Sacramento Army Depot is located within the South Sacramento Community Plan area. The following description of the existing community plan land use characteristics is excerpted from the City's Population and Housing Data by Community Plan Area document published by the City's Planning and Development Department, Planning Division (March, 1993).

The South Sacramento Community Plan was updated in 1986. During that process five older communities (Fruitridge, Colonial, Southgate, Lindale/Florin and Valley Hi) merged to form the new Plan Boundaries. The area is bounded on the north by Fruitridge Road, on the east by Elk Grove-Florin Road (South Watt Avenue), on the south by Sheldon Road, and on the west by the Union Pacific Railroad. The City portion of the community consists of the northeast portion of north of Florin Road and a portion of the area west of Highway 99.

The community is served by Highway 99 which runs north and south through the middle of the area. Full interchanges are located at Fruitridge Road, 47th Avenue, Florin Road and Mack Road. The environmental review has been completed for a new partial clover-leaf interchange in conjunction with the recently constructed Cosumnes River Boulevard. The preliminary planning for an improved interchange at Sheldon Road is being undertaken.

The population has more than doubled in this community since 1975. Most of the growth has occurred south of Mack Road. Growth in the southern part of the community can be attributed to urban infrastructure improvements and the reduction of flooding problems (e.g. Morrison Creek and Laguna Creek) in the area. Development in the County area (e.g. Laguna and Elk Grove) south of this community has also encouraged growth.

Growth of the South Sacramento Community has also occurred as a result of annexation activity. Historically, the Community has been the most active area of the City for annexation petitions. This is primarily driven by the improved level of municipal services in the area, particularly water service. 79 acres of industrially designated land, located east of South Watt Avenue, were annexed in 1990 and 1991. In addition, the City, at the request of affected landowners, has completed a 395+ acre annexation proposal near Cosumnes River College, in the southern portion of the Community. The ultimate land uses for that proposal are presently being addressed with a comprehensive planning process which implement the policies of the SSCP Special Planning District. There will be opportunities for residential and related commercial development.

There are several public and quasi-public facilities located in this community. These facilities are Methodist Hospital, a Kaiser Permanente Medical Complex, Cosumnes River College and the Sacramento Army Depot.

The majority of vacant land in this area is located in the Southern portion of the community. There are also large parcels of skipped over land and infill property scattered throughout the plan area.

### **Florin Perkins Industrial Area**

The Sacramento Army Depot is located within Florin-Perkins Industrial Area. Approximately half of this eight square mile industrial park is located in the South Sacramento Community Plan Area, with the remaining portion located in the East Broadway Community Plan Area of Sacramento. The Florin-Perkins portion of South Sacramento is bounded on the west by Power Inn Road, on the south by the current Sacramento City limits and Elder Creek Road, on the west by Elk Grove-Florin Road, and on the north by Fruitridge Road.

There are several existing land uses in the Florin-Perkins Industrial Area. The primary land uses are Heavy Commercial and Industrial, Institutional and Public Facilities, and Open Space/Vacant Land and Agriculture, each representing approximately one-third of the total acreage. Also, scattered pockets of Low Density Residential (single family) exist throughout the area, but these represent less than five percent of the total land area.

### **Land Uses Adjacent to the Sacramento Army Depot**

Although a portion of the land in the Sacramento Army Depot vicinity is currently vacant, the existing land uses in this area are predominantly industrial. Concrete warehouse buildings are located along Florin Perkins Road, Fruitridge, and Elder Creek Road. The Procter and Gamble Plant and the Air Products Plant are located north of the project site along Fruitridge Road. Harrison's Body and Paint is one of many business located in several industrial-type buildings located east of the Army Depot along Florin-Perkins Road. West Coast Airways Industries is located south of the project site on Elder Creek Road. Between the Southern Pacific Railroad Tracks and Power Inn Road, industrial buildings provide warehousing space for Eastman Building Products, Natoma Forest Products, and Pacific Corrugated Pipe (see Figure 5-1).

The development west of the project site and the Southern Pacific Railroad Tracks appears to be more intense and include a greater mix of land uses. Commercial and industrial uses are located along the eastern side of Power Inn Road and residential neighborhoods are located west of Power Inn Road.

### **Land Uses on the Army Depot Site**

Existing land uses at the Sacramento Army Depot site can generally be classified as follows: (1) Administrative/community services; (2) Cantonment/recreation and training; and (3) Industrial.

The primary administrative areas are located at the northern end of the Sacramento Army Depot. This area includes post headquarters, post restaurant, dispensary, security office, reception center, credit union, and the U.S. Army Reserve Training Center. At the southern end is the cantonment area. This area comprises most of the military support and recreational activities, and the U.S. Naval and Marine Corps Reserve Training Center. Industrial uses are located between these two areas. The industrial area includes a laser test facility, electro-optical maintenance facility, open storage, and a helipad. The Sacramento Army Depot is presently divided into fifteen separate land use areas. Land use acreages are presented in Table 5-1.

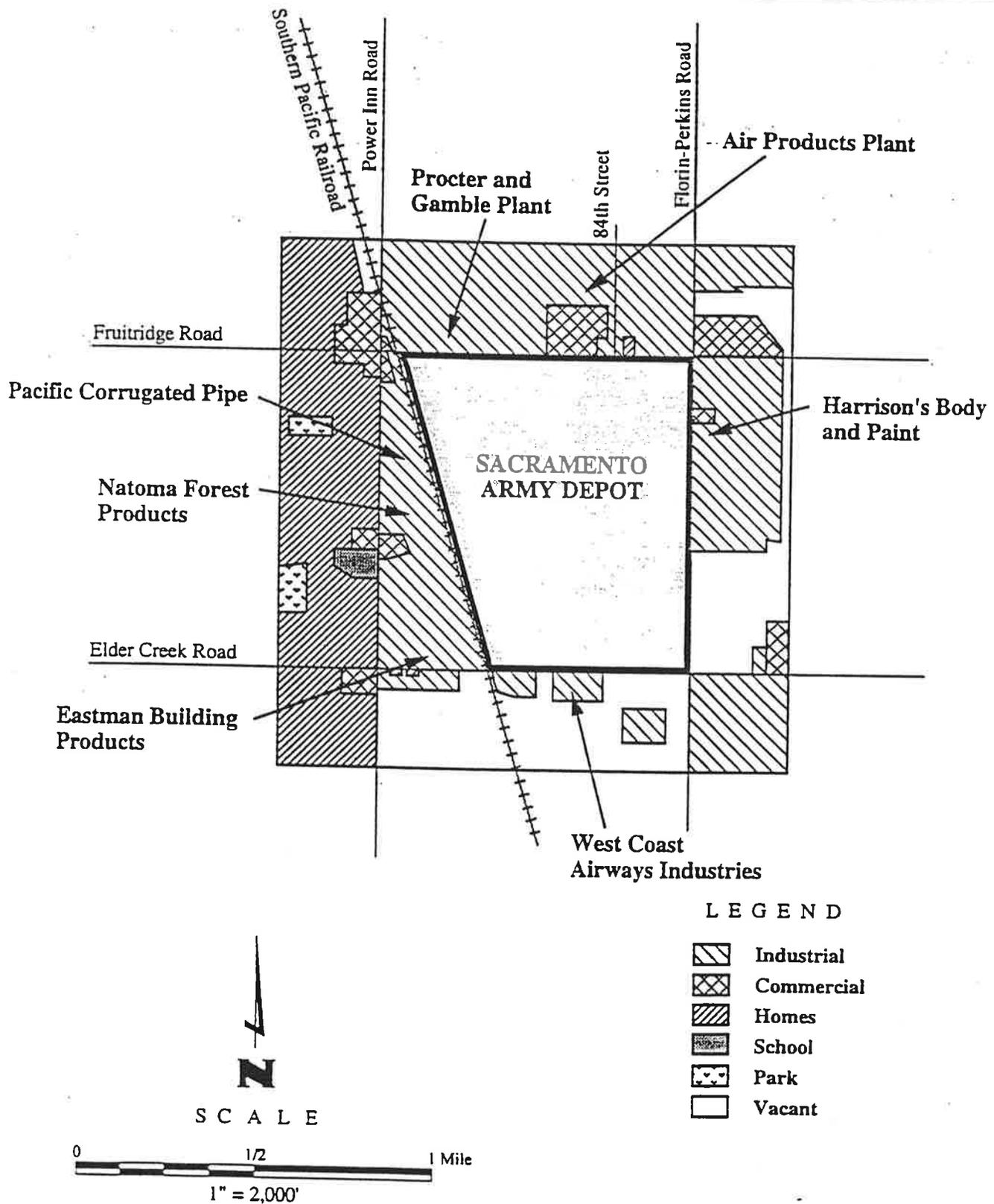


Figure 5-1

Current Land Uses Within One-Quarter Mile of the Sacramento Army Depot

SOURCE: U.S. Army Corps of Engineers, Sacramento District, 1994, *Sacramento Army Depot Disposal and Reuse Environmental Impact Statement, Draft*, January 1994, Sacramento, California, technical assistance from Ebasco Services, Incorporated, Sacramento, California; EIP Associates, 1994.

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<b>TABLE 5-1</b>	
<b>EXISTING ARMY DEPOT DESIGNATED LAND USE AREAS AND ASSOCIATED ACREAGES</b>	
<b>Land Use Designation</b>	<b>Acreage</b>
Service	137.4
Supply	84.0
Maintenance	75.9
Training and recreation	68.1
Open storage	53.1
Administration	16.3
U.S. Naval & Marine Corps Reserve Training Center	14.1
Research, Development, Training, and Evaluation	12.1
U.S. Army Reserve Training Center	7.3
Community	7.0
Troop housing	5.4
Utilities	2.3
Family housing	1.5
Medical	0.6
Helipad	0.2
<b>TOTAL</b>	<b>485.2</b>
<b>SOURCE:</b> Draft Environmental Impact Statement Sacramento Army Depot Disposal Land Reuse Plan, prepared by the U.S. Army Material Command and Army Corps of Engineers - Sacramento District, January 1994.	

The South Sacramento Community Plan (Map 5, p. 14) depicts the existing land use for the Army Depot site as Institutional and Public Facilities. The underlying zone for this designation is industrial and typically corresponds to the surrounding land uses.

**Applicable Land Use Designations**

The Army Depot Reuse Plan project site is located within the planning area of the City of Sacramento General Plan Update (SGPU) and the South Sacramento Community Plan. The site has also been given zoning designations in compliance with the Sacramento Comprehensive

Zoning Ordinance. The land use designations of the City of Sacramento General Plan Update and the South Sacramento Community Plan define the appropriate types, densities and function of uses for each land use designation. The land use land use designations applicable to the Army Depot site and the adjacent properties are defined below:

#### City of Sacramento General Plan Update (SGPU)

The City of Sacramento General Plan designates all of the Army Depot Project Area as Public/Quasi-Public-Misc. The remainder of the Florin-Perkins Industrial Area is designated either Heavy Commercial or Warehouse, or Industrial. These land use designations are defined by the SGPU as follows:

Heavy Commercial or Warehouse: This designation includes lands developed with heavy commercial (printing, bakeries, laundries, etc.), warehousing/distribution, and some light manufacturing activities. Office uses are allowed up to 25 percent of gross floor area, but are typically developed at 10 percent. Office uses of greater than 25 percent require a Special Permit and may be considered on a case-by-case basis.

Industrial Manufacturing: Includes lands designated for most industrial manufacturing processes and activities. Office uses are limited to 25 percent of gross floor area without a Special Permit. This would be a "general industrial" designation that could be applied to most industrial activities that are not warehousing/distribution or employee intensive uses. Types of manufacturing which could be allowed are not regulated by the specific naming of acceptable or unacceptable use, but instead are limited only as far as they do or do not meet specific performance standards.

Public/Quasi-Public-Misc.: There are a number of public or quasi-public facilities in addition to the Army Depot site which serve the Sacramento area, such as McClellan Air Force Base and the North Natomas Sports Complex. The City has limited control over the on-going operations of these facilities.

#### South Sacramento Community Plan

The South Sacramento Community Plan designates all of the Army Depot Reuse Project Area as Industrial. The Army Depot is part of a large contiguous area designated as Industrial in the South Sacramento Community Plan. The boundaries of this industrial block are approximately Fruitridge Road, Elk Grove Florin Road, Power Inn Road, and Elder Creek Road. Several parcels south of Elder Creek Road are also designated as Industrial.

Industrial: This Community Plan designation provides for a wide range of uses that fall within the industrial category, such as manufacturing, food processing or warehousing. Compatible zoning categories are M-1(S) and M-2(S). The (S) overlay indicates that a 25 foot landscaped setback is required.

### Zoning

#### City of Sacramento Zoning Ordinance

The purpose of the City's Zoning Ordinance is to regulate the use of land, buildings, or other structures for residences, commerce, industry, and other uses required by the community.

Additionally, the Zoning Ordinance regulates the location, height, and size of buildings or structures, yards, courts, open spaces, amount of building coverage permitted in each zone, and population density. The Zoning Ordinance's purpose also includes dividing the City of Sacramento into zones of such shape, size, and number best suited to carry out the Ordinance's regulations and to provide for their enforcement, and ensure the provision of adequate open space for aesthetic and environmental amenities.

The City of Sacramento Zoning Ordinance (No.2550, Fourth Series, as amended) established the project site the Army Depot Reuse Project Area as an M-2 (SPD) Heavy Industrial Zone, Special Planning District. The properties adjacent to the Army Depot have also been designated as M-2 (see Figure 5-2). This zone is defined below:

- M-2 Heavy Industrial Zone: This zone permits the manufacture or treatment of goods from raw materials. Like the M-1(S) zone, the M-2(SPD) zone has certain regulations designed to obtain industrial park developments that are in keeping with the modern concept of attractive, landscaped industrial plants.

### Applicable Goals and Policies

Several goals and policies in the Sacramento General Plan Update and the South Sacramento Community Plan are applicable to the proposed Army Depot Reuse Plan.

### **Sacramento General Plan Update**

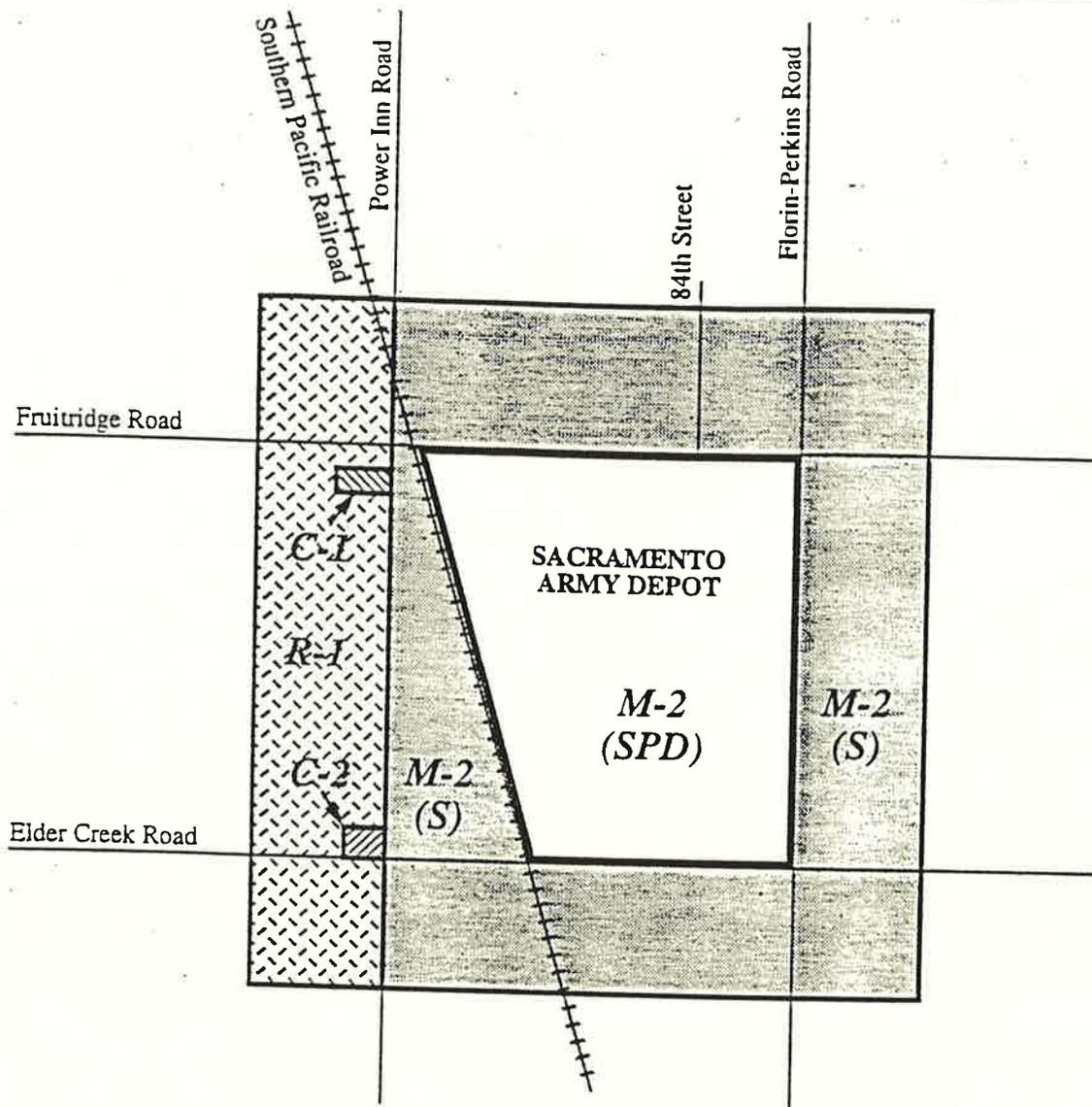
The Sacramento General Plan Update (SGPU) was adopted on January 19, 1988, concluding a 3-year planning effort. The SGPU replaced the heavily amended 1974 General Plan for Sacramento and brought many pressing local issues into a contemporary framework for action. The SGPU is a 20-year policy guide for physical, economic and environmental growth and renewal of the City.

A total of nine sections are contained within the SGPU. Section 4, the Commerce and Industry Land Use Element, addresses the economic development and vitality of the City's Commercial and Industrial districts, including the Florin-Perkins Industrial Area. The Army Depot Reuse project site is designated as Public/Quasi Public by the SGPU. Because of the limited control of the City over this type of land use there are no specific goals and objectives identified for this parcel. However, because the Army Depot is an integral part of the Florin-Perkins Industrial district, the Goals and Policies for this district are employed here.

Overall Goals. The SGPU identifies the following overall goals for Commercial and Industry land use in Sacramento:

#### GOAL B

Promote the re-use and revitalization of existing developed areas, with special emphasis on commercial and industrial districts.



LEGEND

- M-2 (SPD)** Heavy Industrial Zone, Special Planning District
- M-2 (S)** Heavy Industrial Zone, with certain Industrial Park regulations
- C-1** Limited Commercial Zone
- C-2** General Commercial Zone
- R-1** Standard Single Family Zone



SCALE

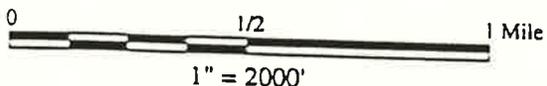


Figure 5-2

CE: U.S. Army Corps of Engineers, Sacramento District, 1994, *Sacramento Army Depot Disposal and Reuse Environmental Impact Statement, Draft*, January 1994, Sacramento, California, technical assistance from Ebasco Services, Incorporated, Sacramento, California; EIP Associates, 1994.

Zoning of Sacramento Army Depot and Surrounding Areas

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GOAL C

Promote new employment opportunities, particularly for the under employed and economically disadvantaged.

GOAL D

Promote economic vitality and diversification of the local economy.

Specific Goals and Policies

HEAVY COMMERCIAL/WAREHOUSE INDUSTRIAL AREAS

GOAL A

Maintain and strengthen Sacramento's role as a major West Coast warehousing/distribution center.

Policy 1

Provide adequate land for expansion of existing facilities and opportunities for new warehousing/distribution activities.

Policy 2

Assist private interests to maintain and strengthen the competitive advantages of Sacramento's warehousing/ distribution industry.

INDUSTRIAL/MANUFACTURING AREAS

GOAL A

Continue to identify and attempt to minimize potential adverse impacts from increased industrial development.

Policy 1

Allow industrial development only in those areas where potential impacts can be expected to be minimized.

Policy 2

Prohibit industrial uses within the American River Parkway. Also, prevent incompatible industrial development adjacent to the American and Sacramento River Parkways.

South Sacramento Community Plan

The 1986 South Sacramento Community Plan (SSCP) serves as a development guide to be used by the public and private sector when planning physical improvements in South Sacramento.

Similar to the General Plan Update, the South Sacramento Community Plan contains an Industrial Land Use Element.

The applicable Goals, Objectives, Policies and Actions within the Industrial Land Use Element of the SSCP which relate to the proposed project are listed below:

#### GOALS

- Encourage new businesses and industries to locate in the Florin-Perkins Industrial Area and in the Luther Drive area, particularly those which are labor intensive and which provide job opportunities for local residents.
- Ensure that industrial uses are designated for areas where they will have minimal adverse impacts on other types of land uses.
- Ensure that industrial uses will have a minimal adverse impact on the environment.

#### Policies and Implementation Measures

1. Industrial developments should be as attractive as possible. All industrially zoned land should be placed within the M-1S or M-2S zones. Landscaping and fencing on screening of storage, junk yards or other outside industrial uses should continue to be required and maintained.
2. Ensure that industrial uses are located in areas where they will impose few or no adverse impacts on other uses.
  - Concentrate new industrial uses in the Florin-Perkins area or the Luther Drive area for light industrial uses (Planning Division).
3. Remove obstacles to industrial development throughout the community, in particular, poor traffic access from freeways and visual blight.
4. Ensure that industrial uses will have minimal adverse impacts on the environment.

### Compatibility with Adjacent Land Uses and Consistencies with Adopted Plans and Zoning

#### Methods

This section is divided into three separate analyses: (1) Land Use Compatibility, (2) Zoning Consistency, and (3) Consistency with Adopted Plans and Policies. Environmental impacts resulting from the proposed project or alternatives are discussed in the respective environmental categories (e.g., Traffic Section for significant traffic impacts and Air Quality Section for air quality impacts). An inconsistency is identified if the proposed project or alternatives are inconsistent with the City's Comprehensive Zoning Ordinance or any applicable adopted plans. This sections differs from other discussions in that plan consistencies are addressed as opposed

to environmental impacts and mitigation measures. This discussion complies with Section 15125 (b) of CEQA Guidelines which requires EIRs to discuss inconsistencies as part of the environmental setting.

### Compatibility with Adjacent Land Uses

The development associated with the Army Depot Reuse Plan is evaluated for its compatibility with the existing land uses adjacent to the project site. The evaluation considers the type and intensity of uses in the project vicinity and those existing on the project site. The analysis will evaluate the proposed project and alternatives against the existing environment and will determine if it is compatible with those existing and planned uses surrounding the project site. As stated above, the respective environmental sections are referred to for discussion of any significant physical/environmental impacts that are identified (e.g., Traffic Section for significant traffic impacts and Air Quality Section for air quality impacts).

### Zoning Consistency

The proposed Sacramento Army Depot Reuse Plan is compared to the City's Comprehensive Zoning Ordinance to identify any inconsistencies. An inconsistency with the zoning ordinance does not constitute a physical environmental impact. Zoning inconsistencies are eliminated in one of two ways: (1) change an element of the project to be consistent with the zoning requirements (e.g., modify parking spaces to be consistent with the minimum standards), or (2) grant approval of the appropriate entitlement to waive the zoning ordinance requirements. No environmental threshold exists for this category as it does not result in a direct environmental impact.

### Consistency with Adopted Plans and Policies

This section discusses any inconsistencies between the proposed Sacramento Army Depot Reuse Plan and the adopted land use designations related to the project site. This consistency analysis considers the adopted goals and policies of the Sacramento General Plan Update and the South Sacramento Community Plan. Mitigation measures are not identified for any inconsistencies identified; however these inconsistencies may be considered in the determination of physical environmental impacts identified in the technical issue sections of this document.

## **Compatibility/Consistency**

### Compatibility

#### 5-1 Compatibility With Existing Uses

- PP The proposed project would redesignate the majority of the site as Industrial. A portion of the site would remain as Public/Quasi-Public and would be allowed to continue the existing military operations or a similar use by another public agency. The proposed project also includes the preservation of approximately 83 acres as open space.

The redesignation of the Army Depot site to Industrial would allow warehousing and manufacturing uses to develop on the site. These types of industries are similar to the historical use of the site by the Army. Additionally, the adjacent properties are either currently vacant or include industrial land uses. Development consistent with the proposed Army Depot Reuse Plan would be considered compatible with the existing uses of the properties adjacent to the project site.

- AA Under the No Project Alternative, the Sacramento Army Depot would remain in caretaker status. New development would not occur on the site and the use of the site would be limited. The No Project Alternative would be considered compatible with the existing and planned uses adjacent to the site.
- AB Like the proposed project, Alternative B retains the Public/Quasi-Public designation on southern portion of the site; however, the remainder of the site would be redesignated as Employment Center. The Employment Center designation would provide the flexibility for a mixture of uses to be developed on the site, including industrial, commercial, and residential development. Residential development is typically considered a sensitive receptor of noise, air pollutants, and hazardous substances. The development of new residential units on the site may be considered incompatible with the existing land uses in the area of the Army Depot because of the noise levels and potential for toxic air emissions associated with some industrial uses and because of the existing hazardous substances on the project site.

### Consistency

#### 5-2 Consistency With the Sacramento Comprehensive Zoning Ordinance

- PP - The proposed project would require a Heavy Industrial Zone (M-2) designation. The City Council has recently approved a rezone to designate the Army Depot site as M-2 (SPD), which identifies the site as Heavy Industrial, Special Planning District. The proposed Army Depot Reuse Plan is consistent with this designation; however, the City of Sacramento Planning Division has indicated that a new SPD designation may be prepared for the site. The new SPD would include new design guidelines for building heights and setbacks.
- AA The No Project Alternative would be consistent with the current M-2 (SPD) zoning designation.
- AB Alternative B may include a mixture of land uses on the project site. The attainment of a Special Planning District to the zoning may allow the development of land uses other than the primary designation of Heavy Industrial. Therefore, Alternative B is considered consistent with the existing zoning on the site.

5-3 Consistency with the Sacramento General Plan Update

- PP The proposed project would include the redesignation of 323 acres of the Army Depot site to Industrial and 83 acres to Parks, Recreation, and Open Space. The loss of the Public/Quasi-Public designated lands is not inconsistent with any of the goals and policies of the General Plan. With approval of the General Plan Amendments, the development of the project site as described in the proposed Army Depot Reuse Plan would be consistent with the Industrial land use designation and the goals and policies of the General Plan's Commerce and Industrial Land Use Element. The Commerce and Industrial Land Use Element calls for increased diversification of the local industrial base as well as increased economic development and employment opportunities for City residents.
- AA The No Project Alternative would not necessitate a General Plan Amendment, and the proposed caretaker status would be consistent with the existing Public/Quasi-Public designation.
- AB Alternative B would require a General Plan Amendment to redesignate the site from Public/Quasi-Public to Employment Center. The loss of Public/Quasi-Public designated lands is not considered inconsistent with any of the goals and policies of the Sacramento General Plan. With the approval of the General Plan Amendment, the development of the Army Depot site as described for Alternative B would be consistent with the Employment Center Designation and the goals and policies of the General Plan's Commerce and Industrial Land Use Element. The Commerce and Industrial Land Use Element calls for increased diversification of the local industrial base as well as increased development and employment opportunities for City residents.

5-4 Consistency with the South Sacramento Community Plan

- PP The Army Depot is currently designated Industrial in the South Sacramento Community Plan. The approval of the Army Depot Reuse Plan would require a Community Plan Amendment to redesignate 83 acres of the site to Open Space. The redesignation of the 83 acres from Industrial to Open Space would not conflict with any existing South Sacramento Community Plan policies, and the open space area would not negatively affect the surrounding Industrial land uses. Therefore, the proposed project is consistent with the South Sacramento Community Plan.
- AA A Community Plan Amendment would not be required for the No Project Alternative. Therefore, the No Project Alternative is considered consistent with the South Sacramento Community Plan.
- AB Alternative B would require a South Sacramento Community Plan Amendment to create and define an Employment Center designation. This new land use

designation would need to be applied to the majority of the Army Depot site through an additional Community Plan amendment. Because a new Community Plan land-use designation would need to be created for this alternative, Alternative B would be considered inconsistent with the South Sacramento Community Plan.

## 6. ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

## 6.1 INTRODUCTION TO THE ANALYSIS

## 6.1 INTRODUCTION TO THE ANALYSIS

### SCOPE OF THE ENVIRONMENTAL IMPACT REPORT

This document is designed to be a program Environmental Impact Report (EIR) as defined in CEQA Guidelines Section 15168. On March 25, 1994, the City of Sacramento's Environmental Services Division issued a Notice of Preparation (NOP) for the Army Depot Reuse Plan Project. The NOP, public comments on the NOP, and City staff's preliminary evaluation of the proposed project identified the following environmental issues to be evaluated in the EIR:

- Hydrology and Water Quality
- Transportation and Circulation
- Public Services and Utilities
- Air Quality
- Biological Resources

The environmental effects listed above are discussed in the following sections 6.2 through 6.6. In addition, Section 15125(b) of the CEQA Guidelines requires that the existing land use setting of EIR discuss any inconsistencies that result when the proposed project is compared with adopted land use plans. This consistency discussion is presented in Chapter 5, Land Use, Zoning and Consistency, with Adopted Plans and Policies, of this EIR and is not treated as a physical environmental impact.

### ISSUES NOT INCLUDED IN THIS EIR

Several issues were determined not to be significant and are not discussed in this EIR. These issues are identified below:

- Earth
- Noise
- Light and Glare
- Natural Resources
- Risk of Upset
- Population
- Housing
- Energy
- Human Health
- Aesthetics
- Recreation
- Cultural Resources

These issues were dismissed for one of three reasons: (1) existing regulations will assure that the impact will be lessened to a less than significant level, (2) the issue is social or economic and not a physical environmental impact, or (3) the issue does not apply to the project site evaluated in

this Draft EIR. In addition, this Draft EIR has relied upon the analysis prepared for the Army Depot Disposal and Reuse EIS, which has been incorporated by reference.

### EVALUATION OF ALTERNATIVES IN THE EIR

As required by Section 15126(d) of the CEQA Guidelines, this EIR evaluates the comparative impacts of a "range of reasonable alternatives to the project". This EIR considers two alternatives for the project site. The alternatives, described in Chapter 4, also include the CEQA mandated "No Project" Alternative which would maintain the Army Depot in "caretaker" status.

### CUMULATIVE IMPACTS

According to CEQA "cumulative impacts refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (CEQA Guidelines, Section 15355). CEQA requires that cumulative impacts be discussed when they are significant (CEQA Guidelines, Section 15130, subd. [a]). Section 8-1 of this Draft EIR compiles the cumulative impacts that are significant.

The impact analysis in the sub-chapters includes an assessment of the environmental impacts of the proposed project as they relate to the planned cumulative development. The cumulative development for the project area includes the buildout projected in the General Plan for the City of Sacramento and the South Sacramento Community Plan.

### PRESENTATION OF THE IMPACT ANALYSIS

This chapter is divided into sections which address environmental setting, standards of significance, impacts to the environmental setting, and feasible mitigation measures for impacts identified. This analysis is conducted for hydrology, water quality, transportation and circulation, air quality, biology, wastewater, solid waste, water supply, energy and telecommunications, and police and fire protection services.

The environmental setting and standard of significance discussion establishes the base and threshold by which the proposed project and alternatives are measured and analyzed. The setting discussion addresses the conditions that will exist prior to project development (e.g., traffic conditions, air quality conditions, etc.). This setting is the base by which the project and alternatives are measured for environmental impacts. A standard of significance is identified for each environmental category to determine if the project will result in a significant environmental impact when evaluated against the environmental setting. This standard of significance varies depending on the environmental category.

Impacts and feasible mitigation measures are presented, where appropriate, for each environmental category. The project specific and cumulative impacts are listed in one of three ways throughout the discussion: (1) no impact, (2) less-than-significant, or (3) significant. Feasible mitigation measures are always identified for those impacts found to be significant, but may or may not be present for those found to be less-than-significant. An impact will be considered significant and unavoidable if there are no feasible mitigation measures available to

reduce the impact to a less-than-significant level. Each mitigation measure presented in this Draft EIR is feasible from a technological standpoint.

## 6.2 TRANSPORTATION AND CIRCULATION

## 6.2 TRANSPORTATION AND CIRCULATION

### INTRODUCTION

This report presents a comprehensive circulation analysis prepared for the Sacramento Army Depot property, a 485.2 acre site in the City of Sacramento. The site is located in southeast Sacramento, bounded by Fruitridge Road on the north, Elder Creek Road on the south, Florin Perkins Road to the east and Power Inn Road on the west.

The analysis provides an assessment of circulation conditions associated with future development alternatives for the site following closure of the Sacramento Army Depot. The proposed project consists of a reuse plan which will enable transfer of land from federal ownership to private ownership, and subsequent industrial development. This report includes a detailed evaluation of existing circulation conditions in the area and analysis of projected traffic conditions in the vicinity of the site considering a year 2010 planning horizon. Circulation system impacts as well as mitigation measures required to accommodate development of the Reuse Alternatives have been identified. Travel characteristics associated with recent activity at the Army Depot site have also been quantified to serve as a basis for evaluating the net impacts of future development potential on the site. This recent activity accounts for trip characteristics at the Army Depot at the time in that existing intersection and roadway volumes were inventoried (Spring 1993) within the study area.

Reuse development alternatives analyzed for the site include: (1) the proposed project, consisting of industrial uses with the potential for 7,499 employees on the site, (2) a higher density alternative consisting of employment center uses with the potential for 14,600 employees on the site and (3) the "no project" alternative which assumes only "care-taker" uses on the site. Because "care-taker" uses employ only 90 persons, this is effectively a "no project" alternative. Subsequent to the preparation of this traffic analysis, the Army Depot Reuse Plan was amended to reflect a maximum employment generation of 6,000 employees. The analysis is considered to assume a worst case scenario for project impacts.

Major streets in southeast Sacramento providing circulation to the site and linking the site to the regional street and highway system have been evaluated in this analysis. The report focuses on thirteen (13) key intersections in the study area which are largely representative of overall circulation conditions and govern peak period traffic flows through this portion of Sacramento. Transit facilities serving the area have also been identified.

The methodology employed in this analysis makes use of existing technical resources. Traffic counts provided by the City of Sacramento have been supplemented with daily traffic counts and peak hour intersection counts throughout the study area. Future traffic projections have been developed using the regional traffic model developed for the Sacramento Metropolitan Area (SACMET traffic model). Recent traffic operations at the site have been quantified using traffic count data gathered at entrances to the site and through discussion with Army Depot staff regarding employee travel characteristics and shift schedules.

## SETTING

### Existing Street System

The project site is located in the southeastern portion of the City of Sacramento. Regional access to the site is provided by Highway 50 approximately two miles to the north and Highway 99 three miles to the west. A grid system of arterial streets located on one mile spacing provides circulation through the study area and links the project site to the regional highway system. Major streets providing circulation through the study area are discussed below.

#### East/West Streets

##### Fruitridge Road

Fruitridge Road is an east/west arterial linking Interstate 5 in the west to Elk Grove Florin Road at the eastern City Limit. Through the majority of study area, the roadway provides four travel lanes with a center turn lane. East of Florin Perkins Road, Fruitridge Road transitions to two travel lanes. This segment of the roadway is currently striped for two travel lanes, however, segments of the road have been improved in conjunction with adjacent development.

The roadway borders the north end of the project site and provides direct access to the site via two signalized intersection locations (i.e., at an alignment with the Procter and Gamble entrance and at 84th Street). Current daily volumes on the roadway through the study area range from 20,700 ADT west of Power Inn Road to 9,850 ADT east of Florin Perkins Road. The current daily volume adjacent to the site consists 14,100 ADT.

##### Elder Creek Road

Elder Creek Road is an east/west facility bordering the south end of the project site linking Highway 99 and Franklin Blvd in the west to Bradshaw Road in Sacramento County east of the City Limit. West of Power Inn Road, the roadway provides four travel lanes with a center turn lane. East of Power Inn Road, Elder Creek Road transitions to three and to two travel lanes.

West of Stockton Blvd., the roadway is designated as 47th Avenue and terminates at 24th Street west of Highway 99. Current daily volumes on the roadway range from 16,200 ADT west of Power Inn Road to 9,150 ADT east of Elder Creek Road. The current daily volume adjacent to the project site is 13,100 ADT.

##### Florin Road

Florin Road is a major east/west arterial traversing south Sacramento one mile south of the project site. The facility links I-5 and the pocket area in the west and extends approximately seven miles into Sacramento County to the east, ultimately terminating at Sunrise Blvd.

14th Avenue

14th Avenue provides east/west circulation to the north of the site, linking Power Inn Road in the east to 12th Avenue and Highway 99 in the west. The roadway is planned to be ultimately extended to the east to Florin Perkins Road.

**North/South Streets**Florin Perkins Road

Florin Perkins Road is a north/south five lane facility (four travel lanes with center turn lane) bordering the east side of the project site, linking Florin Road in the south to Folsom Blvd. in the north. The roadway provides direct access to the project site via a signalized intersection at Thys Court and an unsignalized driveway north of Elder Creek Road. Currently, Florin Perkins Road carries 18,250 ADT adjacent to the site.

Power Inn Road

Power Inn Road is a north/south arterial just west of the project site providing a link to Highway 50 and becomes Howe Avenue north of the highway. To the south, Power Inn Road extends beyond the City Limits to Calvine Road in Sacramento County. In the vicinity of the project site, Power Inn Road provides four travel lanes with a center turn lane and carries 25,200 ADT. Daily volumes range from 23,800 ADT south of Elder Creek Road to 26,600 ADT between 14th Avenue and Folsom Boulevard.

Elk Grove Florin Road

Elk Grove Florin Road is a north/south arterial one mile east of the project site extending into Sacramento County to the south and transitioning to become Watt Avenue in the north. The roadway currently provides two travel lanes through the study area and carries from 15,000 ADT south of Elder Creek Road to 18,000 ADT north of Fruitridge Road.

65th Street

65th Street is designated as an expressway and provides north/south circulation through the study area one mile west of the project site. The facility extends from Highway 50 in the north to Florin Road in the south. West of the project site, 65th Street provides four travel lanes with a raised median and currently carries from 16,000 ADT south of Elder Creek Road to 20,600 ADT north of Fruitridge Road.

Existing Transit Service

Regional Transit (RT) presently provides transit service throughout the Sacramento Metropolitan area. Current transit service in the vicinity of the study area consists of both bus and light rail service, although light rail service is located approximately 1.5 miles to the north of the site.

## Light Rail

Regional Transit Metro light rail service is provided adjacent to Folsom Blvd approximately 1.5 miles north of the project site. The Power Inn and College Greens stations provide access to the Metro line in the vicinity of Power Inn Road and Florin Perkins Road respectively. Service is provided on 15 minute headways throughout the weekday. Available RT Metro capacity consists of 700 persons per train (standing room, 4 cars x 175 passengers per car).

## Bus Service

Regional Transit bus service is provided directly to the site along Fruitridge Road via Route 51. Route 51 in turn provides transfers to Routes 50, 54, 55, 57, 61, 62, 67, 68, and 81 via the transfer station located near Florin Road and 65th Street. Monday through Friday, Route 51 operates with 30 minute frequencies during the day. One peak period morning trip and one afternoon trip operate on Fruitridge Road between Power Inn Road and Elk Grove Florin Road to provide direct service to the Army Depot site.

## Existing Traffic Volumes

Traffic volumes in the study area reflect the directionality of commuter activity and traffic flows associated with commercial and residential activity to the west and south of the site, as well as circulation to regional facilities to the north and west (i.e., Highways 50 and 99 respectively). To assess existing traffic conditions, existing daily and peak hour traffic count information was compiled. Daily 24-hour traffic counts were performed throughout the study area and supplemented with available counts provided by the City of Sacramento Transportation Division. Peak hour counts at key area intersections were also conducted during the A.M. and P.M. peak traffic hours. Counts were performed in two hour intervals (7:00 - 9:00 A.M., 4:00 - 6:00 P.M.) to obtain the maximum one hour interval. Peak traffic volumes generally occur from about 7:15 - 8:15 A.M. and 4:30 - 5:30 P.M. at the majority of study intersections.

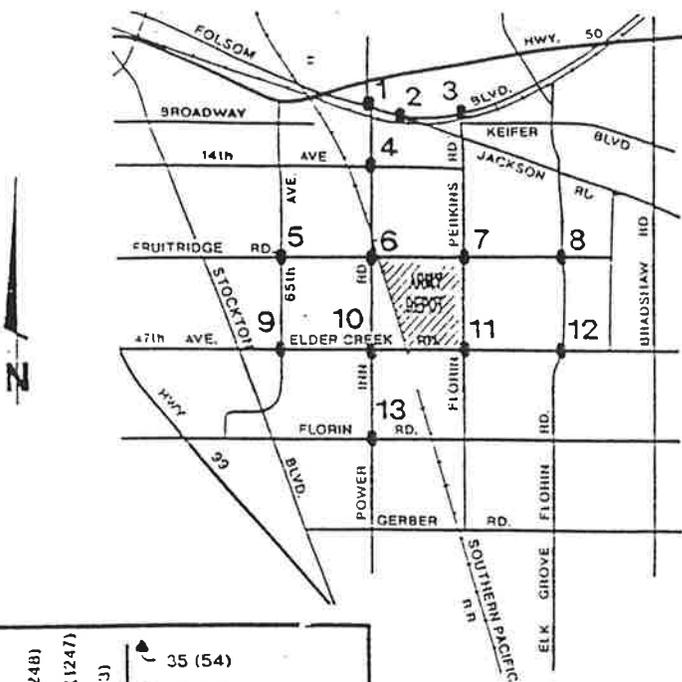
Counts were also conducted at the driveways serving the Army Depot. Daily traffic volume counts, as well as morning and evening peak hour turning movement counts, were performed at each of the five driveways currently serving the facility.

Thirteen (13) critical intersection locations have been identified for analysis in this report. Intersection study locations, peak hour volumes and daily roadway segment volumes throughout the study area are displayed in Figures 6.2-1 and 6.2-2.

Daily traffic volumes are a useful indicator of the overall magnitude of traffic and can be used to generally identify overall traffic conditions. As such, daily traffic volumes are the basis for analysis for major planning documents, such as the City of Sacramento General Plan.

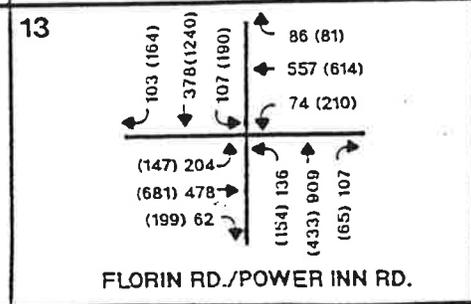
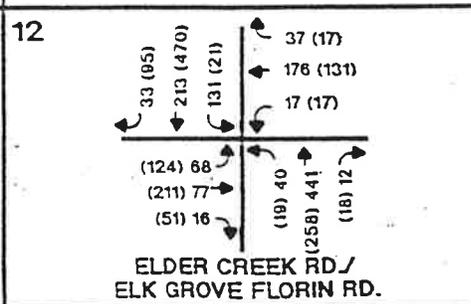
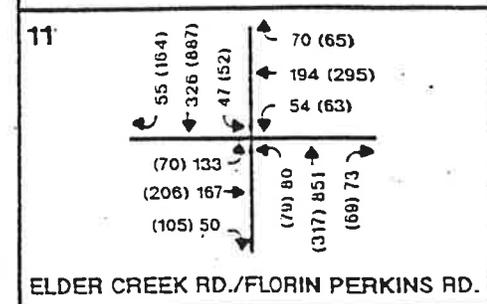
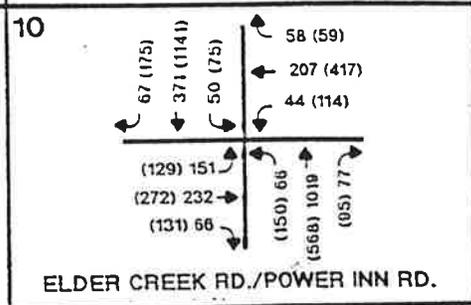
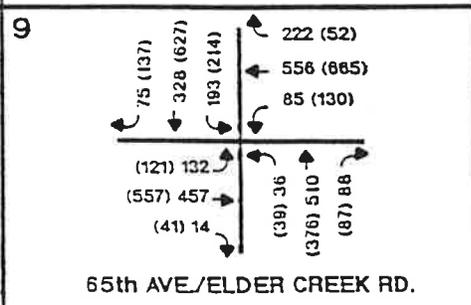
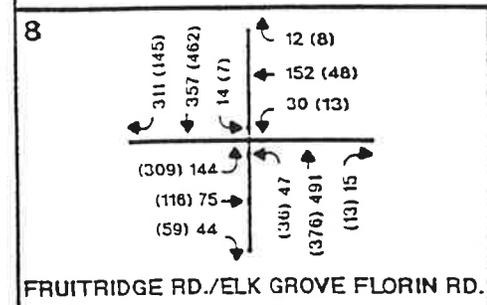
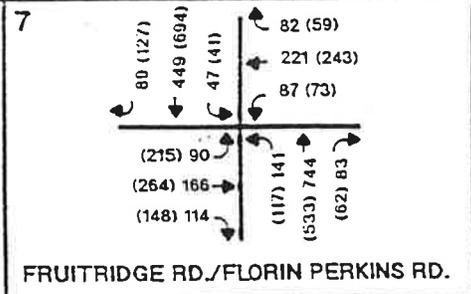
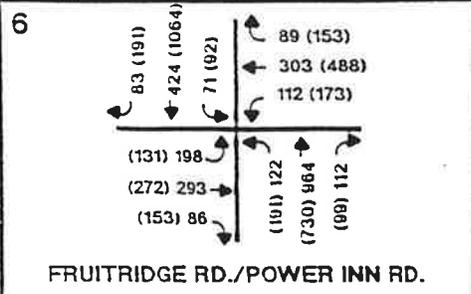
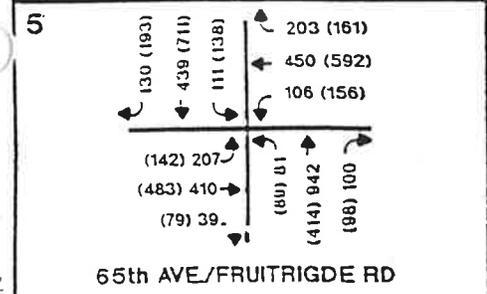
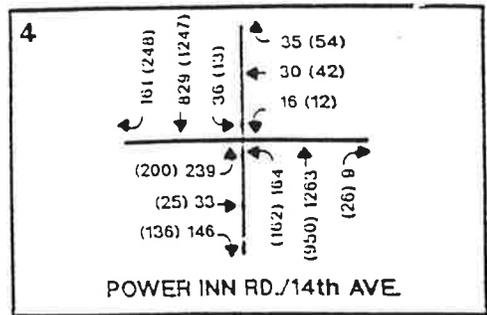
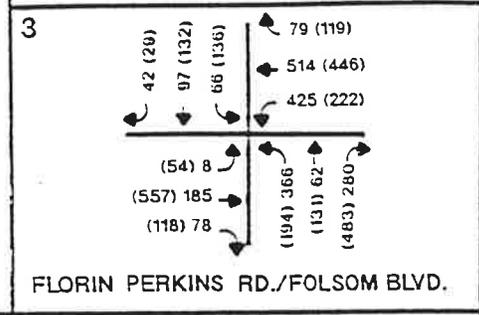
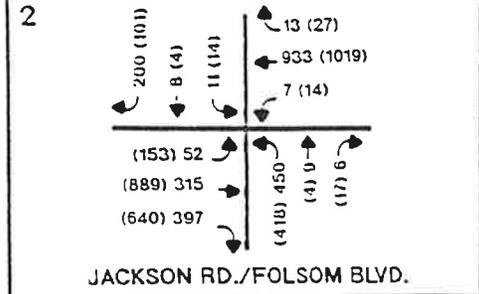
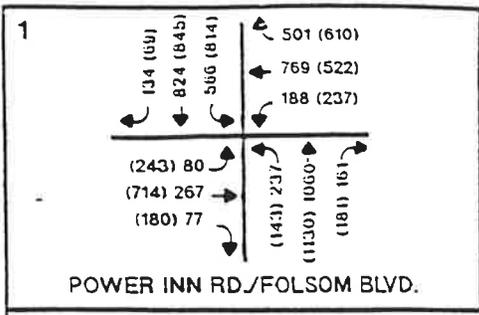
A more precise analysis of worst case traffic conditions is provided by consideration of traffic volumes during peak hours throughout the day. In general, traffic volumes peak during the morning (7:15 A.M. to 8:15 A.M.) and evening (4:30 P.M. to 5:30 P.M.) commute periods. This characteristic was found to be applicable within the study area.





### LEGEND

XX AM PEAK HOUR  
 (XX) PM PEAK HOUR



## Intersection and Roadway Evaluation Methodology

To quantitatively evaluate existing traffic operating conditions, peak hour intersection and daily roadway segment Levels of Service were determined. "Level-of-Service" (LOS) is a measure of the quality of traffic operations whereby a LOS grade "A" through "F", representative of progressively worsening conditions is calculated for an intersection or street segment. Table 6.2-1 presents the characteristics associated with each LOS grade for intersections and roadway segments. As shown in Table 6.2-1, LOS "A", "B" and "C" are considered satisfactory to most motorists, while LOS "D" is marginally acceptable. Level-of-Service "E" and "F" are associated with congestion and delay and are unacceptable to most motorists.

Currently, the City of Sacramento has adopted LOS "C" as an operational threshold beyond which mitigations are required to support additional development. Thus the primary measure of a significant negative impact is the LOS "C" operational threshold. In addition, City policy at intersections which operate below the LOS "C" threshold (i.e., LOS "D", "E" or "F") defines a significant impact by an increase in the volume to capacity ratio (V/C) of 0.02 or more due to traffic added by a specific project or development.

For **unsignalized intersections**, reserve capacity criteria is used for Level of Service analysis. Levels of Service at unsignalized intersections which are controlled by side street stop signs are indicative of the magnitude of the delay incurred by motorists yielding the right-of-way at the intersection. Because these calculations ignore the condition of through traffic flow (which is assumed to proceed freely), a supplemental traffic signal warrant analysis is performed. Thus, while the unsignalized Level of Service may indicate very long delays for a particular turning movement (i.e., LOS "E" or "F"), traffic conditions are generally not assumed to be unacceptable unless signal warrants are satisfied. The signal warrant criteria used for this study is based upon peak hour volume criteria as presented in the Manual of Uniform Traffic Control Devices (MUTCD) published by the Federal Highway Commission.

Table 6.2-2 displays daily roadway volumes indicative of each Level of Service grade. In general, operating Levels of Service are calculated for an intersection or roadway segment to define peak hour operations. Daily volumes are also used as an indicator of overall roadway operations, and are particularly applicable when using long range traffic forecasts. Table 6.2-2 displays resulting Level of Service criteria in terms of daily volume thresholds on urban streets. These criteria are consistent with analysis methodology as identified in the SGPU.

## Existing Intersection and Roadway Operations

### **Intersections**

Current intersection Levels of Service are displayed in Table 6.2-3. As shown, current intersection operations range from Level of Service "A" to "F" at the signalized study locations. Two of the signalized intersection locations currently operate at LOS "D", with one location operating at LOS "E" and one at LOS "F" during the afternoon peak traffic hour. Level of Service "D," "E" and "F" are considered unsatisfactory based upon City of Sacramento criteria. The four signalized intersections operating below LOS "C" are all located along Power Inn Road,

**TABLE 6.2-1**  
**LEVEL OF SERVICE DEFINITIONS**

Level of Service	Signalized Intersection	Unsignalized Intersection	Roadway (daily)
"A"	Uncongested operations, all queues clear in a single-signal cycle. V/C $\leq$ 0.60	Little or no delay. Reserve Capacity $>$ 400	Completely free flow.
"B"	Uncongested operations, all queues clear in a single cycle. V/C = 0.61-0.70	Short traffic delays. Reserve Capacity 300 - 399	Free flow, presence of other vehicles noticeable.
"C"	Light congestion, occasional backups on critical approaches. V/C = 0.71-0.80	Average traffic delays. Reserve Capacity 200 - 299	Ability to maneuver and select operating speed affected.
"D"	Significant congestions of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. V/C = 0.81-0.90	Long traffic delays. Reserve Capacity 100 - 199	Unstable flow, speeds and ability to maneuver restricted.
"E"	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). V/C = 0.91-1.00	Very long traffic delays, failure, extreme congestion. Reserve Capacity 0 - 99	At or near capacity, flow quite unstable.
"F"	Total breakdown, stop-and-go operation. V/C $>$ 1.00	Intersection blocked by external causes.	Forced flow, breakdown.

SOURCES: 1985 Highway Capacity Manual, Transportation Research Board (TRB) Special Report 209; V/C (volume to capacity) ratios ranges from TRB Circular 212; kd Anderson Transportation Engineering, 1994.

TABLE 6.2-2

## DAILY VOLUMES ASSOCIATED WITH LEVELS OF SERVICE

Facility Type	LOS "C" ADT Volumes	LOS "D" ADT Volumes	LOS "E" ADT Volumes
<u>Urban Street</u>	<u>V/C 0.71 - 0.80</u>	<u>V/C 0.81 - 0.90</u>	<u>V/C 0.91 - 1.00</u>
Two Lane	10,700 - 12,000	12,000 - 13,500	13,500 - 15,000
Four Lane	21,300 - 24,000	24,000 - 27,000	27,000 - 30,000
Six Lane	32,000 - 36,000	36,000 - 40,500	40,500 - 45,000
Eight Lane	42,600 - 48,000	48,000 - 54,000	54,000 - 60,000

SOURCES: Transportation Research Board, Circular 212 and the 1985 Highway Capacity Manual: kd Anderson Transportation Engineering, 1994.

TABLE 6.2-3

## EXISTING INTERSECTION LEVELS OF SERVICE

Location	Intersection Control	A.M. Peak Hour		P.M. Peak Hour	
		LOS	V/C	LOS	V/C
1. Folsom Blvd/Power Inn Rd	signal	D*	0.81	F*	1.07
2. Folsom Blvd/Jackson Hwy/ Notre Dame Dr	signal	B	0.64	B	0.65
3. Folsom Blvd/Florin Perkins Rd/ Julliard Dr	signal	B	0.61	B	0.63
4. 14th Avenue/Power Inn Rd	signal	B	0.65	D*	0.82
5. Fruitridge Rd/65th Street	signal	C	0.74	B	0.64
6. Fruitridge Rd/Power Inn Rd	signal	B	0.67	C/D	0.81
7. Fruitridge Rd/Florin Perkins	signal	A	0.45	A	0.58
8. Fruitridge Rd/Elk Grove Florin	4-way stop	E**	0.89	E**	0.87
9. Elder Creek Rd/65th Street	signal	B	0.66	B	0.65
10. Elder Creek Rd/Power Inn Rd	signal	B	0.61	C	0.79
11. Elder Creek Rd/Florin Perkins	signal	A	0.51	A	0.54
12. Elder Creek/Elk Grove Florin	4-way stop	D	0.84	D**	0.84
13. Florin Rd/Power Inn Rd	signal	C/D	0.80	E*	0.96

LOS = Level of Service (City standard = LOS "C", v/c = 0.80 or better).

V/C = Volume to Capacity Ratio.

\* Exceeds City standards for acceptable signalized intersection operation.

\*\* Signalization warranted based upon peak hour approach volume.

SOURCE: kd Anderson Transportation Engineering, 1994.

at Folsom Blvd, 14th Avenue, Fruitridge Road, and Florin Road. Afternoon operations at the fifth Power Inn Road study location (ie., at Elder Creek Road) are marginally acceptable (LOS "C,"  $v/c = 0.79$ ) during the P.M. peak traffic hour.

The Elk Grove Florin Road intersections with Fruitridge Road and Elder Creek Road are currently controlled by stop signs at each approach. The Elder Creek Road/Elk Grove Florin Road intersection currently experiences overall LOS "D" delays during the A.M. and P.M. peak traffic hours. Signalization is currently warranted based upon review of P.M. peak hour approach volumes. The Fruitridge Road/Elk Grove Florin Road intersection currently operates at LOS "E." Signalization is currently warranted based upon both A.M. and P.M. peak hour approach volumes.

### **Driveway Intersections**

Access to the Army Depot site is provided via five main driveway access points. These consist of three access points to Fruitridge Road and two driveways along Florin Perkins Road. Two of the access locations along Fruitridge Road, as well as the Thys Court access to Florin Perkins Road, are signalized. Peak hour turning movement counts were conducted at the signalized driveway intersections. These counts indicate that all of the signalized driveway intersections currently experience Level of Service "A" operation during the both the morning and evening peak traffic hours.

### **Intersection Mitigations Currently Required to Provide LOS "C"**

A summary of intersection improvements currently needed to provide LOS "C" operations during both the AM and PM peak traffic hours is provided below.

*Power Inn Road/14th Avenue:* add southbound right turn lane on Power Inn Road.

*Fruitridge Road/Elk Grove Florin Road:* signalize, provide left turn channelization at all approaches, provide southbound right turn lane on Elk Grove Florin Road.

*Elder Creek Road/Elk Grove Florin Road:* signalize, provide left turn channelization at all approaches.

*Power Inn Road/Florin Road:* add additional left turn lane at eastbound and westbound Florin Road approaches. This will result in LOS "C" and "D" operations during the AM and PM peak traffic hours respectively. To fully mitigate conditions to LOS "C" during all time periods, an additional southbound through lane on Power Inn Road is currently needed.

*Power Inn Road/Folsom Blvd:* this intersection currently operates near capacity during the afternoon peak traffic hour. The feasibility of a grade separated urban interchange to provide additional capacity at this location is currently being evaluated by the City of Sacramento as part of a Caltrans Project Study Report (PSR). Construction of a grade separation will provide satisfactory peak hour intersection Levels of Service.

## Roadway Operations

A summary of current roadway operations is displayed in Table 6.2-4. As shown, roadway operations are currently satisfactory throughout much of the study area, however, LOS "D" to "F" is experienced on several roadway segments. Individual street segments are described below.

### East/West Streets

Fruitridge Road and Elder Creek Road operate satisfactorily with the exception of Elder Creek Road between Power Inn Road and Florin Perkins Road. Portions of this roadway segment have not been improved and only provide two travel lanes. Level of Service "D" is experienced on the two lane segment. Widening of the roadway to provide a continuous four lane segment will result in satisfactory operations.

### North/South Streets

Satisfactory operations are currently experienced on 65th Street, Florin Perkins Road and segments of Power Inn Road through the study area. However, Power Inn Road, between Fruitridge Road and Elder Creek Road currently operates at LOS "D," with LOS "D" conditions also experienced north of 14th Avenue. Elk Grove Florin Road currently provides two travel lanes, resulting in operations near the theoretical capacity of the two lane section (i.e., LOS E/F). Widening of Elk Grove Florin Road to four travel lanes through the study area would be required to provide satisfactory operations.

### **Roadway Mitigations Currently Required to Provide LOS "C"**

*Elder Creek Road:* widen to provide four continuous travel lanes, Power Inn Road to Florin Perkins Road. Portions of this segment have been widened adjacent to recent development.

*Power Inn Road:* widen to six travel lanes, Folsom Blvd to 14th Avenue and Fruitridge Road to Elder Creek Road.

*Elk Grove Florin Road:* widen to four travel lanes throughout the study area.

## **PROJECT IMPACTS - EXISTING TRAFFIC VOLUME BASE**

### **Introduction to the Analysis**

The traffic analysis for this EIR assumed an employment generation of approximately 7,500 on the Army Depot Site. Subsequent to the preparation of this analysis the Army Depot Reuse Plan was amended to reflect a maximum of 6,000 employees on the project site. The analysis has not been changed to reflect the decrease in employment. Therefore, the impacts identified in this section are greater than those anticipated for the proposed project. The level of significance identified for each impact is not anticipated to change, and all mitigation measures are still applicable to the proposed project.

TABLE 6.2-4

## EXISTING ROADWAY LEVELS OF SERVICE

Roadway Segment	Daily Volume	Number Lanes*	Level of Service "C"/"E" Thresholds	LOS	Volume to Capacity
<b>Fruitridge Road</b>					
65th to Power Inn	20,700	4	24,000/30,000	B	0.69
Power Inn to Fl. Perkins	14,100	4	24,000/30,000	A	0.47
Fl. Perkins to E.G. Florin	9,850	2**	12,000/30,000	B	0.66
<b>Elder Creek Road</b>					
65th to Power Inn	16,200	4	24,000/30,000	A	0.54
Power Inn to Fl. Perkins	13,100	2**	12,000/15,000	D	0.87
Fl. Perkins to E.G. Florin	9,150	2**	12,000/15,000	B	0.61
<b>65th Street</b>					
Fruitridge to 14th Avenue	20,600	4	24,000/30,000	B	0.69
South of Elder Creek	16,000	4	24,000/30,000	A	0.53
<b>Power Inn Road</b>					
Folsom to 14th	26,600	4	24,000/30,000	D	0.89
14th Ave to Fruitridge	23,150	4	24,000/30,000	C	0.77
Fruitridge to Elder Creek	25,200	4	24,000/30,000	D	0.84
Elder Creek to Florin Rd	23,800	4	24,000/30,000	C	0.79
<b>Florin Perkins Road</b>					
North of Fruitridge Rd	18,600	4	24,000/30,000	B	0.62
Fruitridge to Elder Creek	18,250	4	24,000/30,000	B	0.61
Elder Creek to Florin Rd	22,400	4	24,000/30,000	C	0.75
<b>Elk Grove Florin Rd</b>					
North of Fruitridge Rd	18,000	2	12,000/15,000	F	1.20
South of Elder Creek Rd	15,000	2	12,000/15,000	E/F	1.00

Number of lanes indicates number of through travel lanes on roadway segment.

\*\* Indicates worst-case section of this roadway segment, portions of the segment have been widened.

Bold indicates unacceptable LOS operation.

SOURCE: kd Anderson Transportation Engineering, 1994.

## Description of Reuse Alternatives

### **Proposed Project**

The City of Sacramento has developed a draft Sacramento Army Depot Reuse Plan to enable a smooth transition from base closure to the reuse of the Army Depot property. The proposed Sacramento Army Depot Reuse plan describes the history and background of the Army Depot site, describes the reuse vision, discusses the opportunities and constraints of the site, and provides a marketing analysis and strategy. In addition, the Reuse Plan identifies the demolition and public conveyance recommendations and describes the preferred land use plan as well as the development plan.

The Land Use Plan takes 285 acres of developable area within the 485 total acres of the Army Depot and converts it to an attractive light industrial park with approximately 3,000,000 square feet of both new and existing building area. Based on City of Sacramento General Plan Assumptions, the project will accommodate approximately 6,000 employees. The industrial park encourages a mix of appropriate uses that provides economic diversity, facilitates employment of displaced Army Depot employees, provides opportunities for local residents, provides jobs for increasing income levels and provides a stronger tax base for Sacramento.

Two alternatives to the proposed reuse plan have also been considered:

### Alternative A - No Project Alternative

This alternative assumes that no reuse of the Army Depot occurs on the 406.1 acres not designated for public/quasi public use in the proposed project. Development of the public/quasi public area involves land transfer mandated by law and will be unaffected by local reuse planning. Therefore, the 90 anticipated employees in the public/quasi public area serves as the total employment for this alternative.

### Alternative B - Employment Center

As for the proposed project, 79.1 acres are designated for public/quasi public use under this alternative. The remaining 406.1 acres are designated as either Employment Center 50 or Employment Center 35. These designations refer to the number of Employees per net acre of land. The intent of the Employment Center designation is to provide a flexible zone for primarily employment generating uses, allowing for any type of development (commercial, industrial, or residential) as long as total intensity (employees per acre) of an area fall at or below the designated intensity (this would apply to the entire designated area of the project, not on a project by project basis). The total employment potential in the Employment Center areas plus the public quasi public land is 14,600 employees.

### **Trip Generation Estimates**

Trips generated by the project site have been estimated using the methodology outlined in the Institute of Transportation Engineers publication "Trip Generation," 5th Edition. Daily traffic,

A.M., and P.M. peak hour trips estimated to be generated by the proposed project and project alternatives are presented in Table 6.2-5. Trips generated for existing conditions assume an average commute automobile ridership of 1.2 persons per vehicle which is assumed to be representative of average ridership conditions reflected in the trip rates as well as in current travel characteristics in the Sacramento area.

Trips estimated to be generated by the site in the future are projected to be fewer than under current conditions. This assumption is consistent with current City policy and assumes that employers at the site will ultimately achieve a 35 percent trip reduction as required by the City of Sacramento's trip reduction ordinance. Nationally derived trip generation rates are based on observed traffic patterns at existing facilities. As a result, these published rates generally do not incorporate the trip reducing affects of programs and policies which are likely to be implemented over the next twenty years as the site is built out. The current City of Sacramento Trip Reduction Ordinance has as its goal a 35 percent reduction in peak hour single occupancy commute trips, and the relative success of this and other future ordinances is a reasonable assumption for a project of this type.

Calculations for this reduction percentage assume that pre-reduction trips are all made in single occupant vehicles (SOV). To estimate this future trip generation, existing year trip generation (representing a 1.2 person per vehicle ridership) was converted to one person per vehicle. This total vehicle trip figure was reduced by 35 percent to achieve a "with effective TSM" trip generation quantity consistent with the Ordinance.

As shown in Table 6.2-5, buildout of the site under the proposed reuse alternative will result in 25,047 daily trips, with 3,675 and 3,450 trips occurring in the A.M. and P.M. peak traffic hours respectively. Assuming a 35 percent reduction in SOV use, future trips generated by the site are estimated at 2,864 A.M. peak hour and 2,690 P.M. peak hour vehicle trips.

Alternative B (Employment Center) is projected to result in 66,868 daily trips, with 8,176 and 6,862 trips occurring in the A.M. and P.M. peak hours respectively. This assumes buildout of the site with current mode split and travel characteristics. On a daily basis, this is over two and one-half times the trip quantity projected for the proposed project.

### Trip Distribution

The SACMET Traffic Model was used to distribute project trips to the area street system under cumulative Year 2010 conditions and was used as one indicator under "Existing Plus Project" conditions. In addition, current travel patterns on area streets and at the driveways to the site have been used to estimate trip patterns resulting from development of the site relative to existing background conditions. This data suggests the regional distribution shown in Table 6.2-6.

### Roadway and Intersection Operations - Existing Plus Proposed Project

Having determined the quantity and directional distribution of project generated traffic, project trips were assigned to the adjacent street system. Utilization of individual access points to the site has been estimated based upon the origin and destination of trips external to the site, the

**TABLE 6.2-5**  
**ARMY DEPOT REUSE ALTERNATIVES**

Development Alternative	Daily	1994 Trip Generation*						Future Trip Generation+					
		A.M. Peak Hour			P.M. Peak Hour			A.M. Peak Hour			P.M. Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Proposed Project Industrial Uses, 7,499 employees	25,047	3,014	661	3,675	725	2,725	3,450	2,348	516	2,864	565	2,125	2,690
Alternative A No Project Alternative 90 employees	410	43	8	51	9	33	42	33	6	39	7	26	33
Alternative B Employment Center 14,600 employees	66,868	6,950	1,226	8,176	1,510	5,352	6,862	5,423	957	6,380	1,179	4,179	5,358

\* Ridership of approximately 1.2 persons per vehicle.  
+ Ridership decreased to 1 person per vehicle, trips then reduced by 35%.

SOURCE: kd Anderson Transportation Engineering, 1994.

North	51%
East	4%
South	23%
West	22%
Total:	100%
SOURCE: kd Anderson Transportation Engineering, 1994.	

likely distribution of development within the site and the layout of the proposed internal street system.

Tables 6.2-7 and 6.2-8 present resulting intersection and roadway operations with project traffic added to existing background volumes. Figures 6.2-3 and 6.2-4 display projected daily roadway volumes and peak hour intersection volumes. "Existing Plus Project" conditions assume buildout of the site with the proposed industrial Reuse Plan. This scenario has been analyzed to quantify project impacts with respect to current traffic conditions; however, it is recognized that buildout of the site will likely occur over a number of years.

### **Intersections**

As shown in Table 6.2-7, traffic generated by buildout of the proposed project will result in significant impacts at six (6) of the thirteen study intersections. These include the Power Inn Road intersections with Folsom Blvd, 14th Avenue, Fruitridge Road, Elder Creek Road and Florin Road and the Fruitridge Road/65th Street intersection. In addition, signalization of the Elk Grove Florin Road intersections with Fruitridge Road and with Elder Creek Road will be further warranted with development of the site. This is also judged to constitute a significant impact. Impacts to the remaining study area intersections are projected to be less than significant.

TABLE 6.2-7

EXISTING PLUS PROPOSED PROJECT INTERSECTION LEVELS OF SERVICE

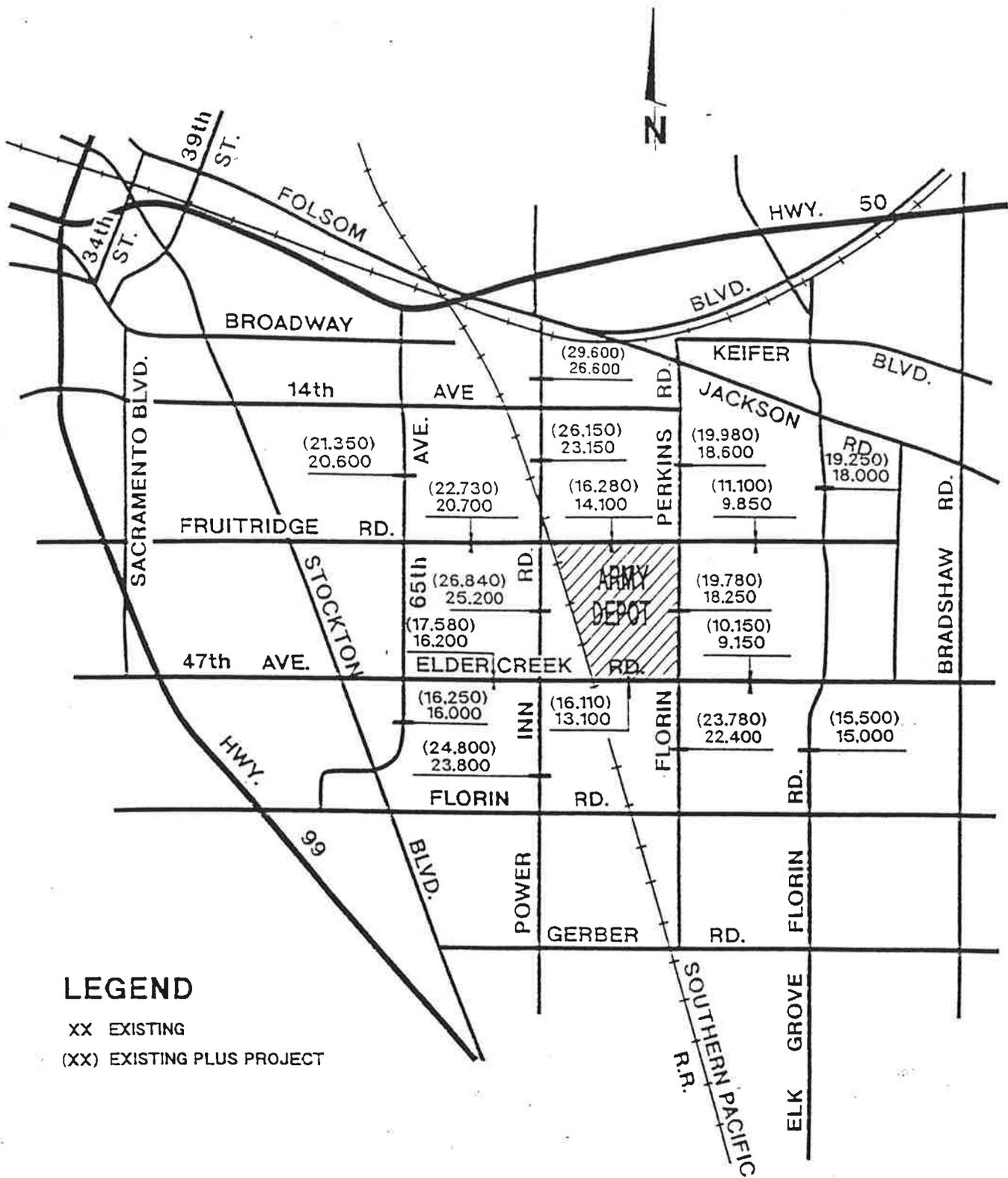
Intersection	Control	Existing Conditions				Existing Plus Proposed Project				V/C Change	
		A.M. Peak Hour		P.M. PEAK HOUR		A.M. PEAK HOUR		P.M. PEAK HOUR		A.M.	P.M.
		LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C		
1. Folsom Blvd/Power Inn Rd	signal	D	0.81	F	1.07	F	1.04	F	1.18	0.23	0.14
2. Folsom Blvd/Jackson Hwy/Notre Dame Dr	signal	B	0.64	B	0.65	B	0.64	B	0.67	0.0	0.02
3. Folsom Blvd/Florin Perkins Rd/Julliard Dr	signal	B	0.61	B	0.67	C	0.77	C	0.78	0.16	0.11
4. 14th Ave/Power Inn Rd	signal	B	0.65	D	0.82	D	0.88	D	0.88	0.23	0.06
5. Fruitridge Rd/65th St	signal	C	0.74	B	0.64	D	0.89	D	0.72	0.15	0.08
6. Fruitridge Rd/Power Inn Rd	signal	B	0.67	C/D	0.81	F	1.08	E	0.95	0.41	0.14
7. Fruitridge Rd/Florin Perkins Rd	signal	A	0.45	A	0.58	A	0.59	C	0.71	0.14	0.13
8. Fruitridge Rd/Elk Grove Florin	4-way stop	E*	0.89	E*	0.87	E*	0.93	E*	0.99	0.04	0.12
9. Elder Creek Rd/65th St	signal	B	0.66	B	0.65	C	0.71	C	0.72	0.05	0.07
10. Elder Creek Rd/Power Inn Rd	signal	B	0.61	C	0.79	D	0.89	E	0.95	0.28	0.16
11. Elder Creek Rd/Florin Perkins	signal	A	0.51	A	0.54	C	0.74	B	0.64	0.23	0.10
12. Elder Creek Rd/Elk Grove Florin	4-way stop	D	0.84	D*	0.84	F*	1.02	E*	0.96	0.18	0.12
13. Florin Rd/Power Inn Rd	signal	C/D	0.80	E	0.96	E	0.96	F	1.06	0.16	0.10

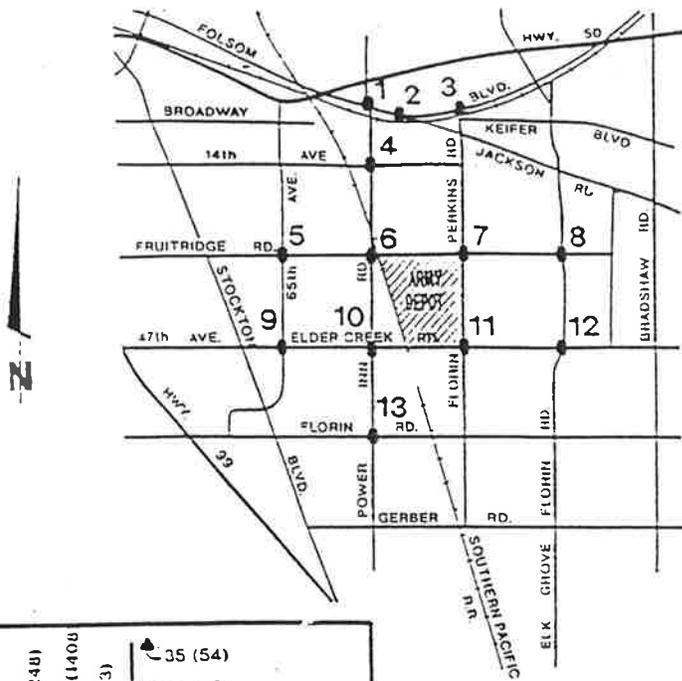
LOS = Level of Service (City standard = LOS "C", v/c = 0.80 or better).  
V/C = Volume to Capacity Ratio.  
\* Signalization warranted based upon peak hour approach volumes.  
Bold indicates unacceptable LOS operation.  
SOURCE: kd Anderson Transportation Engineering, 1994.

TABLE 6.2-8

## EXISTING PLUS PROPOSED PROJECT ROADWAY LEVELS OF SERVICE

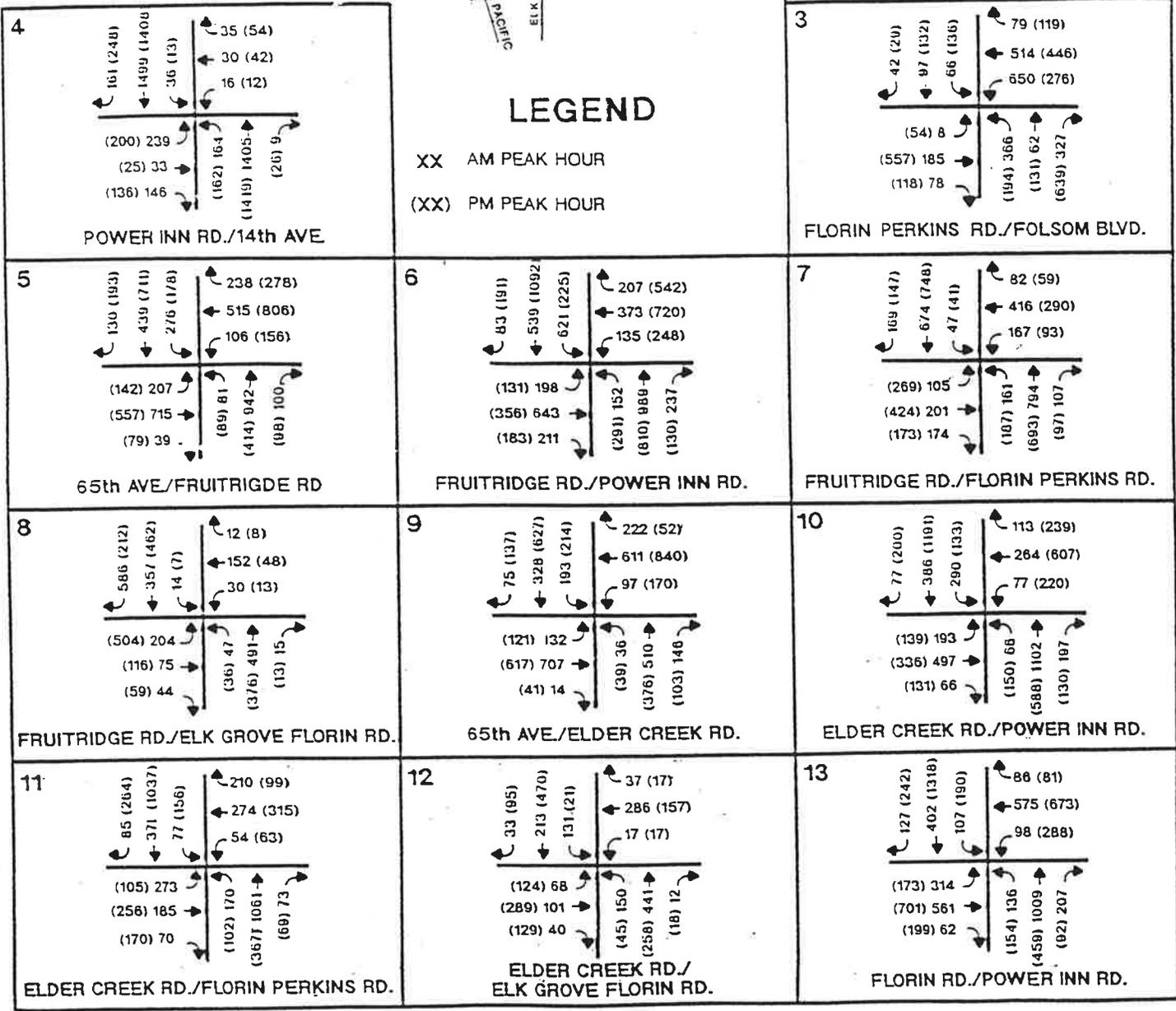
Roadway Segment	Existing No. of Lanes*	Existing Condition		Existing Plus Project		Volume Change	V/C Change
		ADT	LOS	ADT	LOS		
<b>Fruitridge Road</b>							
65th to Power Inn	4	20,700	B	22,730	C	2,130	0.07
Power Inn to Fl. Perkins	4	14,100	A	16,280-18,600	A-B	2,180-4,500	0.07-0.15
Fl. Perkins to E.G. Florin	2	9,850	B	11,100	C	1,250	0.08
<b>Elder Creek Road</b>							
65th to Power Inn	4	16,200	A	17,580	A	1,380	0.05
Power Inn to Fl. Perkins	2	13,100	D	16,110	F	3,010	<b>0.20</b>
Fl. Perkins to E.G. Florin	2	9,150	B	10,150	B	1,000	0.07
<b>65th Street</b>							
Fruitridge to 14th	4	20,600	B	21,350	C	750	0.02
South of Elder Creek	4	16,000	A	16,250	A	250	0.01
<b>Power Inn Road</b>							
Folsom to 14th Ave	4	26,600	D	29,600	E	3,000	<b>0.10</b>
14th Ave to Fruitridge	4	23,150	C	26,150	D	3,000	<b>0.10</b>
Fruitridge to Elder Creek	4	25,200	D	26,840	D	1,640	<b>0.05</b>
Elder Creek to Florin Rd	4	23,800	C	24,800	D	1,000	<b>0.04</b>
<b>Florin Perkins Road</b>							
North of Fruitridge Rd	4	18,600	B	19,980	B	1,380	0.05
Fruitridge to Elder Creek	4	18,250	B	19,780	B	1,530	0.05
Elder Creek to Florin Rd	4	22,400	C	23,780	C	1,380	0.04
<b>Elk Grove Florin Road</b>							
North of Fruitridge Rd	2	18,000	F	19,250	F	1,250	<b>0.08</b>
South of Elder Creek Rd	2	15,000	E/F	15,500	F	500	<b>0.03</b>
* Number of lanes indicates number of through travel lanes on roadway segment. Bold indicates unacceptable LOS operations.							
SOURCE: kd Anderson Transportation Engineering, 1994.							





### LEGEND

XX AM PEAK HOUR  
(XX) PM PEAK HOUR



*Impact*

## 6.2-1 Intersection Power Inn Rd/Folsom Blvd (Project Specific)

- PP Traffic generated by the proposed reuse plan would result in a level of service below "C" at the intersection of Power Inn Road/Folsom Boulevard. This is considered a *significant impact*.
- AA The No Project Alternative would result in no new vehicle trips; therefore, no impact would result.
- AB Traffic generated by Alternative B would be substantially greater than traffic increases identified for the proposed project. This is considered to be a *significant impact*.

*Mitigation*

## 6.2-1 Intersection Power Inn Rd/Folsom Blvd (Project Specific)

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant* level. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

- PP, AB *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of a southbound through lane on Power Inn Road, a westbound through lane on Folsom Blvd and a westbound left turn lane; or, the construction of an urban interchange grade separation.*

*Impact*

## 6.2-2 Intersection at Power Inn Road/14th Avenue (Project Specific)

- PP Traffic generated by the proposed reuse plan would result in a level of service below "C" at the intersection of Power Inn Road/14th Avenue. This is considered a *significant impact*.
- AA The No Project Alternative would result in now new vehicle trips; therefore, no impact would result.
- AB Traffic generated by Alternative B would be substantially greater than traffic increases identified for the proposed project. This is considered to be a *significant impact*.

*Mitigation*

## 6.2-2 Intersection at Power Inn Road/14th Avenue (Project Specific)

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant level*. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

- PP, AB *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of a southbound right turn lane on Power Inn Road.*

*Impact*

## 6.2-3 Intersection at Fruitridge Rd/65th Street (Project Specific)

- PP Traffic generated by the proposed reuse plan would result in a level of service below "C" at the intersection of Fruitridge Rd/65th Street. This is considered a *significant impact*.
- AA The No Project Alternative would result in now new vehicle trips; therefore, no impact would result.
- AB Traffic generated by Alternative B would be substantially greater than traffic increases identified for the proposed project. This is considered to be a *significant impact*.

*Mitigation*

## 6.2-3 Intersection at Fruitridge Road/65th Street (Project Specific)

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant level*. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

- PP, AB *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of a southbound left turn lane on 65th Street.*

*Impact*

## 6.2-4 Intersection at Power Inn Road/Fruitridge Road (Project Specific)

- PP Traffic generated by the proposed reuse plan would result in a level of service below "C" at the intersection of Power Inn Road/Fruitridge Road. This is considered a *significant impact*.
- AA The No Project Alternative would result in no new vehicle trips; therefore, no impact would result.
- AB Traffic generated by Alternative B would be substantially greater than traffic increases identified for the proposed project. This is considered to be a *significant impact*.

*Mitigation*

## 6.2-4 Intersection at Power Inn Road/Fruitridge Road (Project Specific)

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant level*. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

- PP, AB *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of a right turn lane at the northbound, southbound and eastbound approaches and an additional northbound and southbound through lane on Power Inn Road.*

*Impact*

## 6.2-5 Intersection at Power Inn Road/Elder Creek Road (Project Specific)

- PP Traffic generated by the proposed reuse plan would result in a level of service below "C" at the intersection of Power Inn Road/Elder Creek Road. This is considered a *significant impact*.
- AA The No Project Alternative would result in no new vehicle trips; therefore, no impact would result.
- AB Traffic generated by Alternative B would be substantially greater than traffic increases identified for the proposed project. This is considered to be a *significant impact*.

## Mitigation

### 6.2-5 Intersection at Power Inn Road/Elder Creek Road (Project Specific)

- For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant level*. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

PP, AB *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of a northbound and southbound left turn lane on Power Inn Road and a westbound right turn lane on Elder Creek Road.*

## Impact

### 6.2-6 Power Inn Road/Florin Road (Project Specific)

- PP Traffic generated by the proposed reuse plan would result in a level of service below "C" at the intersection of Power Inn Road/Florin Road. This is considered a *significant impact*.
- AA The No Project Alternative would result in no new vehicle trips; therefore, no impact would result.
- AB Traffic generated by Alternative B would be substantially greater than traffic increases identified for the proposed project. This is considered to be a *significant impact*.

## Mitigation

### 6.2-6 Power Inn Road/Florin Road (Project Specific)

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant level*. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

PP, AB *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of an eastbound and westbound left turn lane on Florin Road and a northbound right turn lane on Power Inn Road.*

*Impact*

## 6.2-7 Intersection at Elk Grove Florin Road/Fruitridge Road (Project Specific)

- PP Traffic generated by the proposed reuse plan would result in a level of service below "C" at the intersection of Elk Grove Florin Road/Fruitridge Road. This is considered a *significant impact*.
- AA The No Project Alternative would result in no new vehicle trips; therefore, no impact would result.
- AB Traffic generated by Alternative B would be substantially greater than traffic increases identified for the proposed project. This is considered to be a *significant impact*.

*Mitigation*

## 6.2-7 Intersection at Elk Grove Florin Road/Fruitridge Road (Project Specific)

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant level*. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

- PP, AB *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the signalization of the intersection, left turn channelization at all approaches and the addition of southbound right turn lane on Elk Grove Florin Road.*

*Impact*

## 6.2-8 Intersection at Elk Grove Florin Road/Elder Creek Road (Project Specific)

- PP Traffic generated by the proposed reuse plan would result in a level of service below "C" at the intersection of Elk Grove Florin Road/Elder Creek Road. This is considered a *significant impact*.
- AA The No Project Alternative would result in no new vehicle trips; therefore, no impact would result.
- AB Traffic generated by Alternative B would be substantially greater than traffic increases identified for the proposed project. This is considered to be a *significant impact*.

### Mitigation

#### 6.2-8 Intersection at Elk Grove Florin Road/Elder Creek Road (Project Specific)

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant level*. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

PP, AB *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the signalization of the intersection and left turn channelization at all approaches.*

### Roadways

As shown on Table 6.2-8, buildout of the site will result in significant impacts to all four of the study area roadway segments identified along Power Inn Road, both of the Elk Grove Florin Road segments and Elder Creek Road adjacent to the site. Impacts to the balance of the street system are projected to be less than significant. Improvements previously identified to mitigate existing conditions on segments of Elder Creek Road, Power Inn Road and Elk Grove Florin Road will result in satisfactory operations with development of the proposed reuse alternative.

### Impact

#### 6.2-9 Power Inn Road, Folsom Blvd to Florin Road (Project Specific)

PP Traffic generated by the proposed reuse plan would result in a level of service below "C" for the roadway segments of Power Inn Road and Folsom Blvd to Florin Road. This is considered a *significant impact*.

AA The No Project Alternative would result in no new vehicle trips; therefore, no impact would result.

AB Traffic generated by Alternative B would be substantially greater than traffic increases identified for the proposed project. This is considered to be a *significant impact*.

### Mitigation

#### 6.2-9 Power Inn Road, Folsom Blvd to Florin Road (Project Specific)

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant level*. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation

would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

- PP, AB *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the widening to six travel lanes. Widening will require additional right of way and will impact adjacent development.*

#### Impact

#### 6.2-10 Elder Creek Road, Power Inn Road to Florin Perkins Road (Project Specific)

- PP Traffic generated by the proposed reuse plan would result in a level of service below "C" for the roadway segments of Elder Creek Road and Power Inn Road to Florin Perkins Road. This is considered a *significant impact*.
- AA The No Project Alternative would result in no new vehicle trips; therefore, no impact would result.
- AB Traffic generated by Alternative B would be substantially greater than traffic increases identified for the proposed project. This is considered to be a *significant impact*.

#### Mitigation

#### 6.2-10 Elder Creek Road, Power Inn Road to Florin Perkins Road (Project Specific)

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant level*. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

- PP, AB *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the widening to four travel lanes.*

#### Impact

#### 6.2-11 Elk Grove Florin Road, north of Fruitridge Road and south of Elder Creek Road (Project Specific)

- PP Traffic generated by the proposed reuse plan would result in a level of service below "C" for the roadway segments of Elk Grove Florin Road, north of Fruitridge Road and south of Elder Creek Road. This is considered a *significant impact*.
- AA The No Project Alternative would result in no new vehicle trips; therefore, no impact would result.
- AB Traffic generated by Alternative B would be substantially greater than traffic increases identified for the proposed project. This is considered to be a *significant impact*.

### Mitigation

#### 6.2- 11 Elk Grove Florin Road, north of Fruitridge Road and south of Elder Creek Road (Project Specific)

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant level*. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

- PP, AB *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the widening to four travel lanes.*

### Transit Impacts

Potential impacts to transit service have been estimated considering the location of the site, current and future transit service in the area and attaining the City of Sacramento's 35 percent trip reduction ordinance. Based upon these factors, a transit component of five percent is estimated to represent a reasonable projection of potential transit demand for the site.

Equating this five percent transit estimate to total employee potential at the site (7,499) results in 375 employees using transit. In turn, these employees will create a demand for increased transit service along Route 51 and adjoining connector routes. Based upon current 30 minute headways, this volume could not be accommodated during commute hours. Other related non-employee trips generated by the site may also use transit to some degree. However, employee commute trips will represent the primary transit demand component.

*Impact*

## 6.2-12 Transit (Project Specific)

- PP Development of the site will increase the need for transit service to the area. This is considered a *significant impact*.
- AA The No Project Alternative would result in no new transit needs; therefore, no impact would result.
- AB Buildout of Alternative B would result in approximately twice the number of employees on the site compared with the proposed project. Therefore, it is expected that demand for bus and light rail service would similarly be about double that identified for the proposed plan. This demand will result in the need for expanded transit service. This is considered to be a *significant impact*.

*Mitigation*

## 6.2-12 Transit (Project Specific)

For the proposed project and Alternative B, the following mitigation measure would reduce the impact to a *less-than-significant level*. No mitigation would be required for the No Project Alternative.

- PP, AB *Development of a Transportation Management Plan (TMP) is required by City Ordinance. As planning for reuse of the site progresses, development of a comprehensive TMP for the entire site is recommended early in the planning process. This is likely best implemented by forming a Transportation Management Organization (TMO) for the site. As part of this plan, measures to provide adequate transit capacity to the site should be included. Recommended elements of the plan which should be required of the site to address transit needs include; capital expenditure to augment Regional Transit service to the site and provide shuttle service to link the site to the RT Metro line to the north, funding for transit shelters on the site in accordance with RT requirements and pedestrian facilities providing direct access to transit facilities.*

**SITE ACCESS AND INTERNAL CIRCULATION**Access

Access to the project site as well as circulation through the site has been the focus of previous work done in conjunction with planning for feasible reuse alternatives for the project site. The majority of this work involved development of a circulation system to accommodate up to roughly 15,000 employees on the site. Access and circulation needs identified/proposed for the site are discussed below.

Fruitridge Road and Florin Perkins Road currently provide access to the Project Site. Three main driveways are provided on Fruitridge Road, two of which are signalized. Two access points are provided to Florin Perkins Road, with the northern most driveway signalized. The more southerly access on Florin Perkins Road is located relatively close to the Elder Creek Road intersection, and as a result, cannot be effectively signalized in the future. The proposed circulation plan relocates this access to a point further north on Florin Perkins Road.

The existing signalized access locations present the most readily feasible locations to continue to provide access to the site in the future with reuse of the site. In addition, signalization of the relocated southern access point on Florin Perkins Road will likely be needed to support full buildout of the site. Beyond these locations, additional access to the site from the south is also proposed and is logical, given the relatively high distribution of traffic to the south. The proposed location of the southern access has been identified by the military based on their plans for retaining the southern portion of the site. This new access point is designated approximately 1,200 feet west of Florin Perkins Road. Signalization of this driveway location is also projected to be warranted in the future.

### **Future Traffic Volume Projections**

Access requirements for the site have been identified using cumulative traffic projections on area roadways fronting the site. Figure 6.2-5 presents forecast traffic volumes at the proposed access locations under both A.M. and P.M. peak hour conditions.

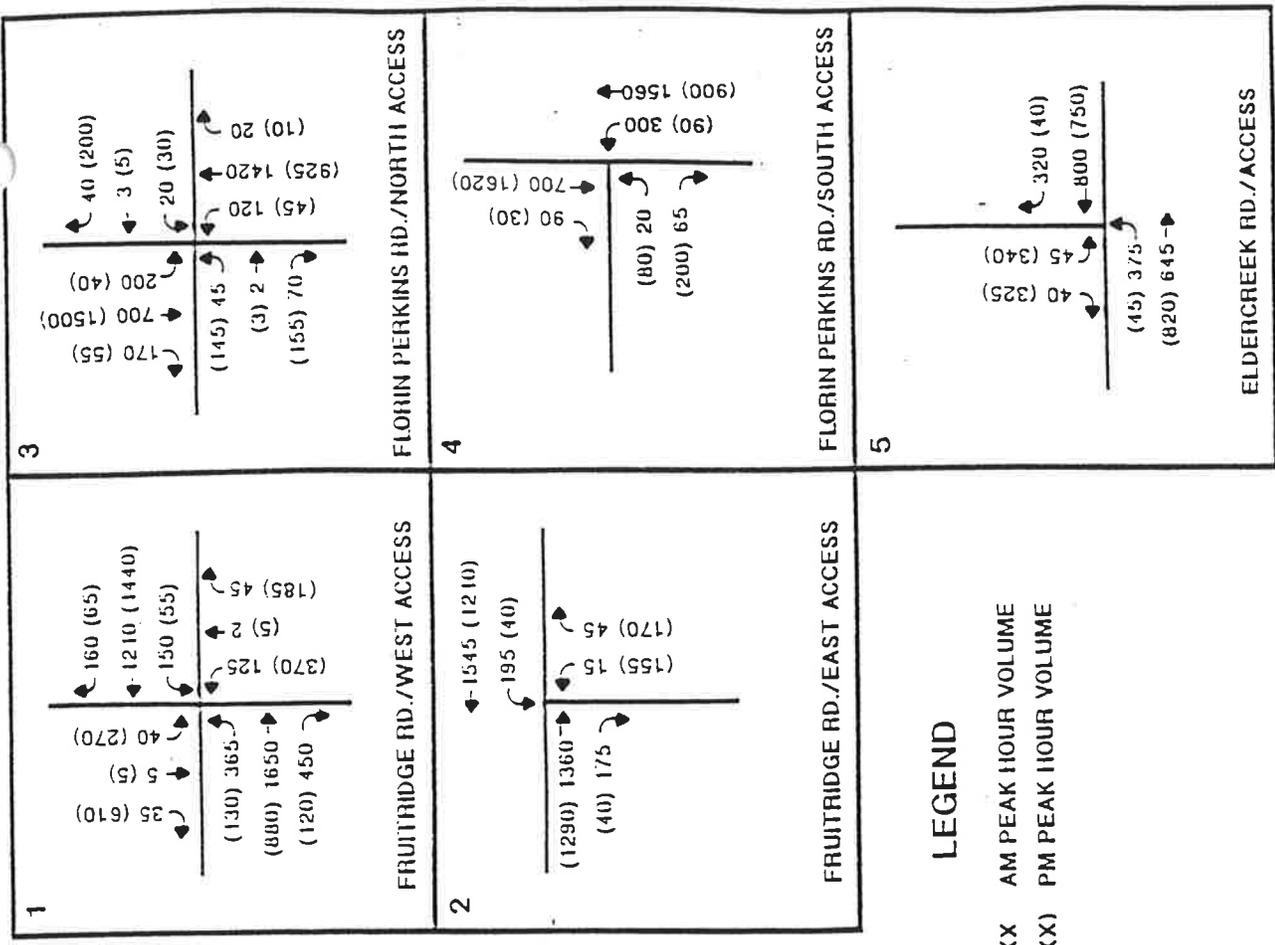
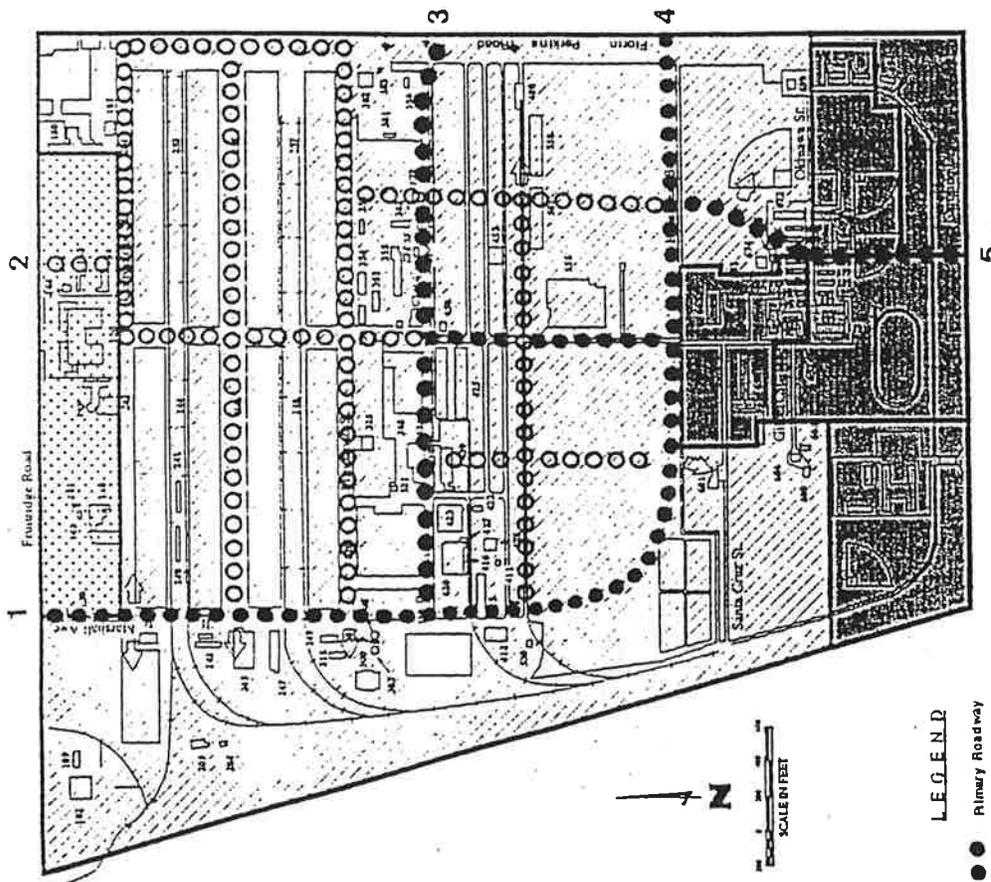
### **Access Design Requirements**

In identifying design requirements for access into and out of the site, it has been assumed that improvements to provide the needed number of through lanes adjacent to the site are feasible (i.e., as identified for "Cumulative" conditions). For example, under cumulative conditions, Fruitridge Road will need to be widened to a six lane section along the Army Depot Frontage. Similarly, it was assumed that Elder Creek Road could be widened to a four lane section.

With these basic roadway assumptions, the number of auxiliary turning lanes required to insure LOS "C" at each access intersection has been identified. These lane requirements are summarized in Table 6.2-9.

### **Internal Circulation**

The internal circulation plan developed for reuse of the Army Depot site is intended to make use of available existing facilities while insuring efficient connections between uses as well as a logical circulation pattern. The circulation plan is also intended to minimize impacts to those structures which are intended to remain on-site, avoid those areas which will be subject to environmental cleanup and conform to City of Sacramento design standards. The text which follows describes the major street system intended to serve the site. Figure 6.2-6 displays the proposed internal street system.

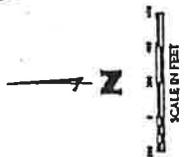


**LEGEND**

- XX AM PEAK HOUR VOLUME
- (XX) PM PEAK HOUR VOLUME

**LEGEND**

- Primary Roadway
- Secondary Collector
- ◁ Local Roadway



*K D Anderson*  
Transportation Engineers

SITE ACCESS VOLUMES  
PROPOSED PROJECT, CUMULATIVE YEAR 2010 CONDITION

Figure 6.2-5

TABLE 6.2-9

**ACCESS INTERSECTION GEOMETRICS NEEDED WITH BUILDOUT OF  
PROPOSED PROJECT**

**Fruitridge Road/Westerly Access**

Control: Multi-Phase Traffic Signal  
 Geometrics: Eastbound (5 lanes): 1 left, 3 through, 1 exclusive right lane  
 Westbound (4 lanes): 1 left, 2 through, 1 through + right  
 Southbound (2 lanes): 1 left, 1 right lane + through lane  
 Northbound (3 lanes): 2 left, 1 right + through lane

Resulting Levels of Service: A.M. = "B" v/c = 0.69; P.M. = "C" v/c = 0.77

**Fruitridge Road/Easterly Access**

Control: Multi-Phase Traffic Signal  
 Geometrics: Eastbound (4 lanes): 1 left, 2 through, 1 through + right  
 Westbound (4 lanes): 1 left, 2 through, 1 through + right  
 Northbound (2 lanes): 1 left, 1 through + right lane  
 Southbound (1 lane): 1 left + through + right lane

Resulting Levels of Service: A.M. = "A" v/c = 0.53; P.M. = "A" v/c = 0.46

**Florin Perkins Road/North Access**

Control: Multi-Phase Traffic Signal  
 Geometrics: Eastbound (3 lanes): 1 left, 1 left + through, 1 right lane  
 Westbound (2 lanes): 1 left + through, 1 right lane  
 Southbound (5 lanes): 2 left, 2 through, 1 right lane  
 Northbound (3 lane): 1 left, 1 through, 1 through + right lane

Resulting Levels of Service: A.M. = "B" v/c = 0.67; P.M. = "B" v/c = 0.66

**Florin Perkins Road/South Access**

Control: Multi-Phase Traffic Signal  
 Geometrics: Eastbound (2 lanes): 1 left, 1 right lane  
 Northbound (3 lanes): 1 left, 2 through lanes  
 Southbound (2 lanes): 1 through, 1 through + right lane

Resulting Levels of Service: A.M. = "A" v/c = 0.56; P.M. = "B" v/c = 0.70

**Elder Creek Road/Depot Access**

Control: Multi-Phase Traffic Signal  
 Geometrics: Eastbound (4 lanes): 2 left, 2 through lanes  
 Westbound (3 lanes): 2 through, 1 right lane  
 Southbound (3 lanes): 2 left, 1 right lane

Resulting Levels of Service: A.M. = "A" v/c = 0.43; P.M. = "A" v/c = 0.41

SOURCE: kd Anderson Transportation Engineering, 1994.

### **New Western Major Street (90' R-O-W)**

Traveling inward from the main access points, the site will be served by a new Major Street which will connect Fruitridge Road and Florin Perkins. This facility will be the primary arterial through the site and is conveniently near to both existing structures which are intended to remain and to the most prominent vacant areas. The road traverses the relatively vacant area on the western half of the site before turning east towards Florin Perkins Road. The northern half of this road follows an existing street (Marshall Avenue) and reuse of a portion of that facility may be possible. The eastern half of the route follows Kwajalein Street to a new crossing over the Morrison Creek drainage canal, and portions of that route may also be reused.

The roadway is planned to consist of a four lane street within a ninety foot wide right of way. Auxiliary turn lanes will be provided at key intersections along the length of the road. This roadway standard allows on-street parking, although it is more likely that the area would be developed with extensive off-street parking. Projected volumes on this route range from about 5,100 to 10,000 ADT, and are well within the capacity of a four-lane roadway.

### **Central Major Street (80' & 90' R-O-W)**

This route would follow the current alignment of Midway Avenue and bisect the major buildings along this road. The southern portion of this road would be a 90' Major Street, while the northern portion would carry less traffic and may be developed as a 80' major arterial. This road would also accommodate four lanes with on-street parking. This route is expected to carry approximately 5,000 ADT, and is well within the capacity of a four-lane roadway.

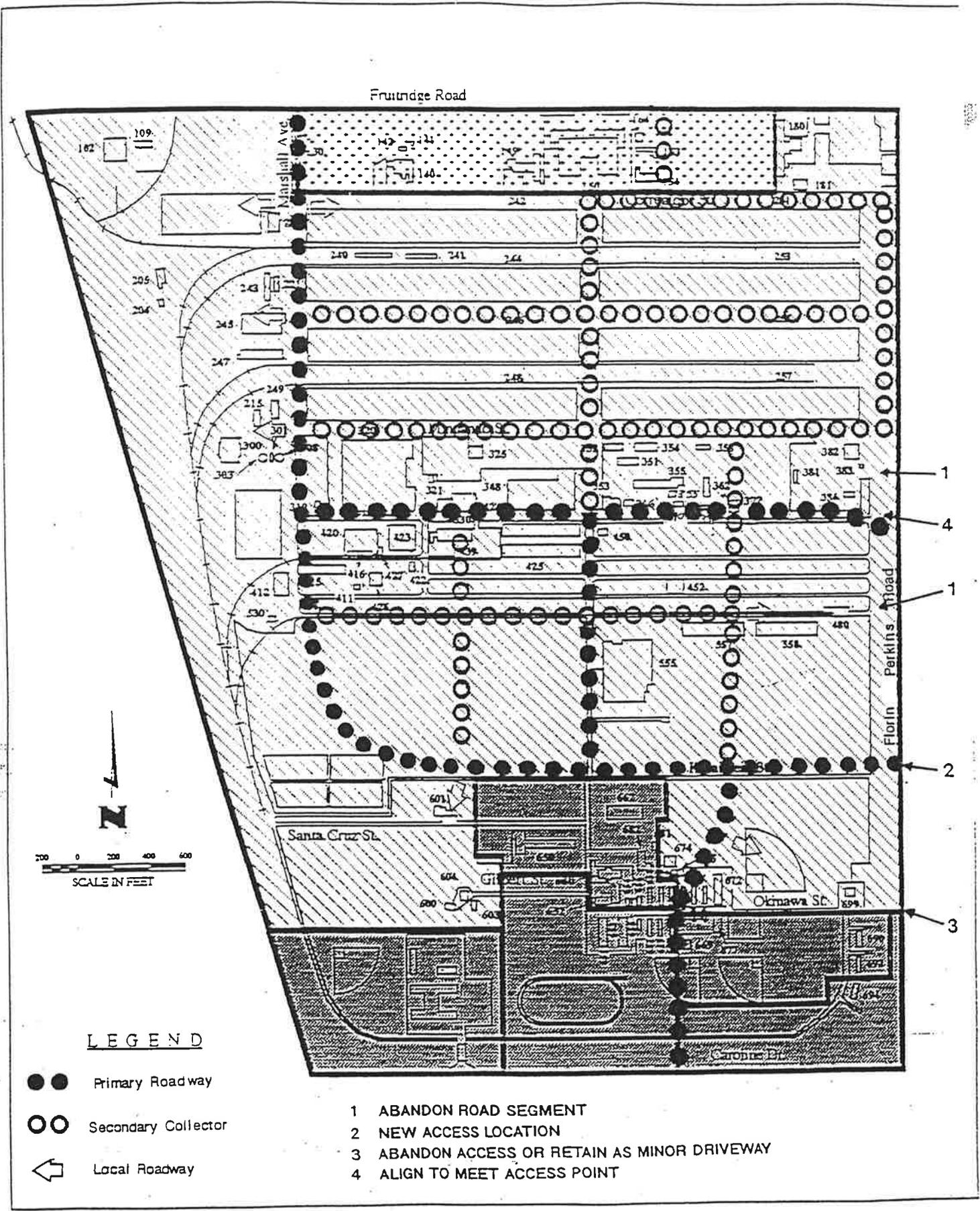
### **New Route to Elder Creek Road (80' R-O-W)**

This route will connect the site with Elder Creek Road, running northerly from a new intersection to its terminus on Mindanao Street. The road includes a curvilinear section which is required to achieve satisfactory spacing from the new Midway Avenue along the new Kwajalein Street. This route will also be a four lane major arterial. Projected volume on this route is approximately 8,000 ADT, and is well within the capacity of a four-lane roadway.

### **Central East-West Arterial (80' R-O-W)**

A Central East-West arterial will be developed along the alignment of Attu Street. This route will link the site with the more northerly access on Florin Perkins Road. This route will also be a four lane facility and is projected to carry from 5,000 to 10,000 ADT.

Development of this roadway includes elimination of the Marianas Avenue connections to Attu Street immediately west of Florin Perkins Road. These connections are only about 120 feet from Florin Perkins Road. This improvement is necessary to avoid congestion in the immediate vicinity of the northerly Florin Perkins Road access intersection.



SACRAMENTO ARMY DEPOT REUSE  
CIRCULATION PLAN

Figure 6.2-6

## CUMULATIVE TRAFFIC CONDITIONS

### Background Development Assumptions

To provide a comprehensive analysis of circulation conditions in the study area, traffic operations have also been evaluated with respect to cumulative traffic conditions projected for the area. Development assumptions reflect buildout of the Sacramento Metropolitan Area through a year 2010 planning horizon. The travel demand model (referred to as the SACMET model) developed for the Sacramento Metropolitan Area has been used to identify daily roadway and peak hour intersection volumes throughout the study area.

The SACMET Traffic Model uses a framework of transportation modeling modules, known as the MINUTP software package, which are custom fitted to a specific study area. The information required to operate the model includes a detailed inventory of existing land development, street network facilities, existing traffic flows and regional travel behavior. These elements are integrated into the model framework to result in a simulation of existing traffic flows and travel patterns. The resulting travel demand model can then be used in evaluating the effects of land use changes and/or roadway network changes.

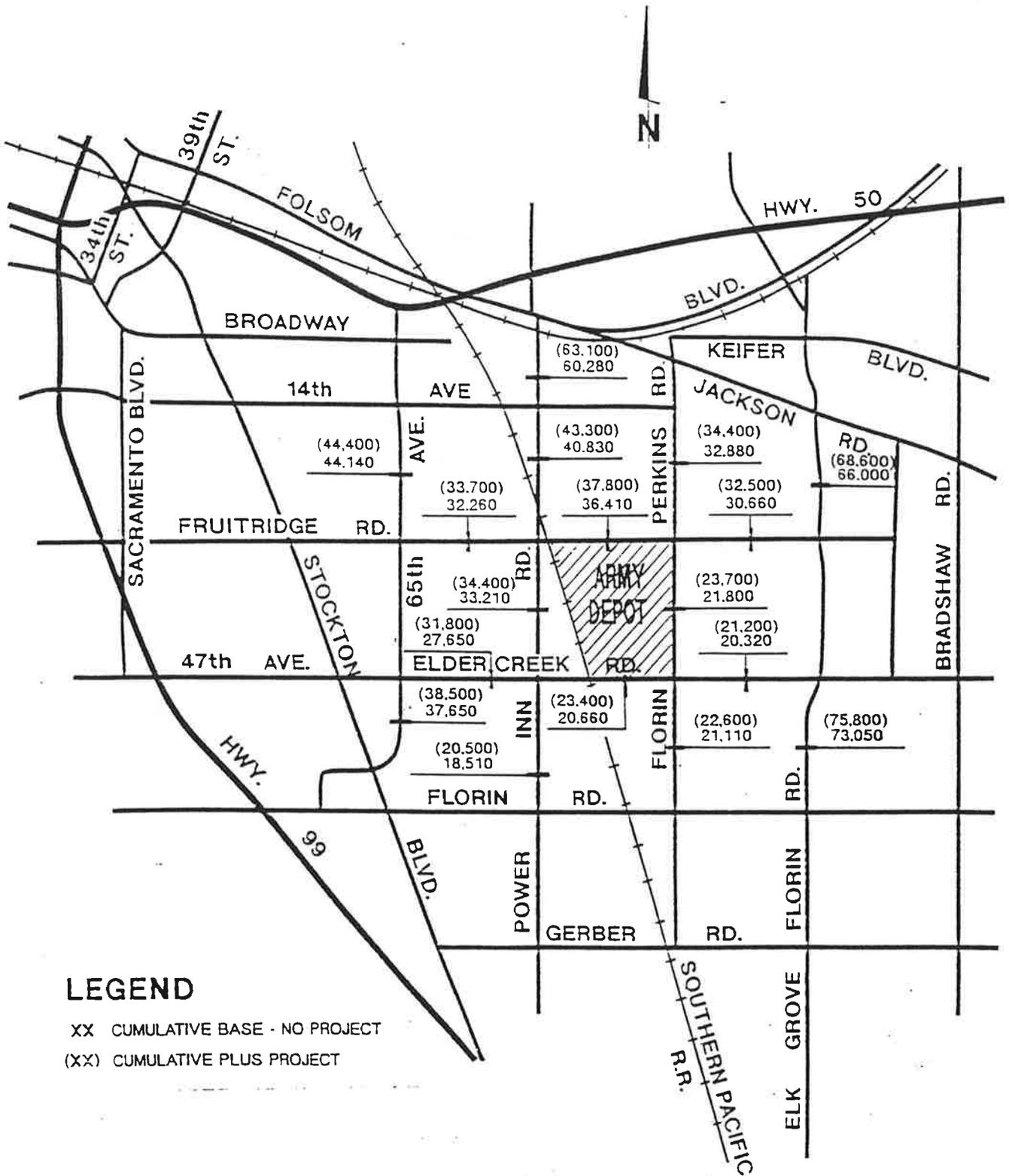
### Future Traffic Operations

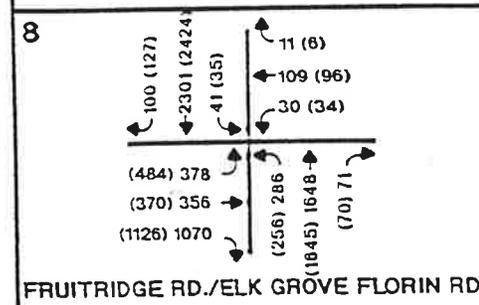
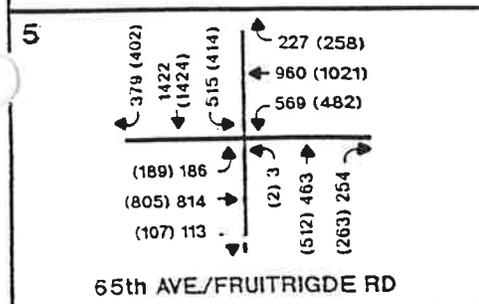
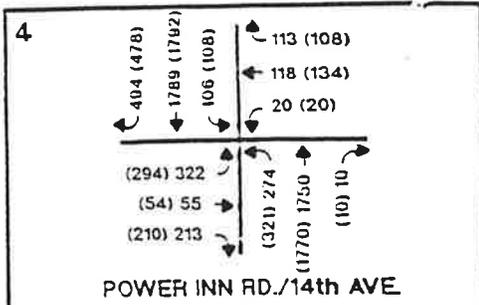
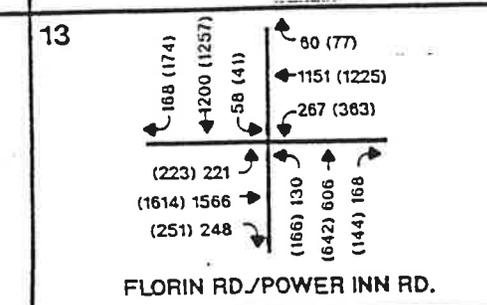
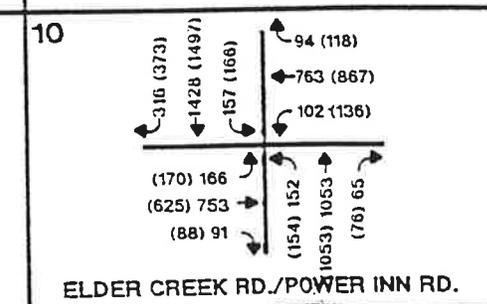
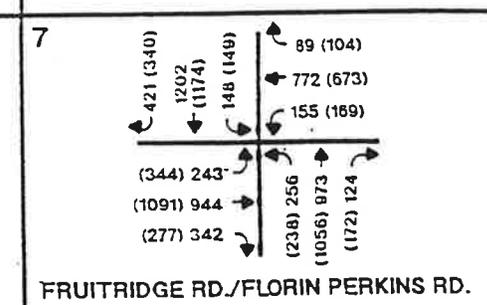
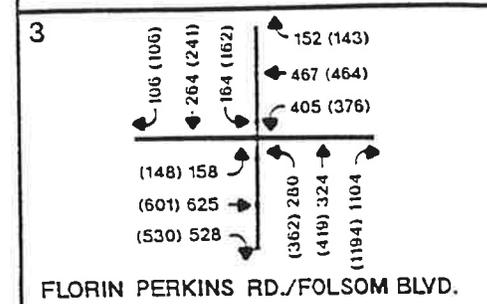
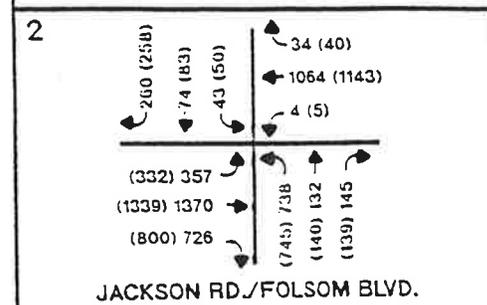
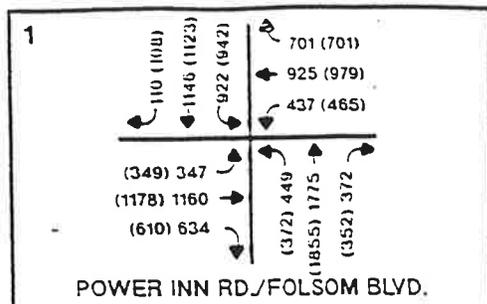
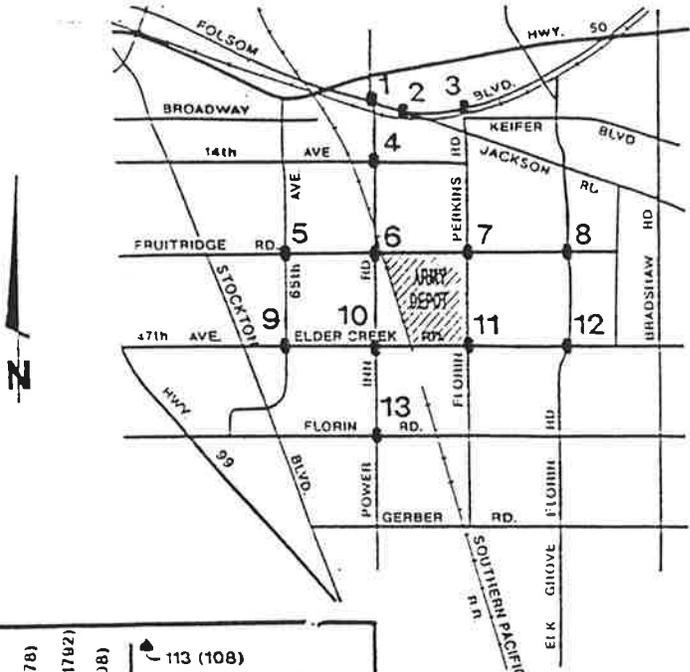
Cumulative traffic projections with and without development of the proposed reuse alternative are displayed in Figures 6.2-7, 6.2-8 and 6.2-9. Tables 6.2-10 and 6.2-11 provide a summary of projected roadway and intersection operations. Identified Levels of Service assume roadway and intersection geometrics as is currently in place. Table 6.2-12 provides a summary of intersection mitigations for existing and existing plus project conditions.

In general, Year 2010 traffic projections will result in the majority of roadway segments and all of the study intersections operating at or near theoretical capacity. This assumes current roadway and intersection geometrics. This is true with or without development of the proposed reuse alternative for the site. Projected operations are further discussed below.

### Intersection Operations

As shown in Table 6.2-10, unsatisfactory Levels of Service are projected at all of the study intersection locations with or without reuse of the site. Based upon City of Sacramento criteria for significance, development of the proposed reuse alternative will result in a significant impact at all of the intersections during either the A.M. or P.M. peak hour. A volume to capacity ratio increase of 0.02 at locations operating at Level of Service "D," "E" or "F" constitutes a "significant" impact.

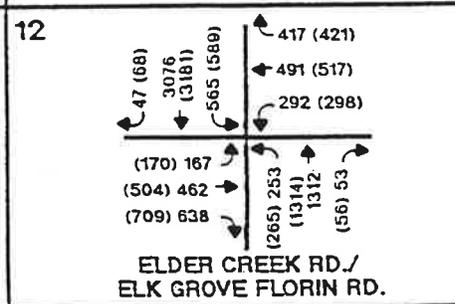
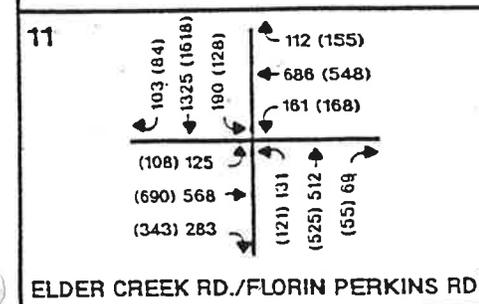
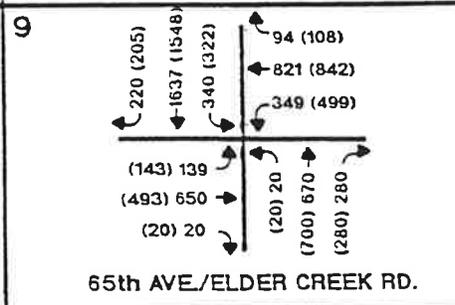
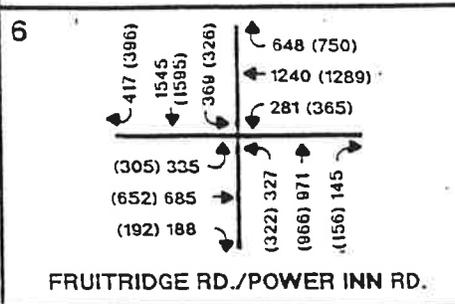


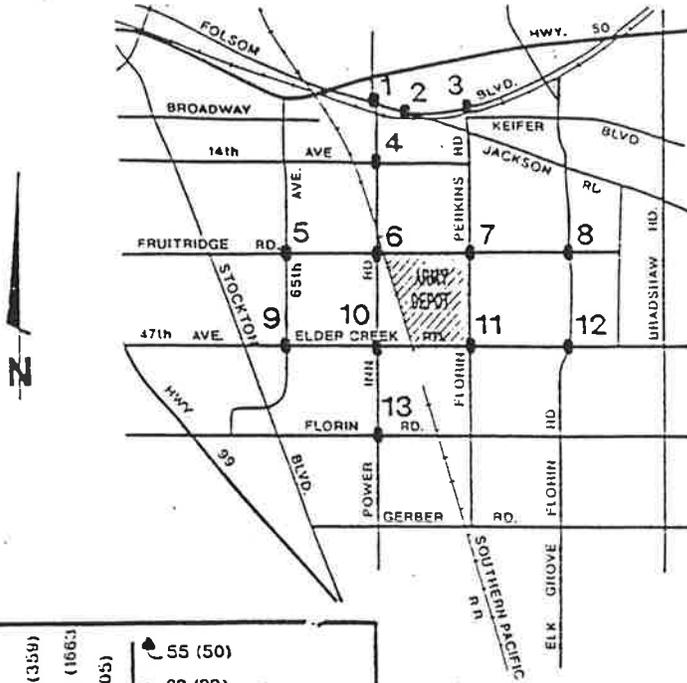


**LEGEND**

XX CUMULATIVE BASE, NO PROJECT

(XX) CUMULATIVE PLUS PROPOSED PROJECT





### LEGEND

XX CUMULATIVE BASE, NO PROJECT

(XX) CUMULATIVE PLUS PROPOSED PROJECT

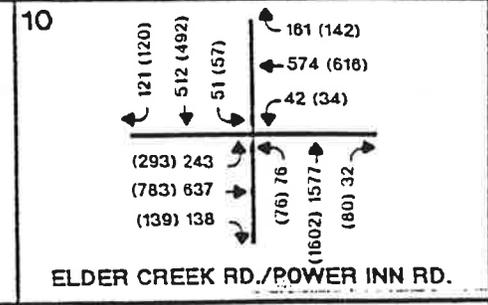
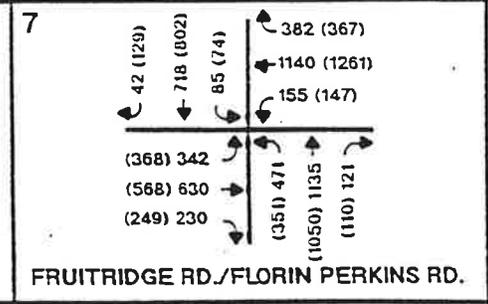
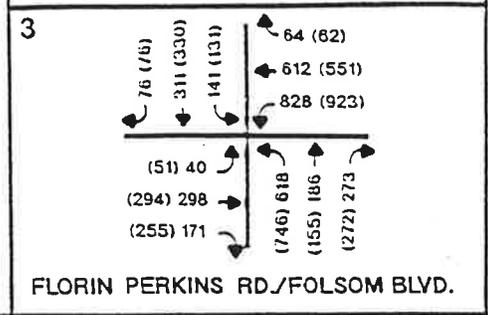
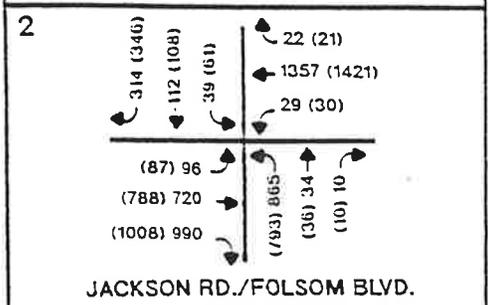
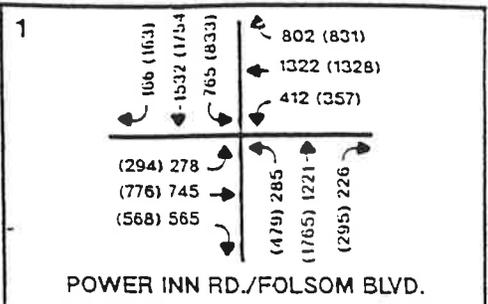
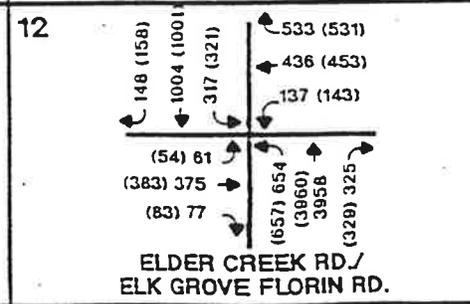
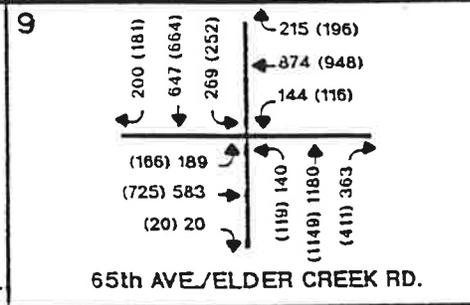
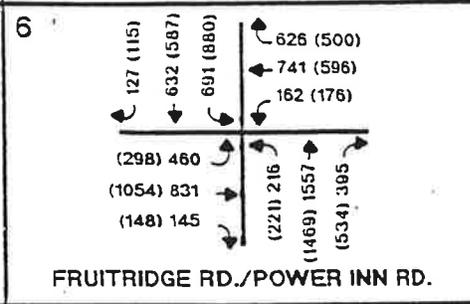
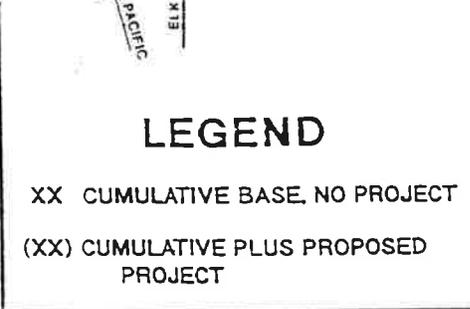
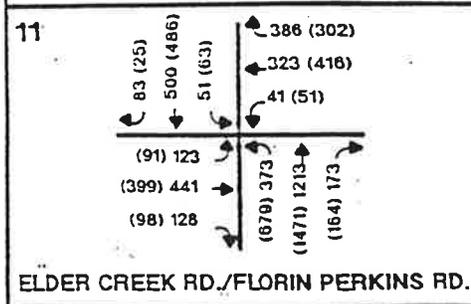
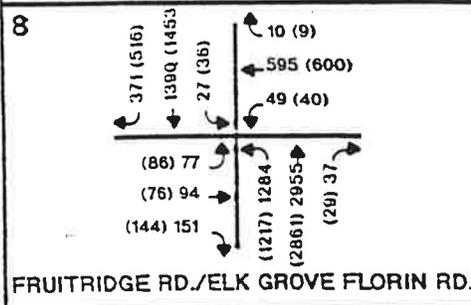
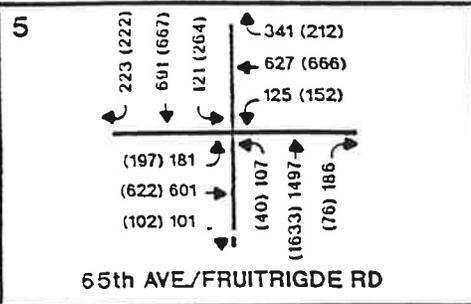
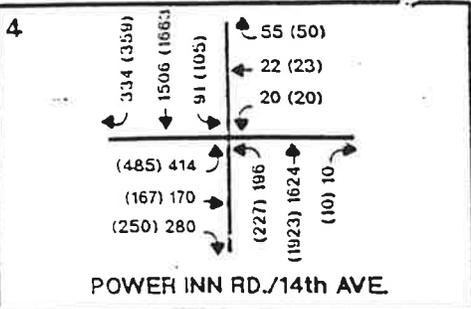


TABLE 6.2-10

CUMULATIVE YEAR 2010 INTERSECTION LEVELS OF SERVICE

Intersection	Control	Cumulative Conditions				Cumulative Plus PROPOSED				V/C Change	
		A.M. Peak		P.M. Peak		A.M. Peak		P.M. Peak		A.M.	P.M.
		LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	LOS
1. Folsom Blvd/Power Inn Rd	signal	F	1.68	F	1.74	F	1.65	F	1.78	-0.03	0.04
2. Folsom Blvd/Jackson Hwy/Notre Dame Dr	signal	E	1.00	F	1.05	F	1.00	F	1.07	0.0	0.02
3. Folsom Blvd/Florin Perkins Rd/Julliard Dr	signal	F	1.21	E	0.93	F	1.31	F	0.95	0.10	0.02
4. 14th Ave/Power Inn Rd	signal	F	1.09	F	1.35	F	1.21	F	1.38	0.12	0.03
5. Fruitridge Rd/65th St	signal	E	0.99	F	1.29	F	1.17	F	1.20	0.18	-0.09
6. Fruitridge Rd/Power Inn Rd	signal	F	1.56	F	1.53	F	1.61	F	1.53	0.05	0.0
7. Fruitridge Rd/Florin Perkins Rd	signal	F	1.27	F	1.08	F	1.27	F	1.12	0.0	0.04
8. Fruitridge Rd/Elk Grove Florin	new signal	F	1.71	F	1.36	F	1.69	F	1.45	-0.02	0.09
9. Elder Creek Rd/65th St	signal	F	1.21	F	1.10	F	1.22	F	1.13	0.01	0.03
10. Elder Creek Rd/Power Inn Rd	signal	F	1.05	F	1.06	F	1.11	F	1.14	0.06	0.08
11. Elder Creek Rd/Florin Perkins	signal	B	0.68	E	0.92	D	0.89	F	1.05	0.21	0.13
12. Elder Creek Rd/Elk Grove Florin	new signal	F	1.91	F	1.68	F	1.92	F	1.75	0.01	0.07
13. Florin Rd/Power Inn Rd	signal	F	1.32	F	1.29	F	1.36	F	1.43	0.04	0.14

LOS = Level of Service (City standard = LOS "C", v/c = 0.80 or better).  
 V/C = Volume to Capacity Ratio.  
 Bold indicates unacceptable LOS operation.

SOURCE: kd Anderson Transportation Engineering, 1994.

TABLE 6.2-11

**CUMULATIVE YEAR 2010 ROADWAY LEVELS OF SERVICE  
WITH PROPOSED PROJECT**

Roadway Segment	Travel Lanes	Cumulative Base Condition		Year 2010 Plus Project		Volume Change	V/C Change
		ADT	LOS	ADT	LOS		
<b>Fruitridge Road</b>							
65th to Power Inn	4	32,260	F	33,700	F	1,440	0.05
Power Inn to Fl. Perkins	4	36,410	F	37,800	F	1,390	0.05
Fl. Perkins to E.G. Florin	4*	30,660	F	32,500	F	1,840	0.06
<b>Elder Creek Road</b>							
65th to Power Inn	4	27,650	E	31,800	F	4,150	0.14
Power Inn to Fl. Perkins	4*	20,660	B	23,400	C	2,740	0.09
Fl. Perkins to E.G. Florin	4*	20,320	B	21,200	C	880	0.03
<b>65th Street</b>							
Fruitridge to 14th	4	44,140	F	44,400	F	260	0.01
South of Elder Creek	4	37,650	F	38,500	F	850	0.03
<b>Power Inn Road</b>							
Folsom to 14th Ave	4	60,280	F	63,100	F	2,820	0.09
14th Ave to Fruitridge	4	40,830	F	43,300	F	2,470	0.08
Fruitridge to Elder Creek	4	33,210	F	34,400	F	1,190	0.04
Elder Creek to Florin Rd	4	18,510	B	20,500	B	1,990	0.07
<b>Florin Perkins Road</b>							
North of Fruitridge Rd	4	32,880	F	34,400	F	1,520	0.05
Fruitridge to Elder Creek	4	21,800	C	23,700	C	1,900	0.06
Elder Creek to Florin Rd	4	21,110	C	22,600	C	1,490	0.05
<b>Elk Grove Florin Road</b>							
North of Fruitridge Rd	2	66,000	F	68,600	F	2,600	0.09
South of Elder Creek Rd	2	73,050	F	75,800	F	2,750	0.09
* Assumes completion of partially constructed roadway segments. Bold indicates unacceptable LOS operation.							
SOURCE: kd Anderson Transportation Engineering, 1994.							

TABLE 6.2-12

**INTERSECTION MITIGATION SUMMARY EXISTING AND EXISTING PLUS PROJECT CONDITIONS**

Intersection	Improvement Needs for Existing Conditions	Improvement Needs for Existing Plus Project Conditions
Folsom Blvd/Power Inn Rd	Cannot be fully mitigated with conventional intersection. The feasibility of a grade separation is currently being evaluated at this location.	Same.
Folsom Blvd/Jackson Hwy/Notre Dame Dr	None required.	None required.
Folsom Blvd/Florin Perkins Rd/Julliard Dr	None required.	None required.
14th Ave/Power Inn Rd	Add SB right turn lane, Power Inn Road.	Same.
Fruitridge Rd/65th St	None required.	Add SB left turn lane, 65th Street.
Fruitridge Rd/Power Inn Rd	None required.	Add right turn lane at NB, SB, and EB approaches, resulting LOS = "D" to "E". Additional Power Inn Road (NB and SB) through lanes needed to fully mitigate.
Fruitridge Rd/Florin Perkins Rd	None required.	None required.
Fruitridge Rd/Elk Grove Florin	Signalize, provide left turn channelization and SB right turn lane.	Same.
Elder Creek Rd/65th St	None required.	None required.
Elder Creek Rd/Power Inn Rd	None required.	Add NB and SB left turn lane, Power Inn Road. Add WB right turn lane, Elder Creek Road.
Elder Creek Rd/Florin Perkins	None required.	None required.
Elder Creek/Elk Grove Florin	Signalize, provide left turn channelization.	Same.
Florin Rd/Power Inn Rd	Add left turn lane at WB and EB approaches, resulting LOS = "C" to "D." Additional SB through lane on Power Inn Road needed to fully mitigate.	Same as for existing, in addition add NB right turn lane.
SOURCE: kd Anderson Transportation Engineering, 1994.		

*Impact*

## 6.2-13 Intersection at Folsom Blvd/Power Inn Road (Cumulative)

- PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road. This is considered a *significant impact*.
- AA The No Project Alternative would not add additional traffic to the cumulative scenario; therefore, no impact would result.
- AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations. This is considered to be a *significant impact*.

*Mitigation*

## 6.2-13 Intersection at Folsom Blvd/Power Inn Road (Cumulative)

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant* level. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

- PP, AB (a) *The City of Sacramento Transportation Division shall develop a capital improvement program to ensure the construction of an eastbound right turn lane or westbound left turn lane on Folsom Blvd.*
- (b) *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of an eastbound right turn lane or westbound left turn lane on Folsom Blvd.*

*Impact*

## 6.2-14 Intersection at Folsom Blvd/Jackson Hwy (Cumulative)

- PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road. This is considered a *significant impact*.
- AA The No Project Alternative would not add additional traffic to the cumulative scenario; therefore, no impact would result.

- AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations. This is considered to be a *significant impact*.

### Mitigation

#### 6.2-14 Intersection at Folsom Blvd/Jackson Hwy (Cumulative)

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant* level. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

- PP, AB (a) *The City of Sacramento Transportation Division shall develop a capital improvement program to ensure the construction of an eastbound left turn lane on Folsom Blvd.*
- (b) *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of an eastbound left turn lane on Folsom Blvd.*

### Impact

#### 6.2-15 Intersection at Folsom Blvd/Florin Perkins Road (Cumulative)

- PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road. This is considered a *significant impact*.
- AA The No Project Alternative would not add additional traffic to the cumulative scenario; therefore, no impact would result.
- AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations. This is considered to be a *significant impact*.

### Mitigation

#### 6.2-15 Intersection at Folsom Blvd/Florin Perkins Road (Cumulative)

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant* level. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation

would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

- PP, AB (a) *The City of Sacramento Transportation Division shall develop a capital improvement program to ensure the construction of a westbound left turn lane on Folsom Blvd.*
- (b) *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of a westbound left turn lane on Folsom Blvd.*

### Impact

#### 6.2-16 Intersection at Power Inn Road/14th Avenue (Cumulative)

- PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road. This is considered a *significant impact*.
- AA The No Project Alternative would not add additional traffic to the cumulative scenario; therefore, no impact would result.
- AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations. This is considered to be a *significant impact*.

### Mitigation

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant* level. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

- PP, AB (a) *The City of Sacramento Transportation Division shall develop a capital improvement program to ensure the construction of a southbound right turn lane or a northbound left turn lane on Power Inn Road.*
- (b) *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of a southbound right turn lane or a northbound left turn lane on Power Inn Road.*

*Impact*

## 6.2-18 Intersection at Fruitridge Road/65th Street (Cumulative)

- PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road. This is considered a *significant impact*.
- AA The No Project Alternative would not add additional traffic to the cumulative scenario; therefore, no impact would result.
- AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations. This is considered to be a *significant impact*.

*Mitigation*

## 6.2-18 Intersection at Fruitridge Road/65th Street (Cumulative)

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant* level. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

- PP, AB *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete an additional (3rd) northbound through lane on 65th Street.*

*Impact*

## 6.2-19 Intersection at Fruitridge Road/Power Inn Road (Cumulative)

- PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road. This is considered a *significant impact*.
- AA The No Project Alternative would not add additional traffic to the cumulative scenario; therefore, no impact would result.
- AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations. This is considered to be a *significant impact*.

*Mitigation*

## 6.2-19 Intersection at Fruitridge Road/Power Inn Road (Cumulative)

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant* level. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

PP, AB *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of an eastbound right turn lane on Fruitridge Road.*

*Impact*

## 6.2-20 Intersection at Fruitridge Road/Florin Perkins Road (Cumulative)

PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road. This is considered a *significant impact*.

AA The No Project Alternative would not add additional traffic to the cumulative scenario; therefore, no impact would result.

AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations. This is considered to be a *significant impact*.

*Mitigation*

## 6.2-20 Intersection at Fruitridge Road/Florin Perkins Road (Cumulative)

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant* level. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

PP, AB *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of a northbound left turn lane on Florin Perkins Road.*

*Impact*

## 6.2-21 Intersection at Fruitridge Road/Elk Grove Florin Road (Cumulative)

- PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road. This is considered a *significant impact*.
- AA The No Project Alternative would not add additional traffic to the cumulative scenario; therefore, no impact would result.
- AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations. This is considered to be a *significant impact*.

*Mitigation*

## 6.2-21 Intersection at Fruitridge Road/Elk Grove Florin Road (Cumulative)

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant* level. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

- PP, AB *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of an eastbound left turn lane on Fruitridge Road.*

*Impact*

## 6.2-22 Intersection at Elder Creek Road/65th Street (Cumulative)

- PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road. This is considered a *significant impact*.
- AA The No Project Alternative would not add additional traffic to the cumulative scenario; therefore, no impact would result.
- AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations. This is considered to be a *significant impact*.

*Mitigation*

## 6.2-22 Intersection at Elder Creek Road/65th Street (Cumulative)

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant* level. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

PP, AB *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of a westbound left turn lane on Elder Creek Road.*

*Impact*

## 6.2-23 Intersection at Elder Creek Road/Power Inn Road (Cumulative)

PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road. This is considered a *significant impact*.

AA The No Project Alternative would not add additional traffic to the cumulative scenario; therefore, no impact would result.

AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations. This is considered to be a *significant impact*.

*Mitigation*

## 6.2-23 Intersection at Elder Creek Road/Power Inn Road (Cumulative)

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant* level. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

PP, AB *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of an eastbound left turn lane and a westbound right turn lane on Elder Creek Road.*

*Impact*

## 6.2-24 Intersection at Elder Creek Road/Florin Perkins Road (Cumulative)

- PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road. This is considered a *significant impact*.
- AA The No Project Alternative would not add additional traffic to the cumulative scenario; therefore, no impact would result.
- AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations. This is considered to be a *significant impact*.

*Mitigation*

## 6.2-24 Intersection at Elder Creek Road/Florin Perkins Road (Cumulative)

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant* level. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

- PP, AB *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of a third southbound through lane and a northbound left turn lane on Florin Perkins Road.*

*Impact*

## 6.2-25 Intersection at Elder Creek Road/Elk Grove Florin Road (Cumulative)

- PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road. This is considered a *significant impact*.
- AA The No Project Alternative would not add additional traffic to the cumulative scenario; therefore, no impact would result.
- AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations. This is considered to be a *significant impact*.

*Mitigation*

## 6.2-25 Intersection at Elder Creek Road/Elk Grove Florin Road (Cumulative)

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant* level. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

PP, AB *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of a westbound left turn lane on Elder Creek Road.*

*Impact*

## 6.2-26 Intersection at Florin Road/Power Inn Road (Cumulative)

PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road. This is considered a *significant impact*.

AA The No Project Alternative would not add additional traffic to the cumulative scenario; therefore, no impact would result.

AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations. This is considered to be a *significant impact*.

*Mitigation*

## 6.2-26 Intersection at Florin Road/Power Inn Road (Cumulative)

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant* level. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

PP, AB *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of an eastbound left turn lane and a westbound left turn lane on Florin Road.*

## Roadway Operations

Table 6.2-13 summarizes projected cumulative roadway operations with and without development of the proposed reuse plan. Table 6.2-14 provides a summary of roadway improvement needs required to mitigate operations to LOS "C" using traffic projections obtained from the SACMET traffic model for this analysis. As shown, segments of Power Inn Road, Fruitridge Road, Elder Creek Road and Florin Perkins Road will require widening to six through travel lanes to provide LOS "C" operations. In addition, 65th Street, Elk Grove Florin Road and two segments of Power Inn Road would require 8-lane sections. However, traffic projections indicate that even with widening to an 8-lane roadway, LOS "C" could not be provided on Elk Grove Florin Road or Power Inn Road north of 14th Avenue.

Improvement assumptions and mitigation needs identified in the City of Sacramento General Plan Update Circulation Element are also presented in Table 6.2-14. This information has been included to provide perspective regarding the feasibility of improvements previously identified to be required to accommodate future development of the area. As shown, previous analysis for the area indicated the need for major widening of many roadways serving the area, however, such improvements were determined to be infeasible at that time.

The majority of all study intersections and roadway segments are projected to operate unsatisfactorily with or without reuse of the Army Depot project site. The extent to which capacity improvements are feasible in the area has not been fully determined at this time, however, past planning for the area (ie., SGPU Circulation Element) identified many roadway widening needs to be infeasible to implement. In addition, future traffic conditions will be dependent upon the success of Transportation Demand Strategies and alternatives to the single occupant vehicle.

### Impact

#### 6.2-27 Roadway Operations (Cumulative)

- PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road. This is considered a *significant impact*.
- AA The No Project Alternative would not add additional traffic to the cumulative scenario; therefore, no impact would result.
- AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations. This is considered to be a *significant impact*.

**TABLE 6.2-13**  
**ROADWAY MITIGATION SUMMARY CUMULATIVE CONDITIONS**

Roadway Segment	Existing No. of Lanes	As Per SGPU		Sacmet Traffic Model - No Project		Sacmet Traffic Model With Project	
		Assumed No. of Lanes**	Identified Mitigation	Mitigation Needed	LOS	Mitigation Needed	LOS
<b>Fruitridge Road</b>							
65th to Power Inn	4	4	none	6-lane	C	6-lane	C
Power Inn to Fl. Perkins	4	4	(8-lane)	6-lane	C	6-lane	C/D
Fl. Perkins to E.G. Florin	4*	4	(8-lane)	6-lane	B	6-lane	C
<b>Elder Creek Road</b>							
65th to Power Inn	4	4	[none]	6-lane	B	6-lane	C
Power Inn to Fl. Perkins	4*	4	[none]	none	B	none	C
Fl. Perkins to E.G. Florin	4*	4	[none]	none	B	none	C
<b>65th Street</b>							
Fruitridge to 14th	4	6	[none]	8-lane	C	8-lane	C
South of Elder Creek	4	6	none	8-lane	B	8-lane	B
<b>Power Inn Road</b>							
Folsom to 14th	4	4	[none]	8-lane	F***	8-lane	F***
14th Ave to Fruitridge	4	4	[none]	8-lane	B	8-lane	C
Fruitridge to Elder Creek	4	4	[none]	6-lane	C	6-lane	C
Elder Creek to Florin Rd	4	4	(6-lane)	none	B	none	B
<b>Florin Perkins Road</b>							
North of Fruitridge Rd	4	6	[none]	6-lane	C	6-lane	C
Fruitridge to Elder Creek	4	6	(8-lane)	none	C	none	C
Elder Creek to Florin Rd	4	6	8-lane	none	C	none	C
<b>Elk Grove Florin Road</b>							
North of Fruitridge Rd	2	4	none	8-lane	F***	8-lane	F***
South of Elder Creek	2	4	none	8-lane	F***	8-lane	F***

\* Assumes completion of partially constructed roadway segments.  
 \*\* Number of lanes assumed in Sacramento General Plan Update (SGPU) Circulation Element.  
 \*\*\* Cannot be mitigated with maximum 8-lane improvement.  
 Bold indicates unacceptable LOS operations.  
 ( ) SGPU finding of infeasibility due to unavailable funding for identified mitigation.  
 [ ] Indicates no mitigation identified in SGPU, however, segment identified to operate below LOS "C" standard.  
 SOURCE: kd Anderson Transportation Engineering, 1994.

TABLE 6.2-14

## INTERSECTION MITIGATION SUMMARY CUMULATIVE CONDITIONS

Intersection	Improvement Needs for Cumulative Base Conditions*	Improvement Needs Required to Reduce Impacts to a Less Than Significant Level**
1 Folsom Blvd/ Power Inn Rd	6-lane - Power Inn Road 6-lane - Folsom Blvd <b>LOS A.M. = F, P.M. = F</b> Urban Interchange PSR	Add EB right turn lane on Folsom Blvd or WB left turn lane
2 Folsom Blvd/ Jackson Hwy/ Notre Dame Dr	4-lane - Folsom Blvd 4-lane - Jackson HWY  <b>LOS A.M. = D, P.M. = D</b>	Add EB left turn lane on Folsom Blvd
3 Folsom Blvd/ Florin Perkins Rd/ Julliard Dr	4-lane - Folsom Blvd 6-lane - Florin Perkins Rd  <b>LOS A.M. = C, P.M. = A</b>	Add WB left turn lane on Folsom Blvd
4 14th Ave/ Power Inn Rd	4-lane - Power Inn Rd 4-lane - 14th Avenue  <b>LOS A.M. = C, P.M. = E</b>	Add SB right turn lane on Power Inn Road or NB left turn lane
5 Fruitridge Rd/ 65th St	4-lane - Fruitridge Rd 4-lane - 65th Street  <b>LOS A.M. = C, P.M. = D</b>	Third NB through lane required on 65th Street
6 Fruitridge Rd/ Power Inn Rd	4-lane - Fruitridge Rd 4-lane Power Inn Rd  <b>LOS A.M. = F, P.M. = F</b>	Add EB right turn lane on Fruitridge Road
7 Fruitridge Rd/ Florin Perkins Rd	4-lane - Fruitridge Rd, 6-lane adjacent to site 6-lane - Florin Perkins Rd  <b>LOS A.M. = D, P.M. = C</b>	Add NB left turn lane on Florin Perkins Road
<p>* Identified improvements considered the maximum feasible at this time. Maximum 6-lane or 4-lane street section assumes dual left turn lanes and separate right turn lane.</p> <p>** Existing intersection geometry used as base. Bold indicates unacceptable LOS operation.</p> <p>SOURCE: kd Anderson Transportation Engineering, 1994.</p>		

TABLE 6.2-14 (Cont'd)

## INTERSECTION MITIGATION SUMMARY CUMULATIVE CONDITIONS

Intersection	Improvement Needs for Cumulative Base Conditions*	Improvement Needs Required to Reduce Impacts to a Less Than Significant Level**
8 Fruitridge Rd/ Elk Grove Florin	4-lane - Fruitridge Rd 6-lane - Elk Grove Florin Rd  LOS A.M. = F, P.M. = D	Add EB left turn lane on Fruitridge Road
9 Elder Creek Rd/ 65th St	4-lane - Elder Creek Rd 6-lane - 65th Street  LOS A.M. = D, P.M. = C	Add WB left turn lane on Elder Creek Road
10 Elder Creek Rd/ Power Inn Rd	4-lane - Power Inn Rd 4-lane - Elder Creek Rd  LOS A.M. = D, P.M. = E	Add EB left turn lane and WB right turn lane on Elder Creek Road
11 Elder Creek Rd/ Florin Perkins	6-lane - Florin Perkins Rd 4-lane Elder Creek Rd  LOS A.M. = A, P.M. = B	Add 3rd SB through lane and NB left turn lane on Florin Perkins Road
12 Elder Creek/ Elk Grove Florin	4-lane - Elder Creek Rd 6-lane - Elk Grove Florin Rd  LOS A.M. = F, P.M. = F	Add WB left turn lane on Elder Creek Road
13 Florin Rd/ Power Inn Rd	4-lane - Power Inn Rd 4-lane - Florin Rd  LOS A.M. = F, P.M. = F	Add EB and WB left turn lanes on Florin Road

\* Identified improvements considered the maximum feasible at this time. Maximum 6-lane or 4-lane street section assumes dual left turn lanes and separate right turn lane.

\*\* Existing intersection geometry used as base.

Bold indicates unacceptable LOS operation.

SOURCE: kd Anderson Transportation Engineering, 1994.

## Mitigation

### 6.2-27 Roadway Operations (Cumulative)

For the proposed project and Alternative B, no feasible mitigation has been identified; therefore, this impact remains *significant and unavoidable*. No mitigation is required for the No Project Alternative.

Impacts resulting from reuse of the site have been identified. Intersection and roadway improvement needs adjacent to the site should be implemented in conjunction with development of the site, with costs borne by the developer(s).

As previously presented for specific intersection locations, incremental improvements have been identified which will reduce project impacts to a less than significant level. However, in most instances, overall operations will still be unacceptable under cumulative conditions. In the case of roadway segment improvement needs, participation of individual projects in mitigating incremental impacts is less certain, as partial construction of a travel lane is not possible. Therefore, pro-rata participation in identified improvements is the likeliest mechanism for mitigating project impacts.

As summarized in Table 6.2-14, development of the proposed reuse alternative would not require roadway improvements beyond those identified for cumulative base conditions. Identified improvement needs will result in satisfactory operations with the addition of project traffic at those locations where LOS "C" could be provided. At those locations projected to operate unsatisfactorily even with widening to 8-lane sections, project traffic will further exacerbate this condition. Incremental improvement needs required to reduce project impacts to less than significant levels are discussed below.

Tables 6.2-15 and 6.2-16 display resulting daily traffic volume projections with traffic generated by Alternative B added to existing and cumulative background volumes respectively.

As shown in Table 6.2-15, under current traffic conditions, buildout of Alternative B will result in significant impacts to 14 of the 17 roadway segments analyzed. This is twice the quantity of impacted segments identified for the proposed reuse alternative.

#### **Fruitridge Road**

Daily volumes on Fruitridge Road through the study area currently range from about 10,000 ADT to 20,000 ADT. Without development of the Reuse Plan, these volumes are projected to increase to 30,000 ADT and 36,000 ADT respectively. Assuming four travel lanes on Fruitridge Road through the study area as currently exists, LOS "F" is projected on each of the segments analyzed under cumulative base conditions. Development of the proposed Reuse Plan will contribute to this condition and significantly impact each of the roadway segments. Traffic volumes generated by the site will add from 1,400 to 1,800 ADT to the roadway.

TABLE 6.2-15

## EXISTING PLUS ALTERNATIVE B ROADWAY LEVELS OF SERVICE

Roadway Segment	Existing No. of Lanes*	Existing Condition		Existing Plus Alt. B		Volume Change	V/C Change
		ADT	LOS	ADT	LOS		
<b>Fruitridge Road</b>							
65th to Power Inn	4	20,700	B	29,940	F	9,240	0.31
Power Inn to Fl. Perkins	4	14,100	A	23,560-33,620	C-F	9,460-19,520	0.31-0.65
Fl. Perkins to E.G. Florin	2	9,850	B	15,270	F	5,420	0.36
<b>Elder Creek Road</b>							
65th to Power Inn	4	16,200	A	22,180	C	5,980	0.20
Power Inn to Fl. Perkins	2	13,100	D	26,160	F	13,060	0.87
Fl. Perkins to E.G. Florin	2	9,150	B	13,490	D	4,340	0.29
<b>65th Street</b>							
Fruitridge to 14th	4	20,600	B	23,850	C	3,250	0.10
South of Elder Creek	4	16,000	A	17,080	A	1,080	0.04
<b>Power Inn Road</b>							
Folsom to 14th Ave	4	26,600	D	39,600	F	13,000	0.43
14th Ave to Fruitridge	4	23,150	C	36,150	F	13,000	0.43
Fruitridge to Elder Creek	4	25,200	D	32,310	F	7,110	0.24
Elder Creek to Florin Rd	4	23,800	C	28,140	E	4,340	0.15
<b>Florin Perkins Road</b>							
North of Fruitridge Rd	4	18,600	B	24,590	D	5,990	0.20
Fruitridge to Elder Creek	4	18,250	B	24,890	D	6,640	0.21
Elder Creek to Florin Rd	4	22,400	C	28,390	E	5,990	0.20
<b>Elk Grove Florin Road</b>							
North of Fruitridge Rd	2	18,000	F	23,420	F	5,420	0.36
South of Elder Creek Rd	2	15,000	E/F	17,170	F	2,170	0.15
<p>* Number of lanes indicates number of through travel lanes on roadway segment.  ** Significant impact based upon City of Sacramento LOS thresholds.  Bold indicates unacceptable LOS operation.</p>							
SOURCE: kd Anderson Transportation Engineering, 1994.							

TABLE 6.2-16

**CUMULATIVE YEAR 2010 ROADWAY LEVELS OF SERVICE WITH  
ALTERNATIVE B**

Roadway Segment	Travel Lanes	Cumulative Base Condition		Year 2015 Plus Project		Volume Change	V/C Change
		ADT	LOS	ADT	LOS		
<b>Fruitridge Road</b>							
65th to Power Inn	4	32,260	F	31,760	F	-500	-0.02
Power Inn to Fl. Perkins	4	36,410	F	39,410	F	3,000	0.10
Fl. Perkins to E.G. Florin	4*	30,660	F	20,660	B	-10,000	-0.33
<b>Elder Creek Road</b>							
65th to Power Inn	4	27,650	E	31,850	F	4,200	0.14
Power Inn to Fl. Perkins	4*	20,660	B	27,260	E	6,600	0.22
Fl. Perkins to E.G. Florin	4*	20,320	B	17,320	A	-3,000	-0.10
<b>65th Street</b>							
Fruitridge to 14th	4	44,140	F	35,940	F	-8,200	-0.27
South of Elder Creek	4	37,650	F	29,650	E	-8,000	-0.27
<b>Power Inn Road</b>							
Folsom to 14th Ave	4	60,280	F	72,180	F	11,900	0.40
14th Ave to Fruitridge	4	40,830	F	52,530	F	11,700	0.39
Fruitridge to Elder Creek	4	33,210	F	36,710	F	3,500	0.12
Elder Creek to Florin Rd	4	18,510	B	40,210	F	21,700	0.72
<b>Florin Perkins Road</b>							
North of Fruitridge Rd	4	32,880	F	58,080	F	25,200	0.84
Fruitridge to Elder Creek	4	21,800	C	52,400	F	30,600	1.02
Elder Creek to Florin Rd	4	21,110	C	53,310	F	32,200	1.07
<b>Elk Grove Florin Road</b>							
North of Fruitridge Rd	2	66,000	F	51,900	F	-14,100	-0.47
South of Elder Creek Rd	2	73,050	F	49,650	F	-23,400	-0.78

\* Assumes completion of partially constructed roadway segments.

\*\* Significant impact based upon City of Sacramento LOS thresholds.

Bold indicates unacceptable LOS operation.

SOURCE: kd Anderson Transportation Engineering, 1994.

*Impact*

## 6.2-28 Fruitridge Road (Cumulative)

- PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road. This is considered a *significant impact*.
- AA The No Project Alternative would not add additional traffic to the cumulative scenario; therefore, no impact would result.
- AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations. This is considered to be a *significant impact*.

*Mitigation*

## 6.2-28 Fruitridge Road (Cumulative)

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant* level. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

- PP, AB *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of six travel lanes. This improvement need is also as identified to accommodate cumulative base conditions without development of the proposed reuse plan. Widening will require additional right of way and may impact adjacent development.*

**Elder Creek Road**

Daily volumes on Elder Creek Road through the study area currently range from about 9,000 ADT to 16,000 ADT. Without development of the Reuse Plan, these volumes are projected to increase to 20,000 ADT and 27,000 ADT respectively. Traffic volumes generated by the site will add from 900 to 4,000 ADT to the roadway. Satisfactory operations are projected east of Power Inn Road with or without development of the Reuse Plan. This assumes completion of the partially improved roadway segments to provide a continuous 4-lane roadway. Level of Service "E" operations are projected on Elder Creek Road from Power Inn Road to 65th Street under cumulative base conditions. With the proposed Reuse Plan, LOS "F" is projected. This is considered a significant impact.

*Impact*

## 6.2-29 Elder Creek Road, 65th Street to Power Inn Road (Cumulative)

- PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road. This is considered a *significant impact*.
- AA The No Project Alternative would not add additional traffic to the cumulative scenario; therefore, no impact would result.
- AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations. This is considered to be a *significant impact*.

*Mitigation*

## 6.2-29 Elder Creek Road, 65th Street to Power Inn Road (Cumulative)

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant* level. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

- PP, AB *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of six travel lanes. This improvement need is also as identified to accommodate cumulative base conditions without development of the proposed reuse plan. Widening will require additional right of way and may impact adjacent development.*

**65th Street**

Level of Service "F" operations are projected on 65th Street with or without development of the reuse plan. Project traffic will result in a significant impact south of Elder Creek Road. Daily volumes on 65th Street through the study area currently range from about 16,000 ADT to 20,000 ADT. Without development of the reuse plan, these volumes are projected to increase to 37,000 ADT and 44,000 ADT respectively. Development of the proposed reuse plan will further increase daily volumes by 250 to 850 ADT, resulting in significant impacts to the roadway south of Elder Creek Road.

*Impact*

## 6.2-30 65th Street, south of Elder Creek Road (Cumulative)

- PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road. This is considered a *significant impact*.
- AA The No Project Alternative would not add additional traffic to the cumulative scenario; therefore, no impact would result.
- AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations. This is considered to be a *significant impact*.

*Mitigation*

## 6.2-30 65th Street, south of Elder Creek Road (Cumulative)

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant* level. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

- PP, AB *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of six travel lanes.*

**Power Inn Road**

Daily volumes on Power Inn Road currently range from about 23,000 ADT to 26,000 ADT. Without development of the Reuse Plan, these volumes are projected to increase to 33,000 ADT and 60,000 ADT respectively. Traffic generated by reuse of the project site will add from 1,200 to 2,800 ADT to the roadway. Level of Service "F" conditions are projected on Power Inn Road from Elder Creek Road north to Highway 50 with or without development of the site. South of Elder Creek Road, satisfactory operations are projected to continue. Project traffic will result in a significant impact to each of the roadway segments from Elder Creek Road north to Folsom Blvd.

*Impact*

## 6.2-31 Power Inn Road, Folsom Blvd to Elder Creek Road (Cumulative)

- PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road. This is considered a *significant impact*.
- AA The No Project Alternative would not add additional traffic to the cumulative scenario; therefore, no impact would result.
- AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations. This is considered to be a *significant impact*.

*Mitigation*

## 6.2-31 Power Inn Road, Folsom Blvd to Elder Creek Road (Cumulative)

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant* level. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

- PP, AB *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of six travel lanes. Widening will require additional right of way and may impact adjacent development.*

**Florin Perkins Road**

Daily volumes on Florin Perkins Road currently range from about 18,000 ADT to 22,000 ADT. Without development of the Reuse Plan, these volumes are projected to increase to 21,000 ADT and 33,000 ADT respectively. Traffic generated by reuse of the project site will add from 1,500 to 1,900 ADT to the roadway. Unsatisfactory LOS "F" conditions are projected on Florin Perkins Road north of Fruitridge Road. Satisfactory operations are projected to continue south of Fruitridge Road with or without development of the proposed Reuse Plan. Project generated traffic will result in a significant impact to roadway operations north of Fruitridge Road.

*Impact*

## 6.2-32 Florin Perkins Road, north of Fruitridge Road (Cumulative)

- PP Traffic generated by the proposed reuse plan would result in an unacceptable level of service for Florin Perkins Road, north of Fruitridge Road. This is considered a *significant impact*.
- AA The No Project Alternative would result in no new vehicle trips; therefore, no impact would result.
- AB Traffic generated by Alternative B would be substantially greater than traffic increases identified for the proposed project. This is considered to be a *significant impact*.

*Mitigation*

## 6.2-32 Florin Perkins Road, north of Fruitridge Road (Cumulative)

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant* level. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

- PP, AB *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of six travel lanes. This improvement need is also as identified to accommodate cumulative base conditions without development of the proposed reuse plan. Widening will require additional right of way and may impact adjacent development.*

**Elk Grove Florin Road**

Traffic projections on Elk Grove Florin Road indicate volumes which are roughly four times larger than current conditions. Upwards of 60,000 to 70,000 ADT is projected on the roadway with or without development of the project site, greatly exceeding the capacity of the current 2-lane roadway. Development of the reuse plan will contribute to this condition, resulting in significant impacts north of Fruitridge Road and south of Elder Creek Road.

*Impact*

- 6.2-33 Elk Grove Florin Road, north of Fruitridge Road and south of Elder Creek Road (Cumulative)

- PP Traffic generated by the proposed reuse plan in conjunction with traffic generated by buildout of the project area would result in an unacceptable level of service for the intersection at Folsom Blvd/Power Inn Road. This is considered a *significant impact*.
- AA The No Project Alternative would not add additional traffic to the cumulative scenario; therefore, no impact would result.
- AB Traffic generated by Alternative B in conjunction with traffic generated by buildout of the proposed project would result in unsatisfactory intersection operations. This is considered to be a *significant impact*.

### *Mitigation*

- 6.2-33 Elk Grove Florin Road, north of Fruitridge Road and south of Elder Creek Road (Cumulative)

For the proposed project, the following mitigation measure would reduce the impact to a *less-than-significant* level. For Alternative B, the following mitigation measure would reduce the magnitude of the impact; however, analysis has not been completed to ensure that mitigation would reduce this impact to a less-than-significant level, and therefore it remains *significant and unavoidable*. No mitigation would be required for the No Project Alternative.

- PP, AB *Prior to approval of any new development projects at the Army Depot site, the City of Sacramento shall collect a fair share proportion from project proponents of the estimated cost to complete the addition of six travel lanes.*

## 6.3 AIR QUALITY

## 6.3 AIR QUALITY

### INTRODUCTION

This air quality evaluation includes a description of the climate and meteorology of Sacramento, a discussion of the pollutants impacting air quality, information on standards for air quality planning, the air quality methodology, and an impact analysis. These discussions will focus on the existing and future settings, with and without the proposed project.

This air quality analysis assumed an employment generation level of 7,500. Subsequent to the preparation of the Air Quality Analysis, the Sacramento Army Depot Reuse Plan was amended to reflect a maximum employment level of 6,000. The analysis contained in this section is based upon the higher employment level; therefore, the impacts identified may be higher than those generated by the actual buildout of the Sacramento Army Depot Reuse Plan. All mitigation measures identified will be considered applicable to the proposed project.

### SETTING

There are several important factors which determine local and regional air quality. The most critical are the quantity, type, and location of pollutant sources. Topographical, climate, and meteorological conditions are also important.

#### Topography, Climate, and Meteorology

The Sacramento Army Depot lies within the Sacramento Valley, an area bounded by the coastal ranges to the west and the Sierra Nevada to the east. A sea level gap in the Coast Range, the Carquinez Strait, is located 50 miles southwest, and the intervening terrain is very flat. The prevailing wind direction in Sacramento is southwesterly, as a result of marine breezes through the Carquinez Strait. When the sea breeze diminishes during winter, northerly winds occur more frequently, but southerly winds predominate.

#### **Topography**

Regional meteorological conditions are greatly influenced by the topography of the Sacramento Valley. Based on this influence, areas within the valley are evaluated collectively as the Sacramento Valley Air Basin (SVAB). Wind directions and speeds reflect the channeling effect of the mountain ranges that exist on three sides of the basin. During the summer months, marine air moves from the San Francisco Bay into the Sacramento Valley through the Carquinez Strait and the Cordelia Gap in the Coastal Ranges. Inversion characteristics within the region are significantly influenced by the path of the marine air. Inversion characteristics are described on page 6.3-4.

During the spring, summer, and early fall, a relatively stable high pressure zone positioned off the coast diverts storms to the north, away from California. The dry, warm, subsiding air of this system produces an atmospheric condition where warm air overlies cooler air, known as a

subsidence inversion. Subsidence inversions may be several thousand feet deep and, together with strong sunlight, can produce worst-case conditions for the formation of photochemical smog, of which the largest single component is ozone. In conjunction with the Eastern Pacific high-pressure zone, a thermal trough, a low-pressure zone caused by intense surface heating, is normally positioned over the Central Valley. The relative positions of these pressure zones cause air to blow through the Carquinez Strait to the Sacramento Valley. This helps cool the region, but it also carries pollutants from upwind, urban sources.

## Climate

The Sacramento Valley's climate has hot, dry summers and cool, rainy winters. During the late fall, winter, and early spring, the Eastern Pacific high-pressure zone shifts to the south, allowing numerous storm fronts originating over the Pacific to sweep through the region. Over 30 of these storms can typically be expected per year. Sacramento area precipitation mostly occurs during the winter; approximately 90 percent of the annual precipitation falls between November and April. These storms account for virtually all of the precipitation Sacramento receives in a typical year. Periods of stagnation between storms are characterized by very light winds. Surface inversions, which can form under these conditions, are most often observed in the morning from October to February. Sacramento meteorological monitoring station monthly precipitation values averaged over a 30-year period (from 1941 to 1970) are shown in Table 6.3-1.

During the winter, the North Pacific storm track intermittently dominates valley weather. Fair weather alternates with periods of extensive clouds and precipitation. Also characteristic of valley winter weather are periods of dense and persistent low-level fog, particularly between storms. The frequency and persistence of heavy fog diminishes with the approach of spring, when the days lengthen and the intensity of the sun's rays increase.

The Sacramento Valley becomes nearly isolated from the North Pacific storm track during the early summer, and cool marine air often penetrates into the valley. In later summer and early fall, the strength of the marine air influx diminishes.

The highest frequency of atmospheric stagnation occurs in autumn, after the characteristic summer flow ceases and before the season of winter storms have begun. Reduced daytime surface heating effectively shuts off the influx of marine air and inhibits vertical air movement. The prevailing up-valley (southerly winds) give way to normal daily flow, which is down-valley (northerly winds). Light winds and calm conditions intensify the air pollution potential in the Valley due to the accumulation of several days emissions in the stationary air mass. As winter approaches, occasional weak frontal systems enter the Valley, creating a "pre-frontal inversion." Considerable atmospheric stagnation may occur under these conditions.

## Wind

Wind direction determines the path in which air pollutants flow, while the wind speed controls the amount of air available for diluting emissions (light winds limit the dilution). Prevailing winds, which are defined as those blowing from the most prevalent direction, generally blow either up or down the Valley.

<b>MEAN MONTHLY PRECIPITATION<sup>1</sup></b>	
<b>Month</b>	<b>Precipitation (inches)</b>
January	3.73
February	2.68
March	2.17
April	1.54
May	0.51
June	0.10
July	0.01
August	0.05
September	0.19
October	0.99
November	2.13
December	3.12
ANNUAL	17.22

<sup>1</sup>At Sacramento Weather Service Office.  
 SOURCE: Department of Water Resources, *California Rainfall Summary, Monthly Total Precipitation 1849-1980*, July 1981.

## Temperature

Pollution potential patterns resemble the patterns of summer-maximum and winter-minimum temperatures. In summer, highest daily temperatures (approximately 110°F) areas tend to be in sheltered inland valleys, which have abundant sunshine and light winds. Sunlight is one of the factors in the equation which creates ozone. Air pollution potential in the winter is related to the minimum nighttime temperature. The lowest daily minimum temperatures (approximately 21°F) are associated with strong inversions, caused by nighttime radiative cooling near the ground. Inversions often occur following clear nights in inland valleys.

Sacramento Valley inland areas are prone to photochemical pollution in the summer due to a high frequency of clear sky conditions and an absence of precipitation. Hydrocarbons and oxides of nitrogen (NO<sub>x</sub>) can react to form secondary photochemical pollutants including ozone (O<sub>3</sub>) in the

presence of sunlight and warm temperatures. During the winter, the combination of cool weather, atmospheric inversions, and low wind speeds in the Sacramento area could contribute to high concentrations of carbon monoxide (CO) in the vicinity of congested-intersections, especially during the evening peak traffic hours.

### **Inversions**

Vertical air movement is important in the dispersion of air pollutants. A temperature inversion, which may be described as a layer of cool air near ground level with a layer of warm air above, acts as a nearly impenetrable lid to the vertical mixing of the atmosphere.

Inversions occur with great frequency in all seasons. The most severe conditions, as far as ventilation is concerned, occur in the late summer and autumn when a comparatively large number of deep, strong inversions occur. During this period, the upper air is warmer than in the spring and summer, and daytime surface heating is diminished. The result, in meteorological terms, is a "stable" atmosphere that severely limits dispersion of air contaminants.

### **Pollutants**

The air quality of a region is determined by the quantities and type of pollutants emitted and by the concentrations and accumulations of those pollutants under the influences of local meteorology and topography. Meteorologic conditions, such as wind speed and direction, temperature gradients, and inversions and precipitation, interact with the physical features of the landscape to determine the movement and dispersion of air pollutants. The 1986-2006 Sacramento General Plan Update Environmental Impact Report (SGPU EIR) identified urban emission sources as the primary source for existing air quality problems. Major sources of air pollutants in the Sacramento Area are: vehicle exhausts, solvent use, pesticide application, petroleum processing, transfer and storage, industrial processes, and agricultural and waste burning. The automobile is the largest single source category for carbon monoxide, hydrocarbons and oxides of nitrogen.

### **Criteria Air Pollutants**

Air quality standards have been established for six ambient air pollutants, commonly referred to as "criteria" air pollutants. The standards were primarily set to protect human health and welfare and were named because the United States Environmental Protection Agency (EPA) publishes criteria documents to justify the choice of each standard. The "criteria" air pollutants for which federal and state ambient standards have been established are ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen oxide (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), respirable particulate matter (PM<sub>10</sub>) and lead (Pb). Air quality is a function of the criteria pollutants emitted locally, the existing regional ambient air quality, and the meteorological and topographic factors which influence the intrusion of pollutants into the area from sources outside the immediate vicinity. The state and federal air quality standards are presented in Table 6.3-2.

**TABLE 6.3-2**  
**FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS<sup>1</sup>**

Pollutant	Averaging Time	California Standard <sup>2</sup>	Federal Standards <sup>3</sup>	
			Primary <sup>4</sup>	Secondary <sup>5</sup>
Ozone	1-hour	0.09 ppm	0.12 ppm	0.12 ppm
Carbon Monoxide	1-hour	20.00 ppm	35.00 ppm	35.00 ppm
	8-hour	9.00 ppm	9.00 ppm	9.00 ppm
Nitrogen Dioxide	1-hour	0.25 ppm	---	---
	Annual Average	---	0.053 ppm	0.053
Sulfur Dioxide	1-hour	0.25 ppm	---	---
	3-hour	---	---	1300 $\mu\text{g}/\text{m}^3$
	24-hour	0.04 ppm	365 $\mu\text{g}/\text{m}^3$	---
	Annual Average	---	80 $\mu\text{g}/\text{m}^3$	---
Suspended Particulate Matter (PM <sub>10</sub> )	24-hour	50 $\mu\text{g}/\text{m}^3$	150 $\mu\text{g}/\text{m}^3$	150 $\mu\text{g}/\text{m}^3$
	Annual Geometric Mean	30 $\mu\text{g}/\text{m}^3$	---	---
	Annual Arithmetic Mean	---	50 $\mu\text{g}/\text{m}^3$	50 $\mu\text{g}/\text{m}^3$
Sulfates	24-hour	25 $\mu\text{g}/\text{m}^3$	---	---
Lead	30 Day Average	1.5 $\mu\text{g}/\text{m}^3$	---	---
	Calendar Quarter	---	1.5 $\mu\text{g}/\text{m}^3$	1.5 $\mu\text{g}/\text{m}^3$
Hydrogen Sulfide	1-hour	0.03 ppm	---	---
Vinyl Chloride	24-hour	0.010 ppm	---	---
Visibility Reducing Particles <sup>6</sup>	1 Observation	---	---	---

<sup>1</sup>Concentration expressed first in units in which it was promulgated. Equivalent units given in parenthesis are based upon a reference temperature of 25°C and a reference pressure of 760 mm of mercury (1,013.2 millibar); ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

<sup>2</sup>California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter - PM<sub>10</sub>, and visibility reducing particles, are values that are not to be exceeded. The standards for sulfates, Lake Tahoe carbon monoxide, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded.

<sup>3</sup>National standards, other than ozone and those based on annual averages or annual arithmetic means, are not to be exceeded more than once a year. The ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one.

<sup>4</sup>National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health. Each state must attain the primary standards no later than three years after that state's implementation plan is approved by the Environmental Protection Agency.

<sup>5</sup>National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. Each state must attain the secondary standards within a "reasonable time" after the implementation plan is approved by the EPA.

<sup>6</sup>This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range when relative humidity is less than 70 percent.

<sup>7</sup>Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70 percent.

SOURCE: California Air Resources Board, 1991.

Maximum ambient pollutant concentration summaries measured over four years at two nearby stations are presented in Tables 6.3-3 and 6.3-4. Table 6.3-3 presents the data from the Sacramento-Del Paso Manor station. Table 6.3-4 presents the maximum data from the Citrus Heights-Sunrise stations.

### Ozone

Ozone is not emitted directly into the air, nor does it come from a single source. Rather, ozone (referred to as a secondary pollutant) is formed in the atmosphere in a complex photochemical process. The months of April to October are considered the "ozone season." The photochemical process involves oxides of nitrogen (NO<sub>x</sub>) and reactive organic gasses (ROG). "Precursors" of ozone are emitted into the air as a byproduct of combustion of fossil based fuels.

Significant ozone generation requires one to three hours in a stable atmosphere with strong sunlight.

Ozone is the most significant air quality problem in the Sacramento Metropolitan Air Quality Management District. A characteristic of O<sub>3</sub> is to proliferate on a regional scale, which makes it an especially complex problem to mitigate. All of the Sacramento County monitoring sites exceed the federal and state standards. The SVAB has been officially declared nonattainment by the EPA and the California Air Resources Board (CARB) for ozone. For the 1990s, continued population growth is anticipated, creating increases in vehicles and associated increases in precursor emissions of ozone.

### Carbon Monoxide

Carbon monoxide (CO) is an odorless and colorless gas formed by the incomplete combustion of fuels. Carbon monoxide is generally considered to be a local pollutant. CO is primarily a winter period pollution problem. High CO concentrations are mostly caused by motor vehicles. On-road vehicles account for approximately 70 percent of all Sacramento's CO emissions, with the problem being primarily in the inner-city and along busy intersections, main thoroughfares, and freeway corridors. At high concentrations, CO lowers the amount of oxygen in the blood and can cause headaches, dizziness, unconsciousness, and even death. CO is particularly dangerous indoors and in poorly ventilated areas (e.g., parking garages).

Sacramento County has been designated a non-attainment area for CO by the EPA and CARB. The 1986-2006 SGPU EIR acknowledges that motor vehicle emissions are the dominant source of CO in most areas. The frequency and intensity of CO violations are expected to increase as a result of an increase in population growth and urban development, generating additional vehicle miles traveled.

TABLE 6.3-3

**NUMBER OF DAYS CALIFORNIA AMBIENT AIR QUALITY  
STANDARDS WERE EXCEEDED AND HIGHEST CONCENTRATIONS FROM  
1989-1992 AT DEL PASO MANOR STATION**

Pollutant	Averaging Time	1989		1990		1991		1992	
		Days	Max	Days	Max	Days	Max	Days	Max
Ozone	1-hour	10	0.12	21	0.15	27	0.18	21	0.13
Carbon Monoxide	1-hour	0	15.0	0	12.0	0	11.0	0	9.0
	8-hour	13	13.0	4	11.3	0	11.0	0	7.3
Nitrogen Dioxide	1-hour	0	0.13*	0	0.09	0	0.17	0	0.19
	Annual	0	0.021*	0	0.017	0	0.028*	0	0.014
Sulfur Dioxide	1-hour	0	0.04*	0	0.04	0	0.03	0	0.02
	3-hour	0	0.036*	0	0.036	NA	NA	NA	NA
	24-hour	0	0.012*	0	0.014	0	0.03	0	0.012
	Annual	0	0.002*	0	0.001	NA	NA	0	0.001
PM <sub>10</sub>	24-hour	12	142.0	13	187.0	11	127.0	5	84.0
	Annual	a	33.2*	0	28.6	a	31.9*	0	24.4*

\* Exceeded the standard for the year.  
 \* Indicates that an insufficient number of valid data points were collected to meet EPA and/or CARB criteria for representativeness.  
 NA Indicates no measurements are available.

SOURCE: California Air Resources Board, *California Air Quality* 1989-1992.

### Particulate Matter

Particulate Matter (PM<sub>10</sub>) refers to a wide range of solid or liquid particles in the atmosphere of less than 10 microns in diameter. Those suspended particles with a diameter less than 10 micrometers are respirable particulate matter. PM<sub>10</sub> is produced by traffic flow associated with development. Other particulate matter sources are fuel combustion, wind and local soil mechanical erosion, construction, demolition, industrial processes, and photochemical reactions. The movement of vehicles on paved roads (which retain dust) is a major source of PM<sub>10</sub> accounting for up to half of the PM<sub>10</sub> generated daily. PM<sub>10</sub> is also produced during construction and farming activities which accounts for a portion of the remaining daily emissions. PM<sub>10</sub> problems normally occur when construction and farming activities are not controlled with a dust abatement program.

Ambient PM<sub>10</sub> standards are designed to prevent respiratory disease and protect visibility. PM<sub>10</sub> is monitored at both the Sacramento-Del Paso Manor and Citrus Heights stations. Ambient PM<sub>10</sub> concentrations have regularly exceeded the State 24-hour standard during the past five years. The

TABLE 6.3-4

**NUMBER OF DAYS CALIFORNIA AMBIENT AIR QUALITY  
STANDARDS WERE EXCEEDED AND HIGHEST CONCENTRATIONS FROM  
1989-1992 AT CITRUS HEIGHTS STATION**

Pollutant	Averaging Time	1989		1990		1991		1992	
		Days	Max	Days	Max	Days	Max	Days	Max
Ozone	1-hour	12	0.12	21	0.15	23	0.15	21	0.13
Carbon Monoxide	1-hour	0	9.0	0	10.0	0	8.0	0	9.0
	8-hour	0	6.9	0	6.5	0	8.05	0	5.1
Nitrogen Dioxide	1-hour	0	0.09	0	0.13	0	0.11*	0	0.10
	Annual	0	0.019	0	0.020	0	0.021*	0	0.019
PM <sub>10</sub>	24-hour	14	139.0	19	153.0	15	98.0	10	89.0
	Annual	b	35.6	b	36.0	b	34.1	0	29.3*
Sulfates <sup>a</sup>	24-hour	0	4.6	0	5.1	0	4.9	0	3.9
Lead	30-day	0	0.05	NA	NA	NA	NA	NA	NA
	Quarter	0	0.05	NA	NA	NA	NA	NA	NA

<sup>a</sup> Sulfates are measured at this station, however sulfur dioxide is not.  
<sup>b</sup> Exceeded the standard for the year.  
\* Indicates that an insufficient number of valid data points were collected to meet EPA and/or CARB criteria for representativeness.  
NA Indicates no measurements are available.

SOURCE: California Air Resources Board, *California Air Quality Data*, 1989-1992.

CARB has declared the SVAB to be non-attainment for PM<sub>10</sub>. A preliminary PM<sub>10</sub> work program is being prepared, but has not yet been approved and is therefore, not included in Sacramento County's *Air Quality Attainment Plan*.

#### Other Criteria Pollutants

The remaining criteria air pollutants are nitrogen oxides (NO<sub>x</sub>), sulfur oxides (SO<sub>x</sub>) and lead (Pb). The NO<sub>x</sub> ambient air quality standards have as their objective prevention of respiratory disease, odor, and creation of ozone. Ambient air quality standards for SO<sub>x</sub> are designed to prevent health risks and improve visibility. The ambient Pb concentrations standards are for the protection against the toxic health effects.

The adverse environmental effects of SO<sub>x</sub> and NO<sub>x</sub> go beyond public health, odor, and visibility impacts. Their ability to react with atmospheric water vapor to create acid rain results in accelerated weathering of stone and masonry structures and facilities, enhanced leaching of nutrients and toxic substances in soils, and direct damage of vegetation and aquatic biota. NO<sub>x</sub> (monitored at Folsom), SO<sub>x</sub>, and Pb concentrations have not exceeded State or federal standards

in the past five years. Despite attainment,  $\text{NO}_x$  is a closely watched pollutant because it contributes to ozone formation.

### **Air Toxics**

Air toxics are airborne substances that are capable of causing short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer-causing) adverse human health effects (i.e., injury or illness). Air toxics include both organic and inorganic chemical substances. They may be emitted from a variety of common inorganic sources including gasoline stations, laboratories, automobiles, aircraft, trains, dry cleaners, industrial operations, and painting operations. Natural source emissions include windblown dust and wildfires. Farms, construction sites, and residential areas can also add to air toxic emissions. The CARB has prepared an air toxics emission inventory of mobile, area, and natural sources. The inventory identifies air toxics emissions from sources in each California air district and quantifies these emissions where feasible. Because of the difficulty in quantifying emissions from many air toxics sources, this inventory is not comprehensive and does not provide any information specific to the project area.

### Health Effects of Air Toxics

Health effects resulting from air toxics exposure can be categorized as either carcinogenic (cancer-causing), or non-carcinogenic. Health effects from carcinogenic air toxics are usually assessed in terms of cancer risk. Cancer risk from a project is normally expressed as the additional number of potential cancer cases per one-million people exposed to emissions from the project over their lifetimes. When exposure to more than one potential carcinogen is evaluated, the risks posed by the various individual air toxics are summed; this sum is the overall cancer risk estimate.

Non-carcinogenic health effects associated with air toxics exposure vary depending on the types and quantities of air toxics exposure. Adverse effects on health, as well as the potential for nuisance and other forms of irritation, depend largely on an individual's susceptibility. Non-cancer health effects of air toxics are usually considered by comparing estimated exposure levels to known or estimated thresholds for health effects. Often a safety factor, to account for sensitive populations, is included in the threshold level used in the comparison.

Currently in the U.S., about 300,000 of each one-million people will develop cancer in their lifetimes. One EPA study provides a general idea of the relative importance of community air toxics sources in terms of health risk. This study, which considered cancer-related health risk due to air toxics in five cities, evaluated the relative contribution to cancer incidence of a number of common city sources of air toxics. Road vehicles were found to cause more than one-half the air toxics related health risk in the cities studied. Industrial sources such as chrome platers, solvent users, and other manufacturing were responsible for more than one-fifth of the identified risk. Other common community sources such as fireplaces, gasoline stations and hospital sterilizers, made up about 10 percent of the risk.

### Sensitive Receptors

Some receptors are considered more sensitive than others to air pollutants. The reasons for greater sensitivity are health problems, proximity to the emissions source, or duration of exposure. Land uses such as primary and secondary schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality. This is because the very young, elderly, and infirm are more often susceptible to respiratory infections and other air quality-related health problems than the general public. Residential areas are considered sensitive to poor air quality because of the amount of time people spend at home. Recreational land users are often moderately sensitive to air pollution, due to the vigorous exercise associated with recreation which places a high demand on the human respiratory function.

### Regulatory Background

Air quality is regulated by several agencies which include the EPA, California Air Resources Board (CARB), and SMAQMD. Each of these agencies develop rules and/or regulations to attain the goals or directives imposed upon them through legislation. Although EPA regulations may not be superseded, both state and local regulations may be more stringent. In general, air quality is evaluated based upon air quality standards developed by the federal government and several state agencies. Emissions limitations are then imposed upon individual sources of air pollutants by local agencies. Mobile sources of air pollutants are largely controlled through federal and state agencies, while most stationary sources are regulated by the local air pollution control districts (APCD) or air quality management districts (AQMD).

#### **Federal**

The Federal Clean Air Act of 1970, as amended, established air quality standards for several pollutants. These standards are divided into primary standards and secondary standards. Primary standards are designed to protect the public health and secondary standards are intended to protect the public welfare from effects such as visibility reduction, soiling, nuisance, and other forms of damage. In addition, the State of California has adopted its own standards. The state and federal standards were previously presented in Table 6.3-2.

In 1977, the EPA designated the Sacramento Air Quality Maintenance Area as a non-attainment area for ozone and carbon monoxide. This non-attainment status was based on continued violations of the federal primary standards for these pollutants. Improvement in levels of these pollutants has occurred in the past several years, but the standards are still not met.

The Federal Clean Air Act required that regional plans be prepared for non-attainment areas illustrating how the federal air quality standards were going to be attained by December 31, 1987. The Sacramento Area Council of Governments (SACOG) and member government agencies prepared programs designed to reduce emissions in the region through stationary source controls, transportation control measures, and mobile source controls.

Sacramento is one of many urban areas that failed to attain the National Ambient Air Quality Standards by 1987. The 1982 Sacramento Air Quality Plan was disapproved by the EPA as it did not demonstrate attainment of the standards as required by the Clean Air Act. A construction

ban on all new sources emitting more than 100 tons per year or expansion of existing sources by more than 40 tons per year of any primary pollutant has been imposed upon the Sacramento Air Quality Maintenance Area.

The EPA has adopted interim policies regarding post-1987 non-attainment areas. These policies gave non-attainment areas until the end of 1990 to revise the State Implementation Plan (SIP) to demonstrate attainment and maintenance of the standards. After submittal of the revised SIP, the U.S. EPA would classify non-attainment areas as near term (three to five years) or long term (more than five years). For near term non-attainment areas, pollutant reductions of three percent per year would have to occur until standards are attained, and maintenance of the standard for a period of 10 years would have to be demonstrated.

On February 15, 1994, the EPA prepared the proposed Federal Implementation Plan (FIP) for the Sacramento area. Under an agreement with the EPA, the FIP must be finalized by February 1995. The Sacramento Metropolitan Air Quality District is required under the Clean Act Amendments to file a new attainment plan by November 1994. The EPA's objective is that the new attainment plan will be adequate to replace all or most of the FIP controls before they become final (California Environmental Insider, 1994).

### State of California

The State of California has had its own ambient air quality standards for many years. These ambient standards are more stringent than the federal standards for the criteria air pollutants. Until recently, however, these standards were not required to be attained by any specific date.

The California Clean Air Act was signed into law on January 2, 1989. This legislation requires areas that exceed the California ambient air quality standards to plan for the eventual attainment of the standards. Areas have been designated as attainment or nonattainment with respect to the ambient air quality standards. The time given to various areas would depend upon the severity of air quality problems. The California Health and Safety Code Section 40914(a) requires that districts design a plan to achieve an annual reduction in district-wide emissions of five percent or more for each nonattainment criteria pollutant or its precursor, averaged every consecutive three-year period, beginning at base year 1987. Areas classified as "moderate" would have until 1994 to attain the state standards, while "serious" and "severe" areas would have until 1997 for attainment.

The Sacramento Valley Air Basin (SVAB) is nonattainment for O<sub>3</sub> and PM<sub>10</sub>. The SVAB also exceeds the CO standard in some urban areas. Sacramento County is designated a nonattainment area for CO. The SVAB was also designated an attainment area for NO<sub>x</sub>, SO<sub>x</sub> and Pb.

California's state air quality management agency, the California Air Resources Board (CARB), regulates mobile emissions sources, and oversees the activities of County APCDs and regional AQMDs. The CARB regulates local air quality indirectly by establishing vehicle emission standards, by conducting research activities, and through its planning and coordinating activities.

Assembly Bill 1807 (1983, known as the Tanner Bill) established the state air toxics program and the methods for designating certain air toxics as Toxic Air Contaminants (TACs). The Tanner Bill provides methods for the determination of emissions and ambient levels of TACs, preparation of regulatory needs documents, and establishment of minimum statewide emission control standards by the ARB. The Tanner Bill is generally considered to be technology-driven, rather than risk-driven legislation.

As of March 1993, ARB has identified a total of 18 substances as TACs: arsenic, asbestos, benzene, 1,3-butadiene, cadmium, chloroform, carbon tetrachloride, dioxin, ethylene dibromide, ethylene dichloride, ethylene oxide, formaldehyde, hexavalent chromium, methylene chloride, nickel, trichloroethylene, vinyl chloride and perchloroethylene. A number of other substances have yet to be reviewed for inclusion in the list of designated TACs, or have limited health information available.

The Air Toxics "Hot Spots" Information and Assessment Act of 1987, Assembly Bill 2588 (AB 2588) provides for the regulation of over 200 air toxics including all 18 of the designated TACs and the chemicals listed pursuant to the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Under AB 2588, specified facilities must submit to the local air pollution control agency a comprehensive emissions characterization plan and inventory of these regulated substances. After the local APCD or AQMD receives completed emission inventories, it is required to identify high priority facilities. High priority facilities must perform health risk assessments. In Sacramento County, the SMAQMD implements AB 2588 and is responsible for prioritizing air toxics emitting facilities. The purpose of AB 2588 is only to identify and evaluate risk from air toxics sources; AB 2588 does not regulate air toxics emissions. The act is generally considered risk-driven, information-oriented legislation.

### **Sacramento Metropolitan Air Quality Management District (SMAQMD)**

The Army Depot is in Sacramento County and within the jurisdiction of the SMAQMD. The SMAQMD regulates air quality through its permit authority over most types of stationary emission sources and through its planning and review activities. The SMAQMD is responsible for implementing emissions standards and other requirements of federal and state laws.

Sacramento County is part of the Sacramento Air Quality Maintenance Area (SAQMA), which also includes Yolo County and parts of Placer and Solano Counties. Each county adopted individual programs to reduce air pollution. These locally adopted programs, along with the programs of county APCDs and requirements for restrictions on automobiles by the CARB, formed the Air Quality Plan for the Air Basin required by the CAA Amendments of 1977. The Plan established air pollution control strategies intended to attain federal air quality standards by the December 31, 1987 deadline. The EPA disapproved the 1982 Air Quality Maintenance Plan on December 1, 1988 based on the inability of the Sacramento Plan to demonstrate attainment of federal ozone standards in the near future.

Passage of the CCAA and CAAA seemed to cloud the requirements of EPA toward areas with disapproved plans. A lawsuit was filed charging that EPA should intervene within nonattainment areas to impose a plan to achieve attainment within timeframes contained in the CAA of 1977. The case was appealed to the U.S. Supreme Court, but was not accepted for review. A lower

court's ruling is in force which required the EPA to create a Federal Implementation Plan (FIP) for the SAQMA. The draft FIP is now being circulated for public comment. The final FIP must be adopted by February 1995, unless an adequate State Implementation Plan is adopted in November 1994 (Zykofski). The State Implementation Plan is a list of nitrogen oxides and reactive organic gases control measures for demonstrating attainment of ozone. The FIP is to achieve attainment of the standards by 1999 or possibly 2005, depending upon the SAQMA's classification as serious or severe nonattainment. The SMAQMD has the option to select a higher level of non-attainment (severe) and gain a longer time frame to achieve attainment. The steps to achieve attainment have not been determined, but will likely require significant emissions reductions in both stationary and mobile sources. It is possible that the EPA may place an emissions cap (bubble) over transportation centers and require emission reductions. The sources within the bubble would have flexibility in deciding how the reductions would be best achieved. Based on the CAAA, a 15 percent reduction from a 1990 baseline must be achieved by 1996.

As required by the CCAA, SMAQMD has published its *1991 Air Quality Attainment Plan*. The Plan addresses the CCAA requirement to attempt to bring the District into compliance with the State ambient air quality standards. The Plan focuses on O<sub>3</sub> and CO. The Plan includes carefully planned strategies for progressive reduction of air pollutants by promoting active public involvement, by encouraging compliance through positive influence and behavior, and through public education in both the public and private sectors.

The SMAQMD is currently nonattainment and classified as serious for O<sub>3</sub> and moderate for CO. Because of a deficiency in monitoring data, the SMAQMD is unclassified for PM<sub>10</sub>. A moderate status is being assumed by the SMAQMD until data indicates a classification.

## IMPACTS AND MITIGATION

### Introduction

The City of Sacramento is within the Sacramento Valley Air Basin, a non-attainment area for ozone, carbon monoxide and particulate matter under the provisions of the California Clean Air Act (ARB-T, 1990). These three pollutants have very different characteristics with the respect to season, chemical reactivity, and transport characteristics.

The Sacramento General Plan Update along with the Findings of Fact and Statement of Overriding Considerations were adopted by the City Council in 1986 and included certain assumptions concerning long-range development in the City. These assumptions allowed for increased development to the year 2010 (buildout assumptions) and assumed that an increase in development would occur throughout the City. The SGPU assumed that there would be a certain amount of intensification of the existing land uses in the South Sacramento Community Plan area.

The air quality analysis for this EIR assumed an employment generation of approximately 7,500 on the Army Depot Site. Subsequent to the preparation of this analysis, the Army Depot Reuse Plan was amended to reflect a maximum of 6,000 employees on the project site. The analysis has not been changed to reflect the decrease in employment. Therefore, the impacts identified in this section are greater than those anticipated for the proposed project. The level of

significance identified for each impact is not anticipated to change, and all mitigation measures are still applicable to the proposed project.

### Consistency With Sacramento Army Depot Disposal and Reuse EIS

The Army Depot Disposal and Reuse EIS considered the air quality impacts generated by several land use alternatives. Impacts of these alternatives were determined by comparing the increased air pollutant emissions against a baseline air quality level. This baseline was assumed to be prior to the closure of the Sacramento Army Depot.

This EIR, as required by CEQA, considers the air quality baseline as the existing conditions of the Sacramento Army Depot. Because the base was closed prior to the initiation of this EIR, this analysis assumes only a limited number of employees currently on the site. Therefore, the 6,000 employees identified in the proposed Sacramento Army Depot Reuse Plan are estimated to increase the air pollutant emission by a greater amount over the baseline considered for this EIR than the baseline considered in the EIS. Thus, an inconsistency may exist between the air quality assessment included in the Army Depot Disposal and Reuse EIS and this Sacramento Army Depot Reuse Plan EIR.

### Methodology/Standards of Significance

#### **Ozone and Particulate Matter (Project Specific)**

As discussed in the Setting section, ozone is a regional air quality problem. Ozone impacts are not limited to the area of origination. The CARB has classified the Sacramento Valley Air Basin as a non-attainment area for ozone; therefore, an increase of the ozone precursors,  $\text{NO}_x$  and ROG, above the existing setting would be a significant impact and would require mitigation to reduce the significance of the impact. The ROG and  $\text{NO}_x$  emission for the project/alternatives were generated using URBEMIS3.

The normal activities involved with traffic circulation, demolition, and the construction of buildings would increase the amount of  $\text{PM}_{10}$  in the air. The CARB has classified the SVAB as a non-attainment area for  $\text{PM}_{10}$ ; therefore, an increase of  $\text{PM}_{10}$  above the existing setting would be a significant impact and would require mitigation to reduce the significance of the impact. The estimated  $\text{PM}_{10}$  emissions for the project/alternatives were generated using URBEMIS3 Air Quality Model.

$\text{PM}_{10}$  impacts generated by construction activities would continue throughout the development of the site. Construction activities are discussed qualitatively. Potential emission sources are listed, but no emission calculations are made.

#### **Carbon Monoxide**

Six intersections were modeled for carbon monoxide levels within the project area; The first two intersections were chosen for the analysis because these intersections had the highest PM peak hour volumes. The other four intersections surround the project site. These intersections were:

- Power Inn Road and Folsom Boulevard
- Fruitridge Road and Elk Grove-Florin Road
- Fruitridge Road and Power Inn Road
- Fruitridge Road and Florin-Perkins Road
- Elder Creek Road and Power Inn Road
- Elder Creek Road and Florin-Perkins Road

Using the California Department of Transportation's dispersion model, CALINE4, CO concentrations were estimated for the proposed Army Depot Reuse Plan at the above six intersections. The model estimated CO concentrations for the existing setting, Year 2010 setting without the proposed project, and Year 2010 setting with the proposed project. Receptor locations were chosen for each of the above intersections, and the traffic volumes calculated by kd Anderson Transportation Engineers were input into the model to determine the CO levels at these receptor locations (kd Anderson). The one-hour and eight-hour average CO thresholds, set by the state and federal agencies, are assumed as the standard significance for ambient air quality levels (Table 6.3-2). A violation of these standards is considered a significant impact. The evaluation of the No Project Alternative (AA) and the Employment Center Alternative (AB) are assessed qualitatively.

### Impacts and Mitigation Measures

#### *Impact*

##### 6.3-1 Ozone (Project Specific)

- PP Vehicle trips associated with the proposed project will generate ROG and NO<sub>x</sub> emissions that would contribute to an increase in regional ozone levels. The traffic associated with use of the project site is estimated to produce 484.8 pounds per day of ROG, while producing 453.1 pounds per day pounds of NO<sub>x</sub> (Table 6.3-5). Because Sacramento is a non-attainment area for ozone, this increase of ozone precursors over the existing setting is considered a *significant impact*.
- AA The No Project Alternative would have no increase on ROG and NO<sub>x</sub> emissions; therefore, no impact would result.
- AB Vehicle trips associated with Alternative B are estimated to produce 1163.3 pounds per day of ROG and 1143.0 pounds per day of NO<sub>x</sub> (Table 6.3-5). This would contribute to an increase of ozone levels over the existing setting. This increase over the existing setting is a *significant impact*.

	ROG	NO <sub>x</sub>
Proposed Project	484.8	453.1
Alternative A	0.0	0.0
Alternative B	1163.3	1143.0
SOURCE: EIP Associates, 1994.		

### Mitigation

#### 6.3-1 Ozone (Project Specific)

For the proposed project and Alternative B, the following mitigation would reduce the magnitude of the impact, but the impact will remain *significant and unavoidable*. No mitigation is required for the No Project Alternative.

PP, AB *The City of Sacramento shall incorporate the following air quality mitigation measures into the Special Planning District (SPD) guidelines developed for the Final Army Depot Reuse Plan. These measures were identified by the SMAQMD in their Draft Air Quality Thresholds of Significance.*

- *Bicycle lockers or racks should be available at all buildings.*
- *Multiple and direct access routes, access routes connecting clearly defined origins and destinations, safe access routes providing buffers from automobile travel, proper lighting and clearly defined paths, and a heterogenous land use mix incorporated into or located immediately adjacent to the project should be provided to the project's building.*
- *If feasible, the project's buildings should be within 1,500 feet of a transit stop. The transit headways shall be equal to or greater than thirty minutes. There should be bench, route information, and bike locker(s) transit stops within 1,500 feet of these areas.*
- *Preferential parking spaces for carpools/carpools should be located closer to employee entrances than single occupant vehicle parking.*

	ROG	Percent of Total	NO <sub>x</sub>	Percent of Total
Regionwide (Year 2010)	199,612.0		123,598.0	
Proposed project	484.8	0.24	453.1	0.37
Alternative A	0.0	0.00	0.0	0.00
Alternative B	1,163.3	0.58	1,143.0	0.92
SOURCE: EIP Associates, 1994.				

### Impact

#### 6.3-2 Ozone (Cumulative)

- PP Implementation of the proposed project in conjunction with buildout of the Sacramento region would increase the level of ozone precursors. Table 6.3-6 shows the percent of total emissions that can be expected from the project when compared with expected cumulative regional emissions for ozone precursors. The cumulative impact on regional ozone represents an unavoidable adverse impact, which would hinder the SMAQMD ability to meet the attainment standards for O<sub>3</sub>. The proposed project traffic in conjunction with the traffic from the buildout of the General Plan would result in a *significant impact*.
- AA The traffic associated with Alternative A would not produce additional ROG and/or NO<sub>x</sub> emissions; therefore, no impact would result.
- AB The increase in traffic associated with Alternative B would contribute ROG and NO<sub>x</sub> emissions greater than previously evaluated in the SGPU DEIR (see Table 6.3-6). NO<sub>x</sub> emissions were overridden with adoption of the General Plan. The cumulative impact on regional ozone represents an unavoidable adverse impact which reduces the ability for the SMAQMD to meet the attainment standards for ozone. The traffic associated with Alternative B, in conjunction with the traffic from the buildout of the General Plan, would result in a *significant impact*.

### Mitigation

#### 6.3-2 Ozone (Cumulative)

Mitigation Measure 6.3-1 would reduce the impact identified for the proposed project and Alternative B. However, no other mitigation is available and this impact remains *significant and unavoidable* for the proposed project and Alternative B. No mitigation is required for the No Project Alternative.

## Impact

### 6.3-3 Intersection Analysis for Carbon Monoxide (Project Specific) -

During project operation, motor vehicle traffic generated by the project will emit CO emissions that would contribute to local CO levels along roads in the project vicinity. The intersections analyzed for CO impacts were:

- Power Inn Road and Folsom Boulevard
- Fruitridge Road and Power Inn Road
- Fruitridge Road and Florin-Perkins Road
- Fruitridge Road and Elk Grove-Florin Road
- Elder Creek Road and Power Inn Road
- Elder Creek Road and Florin-Perkins Road

PP The proposed project would not result in a violation of state or federal standards. As shown in Tables 6.3-7 and 6.3-8, vehicle emissions through the six intersections would result in a CO concentration increase above the no project concentrations at two intersections. The maximum increase due to the project is 0.1 parts per million. This is considered to be a *less-than-significant impact*.

AA The traffic associated with the No Project Alternative would not increase trips in the project site area; therefore, no increase would result in CO concentrations and no impact would occur.

AB Alternative B would exceed the state eight-hour standard at the intersection of Power Inn Road and Folsom Boulevard. Alternative B would result in a higher traffic volume through the intersection of Power Inn Road and Folsom Boulevard than the proposed project. The proposed project results in an eight-hour CO concentration of 9.0 parts per million (ppm) at the intersection of Power Inn Road and Folsom Boulevard. Therefore, Alternative B would most likely result in an exceeding of the state eight-hour CO standard of 9.0 ppm. This is considered a *significant impact*.

## Mitigation

### 6.3-3 Intersection Analysis for Carbon Monoxide (Project Specific)

No mitigation is required for the proposed project and No Project Alternative. No air quality mitigation is available for Alternative B. No traffic mitigation is available to reduce the level of service at the Power Inn Road and Folsom Boulevard thereby reducing carbon monoxide concentrations to below the state standard; therefore, this impact remains *significant and unavoidable* for Alternative B.

### Impact

#### 6.3-4 Intersection Analysis for Carbon Monoxide (Cumulative)

Cumulative traffic increases, including the percent generated by the proposed project or alternatives, may increase levels of CO along roadways and intersections in the project vicinity. This increase of traffic may violate the state and federal CO standards for roadways. In the long-range CALINE4 air quality model analysis, lower emission rates were used in estimating the concentrations of the long-range CO impacts at the analyzed intersections. The model uses a lower emission rate for future vehicle emissions because of the pattern of improving technology and a lower background ambient CO levels. The lower future emissions rates and lower future background concentrations used in the CALINE4 model result in lower concentrations of CO at the studied intersections.

- PP As shown in Tables 6.3-7 and 6.3-8, vehicle trips associated with the proposed project in conjunction with the total vehicle trips projected for the region would not violate the state or federal one-hour or eight-hour standards at any of the intersections analyzed. This impact is considered *less-than-significant*.
- AA The No Project Alternative would not contribute to a cumulative exceedence of CO concentrations as shown in Tables 6.3-7 and 6.3-8; therefore, no impact would result.
- AB Vehicle trips associated with Alternative B, in conjunction with the vehicle trips resulting from the buildout of the General Plan, would exceed the state eight-hour standard at the intersection of Power Inn Road and Folsom Boulevard. Alternative B would result in a higher traffic volume through the intersection of Power Inn Road and Folsom Boulevard than the proposed project. The proposed project results in an eight-hour CO concentration of 9.0 parts per million (ppm) at the intersection of Power Inn Road and Folsom Boulevard. Therefore, Alternative B would most likely result in an exceeding the state eight-hour CO standard of 9.0 ppm. This impact is considered *significant*.

### Mitigation

#### 6.3-4 Intersection Analysis for Carbon Monoxide

No mitigation is required for the proposed project and the No Project Alternative. No air quality mitigation is available to reduce the projected carbon monoxide levels. Mitigation identified in Section 6.2 did not improve the level of service at Power Inn Road or Folsom Boulevard. Therefore, carbon monoxide concentrations are expected to remain above state standard. This impact remains *significant and unavoidable* for Alternative B.

TABLE 6.3-7

**WORST CASE EXISTING, YEAR 2010 WITHOUT THE PROPOSED PROJECT,  
AND YEAR 2010 WITH THE PROPOSED PROJECT CO CONCENTRATIONS  
FOR SELECTED INTERSECTIONS - 1 HR AVERAGE PPM**

Intersection	Existing	Year 2010 No Project	Year 2010 Project
Power Inn Road & Folsom Blvd.	29.3	12.2	12.3
Fruitridge Road & Power Inn Road	27.0	12.2	12.1
Fruitridge Road & Florin-Perkins Road	27.1	11.4	11.5
Fruitridge Road & Elk Grove-Florin Road	22.3	11.2	11.3
Elder Creek Road & Power Inn Road	28.2	11.1	11.2
Elder Creek Road & Florin-Perkins Road	25.0	11.1	11.0
Ambient Concentration	12.0	7.2	7.2
State Standard	20.0	20.0	20.0

Note: The tabulated concentrations are the sums of the ambient CO concentration and the local component. The local component is derived from the CALINE4 computer program using worst-case conditions at the intersections and transportation data provided by kd Anderson, Transportation Engineers. Concentrations in bold exceed state standards.

SOURCE: EIP Associates, 1994.

TABLE 6.3-8

**WORST CASE EXISTING, YEAR 2010 WITHOUT THE PROPOSED PROJECT,  
AND YEAR 2010 WITH THE PROPOSED PROJECT CO CONCENTRATIONS  
FOR SELECTED INTERSECTIONS - 8 HR AVERAGE PPM**

Intersection	Existing	Year 2010 No Project	Year 2010 Project
Power Inn Road & Folsom Blvd.	21.1	8.9	9.0
Fruitridge Road & Power Inn Road	19.5	8.9	8.9
Fruitridge Road & Florin-Perkins Road	19.6	8.4	8.4
Fruitridge Road & Elk Grove-Florin Road	16.2	8.2	8.3
Elder Creek Road & Power Inn Road	20.3	8.2	8.2
Elder Creek Road & Florin-Perkins Road	18.1	8.2	8.1
Ambient Concentration	9.0	5.4	5.4
State Standard	9.0	9.0	29.0

Note: The tabulated concentrations are the sums of the ambient CO concentration and the local component. The local component is derived from the CALINE4 computer program using worst-case conditions at the intersections and transportation data provided by kd Anderson. Concentrations in bold exceed state standards.

SOURCE: EIP Associates, 1994.

*Impact*

## 6.3-5 Particulate Matter (Project Specific-Operational)

- PP The traffic associated with the proposed project will result in 1017.8 pounds per day of PM<sub>10</sub> (see Table 6.3-9). An increase of PM<sub>10</sub> levels would impact surrounding land uses, motorists, and pedestrians. Because Sacramento is considered a non-attainment area for PM<sub>10</sub>, this increase in PM<sub>10</sub> is identified as a *significant impact*.
- AA The No Project Alternative will not increase the PM levels along the project site. Therefore, no impact would occur.
- AB The traffic associated with Alternative B will result in 2,794.8 pounds per day of PM<sub>10</sub> (see Table 6.3-9). An increase of PM<sub>10</sub> levels would impact surrounding land uses, motorists, and pedestrians. Because Sacramento is considered a non-attainment area for PM<sub>10</sub>, this increase in PM<sub>10</sub> is identified as a *significant impact*.

*Mitigation*

## 6.3-5 Particulate Matter (Project Specific-Operational)

No mitigation measures are available to eliminate the PM<sub>10</sub> emissions for the proposed project or Alternative B. Implementation of air quality Mitigation Measure 6.3-1 in conjunction with the traffic mitigation measures would reduce the magnitude of this impact. However, the impact would remain *significant and unavoidable* for the proposed project and Alternative B. No mitigation is required for the No Project Alternative.

*Impact*

## 6.3-6 Particulate Matter (Project Specific - Construction)

- PP Construction of the proposed project could potentially result in various short-term construction PM<sub>10</sub> emissions from new industrial and public/quasi public land uses. Exhaust and fugitive dust from grading equipment, employee trips, stationary equipment, and mobile equipment could result in significant PM<sub>10</sub> impacts which would reduce SMAQMD's ability to achieve attainment for PM<sub>10</sub>. The largest portion of PM<sub>10</sub> could be produced by grading equipment. This is considered to be a *significant impact*.
- AA The No Project Alternative will not result in construction activities. Therefore, no impact would occur.
- AB Construction of Alternative B could potentially result in various short-term construction PM<sub>10</sub> emissions from new employment center land uses. Exhaust and

	PM <sub>10</sub> (lbs./day)
Proposed Project	1017.8
Alternative A	0.0
Alternative B	2794.8
SOURCE: EIP Associates, 1994.	

fugitive dust from grading equipment, employee trips, stationary equipment, and mobile equipment could result in significant PM<sub>10</sub> impacts which would reduce SMAQMD's ability to achieve attainment for PM<sub>10</sub>. The largest portion of PM<sub>10</sub> could be produced by grading equipment. This is considered to be a *significant impact*.

#### *Mitigation*

Implementation of the following mitigation measures will reduce the impact of the proposed project and Alternative B to a *less-than-significant* level. No mitigation is required for the No Project Alternative.

#### 6.3-6 Particulate Matter (Project Specific - Construction)

PP, AB      *The City of Sacramento shall apply the following dust reducing mitigation measures on a project-by-project basis for any development applications for the Army Depot site.*

- *The contractors shall continuously, on an as-needed basis, water all earth surfaces during clearing, grading, earthmoving and other site preparation activities.*
- *The contractors shall use tarpaulins or other effective covers for haul trucks that travel on public streets.*
- *The contractors shall sweep streets within and adjacent to the project at the end of the day as needed.*
- *The contractors shall schedule clearing, grading and earthmoving activities during periods of low wind speeds, and restrict those construction activities during high wind conditions as determined SMAQMD.*

- *The contractors shall control construction and site vehicle speed to 15 mph on unpaved roads.*
- *The contractors shall minimize open burning of wood and vegetative waste materials from both construction and operation of the project. No open burning shall occur unless it can be demonstrated to the SMAQMD that alternatives have been explored. These alternatives may include, but are not limited to chipping, mulching and conversion to biomass fuel. For any open burning, an AQMD permit must first be obtained in conformance with AQMD Rules and Regulations.*

### *Impact*

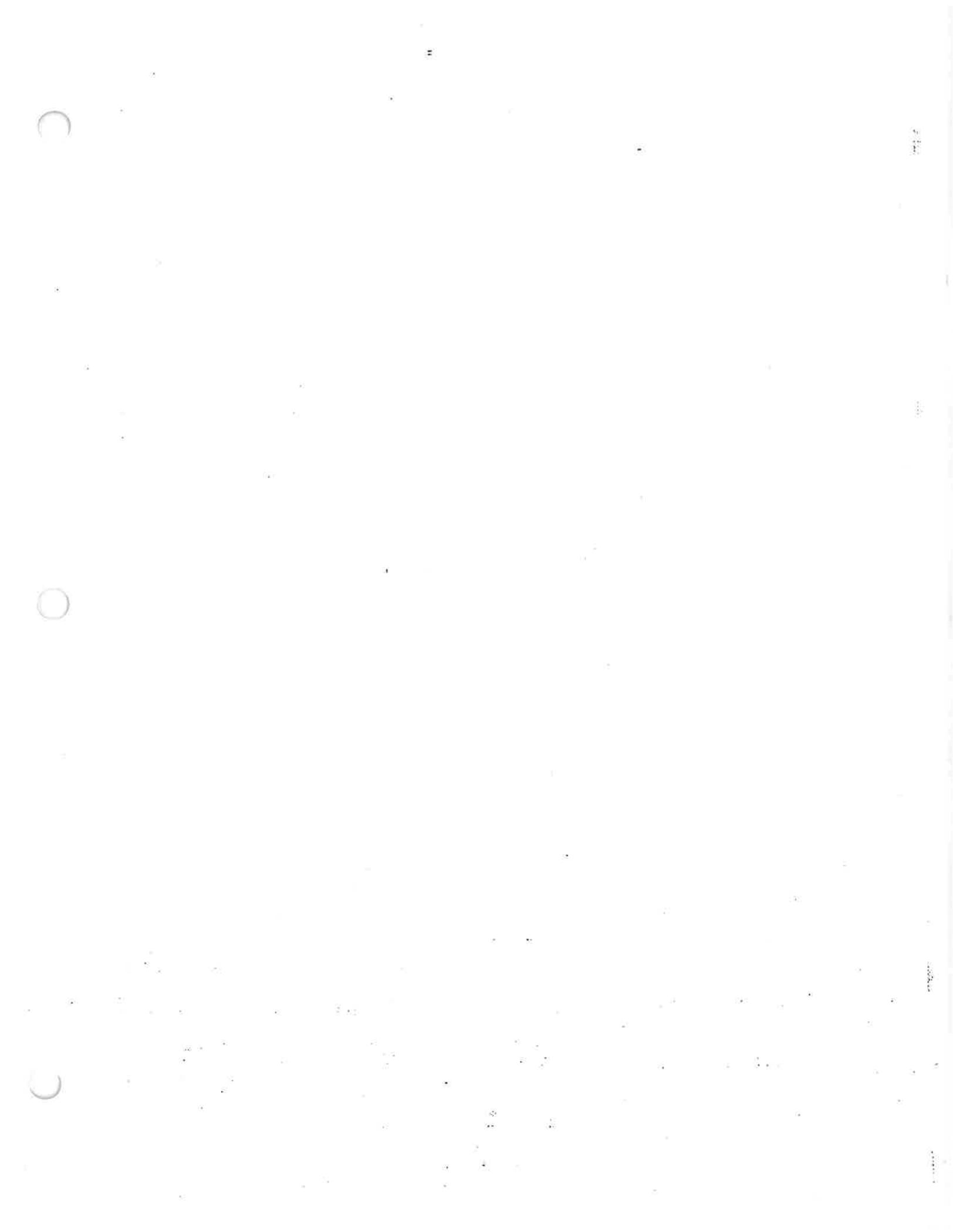
#### 6.3-7 Particulate Matter (Cumulative)

- PP The traffic associated with the proposed project and cumulative development will result in increased levels of PM<sub>10</sub>. An increase of PM<sub>10</sub> levels would impact surrounding land uses, motorists, and pedestrians. An increase of PM<sub>10</sub> would also reduce the ability for the SVAB to meet the attainment standards for PM<sub>10</sub>. The proposed project was identified as having a significant impact to project specific PM<sub>10</sub> problems; therefore, the project's contribution to long-range impacts is considered to be *significant*.
- AA The No Project Alternative will not increase the PM levels along the project site. Therefore, no impact would occur.
- AB The traffic associated with Alternative B will contribute to the cumulative increase in PM<sub>10</sub> levels. An increase of PM<sub>10</sub> levels would impact surrounding land uses, motorists, and pedestrians. The cumulative impact of regional PM<sub>10</sub> would reduce the ability of the SMAQMD to meet the attainment standards for PM<sub>10</sub>. Alternative B was identified as having a significant impact to project specific PM<sub>10</sub> problems; therefore, the long-range impact is considered to be *significant*.

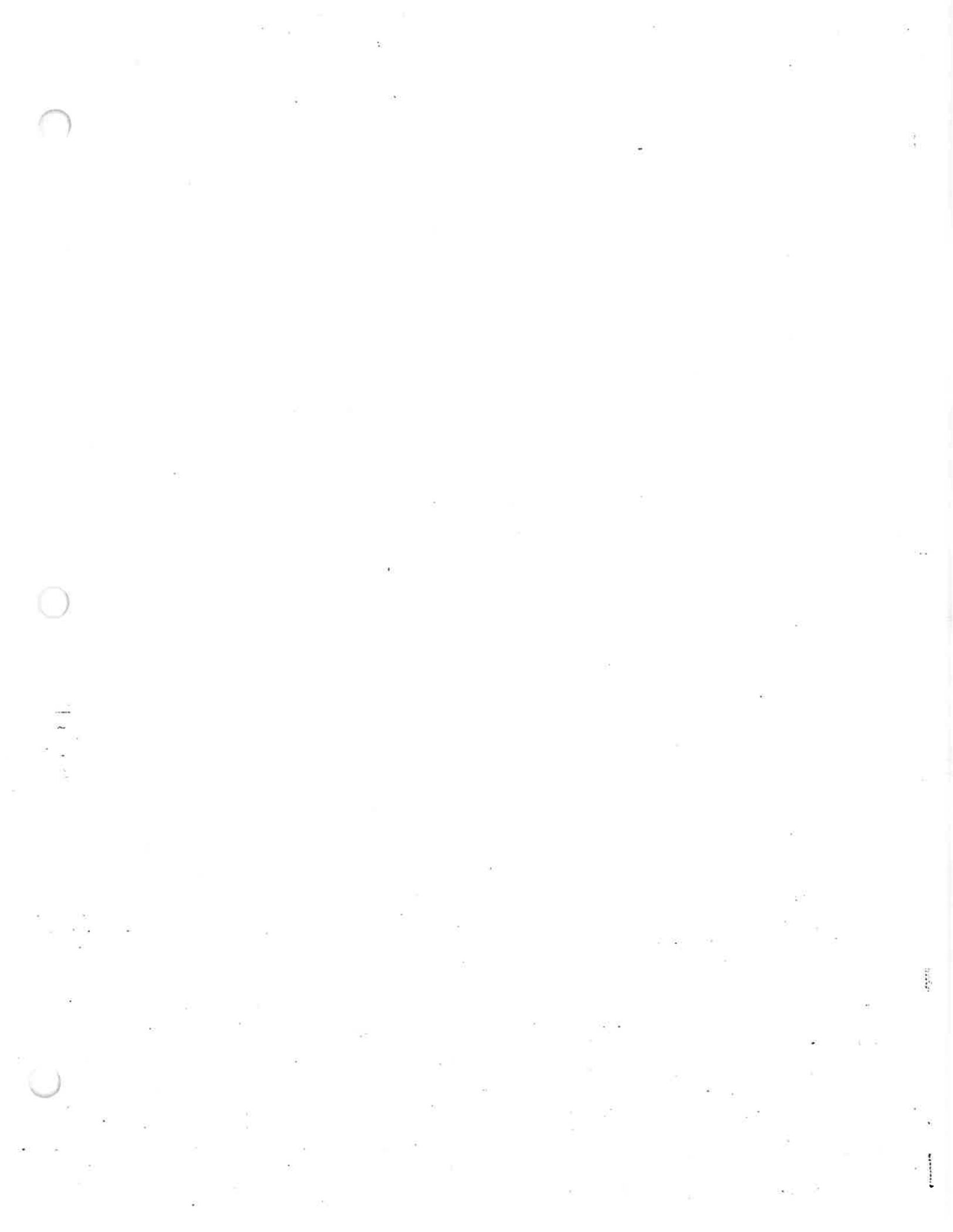
### *Mitigation*

#### 6.3-7 Particulate Matter (Cumulative)

No mitigation measures are available to eliminate the PM<sub>10</sub> emissions from the proposed project or Alternative B in conjunction with the buildout of the General Plan. Implementation of air quality Mitigation Measure 6.3-1 would reduce the magnitude of this impact. However, this impact would remain *significant and unavoidable* for the proposed project and Alternative B. No mitigation would be required for the No Project Alternative.



## 6.4 HYDROLOGY AND WATER QUALITY



## 6.4 HYDROLOGY AND WATER QUALITY

### INTRODUCTION

This section of the EIR addresses impacts of the proposed project and the alternatives on local and regional hydrologic characteristics including flooding and drainage, and surface water quality. Some of the information presented in this section has been obtained through a review of the *Sacramento Army Depot Environmental Impact Statement* and the City of Sacramento General Plan EIR. In addition, the Inland Surface Water Quality Control Plan prepared by the State Water Resources Control Board and the Sacramento River Basin Plan of the Central Valley Regional Water Quality Control Board were incorporated into the regulatory background discussion.

### ENVIRONMENTAL SETTING - HYDROLOGY

#### Surface Water Hydrology

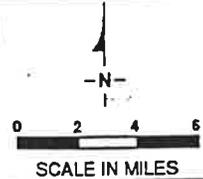
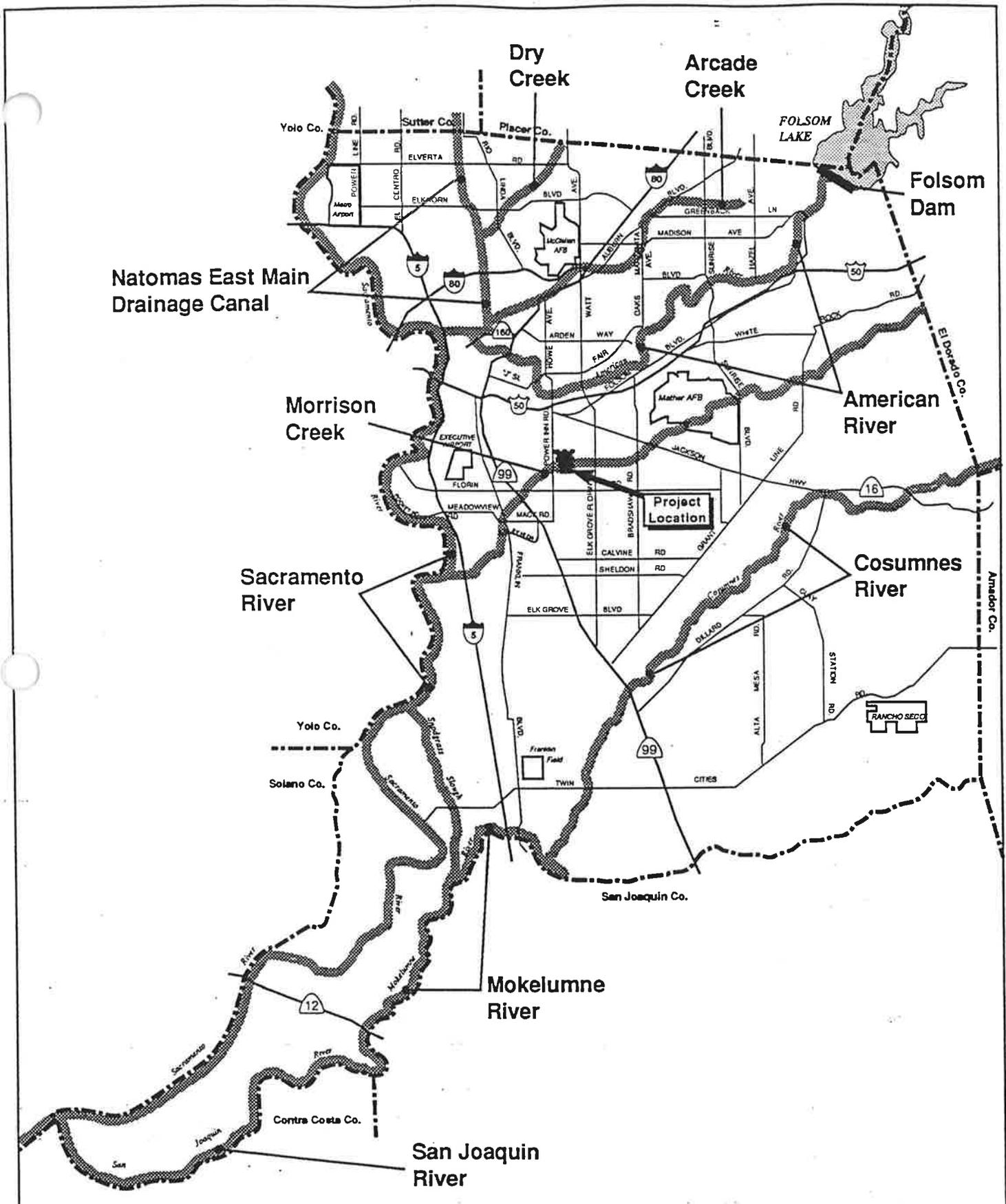
##### **Regional**

The City of Sacramento is located at the confluence of the Sacramento River and the American River in the Sacramento River Basin. The Sacramento Basin encompasses about 26,500 square miles and is bounded by the Sierra Nevada to the east, the Coast Ranges to the west, the Cascade Range and Trinity Mountains to the north, and the Delta-Central Sierra area to the south. The average runoff from the Basin is estimated to be 21.3 million acre-feet per year. The melting snowpack in the Sierra Nevada maintains streamflow during most of the summer. The Sacramento River (which flows along the western border of Sacramento County) is the principal stream in the Basin. Major tributaries to the Sacramento River are the Pit and McCloud Rivers, which join the Sacramento River from the north, and the Feather and American Rivers, which are tributaries from the east. The American River flows west through Sacramento County discharging into the Sacramento River just north of downtown Sacramento. Numerous tributary creeks flow from the east and west.

Six small tributaries of the Sacramento River pass through and provide drainage for the Sacramento area. These tributaries include Dry Creek, Magpie Creek, and Arcade Creek in the northern portion of the City, and Morrison Creek, Elder Creek, and Laguna Creek in the southern portion of the City (see Figure 6.4-1). The tributaries in the southern portion of the City join to form a single Sacramento River tributary (SGPU DEIR, p. W-1). Forty miles south of Sacramento, the Sacramento River joins the San Joaquin River which drains into the San Francisco Bay.

##### **Local**

The project site is located in the Morrison Creek Stream Group Basin (see Figure 6.4-2). Morrison Creek borders the Sacramento Army Depot on the eastern, southern and western boundary. The original creek channel has been diverted to a flood channel that flows along the boundaries of the project. The Morrison Creek stream channel within the project site is shown



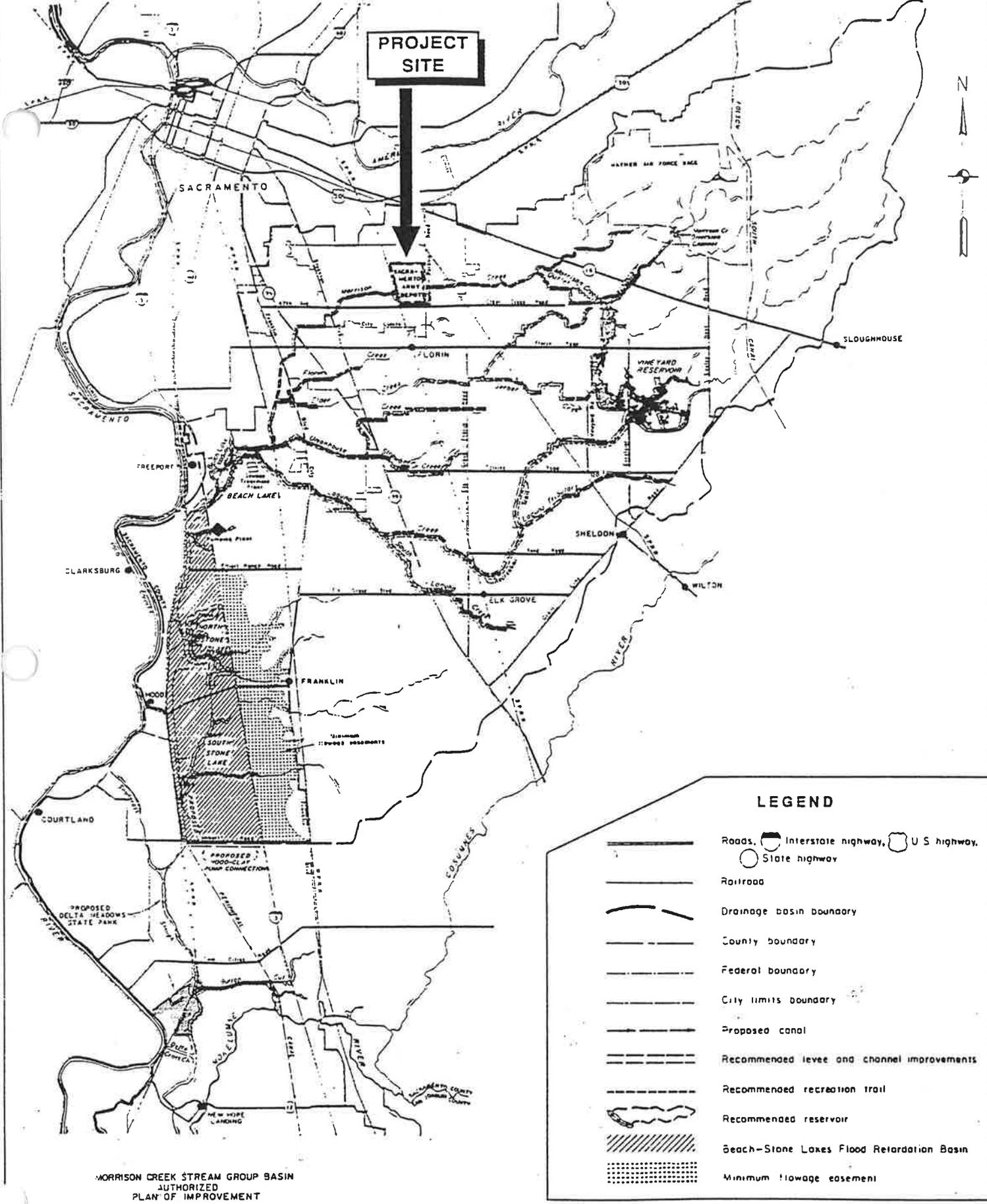
- LEGEND**
- Streamcourses
  - Project Location

Source: Sacramento County Planning and Community Development Department.

**Figure 6.4-1**  
**Sacramento County**  
**Waterways**

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**FIGURE 6.4-2**

**Morrison Creek Stream Group Basin**

SOURCE: Morrison Creek Stream Group Plan of Improvement, U.S. Army Corps of Engineers, Sacramento District, December 1979; EIP Associates, 1994.



on Figure 6.4-3. The predominant natural drainage pattern in the Morrison Creek Stream Basin is to the southwest. However, creek drainage on the site is to the west.

## Drainage

### **Regional**

The City of Sacramento's stormwater drainage system consists of a network of natural channels, canals, levees, subsurface drains, and pumping stations which ultimately drain into the Sacramento and American Rivers.

### **Local**

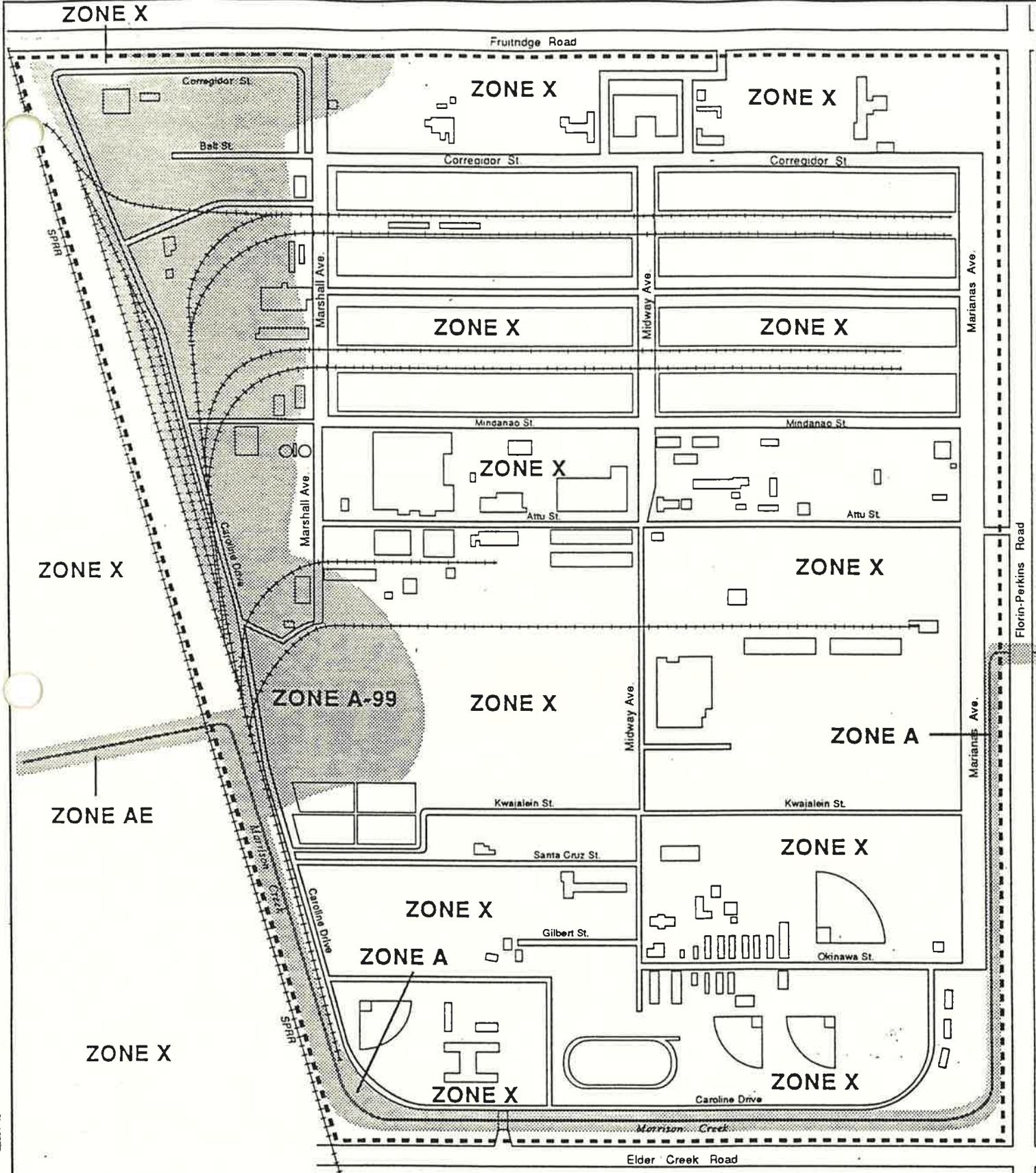
The existing drainage system for the Sacramento Army Depot consists of stormwater outfalls, catch basins, drop inlets and manholes. The drainage pipes range in size from sixty-inch to three-and-a-half inches in diameter. The underground system outfalls, one sixty-inch and one thirty-inch drain into Morrison Creek and are designed to drain the industrial and administrative areas. Surface drainage consists of seven discharge outfalls into Morrison Creek and is designed to drain all other areas of the site (Willdan, 1994). The storm drains in the northeast and southeast sections of the industrialized area flow to outfalls on the eastern boundary. The remaining industrial areas drain to the west. The lower field drains to the west into the old Morrison Creek channel and the minor outfalls drain areas adjacent to Morrison Creek on the east, west and southern boundaries. Preliminary figures indicate that the existing drainage system is inadequate for future planned development. In a 100-year storm, Depot runoff causes roughly 20 acres of flooding in the Western half of the historic channel corridor under future planned development conditions.

All storm drains are owned and operated by the United States Army. The project site is registered as a general permittee under the Statewide General Industrial Activity Stormwater Discharge Permit (5A34S0061-10/23/92) under standard limitations for BMP's, monitoring and reporting requirements, as well as under limits (standards) for the Clean Water Act, 40 CFR for hazardous substances. Stormwater at the site is discharged to Morrison Creek under an NPDES permit (Army Depot DEIS, 1994).

## Flooding

### **Regional**

Before the 1900s flooding due to winter storms occurred regularly in the Sacramento Valley. This flooding regularly caused overtopping of banks and spreading of floodwaters across broad areas. Deposition of sediments from the flood waters created natural levees along the creeks and rivers. Today, Sacramento has an extensive system of manmade levees and floodways that protect most of the City from flooding. Development of the Sacramento flood control system has greatly diminished the extent of flood hazard areas, especially from the Sacramento and American Rivers. However, several portions of the Sacramento area are subject to flooding from overflow of local creeks and drainage canals during a 100-year storm event. A 100-year flood is a flood event that has a rate of occurrence of one percent in any given year.



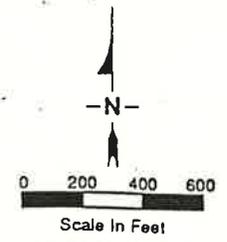
**LEGEND**

- Zone X
- Zones A, AE < A-99

SOURCE: ?????

**Figure 6.4-3**

**Flood Zone Designations  
Sacramento Army Depot**



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During major storm events, regional creeks and streams (including Morrison Creek) empty high flows into the Sacramento and American Rivers. Flood control facilities along the rivers consist of a comprehensive system of dams, levees, overflow weirs (diversion structures in the river intended to ensure a maximum flow in the river), drainage pumping plants, and flood control bypass channels. Such facilities control flood flows by regulating the amount of water passing through a particular reach of a river.

The relative timing of high flows can accentuate the flood risk, because the high water levels in a primary stream can result in a "backwater" effect, which reduces the effective slope and capacity of the tributary or incoming stream.

An example of this effect would be the lower reach of the American River. The flood water surface elevations in the American are "controlled" or affected by the Sacramento River water surface elevation (WSEL) either at the mouth of the American or at the Sacramento Weir. Under most conditions, the water surface in the American River is controlled by the WSEL at its mouth; however, during maximum peak flows, the American River is controlled by the WSEL in the Sacramento River at I Street, at the confluence, and at the Sacramento Weir. Under these conditions there is actually a "flow reversal" when a portion of the flow from the American moves upstream in the Sacramento River to the Sacramento Weir. Numerous other local flood control and drainage facilities are also affected by the high water levels in the main channels. Due to the relatively flat terrain of the Central Valley, this "backwater" effect is a significant controlling factor for most natural streams and flood control or drainage channels in the region. This effect was significantly demonstrated during the February 1986 flood event which was characterized by the long duration of the storm that caused high water levels in the primary streams. Near the end of this storm period, an intense period of precipitation was experienced resulting in high runoff that could not be adequately handled due to the "backwater effect" of the primary streams.

Before February 1986, the Sacramento levee systems and Folsom Reservoir were believed to provide storm protection against the 100-year storm event. After the February 1986 storms, the U.S. Army Corps of Engineers (Corps) reevaluated the Sacramento area levees, Folsom Reservoir and existing hydrologic conditions. The Corps found that most of Sacramento was protected against approximately a 67-year storm event, not a 100-year storm event. At the request of the Federal Emergency Management Agency (FEMA), the Corps prepared new preliminary Flood Insurance Rate Maps (FIRM) showing that much of Sacramento is in the flood plain with known base flood elevations. In 1988, the U.S. Congress passed an act that included an amendment prohibiting FEMA from re-mapping the Sacramento area flood plain with the base flood elevations. The legislation allowed a four-year period for Sacramento to develop and carry out a plan to reduce flood risk. The legislation expired on November 8, 1992.

In 1993, Congress denied authorization for both construction of the Auburn Dam and the interim re-operation of Folsom Reservoir. Therefore, FEMA has notified the City that adequate progress has not been made toward carrying out a plan to reduce the increased flood risk. On November 9, 1992, FEMA issued preliminary revised FIRMs covering the Sacramento area. The new FIRMs are intended to reflect the actual risk and depth of flooding from a 100-year storm event.

These new maps show that some areas, designated previously as protected from a 100-year storm by a flood protection system under construction on the 1989 FIRMs, are no longer protected. The new maps show a designation for areas that are subject to flooding including flood elevations.

These new maps are not yet adopted. Therefore, for the purposes of this analysis, the 1989 designations were relied upon. On an area wide basis, the A99 zone is a designated flood zone. Areas in the A99 zone are protected by levees. However, FEMA recognized that areas that are protected by levees remain potentially subject to flood risk from the Sacramento River and/or American River if levee failure occurs. Therefore, the A99 flood zone was established and most of the City of Sacramento remained in what is considered a flood prone area.

### **Morrison Creek Flood Control System**

Morrison Creek Stream Group is comprised of ten creeks which combine to flow into Beach Lake, approximately four miles southwest of the Sacramento Army Depot. Studies by both the Corps (ACOE, Morrison Creek Stream, 1987) and the City of Sacramento (City of Sacramento, Department of Public Works, 1992) have concluded that channels and levees of the Stream Group provide a degree of flood protection which varies from a 40-year level to over a 100-year level. At the request of the City of Sacramento, the Corps has prepared a reconnaissance report to:

- evaluate several alternatives for improving flood protection along the larger Morrison Stream Group creeks; and
- determine if there is a federal interest in such a flood control project.

Alternatives evaluated by the Corps and the City of Sacramento included raised levees, widened and/or lined channels, floodwalls, and detention basins.

The Sacramento County Water Resources Division (WRD) is preparing a Morrison Creek Mining Reach Drainage Master Plan which evaluates a range of alternatives for managing storm water runoff after proposed aggregate mining along Morrison Creek is completed. The "mining reach" of Morrison Creek extends from the south boundary of Mather Field Air Force Base, south and west to Hedge Avenue. WRD's Drainage Master Plan responds to aggregate mining applications which collectively would result in mining of the entire 100-year floodplain over nearly the entire mining reach; development of these aggregate resources is consistent with the General Plan.

The proposed mining would lower by 20 to 60 feet the elevation of a mile-wide corridor centered on Morrison Creek. This lowered area would be bisected by the existing grades of Jackson Highway and Bradshaw Road near their intersection. Since mid-1991, WRD and the mining companies have evaluated a full range of potential alternatives, and have screened them to a few which are financially feasible for the mining companies. The remaining alternatives include some combination of:

- an aqueduct across the two mined pits;
- drop structures to spill high flows to the pits;
- dedicated open space for detention of the spilled flood waters; and
- pumps to return the detained water to the creek channel after a flood.

The detention basins might be dry in most years, or a permanent lake might be maintained from year to year. The aqueduct would convey all flows up to a specified design storm event. The area required for detention could be in the range of 400 to 800 acres.

The WRD anticipates that by late 1994, the draft Drainage Master Plan, including a recommended alternative, will be forwarded by the County Board of Supervisors to the Department of Environmental Review and Assessment for environmental studies and coordination with the aggregate mining applications.

Active County planning and the Corps reconnaissance study is no guarantee of early action to bring 100-year level of flood protection throughout the Morrison Creek Stream Group. During the interim period, development may aggravate downstream flooding.

#### Historic Flood Control Projects

Morrison Creek originally flowed through the central portion of the Army Depot but was rerouted along the southern boundary of the site in 1946. A levee was constructed to mitigate flooding problems, however, flooding continued to be a problem in the central and southern portions of the site. The Morrison Creek Assessment District, formed by the City of Sacramento, implemented the widening and deepening of the creek channel to accommodate flows from a 100-year flood. The only flowing water found on the site, depending on seasonal precipitation, is in the old Morrison Creek channel found in the central portion of the site (Willdan, 1994).

#### **100-Year Flood Plain**

The floods of 1986 inundated the southern part of the Sacramento Army Depot. Flood scenarios used by FEMA combined levee breaches (on the American River) with heavy rains to include the northeast sector of the Sacramento Army Depot in the 100-year flood plain (Army Depot DEIS, 1994). The majority of the site is designated as Zone X. Zone X is defined as an area; (1) subject to the 500-year flood, (2) an area of the 100-year flood with average depths of less than one foot or with drainage areas less than one mile square and/or (3) an area protected by levees from the 100-year flood. The Sacramento Army Depot also contains regions designated as being located in the 100-year flood plain designated as Zones A and A-99 by FEMA which are described below. These zones are illustrated in Figure 6.4-3:

## Flood Plain Regulations

Designated A99 zones in the City of Sacramento are not subject to FEMA building requirements for development in the 100-year flood plain designated A Zones. In order to assure proper flood plain management within the designated A99 zones, the City was required to develop a land use policy for those areas designated as A99 in compliance with the Special Legislation for the Sacramento area contained in the McKinney Homeless Assistance Act of 1988 (Human Resources Code 524). The existing A99 Zone is an interim flood plain designation. In late 1988, FEMA was in the process of revising the 1986 FIRMS based on data collected by the Corps following the record storm of February 1986. This new data indicated that the levees along the Sacramento River did not meet FEMA criteria for stability and the flood control system along the American River and its tributaries provided less than the minimum 100-year level of protection required under the National Flood Insurance Program. Based on this new data, FEMA prepared new FIRMS delineating a 100-year flood plain that encompassed much of the City of Sacramento, with flooding in the affected areas ranging from one to 25 feet in depth.

Because of the perception that promulgation of these new FIRMS would have a severe impact on the local economy and would undermine Sacramento's ability to mount an effective flood protection effort, the local community, through its representatives in Congress, sought legislative relief from the FEMA mapping process. In response, Congress enacted special legislation directing FEMA to regulate the Sacramento area based on the flood elevations shown on the then-effective 1986 FIRMS. This legislation was enacted in October 1988 for a period not to exceed four years.

FEMA's response to this legislation was to promulgate new FIRMS showing the boundaries of the new 100-year flood plain designated as a "special use" A99 Zone. This zone designation is normally reserved for flood-prone areas that meet the "adequate progress" requirements of Section 1307(e) of the National Flood Insurance Act. The "A" portion of this zone designation indicates that the area is within the 100-year flood plain. The "99" portion indicates that the area is making adequate progress toward the achievement of a 100-year level of protection, and may therefore be relieved from the need to elevate new structures above the water level that would be reached in the event of a 100-year storm (base flood elevation). This "99" designation thus removes the need to show base flood elevations, and none are shown in the A99 Zone.

### AR Zone Legislation

#### *American River Flood Control System*

The American River Flood Control System consists of Folsom Dam, Nimbus Dam, an auxiliary dam at Mormon Island, eight earth-filled dikes, and four miles of levees on the north bank of the American River (from Howe Avenue to Arden Way). An initial reconnaissance report, entitled *American River Watershed Reconnaissance Report*, January 1988, concluded that Folsom Dam and the American River levees provide only 70-year protection.

The California State Reclamation Board, with assistance from the State Department of Water Resources, has prepared a CEQA document for the Corp's "American River Watershed

Investigation" which evaluated various alternatives to achieve flood protection along the American River. A draft feasibility report and draft Environmental Impact Statement (EIS/EIR) was issued in April 1991. That feasibility report included an evaluation of six alternatives which would provide a range from 400-year to 100-year protection.

The proposed feasibility report preliminarily recommended that the Tentatively Selected Plan providing a 400-year level of flood protection be authorized for implementation. In June of 1991, the Sacramento Area Flood Control Agency (SAFCA) Board of Directors and the State Department of Water Resources/Reclamation Board recommended the construction of a 200-year alternative. The recommended alternative included a 430-foot dam which would remain dry except during periods of heavy rain fall and would temporarily hold up to 545,000 acre-feet of water. The facility would be ungated unless determined otherwise by the Corp to maintain the integrity of the dam or the safety of the flood control system. SAFCA recommendations also included levee improvements and the temporary reoperation of Folsom Reservoir, among other provisions.

The final feasibility report and the EIR/EIS were released in February 1992, and submitted to Washington for review in October 1992 (City of Sacramento Department of Planning and Development, 1989; SAFCA, 1991). Congress did not authorize the American River Flood Control Project, but instead enacted legislation as part of the 1992 Defense Appropriation Act (DOD legislation) which directs the Corp to continue to studying long term options available to the community, and to proceed with the levee improvement work needed around the Natomas Basin (SAFCA, 1992). Congress also adopted legislation which created a new "AR" flood zone designation which applies to Sacramento and other similar areas, whose certified 100-year or greater flood protection system has been decertified as a result of new hydraulic or other data. SAFCA will continue to evaluate short-term and long-term flood protection options for the American River flood plain (SAFCA, 1992).

As previously stated, as part of an omnibus housing bill, legislation directing the FEMA to create a new flood zone designation applicable to communities such as Sacramento where a certified 100-year or greater flood protection system has been decertified due to updated hydrologic or other data. The AR zone would delineate the new 100-year flood plain and establish the flood insurance and development regulations that apply within this zone. Qualifying communities may use the AR zone designation provided they apply to FEMA and demonstrate that their flood protection system will be restored within a specified time period based on a plan acceptable to FEMA.

Under legislation, flood insurance in the AR zones is mandatory. Existing flood insurance rates in communities deemed eligible for AR zone status as of January 1, 1992 are frozen until such time as FEMA promulgates new rules specifically applicable to the AR zone. This is expected to take 18-24 months. At that time, residents who have effective policies will be allowed to maintain them at current rates, while residents who do not have effective policies, or who subsequently allow their policies to lapse, may be required to obtain new policies as roughly double the existing rate.

With respect to development in the AR zone, the legislation prohibits FEMA from requiring the new elevation of improvements to existing structures. However, FEMA may require that new structures be elevated up to three feet above existing grade in areas where the base flood elevations does not exceed five feet, where the new construction occurs on an infill site, qualifies as rehabilitation of an existing structure, or constitutes redevelopment of a previously developed area. The legislation imposes no limits on FEMA in promulgating flood plain management criteria for areas where the base flood elevation exceeds five feet and the new construction does not meet any of the above criteria.

#### City of Sacramento Flood Control Policy

Under applicable provisions of the Sacramento City Code, new development in a designated A99 Zone is permitted provided building permit applicants, by agreement with the City, assume the risk of all flood-related damage to any permitted new construction, and agree to notify subsequent purchasers of the flood risk. Ordinance 90-005 amended Articles XXVI and XXVII of Chapter 9 of the Sacramento City Code relating to new construction in areas of the 100-year floodplain refer to the notice and waiver requirements for those places within the Planning Area located within the A99 Zone. The ordinance also established a de facto moratorium on residential development in the Natomas area until 100-year protection is achieved by conditioning the issuance of all residential building permits in this area on compliance with City regulations applicable to development in a flood hazard zone. Nonresidential building permits in the Natomas Area are conditioned on compliances with certain structural design and planning criteria. Finally, Ordinance 90-005 reaffirms the City's commitment to not designate any increases in urbanized areas of the 100-year floodplain beyond lands already so designated in the General Plan.

#### FEMA A Zones (except A99)

FEMA requirements for residential development in a designated A Zone include raising the first floor to or above the base flood elevation (100-year). Requirements for nonresidential structures include the following:

- elevate the lowest floor (including the basement) to or above the base flood level; or
- together with attendant utility and sanitary facilities, design so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and
- require that fully enclosed areas below the lowest floor that are subject to flooding be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters.

#### Groundwater Resources

Water-bearing materials underlying Sacramento County can be divided into two main saturation zones (the part of the water-bearing material in which all voids are filled with water). The lower

zone, or deep aquifer system, includes the black volcanic sands of the Mehrten Formation, volcanic sediments in the Valley Springs Formation and non-volcanic sediments in the Ione Formation. The upper zone, or shallow aquifer system, includes the non-volcanic sediments of the Fair Oaks, Laguna and Victor Formations, as well as the overlying alluvial deposits. The most significant water-bearing deposits occur in the buried layers of sand and gravel which formed as river and stream channels altered their courses.

Recharge to a groundwater basin is derived primarily through precipitation, applied water and stream flow. Groundwater recharge in Sacramento County primarily occurs along active stream channels, where sand and gravel deposits occur in sufficient area and depth that adequate quantities of surface water can infiltrate into the underlying aquifer. Figure 6.4-4 depicts the areas in Sacramento County where groundwater recharge is likely to occur. The Sacramento Army Depot is located in an area of poor groundwater recharge due to underlying hardpan soil (Sacramento County GP DEIR, 1992). Therefore, further development on the site would not reduce regional recharge of the groundwater.

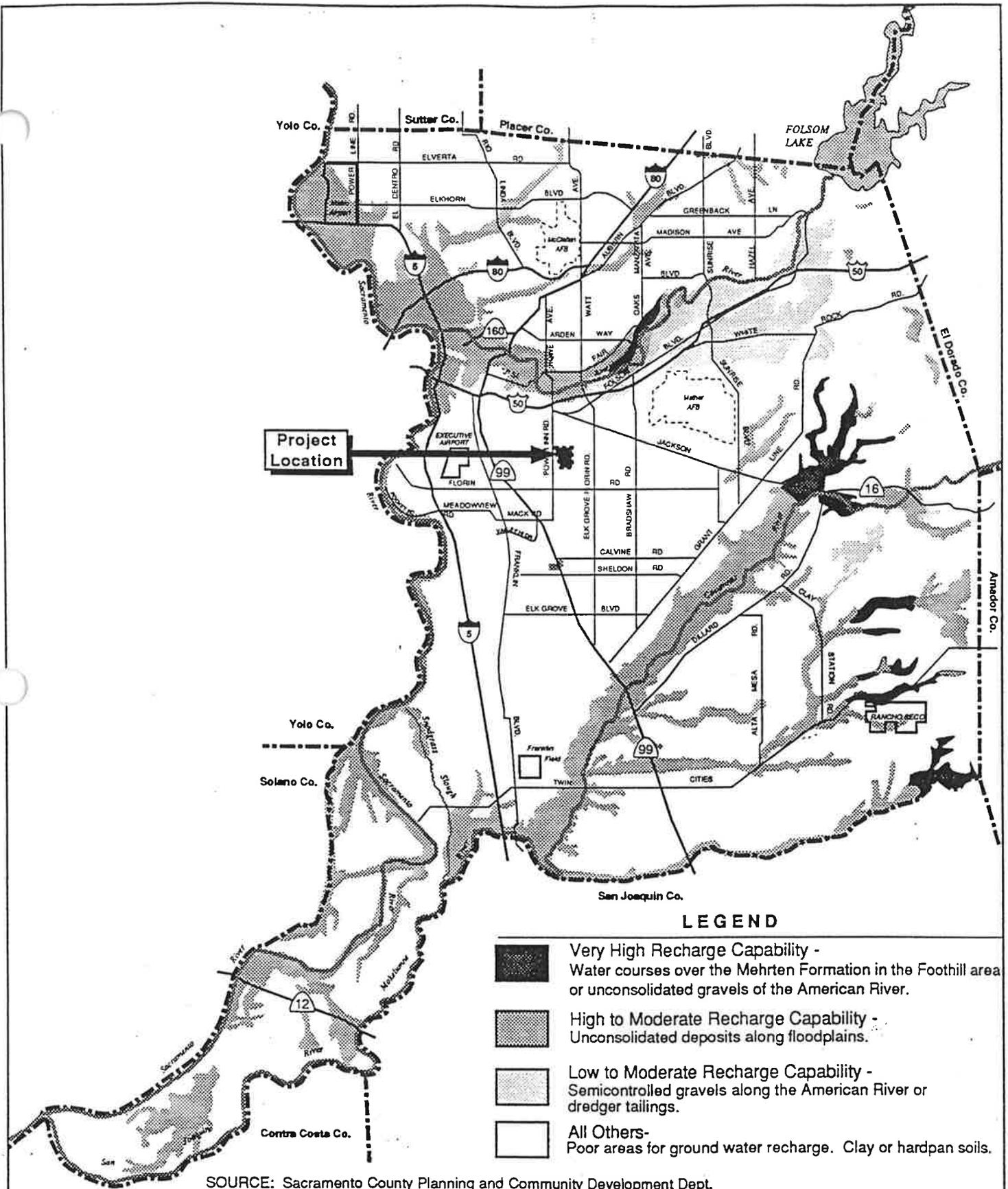
## ENVIRONMENTAL SETTING - WATER QUALITY

### Surface Water Quality

The City relies on surface water for its water supply. Conversion of land from agricultural use to urban land use within the Sacramento area has had an effect upon surface water quality. Cessation of the application of agricultural herbicides, pesticides, and fertilizers improves the quality of irrigation and natural runoff draining these agricultural lands. Yet, urbanization within the Sacramento area degrades surface water quality. This degradation results both from construction activities in the short-term and from urban occupancy in the long term. Grading and construction result in increased erosion and increased transportation of sediment into streams. Certain construction activities can result in transportation of pollutants from construction areas to nearby surface water bodies. The degree of construction related impacts to surface water quality is dependant upon the timing of various construction activities. Construction during the rainy season (October-April) maximizes sediment and other pollutant levels that could degrade water quality. The short-term effect that construction has upon water quality is also dependent upon the implementation of proper disposal practices. Long-term impacts to surface water and groundwater quality occur as a result of industrial, community, and residential development.

### Urban Runoff Quality

A number of studies have been conducted as part of the Nationwide Urban Runoff Program (NURP) to characterize urban runoff quality. Heavy metals were observed to be the most prevalent priority pollutant constituents. Concentrations in urban runoff were found to exceed EPA ambient water quality criteria and drinking water standards in many cases. Organic priority pollutants were also identified, but at a lower frequency and at lower concentrations than the heavy metals.

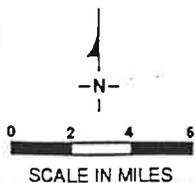


SOURCE: Sacramento County Planning and Community Development Dept.

Figure 6.4-4

Groundwater Recharge Capability

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Constituents found in urban runoff vary during a storm event, from event to event at a given site, and from site to site within a given area. Variances can be the result of differences in rainfall intensity and occurrence, geographic features, the land use of a site, and vehicle traffic.

There are varied concentrations of pollutants carried in urban runoff. The pollutant concentration of urban runoff is typically highest during the first major rainfall event after the dry season. This event is known as the "first flush." The "first flush" can carry a variety of accumulated pollutants. Oil, grease, heavy metals, sediment, pesticide residues, and fecal chloroform bacteria from roadways, parking lots, rooftops, and other surfaces are the primary pollutants in urban runoff. Runoff is most commonly deposited into waterways next to paved surfaces. Pollutant concentrations in urban runoff are extremely variable and are dependent upon storm intensity, land use, elapsed time since the previous storm, and the volume of runoff.

### **Sacramento River Quality**

The Sacramento River is classified as having numerous beneficial uses, including municipal and agricultural water supply, recreation and fisheries. The river system, as a whole, is the largest and most important freshwater habitat in the State, supporting many fish species. Water quality within the river is classified as "good" to "impaired" in the reach from Red Bluff to the Delta. Upstream water management and use can affect the quality of water in the river. Regulation of stream flow by federal and state flood control and storage facilities reduces high water flows and increases summer and fall flows, substantially lessening water quality variations. Extensive irrigated agriculture along the Sacramento River tends to contribute to degraded river water quality. During the spring and fall, irrigation return flows are discharged to drainage canals that flow into the river; during the winter, local runoff also flows over agricultural lands, increasing the turbidity in the water and introducing herbicides and pesticides (City of West Sacramento, GP DEIR, 1990). Water quality in the numerous streams and drainage tributary to the River (including Morrison Creek) is primarily based on surrounding land use. Urban runoff can also have a major effect on water quality.

Samples taken at the City of Sacramento water intake indicate that river water in the vicinity of the intake has very low concentrations of total dissolved solids and has dissolved concentrations of heavy metals below laboratory analytical detection limits. The River has historically been highly turbid and naturally carries high sediment loads. During peak regional storm events, the river's total sediment load can increase by several times its average levels (SGPU DEIR, 1986).

### **Morrison Creek Water Quality**

Water quality in Morrison Creek is influenced by the surrounding land uses. For example, in areas where residents and rural uses are adjacent to the stream, runoff carry loads of nutrients such as fertilizers, pesticides, and sediments from landscaped agricultural irrigation. In more commercial areas, where the surrounding land uses would contain more parking lots and roadway areas, runoff to the stream would be characterized by oil, grease, and heavy metals. At the Sacramento Army Depot, runoff into Morrison Creek would be predominantly characterized by

oil, grease, and heavy metals due to the roads and industrial operations. Runoff could also contain fertilizers and pesticides from landscaped areas.

### Surface Water Quality Regulations

The State of California Department of Water Resources has water quality standards that are required by Section 303 of the Federal Clean Water Act (CWA) and the state Porter-Cologne Water Quality Control Act. The Water Quality Control Plan, or Basin Plan, prepared by the Central Valley Regional Water Quality Control Board (CVRWQCB) has established water quality standards and objectives for the Sacramento River and its tributaries (including Morrison Creek). These standards are in keeping with the State of California standards. In cases where the Basin Plan does not contain a standard for a particular pollutant, other criteria are used to establish a standard. Other criteria may be applied from State Water Resources Control Board (SWRCB) documents (e.g., the Inland Surface Waters Plan, and the Pollutant Policy Document) or from EPA water quality criteria developed under Section 304(a) of the CWA.

### Inland Surface Water Quality Standards

The SWRCB has developed water quality objectives for inland surface waters (California Water Resources Control Board, 1991). Included among the provisions of these objectives are: (a) that all point and non-point discharges must comply with identified water quality objectives; and (b) that effluent limits are to be imposed, either through National Pollutant Discharge Elimination Permit System (NPDES) permits or Waste Discharge Requirements (WDRs), such that the water quality objectives shall not be exceeded in the receiving water outside a designated mixing zone.

### Sacramento River Basin Water Quality Control Plan

As previously described, water quality objectives have been established for the Sacramento River (and its tributaries including Morrison Creek) which are contained in the 1991 Sacramento River Basin Plan prepared by the CVRWQCB in compliance with the federal CWA and the state Porter-Cologne Water Quality Control Act. The Basin Plan establishes water quality objectives, and implementation programs to meet stated objectives and to protect the beneficial uses of water in the Sacramento River Basin.

Table 6.4-1 lists the paraphrased water quality objectives adopted by the CVRWQCB in the Basin Plan (Central Valley Regional Water Quality Control Board, 1991). Specific objectives are not established for Morrison Creek, therefore, the objectives listed are those for the Sacramento River, the nearest downstream water body with specified objectives.

The 1991 Inland Surface Waters Plan (ISWP) established water quality objectives for priority pollutants which are more stringent than those water quality objectives in the Basin Plan. Therefore, the more stringent objectives are applied to discharges which contain priority pollutants.

TABLE 6.4-1

## WATER QUALITY OBJECTIVES FOR MORRISON CREEK

Constituent	Objective
Bacteria	Shall not exceed a geometric mean of 200/100ml
Biostimulatory	Less than concentrations that cause a Substances [nutrients] nuisance
Dissolved Oxygen	Greater than 7.0 mg/l (monthly median) from June 1 to November 15, greater than 5.0
Oil and Grease	Shall not cause a nuisance or otherwise adversely affect beneficial uses
PH	Shall not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5
Pesticides	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
Sediment	Suspended sediment load shall not be altered in such a manner as to cause nuisance
Temperature	Shall not be increased more than 5 degrees F above ambient
Toxicity	Nontoxic
Turbidity	Permissible increase dependent on ambient level, not to exceed 10 NTUs where ambient is less than 100 NTUs
SOURCE:	Water Quality Objectives for Sacramento River, as adopted by Central Valley Regional Water Quality Control Board, 1991. (Specific objectives have not been established for Morrison Creek; however, because Morrison Creek is a tributary to the Sacramento River, the above objectives are applicable.)

### EPA Storm Water Discharge Permitting Regulations

As previously discussed, the CWA prohibits the discharge of pollutants to navigable waters from a point source unless authorized by a NPDES permit. With respect to pollutants in storm water discharges, the CWA currently only requires two sizes of municipalities, large (population 250,000 or above) and medium (population 100,000 to 250,000), certain industrial activities, and certain construction activities to obtain permit coverage. The EPA has not yet adopted regulations for small municipalities with populations of less than 100,000.

The City of Sacramento has obtained a National Pollutant Discharge Elimination System (NPDES) permit from the Regional Water Quality Control Board under the requirements of the Environmental Protection Agency and Section 402 of the Clean Water Act. The goal of this permit is to reduce pollutants found in urban stormwater runoff. The NPDES permit requires the

use of "Best Management Practices" (BMPs). The City has a list of BMPs necessary to accomplish the goals of this permit. The primary objective of the BMPs is to reduce non-point source pollution into waterways. These practices include structural and source control measures for residential and commercial areas, and BMPs for construction sites. Components of the BMPs include:

- Maintenance of structures and roads
- Flood control management
- Comprehensive development plans
- Grading, Erosion and Sediment Control Ordinance
- Inspection and enforcement procedures
- Educational programs for toxic material and oil control
- Reduction of pesticide use

#### California General Industrial Storm Water Permit

The SWRCB adopted a General Industrial Storm Water Permit which covers specific industries. The general permit requires industrial dischargers to (1) eliminate illicit discharges of storm water to storm water system, (2) develop and implement a storm water pollution prevention plan (SWPPP), and (3) perform monitoring of discharges to storm water systems. The SWPPP should include (1) source identification, (2) practices to reduce pollutants, (3) an assessment of potential pollution sources, (4) a materials inventory, (5) a preventive maintenance program, (6) spill prevention and response procedures, (7) general storm water management practices, (8) employee training, (9) facility inspection, (10) record keeping, and (11) elimination of unpermitted non-storm water discharges to the industrial storm water system. The Storm Water Permit may or may not be transferable under future development conditions and will have to be determined by the current owner listed on the existing permit.

#### California General Construction Activity Storm Water Permit

As of October 1, 1992, general permits for non-storm water discharges associated with construction activities involving the disturbance of five acres or more are required by the State. are required by the State for storm water discharges associated with construction activities involving the disturbance of five acres or more. Construction on sites less than five acres are required to obtain a permit if part of a larger development or land sale. Landowners are responsible for obtaining and complying with the permits, but may delegate duties associated with them to developers and contractors by mutual consent.

Permit applicants are required to prepare, and retain at the construction site, a SWPPP which includes a description of (1) the site, (2) erosion and sediment controls, (3) means of waste disposal, (4) implementation of approved local plans, (5) control of post-construction sediment and erosion control measures and maintenance responsibilities, and (6) non-storm water management controls. Dischargers are also required to inspect their construction sites before and after storms to identify storm water discharge associated with construction activity and to identify and implement controls where necessary.

## City of Sacramento Construction Site Storm Water Controls

All grading activities associated with site development within the City of Sacramento are also required to comply with the City's Grading, Erosion and Sediment Control Ordinance (Ordinance 93-068). This ordinance will require the applicant to prepare erosion and sediment control plans for both during and after construction of the proposed project, prepare preliminary and final grading plans and prepare plans to control urban runoff pollution from the project site during construction. These requirements ensure that development sites are graded such that new topography makes a smooth transition to existing adjacent topography. Developers are required to carry out dust and soil erosion control measures before, during, and after the construction phase of development. Implement accepted dust control procedures, revegetation or covering tracks containing loose and dry soil, constructing ingress/egress roads and adopting measures to prevent construction vehicles from tracking mud onto adjacent roadways, covering trucks containing loose and dry soil, and providing interim drainage measures during the construction period are measures intended to minimize soil erosion and fugitive dust emissions so that a less-than-significant impact upon water quality results from site development. Other acceptable measures are discussed in the City's new manual entitled "Administrative and Technical Procedures Manual for Grading, Erosion, and Sediment Control", available at the Department of Utilities. BMPs are approved by the City's Department of Utilities before beginning construction. A list of the BMP measures is available from the Department of Utilities, Flood Control and Sewers Division, at 5770 Freeport Boulevard, Suite 100, Sacramento, California 95822.

## IMPACTS AND MITIGATION

### Standards of Significance

For the purpose of this EIR, an impact is considered significant if the proposed project or the alternatives would:

- expose persons or structures to flood hazards by being located within the 100-year flood plain as defined by the Federal Emergency Management Agency;
- result in substantial changes in absorption rates, drainage patterns, or the rate and amount of surface runoff which cause existing drainage capacity to be exceeded;
- substantially degrade surface water quality, and violate any water quality objectives set by the SWRCB as part of the ISWP, due to increases in sediments and other contaminants generated by construction and/or operation activities.

## Methods

The evaluation of impacts associated with exposure to flood risk, increased surface water runoff and water quality were completed based on existing data. Documents reviewed included the Sacramento Army Depot Disposal and Reuse Draft FEIS, January 1994, the SWRCB's Inland Surface Waters Plan, and the CVRWQCB's Sacramento River Basin Plan.

## Impacts and Mitigation Measures

### *Impact*

#### 6.2-1 Hydrology-Site Flooding (Project Specific)

- PP Approval of the proposed project could allow development within the 100-year flood plain. However, any new construction must be developed in compliance with the City of Sacramento Flood Control Policy for development within the 100-year flood plain (A99 Zone). Therefore, this is considered to be a *less-than-significant impact*.
- AA The No Project Alternative would not include future development within the 100-year flood plain. Therefore, no impact would occur.
- AB Alternative B could include new development within the 100-year flood plain. However, any new construction must be developed in compliance with the City of Sacramento Flood Control Policy for development within the 100-year flood plain (A99 Zone). Therefore, this is considered to be a *less-than-significant impact*.

### *Mitigation*

#### 6.2-1 Hydrology-Site Flooding (Project Specific)

No mitigation measures are required for the proposed project, the No Project Alternative, or Alternative B.

### *Impact*

#### 6.2-2 Hydrology-Drainage Facility Capacity Impact (Project Specific)

- PP Implementation of the proposed project could result in the construction of new impervious surfaces. Currently, the project site consists of approximately 259 acres of impervious surface and 226 undeveloped acres. The development of these 226 acres could include the construction of impervious surfaces. An increase in impervious surface would result in an increase in the rate and volume of storm

water runoff. This increase could exceed the existing drainage system capacity or to contribute to local flooding in the Morrison Creek Drainage Basin. This is considered to be a *significant impact*.

- AA The No Project Alternative would not result in additional construction of impervious surfaces; therefore, there would be no associated increase in surface water runoff. Therefore, no impact would occur.
- AB Implementation of the Alternative B could include construction of new impervious surfaces over the existing 226 acres of undeveloped land on the Army Depot site. An increase in impervious surface would result in an increase in the rate and volume of storm water runoff. As identified for the proposed project, the increase could exceed the existing drainage system capacity or contribute to local flooding in the Morrison Creek Drainage Basin. This is considered to be a *significant impact*.

### Mitigation

#### 6.2-2 Hydrology-Drainage Facility Capacity Impact (Project Specific)

Implementation of the following mitigation measures would reduce the impact of the proposed project and Alternative B to a *less-than-significant* level. No mitigation measures would be required for the No Project Alternative.

- PP,AB *The City of Sacramento shall review each development application for the Army Depot site for effects on drainage facility capacity. Each project reviewed shall identify the rate and amount of surface water runoff generated by proposed development and the effects on drainage facility capacity. Modifications to existing facilities and new facilities to regulate rate and volume of runoff released to Morrison Creek shall be identified, and each project shall pay a fair share portion of any improvement identified. Drainage facilities could include, but would not be limited to:*
- (a) *The expansion or modification of existing storm drain facilities;*
  - (b) *Single-project detention basins; or*
  - (c) *The preservation of natural drainage areas.*

### Impact

#### 6.2-3 Hydrology-Drainage Facility Capacity Impact (Cumulative)

- PP Development of the proposed project, in conjunction with the urban development in the Morrison Creek watershed, would increase the amount of impervious surface, increasing the rate and amount of surface water runoff entering the

existing drainage system. Increased surface water runoff could exceed existing drainage system capacity and contribute to localized flooding. This is considered to be a *significant impact*.

- AA The No Project Alternative does not include any new development and would not contribute to a cumulative drainage impact. Therefore, the No Project Alternative would not result in a drainage impact.
- AB Development of Alternative B, in conjunction with the urban development in the Morrison Creek watershed, would increase the amount of impervious surface, increasing the rate and amount of surface water runoff entering the existing drainage system. The magnitude of this impact is the same as that with the proposed project. Increased surface water runoff could exceed existing drainage system capacity and contribute to localized flooding. This is considered to be a *significant impact*.

### Mitigation

#### 6.2-3 Hydrology-Drainage Facility Capacity Impact (Cumulative)

Implementation of the following mitigation measures would reduce the impact of the proposed project and Alternative B to a *less-than-significant* level. No mitigation measures would be required for the No Project Alternative.

- PP, AB
- (a) *The City of Sacramento shall continue to coordinate with the United States Army Corps of Engineers and the County of Sacramento to assess the level of flood protection provided by the Morrison Creek Flood Control System.*
  - (b) *The City of Sacramento shall participate in the development of alternatives to increase the capacity of the Morrison Creek Flood Control System to accommodate existing flows, and flows which would result from future development. These alternatives may include, but are not limited to, the following:*
    - i) *raising levees,*
    - ii) *channel widening,*
    - iii) *floodwalls; and*
    - iv) *detention basins.*
  - (c) *Since it is highly unlikely that 100-year level of protection will be attained on Morrison Creek prior to Depot redevelopment, mitigation for increased peak flow rate and volume is required.*

*The detailed drainage study as required in project specific mitigation (76.2-2) shall identify the stormwater management facilities to regulate rate and volume of runoff released to Morrison Creek.*

### Impact

#### 6.2-4 Water Quality-Construction (Project Specific)

PP Implementation of the proposed project or any of the alternatives could include the construction of and demolition of buildings and other structures on the site which would involve grading, excavation or other construction-related activities which could cause soil erosion at an accelerated rate during storm events. Although the topography is relatively flat and the erosion hazard is slight, storm water runoff could carry an increased load of sediments which could degrade receiving water quality. Sediment from erosion can have long and short-term effects on water quality in affected streams. Short-term effects include increased turbidity which could result in adverse impacts on fish and wildlife habitat, reduced water pump life due to abrasion, increased municipal/industrial water treatment costs for turbidity removal, and impaired recreation and aesthetic values. Long-term effects include increased flooding hazard due to reduced channel capacity. Other potential sources for water quality degradation during construction activities is the use of heavy machinery and other construction equipment. Construction equipment spills could include heavy metals, oil, grease, and other petroleum hydrocarbons.

Sediments and other construction activity contaminants could adversely affect Morrison Creek water quality. Implementation could result in the disturbance of five acres or more of land within the proposed project site, therefore, contractors would be required to obtain, and comply with the State General Construction Activity Storm Water Permit. As described in the setting discussion, compliance with the Permit would require the implementation of BMPs. BMPs include schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce pollution (i.e. straw bale dikes, silt fences, sediment traps, or similar methods). A more detailed description of the requirements of the General Construction Activity Storm Water Permit and BMP options that may be incorporated by contractors are provided in Appendix E.

Furthermore, all grading activities associated would also be required to comply with the City's Grading, Erosion and Sediment Control Ordinance (Ordinance 93-068). This ordinance will require the applicant to prepare erosion and sediment control plans for both during and after construction of the proposed project, prepare preliminary and final grading plans and prepare plans to control urban runoff pollution from the project site during construction. Contractors are required to carry out dust and soil erosion control measures before, during, and after the construction phase of development. Implementing accepted erosion and sediment control measures intended to minimize soil erosion, off-site sediment and pollution

transport, and fugitive dust emissions. Finally, as previously discussed, BMPs are approved by the City's Department of Utilities before beginning construction.

Potential construction related activities for development of the proposed project would be performed in compliance with the City of Sacramento Grading, Erosion and Sediment Control Ordinance, and would be required to file for a Notice of Intent for coverage with requirements contained in the State General Construction Activity Storm Water Permit. Because construction activities would be in compliance with the regulations outlined above, the effect on receiving waters is considered to be a *less-than-significant impact*.

- AA The No Project Alternative would not result in any construction activities, therefore, there would be no adverse affects to receiving water quality. Therefore, no impact would occur.
- AB Implementation of Alternative B would be similar to the impact identified in the proposed project. Potential construction related activities for development of Alternative B would be performed in compliance with the City of Sacramento Grading, Erosion and Sediment Control Ordinance, and would be required to file for a Notice of Intent for coverage with requirements contained in the State General Construction Activity Storm Water Permit. Therefore, the effect on receiving waters during construction activities is considered to be a *less-than-significant impact*.

#### *Mitigation*

##### 6.2-4 Water Quality-Construction (Project Specific)

No mitigation is required for the proposed project, the No Project Alternative, or Alternative B.

#### *Impact*

##### 6.2-5 Water Quality-Construction (Cumulative)

- PP Development of the proposed project would include the construction of roadways and structures which would involve grading, excavation or other construction-related activities which could cause soil erosion at an accelerated rate during storm events. As previously described, sediment from erosion can have long and short-term effects on water quality in affected streams including adverse impacts on fish and wildlife habitat, reduced water pump life due to abrasion, increased municipal/industrial water treatment costs for turbidity removal, impaired recreation and aesthetic values, and increased flooding hazard due to reduced channel capacity. Other potential sources for water quality degradation during construction activities is the use of heavy machinery and other construction

equipment which can increase the amounts of heavy metals, oil, grease, and other petroleum hydrocarbons in receiving waters.

Construction activities which disturb more than five acres of land are required to obtain, and comply with the State General Construction Activity Storm Water Permit. As described in the setting discussion, compliance with the Permit would require the implementation of BMPs. Furthermore, all grading activities would also be required to follow the City Grading, Erosion, and Sediment Control Ordinance requirements.

Because construction activities could increase the amount of sediment load in receiving waters, cumulative effects on receiving waters are considered to be a *significant impact*.

- AA Because there would be no construction with the No Project Alternative, there would be no contribution to a cumulative water quality impact. Therefore, no impact would occur.
- AB Development under Alternative B would have the same cumulative impact as the proposed project, including the construction of roadways and structures which would involve grading, excavation or other construction-related activities which could cause soil erosion at an accelerated rate during storm events. As previously described, sediment from erosion can have long and short-term effects on water quality in affected streams including adverse impacts on fish and wildlife habitat, reduced water pump life due to abrasion, increased municipal/industrial water treatment costs for turbidity removal, impaired recreation and aesthetic values, and increased flooding hazard due to reduced channel capacity. Other potential sources for water quality degradation during construction activities is the use of heavy machinery and other construction equipment which can increase the amounts of heavy metals, oil, grease, and other petroleum hydrocarbons in receiving waters. Cumulative effects on receiving water quality are considered to be a *significant impact*.

### Mitigation

#### 6.2-5 Water Quality-Construction (Cumulative)

Implementation of the following mitigation measures would reduce the impact of the proposed project and Alternative B to a *less-than-significant* level. No mitigation measures would be required for the No Project Alternative.

- PP, AB (a) *For construction activities which will disturb five acres or more of land, the project applicant shall file a Notice of Intent for coverage and coverage and comply with requirements contained in the State General Construction Activity Storm Water Permit. All erosion, sediment and pollution control measures to be implemented shall*

*be approved by the City's Department of Utilities prior to the commencement of construction activities.*

- (b) *Staging of heavy equipment shall be established so that spills of oil, grease or other petroleum by-products shall not be discharged into the stream course. All machinery shall be properly maintained and cleaned to prevent spills.*

### *Impact*

#### 6.2-6 Water Quality-Surface Runoff (Project Specific)

PP Implementation of the proposed project could generate increased rates of surface runoff. Increased rates of surface runoff associated with additional impervious surfaces could alter existing receiving water quality. The primary sources of storm water pollution includes roadways, automobiles, landscaping, industrial activities, non-storm water connections to the drainage system, accidental spills and illegal dumping. Runoff from roadway and parking lots could contain levels of oil, grease, and heavy metals. Runoff from landscaped areas could contain concentrations of nutrients, i.e. fertilizers and pesticides. Concentrations of contaminants in runoff, particularly heavy metals, commonly exceed the water quality objectives set in the ISWP and the Sacramento River Basin Plan. Depending on the ambient water quality within a water body, there may be insufficient dilution available to reduce concentrations to acceptable levels. The proposed project would likely add new impervious surface during implementation. Though there would be an associated increase in surface runoff that would most likely contain heavy metals, oil, grease, and other petroleum by-products it is unlikely that the levels would exceed existing conditions or adversely affect water quality in Morrison Creek.

The project site is registered as a general permittee under the Statewide General Industrial Activity Stormwater Discharge Permit (5A34S0061-10/23/92) under standard limitations for BMP's, monitoring and reporting requirements, as well as under limits (standards) for the Clean Water Act, 40 CFR for hazardous substances. Stormwater is discharged to Morrison Creek under an NPDES permit. The proposed project would be developed and operated in compliance with municipal NPDES regulations, therefore, the impact to receiving waters due to project development is considered to be *less-than-significant*.

AA The No Project Alternative would not result in new impervious surfaces; therefore, there would be no adverse affects on receiving water quality. No impact would occur.

- AB Implementation of Alternative B would add approximately the same amount of impervious surfaces as the proposed project. The associated increase in surface runoff would most likely contain heavy metals, oil, grease, and other petroleum by-products, however, not at levels expected to exceed existing conditions, and adversely affect water quality in Morrison Creek. Development of this alternative would include compliance with municipal NPDES regulations. Therefore, this is considered to be *less-than-significant*.

### Mitigation

#### 6.2-6 Water Quality-Surface Runoff (Project Specific)

No mitigation is required for the proposed project, the No Project Alternative, or Alternative B.

### Impact

#### 6.2-7 Water Quality-Surface Runoff (Cumulative)

- PP Development of the proposed project, in conjunction with other development within the Morrison Creek watershed, could alter the existing receiving water quality. The primary sources of storm water pollution includes roadways, automobiles, landscaping, industrial activities, non-storm water connections to the drainage system, accidental spills and illegal dumping. Runoff from roadway and parking lots could contain levels of oil, grease, and heavy metals. Runoff from landscaped areas could contain concentrations of nutrients, i.e. fertilizers and pesticides. Concentrations of contaminants in runoff, particularly heavy metals, commonly exceed the water quality objectives set in the ISWP and the Sacramento River Basin Plan. Depending on the ambient water quality within a water body, there may be insufficient dilution available to reduce concentrations to acceptable levels. The proposed project in combination with other development in the south Sacramento area would increase the amount of impervious surface. The associated increase in surface runoff would most likely contain heavy metals, oil, grease, petroleum by-products, and nutrients at levels which exceed existing conditions, and adversely affect water quality in Morrison Creek.

As discussed in the setting section, the City of Sacramento has obtained a NPDES permit. The goal of this permit is to reduce pollutants found in urban stormwater runoff. The NPDES permit requires the use of "Best Management Practices" (BMP's). The City has a list of BMP's necessary to accomplish the goals of this permit. The primary objective of the BMP's is to reduce non-point source pollution into waterways. These practices include structural and source control measures for residential and commercial areas, and BMP's for construction sites. Components of the BMP's include:

- Maintenance of structures and roads
- Flood control management
- Comprehensive development plans
- Erosion and sediment control ordinances
- Inspection and enforcement procedures
- Educational programs for material storage and spill control
- Reduction of pesticide use

BMPs are approved by the City's Department of Utilities before beginning construction (The BMP document is available from the Department of Utilities, Flood Control and Sewers Division, 5770 Freeport Boulevard, Suite 100, Sacramento, California 95822).

Impacts to receiving waters due to urban development are considered to be *significant*.

- AA The No Project Alternative would not result in any new development; therefore, there would be no contribution to cumulative adverse affects on receiving water quality and no impact would occur.
- AB Development of Alternative B, in combination with other development in the Morrison Creek watershed, would increase the amount of impervious surface. The associated increase in surface runoff would most likely contain heavy metals, oil, grease, petroleum by-products, and nutrients at levels which exceed existing conditions, and adversely affect water quality in Morrison Creek. This impact would be the same level of magnitude as that of the proposed project. This is considered to be a *significant impact*.

### *Mitigation*

#### 6.2-7 Water Quality-Surface Runoff (Cumulative)

Implementation of the following mitigation measure would reduce the impact of the proposed project and Alternative B to a *less-than-significant* level. No mitigation measures would be required for the No Project Alternative.

- PP, AB *Prior to issuance of any building permits for new construction within the Morrison Creek watershed the City of Sacramento shall ensure that each project proponent include as part of the project design Best Management Practices, approved by the City's Utilities Department and in compliance with the City's NPDES permit, which mitigate for urban contaminants in storm water runoff.*

*As an economical alternative to parcel-by-parcel mitigation, it is suggested that the detailed drainage study required in Mitigation Measure 6.2-2, (Page 6.4-19), identify storm water management facilities to improve quality of runoff received from the entire Depot area prior to discharging to Morrison Creek.*

## 6.5 BIOLOGICAL RESOURCES

## 6.5 BIOLOGICAL RESOURCES

### INTRODUCTION

This section describes the existing biological conditions on the Army Depot site, the impacts associated with the project, and the mitigation that will be necessary to reduce impacts to a less than significant level. The biological resources information for the project area is based upon a review of existing documentation including the *Sacramento Army Depot Draft Environmental Impact Statement*, January 1994 and the *Draft Biological Data Report - Fairy Shrimp*, April 1994. The DEIS reports the results of a record search in the California Department of Fish and Game Natural Diversity Data Base (CNDDDB) and consultations with regulatory agencies (California Department of Fish and Game, United States Army Corps of Engineers, United States Fish and Wildlife Service, etc.). In addition, the report includes the results of field surveys conducted by Ebasco Environmental. A list of the flora and fauna species identified on the Army Depot site is presented in Appendix E.

### SETTING

#### Wetlands

##### **Army Depot Project Site**

The Sacramento Army Depot Disposal and Reuse Draft EIS (DEIS) acknowledged that the Army Depot site has an estimated 0.5 acres of jurisdictional wetlands located along the Old Morrison Creek channel. This area of the Army Depot site was used as a laser test range by the Army. The DEIS also indicated that a 0.1 acre "bathtub" drainage feature was located on the Army Depot site near the oxidation ponds in the southwestern portion of the property. The full description of wetlands on the Army Depot site, as described in the DEIS, is provided below:

Wetlands at the Sacramento Army Depot consist of numerous small seasonal depressions, the Old Morrison Creek channel, and portions of the current Morrison Creek. Wetland delineations defined jurisdictional wetlands of 0.52-acre, consisting of the Old Morrison Creek channel on the laser test range, and a 0.1-acre "bathtub" drainage feature, located north of the oxidation lagoons. The wetlands delineation was verified by the ACOE. Seasonal depressions scattered within the fenced perimeter of the base contained some species characteristic of wetlands (woolly marbles, popcorn flower, goldfields), but lacked hydric soils and other characters of jurisdictional wetlands. The area outside the northwest fenced perimeter, but within the Sacramento Army Depot property, contains potential wetlands which were not included in the original delineation, because there were no plans to alter or affect that area. Additional delineations will be necessary in this area if they could be affected.

In addition to the wetlands identified in the DEIS, the *Draft Biological Report on Fairy Shrimp* (April 1994) prepared by Ebasco Environmental identified that there are several areas on the Army Depot where water may pond to form temporary pools that can provide habitat for various species. These pools include shallow swales, drainage ditches, roadside gutters, and areas that could be degraded vernal pools. Vernal pools are a specialized type of wetland which supports

a unique wildlife and plant community. Vernal pools are primarily recognized for their showy flowers and endemic flora, but vernal pools may also contain several species of invertebrates, including fairy shrimp (*Branchinecta lynchi*, and *Linderiella occidentalis*) and tadpole shrimp (*Lepidurus packardii*). Although they may exist on the Army Depot site, none of the temporary ponds on the site have been classified as vernal pools in the existing documentation. The Draft Biological Report on Fairy Shrimp (p.2) provided the following description of the wetlands on the Army Depot site:

More than half the 485 acres are paved or are covered by buildings and warehouses. The surrounding area is similar, predominated by industry with various vacant lots between warehouses, commercial facilities and residences. What little grassland remains has been heavily graded for drainage, and disked for weed control over a period of years. A large area of annual grassland exists in the south-central area of the Depot, along the old Morrison Creek channel, and in the northwest corner near the rail facilities. Jurisdictional wetlands on the Depot consist of the Old Morrison Creek Channel. There are no distinguishable vernal pools within the Depot fenced perimeter, although remnant plant species characteristic of vernal pools occur in several areas.

The Morrison Creek Flood Control channel borders the entire southern property line and portions of the western and eastern boundaries of the Army Depot. Prior to the channelization of Morrison Creek, the original or old Morrison Creek stream channel traverses the Army Depot property from east to west across the central portion of the site. The old Morrison Creek stream channel is still evident on the site and is intermittently used for site drainage; however, this channel provides little aquatic habitat.

### City of Sacramento

The 1986 Sacramento General Plan Update Environmental Impact Report (SGPU EIR) recognized that the buildout of the General Plan may result in impacts to existing wetland areas, including vernal pools. The General Plan EIR proposed to mitigate the loss of the wetland resources by using various approaches. Some of these approaches included the establishment of a Resource Conservation Zone (RCZ) program which would recognize the values and special management needs of the wetland habitats, and the requirement for field surveys to be conducted prior to the approval of development plans. The Findings of Fact and Statement of Overriding Considerations for the Adoption of the Sacramento General Plan Update indicated that the City Council found infeasible the adoption of this mitigation measure (establishment of RCZ's) for the following reason:

- City CEQA Guidelines require that project-specific analyses be conducted where proposed development could result in the elimination or conversion of biologically significant natural communities. These analyses include evaluation of measures to avoid or minimize the impact on such species. Because these analyses are conducted on a project-specific basis, the feasibility of mitigating each habitat cannot be determined at this time on a Citywide basis.

Many goals and policies in the SGPU Conservation and Open Space Element (Preservation of Natural Resources section) partially mitigate this impact (loss or conversion of natural communities), but not to a less than significant level.

## Vegetation

Approximately 147 acres of annual grasslands and approximately 49 acres of maintained landscaped vegetation are present on the project site. There are no agricultural crops on the project site. Trees on the site are mostly located in the landscaped areas. The following text was provided in the DEIS and describes the vegetative habitats on the Army Depot site:

The vegetative resources present on the site are the result of decades of surface disturbance, and are relatively common in California's Central Valley where grading, filling, road building and other industrial activities have occurred. The annual grassland consists primarily of introduced grasses and does not contain any significant populations of native perennial bunch grasses or other similar species. The riparian species formerly present at the oxidation lagoons were cottonwoods and willows, which grew in response to an artificial water supply. The site was contaminated and the habitat value compromised. The Morrison Creek channel may once have supported riparian vegetation, but was channelized to concrete in the mid-1970s and currently does not support any significant vegetation communities. Old Morrison Creek channel remains distinguishable by its lack of vegetation and function as a localized drainage ditch, but filling and grading over the years have removed any significant riparian vegetative communities. Landscape areas, buildings, pavement and the railroad yards lack any significant vegetative resources.

### **Grassland Communities**

Annual grasslands are located in several areas on the Army Depot site; however, the majority of the grassland area is located near the central portion of the site in an area previously used for laser testing. The grassland vegetation identified on the site primarily includes ruderal grassland species such as wild oats (*Avena species*), soft brome (*Bromus mollis*), hairy crabgrass (*Digitaria sanguinalis*), star thistle (*Centaurea solstitialis*), filaree (*Erodium spp.*), and curly dock (*Rumex crispus*).

### **Landscaped Areas**

The primary landscaped areas are located on the northern and southern portions of the site. The landscaping vegetation includes decorative plantings and lawns. The largest landscaped areas are the recreational facilities including the softball fields and running track in the southern portion of the site. Landscaped areas include over 70 tree and shrub species plantings, including fig (*Ficus sp.*), eucalyptus (*Eucalyptus sp.*), pampas grass (*Cortaderia selloana*), and oleander (*Nerium oleander*).

### **Riparian Communities**

A riparian community previously existed on the Army Depot site; however, it was removed in the summer of 1992. The DEIS provides the following information regarding the elimination of this vegetative community:

Deciduous riparian tree species previously bordered the old oxidation ponds in the southwest central portion of the Sacramento Army Depot. All vegetation in this area was removed in the summer of 1992 as a result of hazardous waste remediation activities (Section 4.9.4.2). The riparian area supported Fremont's cottonwood (*Populus fremontii*), Goodding's willow (*Salix*

*gooddingii*), and salt cedar (*Tamarix*, sp.). The trees reached a maximum height of 30 feet, while understory species consisted primarily of annual grasses and forbs.

## Wildlife

Most of the project area has been devoted to industrial uses and has been highly developed since 1945. Approximately one-third of the site is unpaved or undeveloped. Maintenance activities, such as tilling, mowing, vegetation control and waste disposal have degraded the quality of wildlife habitat in the project area. These activities have resulted in large areas with little current botanical value. However, the wildlife habitat types, including annual grasslands, landscaped areas, and wetlands, are still present on the Sacramento Army Depot property. The DEIS stated the following information regarding the wildlife habitat and species that currently exist on the Army Depot Site:

Some wildlife resources have been enhanced as a result of Sacramento Army Depot activities. Although an inadvertent benefit of operations, the security required of a military installation protects sensitive wildlife from disturbance and molestation. Specifically, the Sacramento Army Depot maintains a fenced perimeter around 485 acres of land. No hunting is allowed, therefore birds and other animals normally hunted for sport or food are more common. Several adult pheasant have been seen, as have ducks, red fox, and large numbers of hares. Burrowing owls, which are relatively uncommon outside the Sacramento Army Depot, are able to survive largely because of less disturbance within its boundaries.

The Sacramento Army Depot also functions as a refuge for species that use peripheral habitat, and also require some escape location. Pheasant and ducks flushed from along Morrison Creek inevitably fly toward the relatively safe habitat of the laser testing range. The Sacramento Army Depot also functions as a refuge from predators. Domestic dogs, which are responsible for much wildlife damage elsewhere, are trapped and removed. Feral cats, which are also wildlife predators, are present, but not in excessive numbers.

## Special Status Species

Special-status species include those that are listed or proposed for listing as rare, threatened, or endangered by either the California Department of Fish and Game (CDFG) or the U.S. Fish and Wildlife Service (USFWS); most species that are candidates for either state or federal listing; and species designated as "fully protected" or "species of special concern" by CDFG. See Table 6.5-1 for special status plant and wildlife species and natural communities of special concern known to occur or recorded in the region of the Army Depot site.

### Special Status Plant Species

The DEIS stated that the California Department of Fish and Game (CDFG), the California Natural Diversity Data Base (CNDDDB), and the U.S. Fish and Wildlife Service (FWS) were contacted in the spring of 1991. These agencies identifies several special-status plant species that could potentially occur in the project area, including the Boggs Lake hedge hyssop (*Gratiola heterosepala*), slender Orcutt grass (*Orcuttia tenuis*), and Dwarf Downingia (*Downingia humilis*). None of these species were observed in previous biological surveys at the Sacramento Army Depot. These species and their current status are identified in Table 6.5-1.

TABLE 6.5-1

SPECIAL STATUS PLANT AND WILDLIFE SPECIES AND NATURAL COMMUNITIES OF SPECIAL CONCERN KNOWN TO OCCUR OR RECORDED IN THE REGION OF THE ARMY DEPOT SITE

Species	Status <sup>1</sup> Fed/CA/CNPS	Habitat or Habitat Requirement	Potential Habitat On Site	Observed on Site
<b>PLANTS</b>				
Dwarf downingia <i>Downingia pusilla</i>	3/--/1B	Vernal pools	Yes	No
Bog's Lake hedge-hyssop <i>Gratiola heterosepala</i>	2/E/1B	Vernal pools	Yes	No
Slender Orcutt grass <i>Orcuttia tenuis</i>	1/E/1B	Vernal pools	Yes	No "
Sanford's arrowhead <i>Sagittaria sanfordii</i>	--/C2/1B	Marsh and swamps	Yes	No
<b>WILDLIFE</b>				
<b>Invertebrates</b>				
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	PE/--/--	Vernal Pools	Yes	Yes
Valley elderberry longhorn beetle; (VELB) <i>Desmocerus californicus dimorphus</i>	T/--/--	Elderberry shrubs	No	No
Tadpole shrimp <i>Lepidurus packardii</i>	PE/--/--	Vernal pools	Yes	Yes
California linderiella <i>Linderiella occidentalis</i>	PE/--/--	Vernal pools	Yes	Yes

TABLE 6.5-1

**SPECIAL STATUS PLANT AND WILDLIFE SPECIES AND NATURAL COMMUNITIES OF SPECIAL CONCERN KNOWN TO OCCUR OR RECORDED IN THE REGION OF THE ARMY DEPOT SITE**

Species	Status <sup>1</sup> Fed/CA/CNPS	Habitat or Habitat Requirement	Potential Habitat On Site	Observed on Site
<b>Amphibians</b>				
California tiger salamander <i>Ambystoma californiense</i>	2/CSC/--	Vernal pools-breeding; rodent burrows-refuge	Yes	No
Western spadefoot toad <i>Scaphiopus hammondi</i>	--/CSC/--	Vernal pools-breeding; grassland-refuge	Yes	No
<b>Reptiles</b>				
Northwest pond turtle <i>Clemmys marmorata marmorata</i>	1;2/CSC/--	Riverine/Lacustrine - foraging/breeding. Resident of ponds and creeks with permanent water using partially submerged logs, vegetation mats, or open mud banks for basking and uplands for nesting.	Yes	No
Giant Garter Snake <i>Thamnophis Gigas</i>	E/T/--	Riverine - foraging/breeding. Resident of sloughs and slow moving creeks with permanent and semi-permanent (Spring/Summer) sources of water; uplands above flood zone for hibernation	Yes	No
<b>Birds</b>				
Tricolored blackbird <i>Agelaius tricolor</i>	2/CSC/--	Grassland (foraging); Emergent marsh (nesting)	Yes	No
Burrowing owl <i>Speotyto cunicularia</i>	--/CSC/--	Grassland/rodent burrows (foraging/nesting)	Yes	Yes
Swainson's Hawk <i>Buteo swainsonii</i>	--/T/--	Riparian areas adjacent to or near alfalfa, hay or wheat fields supporting microtine rodent populations. Nest in open riparian areas containing numerous large valley oaks, and occasional cottonwoods or sycamores.	Yes	No

TABLE 6.5-1

SPECIAL STATUS PLANT AND WILDLIFE SPECIES AND NATURAL COMMUNITIES OF SPECIAL CONCERN KNOWN TO OCCUR OR RECORDED IN THE REGION OF THE ARMY DEPOT SITE

Species	Status <sup>1</sup> Fed/CA/CNPS	Habitat or Habitat Requirement	Potential Habitat On Site	Observed on Site
<b>Mammals</b>				
Pacific western big-eared bat <i>Plecotus townsendii townsendii</i>	2/CSC/--	Riparian woodland and streams (foraging); caves, mines, tunnels and buildings (foraging/breeding)	Yes	No
Greater western mastiff-bat <i>Eumops perotis californicus</i>	C2/CSC/--	Grasslands	Yes	No

SOURCE: EIP Associates, 1994

## Special Status Wildlife Species

The project site is located within the ranges of several special-status wildlife species, including the giant garter snake, Swainson's hawk, burrowing owl, and tricolored blackbird. These species, and others, are discussed in greater detail below.

### Swainson's Hawk

Although non-flooded croplands and grasslands are of moderate value to wildlife species in general, these two habitats are of critical importance to one of the most sensitive wildlife species in the south Sacramento area, the Swainson's hawk (*Buteo swainsoni*). Annual grasslands and croplands dedicated to alfalfa, grains, and some row crops are vitally important foraging grounds for Swainson's hawks. These same fields provide Swainson's hawks with high prey densities and reasonable prey accessibility during fallow periods (Estep, 1989).

The Swainson's hawk is listed as threatened by the CDFG, and as a Candidate Category 3C Species by the USFWS. This hawk typically nests in oaks or cottonwoods in or near riparian habitats, agricultural fields, and grasslands (Schlorff and Bloom, 1984). Swainson's hawks prefer nesting habitats that provide sweeping views of nearby foraging grounds consisting of grasslands, irrigated pasture, alfalfa, hay, and wheat crops (Bloom, 1980). The nesting season of the Swainson's hawk extends from late March through mid-July. Swainson's hawks have become almost entirely dependent on annual grassland and crops such as alfalfa for foraging habitat in California. Most of the native grasslands which formerly provided foraging habitat have been eliminated by agriculture and urbanization. The Army Depot site contains some grassland areas that could provide Swainson's hawk habitat; however, Swainson's hawks have not been identified on the site.

### Black-Shouldered Kite

The black-shouldered kite (*Elanus caeruleus*) is listed as a fully protected species by the CDFG. This raptor usually nests in oaks, willows, and cottonwoods in riparian areas and forages primarily for rodents on agricultural lands and grasslands. In winter (and sometimes in summer), black-shouldered kites often roost communally in stands of trees or orchards. The Army Depot site contains some grassland areas that could provide habitat for the black-shouldered kite; however, black-shouldered kites have not been identified on the site.

### Northern Harrier

The northern harrier (*Circus cyaneus*) is listed as a species of special concern by the CDFG. Grasslands, marshes, prairies, and irrigated agricultural fields in the Central Valley provide foraging habitat for this species. Nests are typically located on the ground in a marsh or field with tall grass. The most important prey species of the harrier is the vole, although other small mammals, birds, and reptiles are also eaten. The Army Depot may provide some foraging habitat for the northern harrier; however, none have been identified on the site.

### Burrowing Owl

The CDFG lists the burrowing owl (*Speotyto cunicularia*) as a Species of Special Concern. Burrowing owls are becoming increasingly uncommon in the Central Valley. California's burrowing owl populations have declined as a result of urbanization of grasslands and pasture lands (Remsen, 1978). According to census and observational data amassed over the past decade, burrowing owl populations in central and northern California have suffered an approximate 70 percent decline (DeSante). Burrowing owls nest in abandoned ground squirrel burrows and hunt on agricultural lands and grasslands for small rodents, reptiles, and grasshoppers.

The project site contains approximately 50 actual burrows, and at least 10 general locations or territories of burrow sites and there are an estimated eight to fourteen pairs of burrowing owls located on the project site (see Figure 6.5-1). Most of the burrow sites are located along the western edge of the property, near the railroad berm. Other suspected burrows are located in the east-central portion of the site. The number of burrowing owls on the Army Depot property is considered a high population density for a site of this size. The Sacramento Army Depot provides adequate habitat for burrowing owls along the railroad right-of-way, the northwest reservoir, the west perimeter, the laser testing range, the open recreational areas, and "contractor spoils area" north of Kwajalein Street.

### Tricolored Blackbird

The USFWS has designated the tricolored blackbird as a Candidate Category 2 Species. Tricolored blackbird populations are increasingly threatened by loss of nesting habitat. This species is a colonial nester and prefers tules and cattails of freshwater marshes as breeding habitat, although dense tangles of blackberry and other wetland vegetation types are also utilized. The nesting season of the tricolored blackbird generally occurs from April to August.

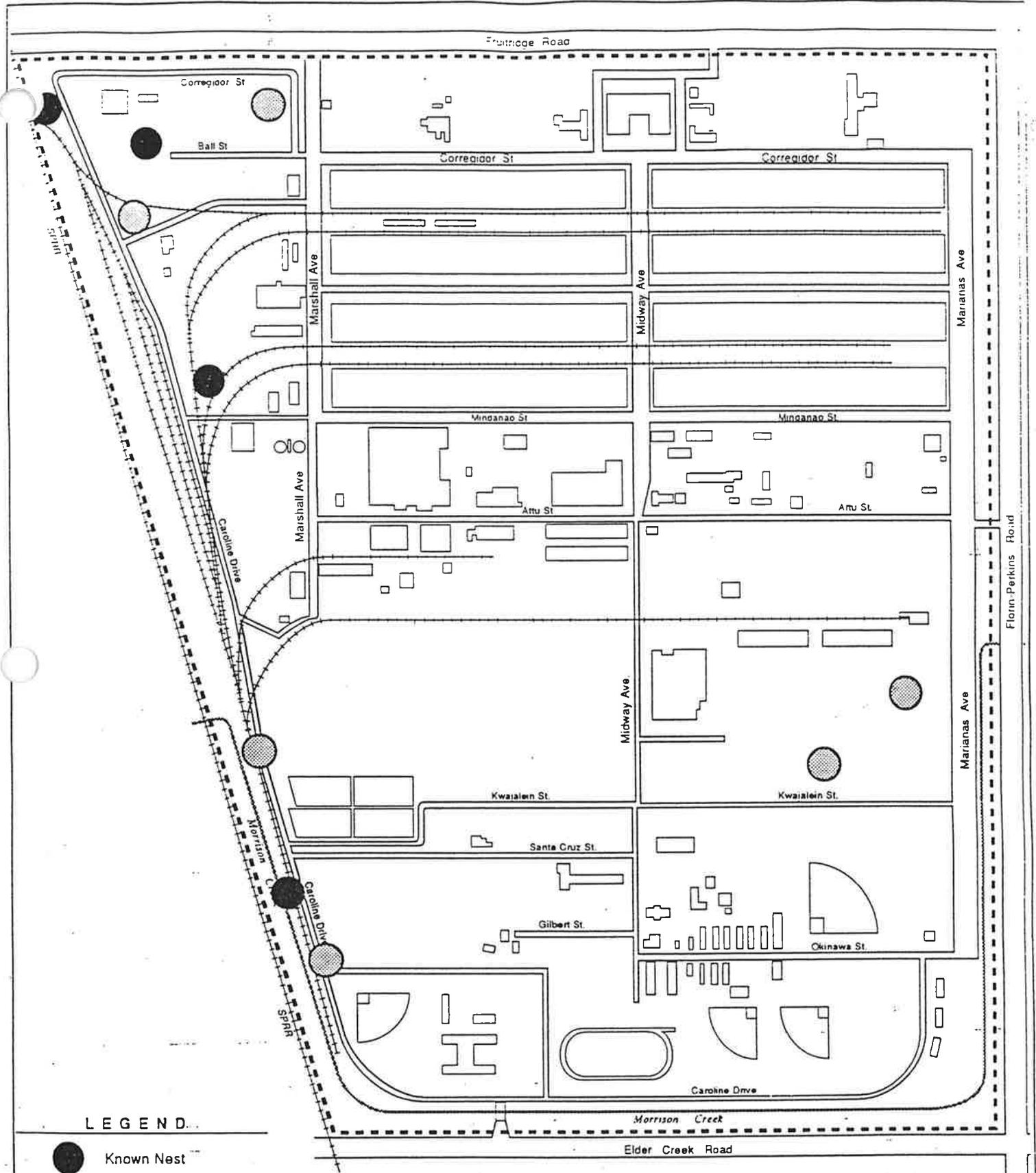
The DEIS stated the following information regarding the presence of tricolored blackbirds on the Army Depot site:

Tricolored blackbirds were reported at the Sacramento Army Depot in 1983 (Anonymous 1983), but have not been observed in wildlife surveys in 1989 through 1993. There is no suitable nesting habitat on the Sacramento Army Depot. Tricolored blackbirds could occasionally forage on the Sacramento Army Depot, but no nesting habitat is present.

### **Special Status Reptiles and Amphibians**

#### Giant Garter Snake

The giant garter snake (*Thamnophis couchi gigas*) is designated a threatened species by the CDFG and is federally proposed for endangered status by the USFWS. The giant garter snake is very aquatic and will quickly retreat to water when alarmed. They feed on carp, bullfrogs, and other fish and amphibians. During the active season (generally March through October), these snakes bask on stream banks or drape on emergent and streamside vegetation (Hansen, 1982). Where emergent vegetation is sparse, blackberry brambles provide a fine substitute for tule/cattail



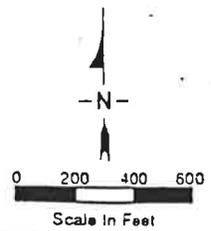
**LEGEND**

- Known Nest
- Presumed Nest

**Figure 6.5-1**

**Locations of Burrowing Owl Nests  
at the Sacramento Army Depot**

SOURCE: U.S. Army Corps of Engineers, Sacramento District, 1994, *Sacramento Army Depot Disposal and Reuse Environmental Impact Statement, Draft*, January 1994. Sacramento, California, technical assistance from Ebasco Services, Incorporated, Sacramento, California; EIP Associates, 1994



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cover (Brode, personal communication). The snakes spend the winter in dormancy, inhabiting cracks and burrows above the high water line. The former range of the giant garter snake extended from Sacramento south to Buena Vista Lake near Bakersfield (Hansen and Brode, 1980). Its range and numbers have been significantly reduced by conversion of the Central Valley's marshes and riparian habitat to agriculture and urban development. Populations of giant garter snakes are still declining throughout their range (California Department of Fish and Game, 1990). The project site does not provide suitable habitat for the giant garter snake and none have been observed during recent surveys. The giant garter snake requires marshy habitat with running water to provide a constant source of food. The Army Depot does not provide this habitat and no known localities of giant garter snake have been identified in the project vicinity.

### California Tiger Salamander

The CDFG lists the California tiger salamander (*Ambystoma tigrinum californiense*) as a species of special concern, and the USFWS considers it a Candidate Category 2 Species. California tiger salamanders are found in foothill and valley grassland habitats in central California. Tiger salamanders are nocturnal. The salamanders lay their eggs in vernal pools, ponds, and slow-moving waters of the Central Valley and low-elevation Sierra Nevada foothills. Egg-laying typically occurs during the winter rains from mid-December to February when pools and basins begin to fill with water. The eggs hatch into aquatic larvae that metamorphose into terrestrial adults by late spring. The adults leave their natal ponds and pools as the waters begin to dry in early summer. Tiger salamanders spend their summers avoiding desiccation by remaining in rodent burrows, cracks in soil, or under logs where soil remains moist. The tiger salamanders seek refuge in these areas until late fall, venturing out only occasionally at night when conditions are cool and moist. No suitable tiger salamander habitat exists at the Army Depot, and there are no records of this species in the immediate vicinity.

## **Special Status Invertebrates**

### Freshwater Shrimp

There are three special-status freshwater invertebrates that potentially occur in the study area. These species are the vernal pool fairy shrimp (*Branchinecta lynchi*), the California linderiella (*Linderiella occidentalis*), and the vernal pool tadpole shrimp (*Lepidurus packardii*). All three species have been federally proposed for endangered status by the USFWS. The California linderiella was identified in three locations on the project site.

All three species of shrimp live in vernal pools or other isolated wetlands associated with grassland habitat. These pools are filled with winter and spring rains, but depending on their size, depth, and permeability of underlying soils, become dry within several weeks to a few months after initial flooding. These shrimp can also be found during wet years in other habitats near vernal pools, such as irrigation ditches and creek channels (Army Depot, DEIS). The four shrimp species may occur on the project site due to the presence of vernal pools. As with special-status amphibians, detection and identification of freshwater shrimp requires repeated seining at intervals throughout the wet season.

Surveys for freshwater shrimp have been conducted on the Army Depot site throughout the spring of 1994. These surveys identified both vernal pool fairy shrimp and California linderiella in several temporary pools of water on the site. These locations are shown in Figure 6.5-2.

## IMPACTS AND MITIGATION

### Introduction to the Analysis

The following section describes impacts upon biological resources expected to result from implementation of the proposed project. Short-term (construction-related) impacts, long-term impacts, and cumulative impacts are described for the proposed project.

### Methods

The evaluation of proposed project's impacts on vegetation and wildlife is based on several sources of information. These sources include: the Sacramento Army Depot Disposal and Reuse Draft EIR, January 1994, proposed project plans, and a review of USFWS and CDFG specie-specific concerns about other projects in the region.

### Standards of Significance

#### **Special Status Species**

Potential impacts on biological resources would result from direct disturbance of wildlife and loss of wildlife and plant habitat from implementation of the proposed Army Depot Reuse Plan. Construction activities could also result in the disturbance of wildlife. These impacts are discussed below for each alternative. Impacts on the following resources were evaluated for significance based on legal protection; local, State, and federal agency policies; and documented resource scarcity and sensitivity.

Both the U.S. government and the State of California have enacted laws for the purpose of protecting threatened and endangered species and their habitats. Legal protection under these acts is extended to species listed as threatened or endangered, but not to candidate species. The Federal Endangered Species Act requires consultation and/or the preparation of a Habitat Conservation Plan (HCP) whenever a proposed project or action may affect listed species or their habitat.

The California Fish and Game Code (Section 86) prohibits "taking" of a species listed as threatened or endangered under the California Endangered Species Act (California Fish and Game Code Section 2080) or as fully protected (California Fish and Game Code Sections 3511, 4700, and 5050). Impacts on individuals of such a species were determined significant if they would result in the following:

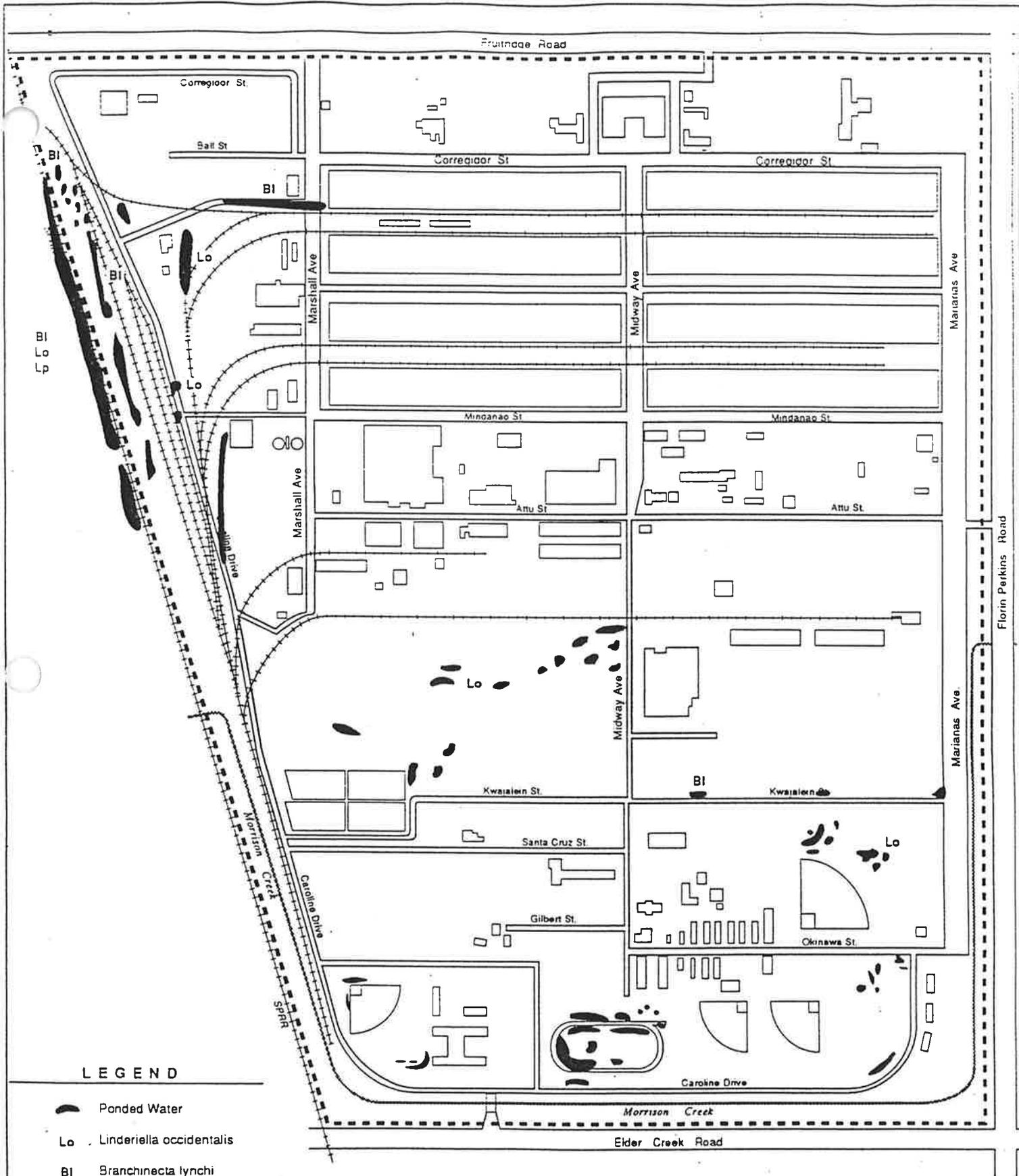
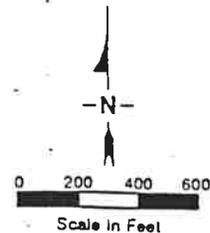


Figure 6.5-2

Locations of California Linderella at the Sacramento Army Depot

URCE, U.S. Army Corps of Engineers, Sacramento District, 1994, *Sacramento Army Depot Disposal and Reuse Environmental Impact Statement, Draft*, January 1994, Sacramento, California, technical assistance from Ebasco Services, Incorporated, Sacramento, California; EIP Associates, 1994



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- direct mortality,
- permanent or temporary loss of occupied habitat that would result in mortality to or reduced productivity of at least one individual of the species, or
- avoidance of biologically important habitat for substantial periods, resulting in mortality to or reduced productivity of at least one individual of the species.

Impacts on federal candidate species (Category 1 or 2), California species of special concern, and species included on California Native Plant Society (CNPS) lists 1b and 2 were considered significant if they resulted in the following effects on substantial portions of local populations:

- direct mortality,
- permanent loss of existing habitat,
- temporary loss of habitat that may result in increased mortality or lowered reproductive success, or
- avoidance of biologically important habitat for substantial periods that would increase mortality or cause lowered reproductive success (CEQA Guidelines).

#### **Wetlands and Other Jurisdictional Waters of the United States.**

The United States Army Corps of Engineers (ACOE) and the United States Environmental Protection Agency (EPA) regulate the discharge of dredge and fill material into "waters of the United States" under Section 404 of the Clean Water Act.

The Corps jurisdiction over non-tidal "waters of the United States" extends to the "ordinary high water mark provided the jurisdiction is not extended by the presence of wetlands" (33 CFR Part 328 Section 328.4). Waters of the United States are defined as:

- 1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide,
- 2) All interstate waters including interstate wetlands,
- 3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which would affect interstate or foreign commerce, including such waters:
  - a) Which are or could be used by interstate or foreign travelers for recreational or other purposes, or

- b) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce, or
  - c) Which are used or could be used for industrial purposes by industries in interstate commerce;
- 4) All impoundments of waters otherwise defined as waters of the United States interstate commerce,
  - 5) Tributaries of waters identified in paragraphs 1-4 of this section.
  - 6) The territorial sea, and
  - 7) Wetlands adjacent to waters (40 CFR 230.3).

Wetlands are defined for regulatory purposes as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (33 CFR 328.3, 40 CFR 230.3).

The Corps of Engineers will typically take jurisdiction over that portion of the project site that contains waters of the United States and adjacent or isolated wetlands.

The California Department of Fish and Game (CDFG) also regulates activities which may impact streambeds or other wetland areas. Section 1601 through 1607 of the Fish and Game Code prohibit alterations of any streams, including intermittent and seasonal channels and may artificial channels, without a permit from the CDFG. Section 1603 of Fish and Game Code states "it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity, except when the department has been notified pursuant to Section 1601." The CDFG has stated that their jurisdiction is any wetland area that is within the 100-year floodplain. Thus, CDFG jurisdiction extends beyond that of the Corps of Engineers, and is applied to alterations not requiring fills. Completion of a Section 1601-03 Streambed Alteration Agreement with the CDFG is required before any work that will affect wetland areas within the 100-year floodplain.

### Impacts and Mitigation Measures

#### *Impact*

#### 6.5-1 Loss of Wetland Habitat

- PP Several areas on the Army Depot site have been identified as containing ponded water (see Figure 6.5-2). Most of these ponds have formed in the recreation areas of the Army Depot site, and the ponds are considered small in size.

Figure 6.5-3 identifies the areas considered as potential wetlands are only identified along the western edge of the Army Depot property. This area has been designated as habit preservation reserve in the proposed Sacramento Army Depot Reuse Plan, and this area is not anticipated to be disturbed throughout the development of the project site. Therefore, the buildout of the site is not anticipated to result in the loss of potential wetlands on the site and is considered a *less-than-significant* impact.

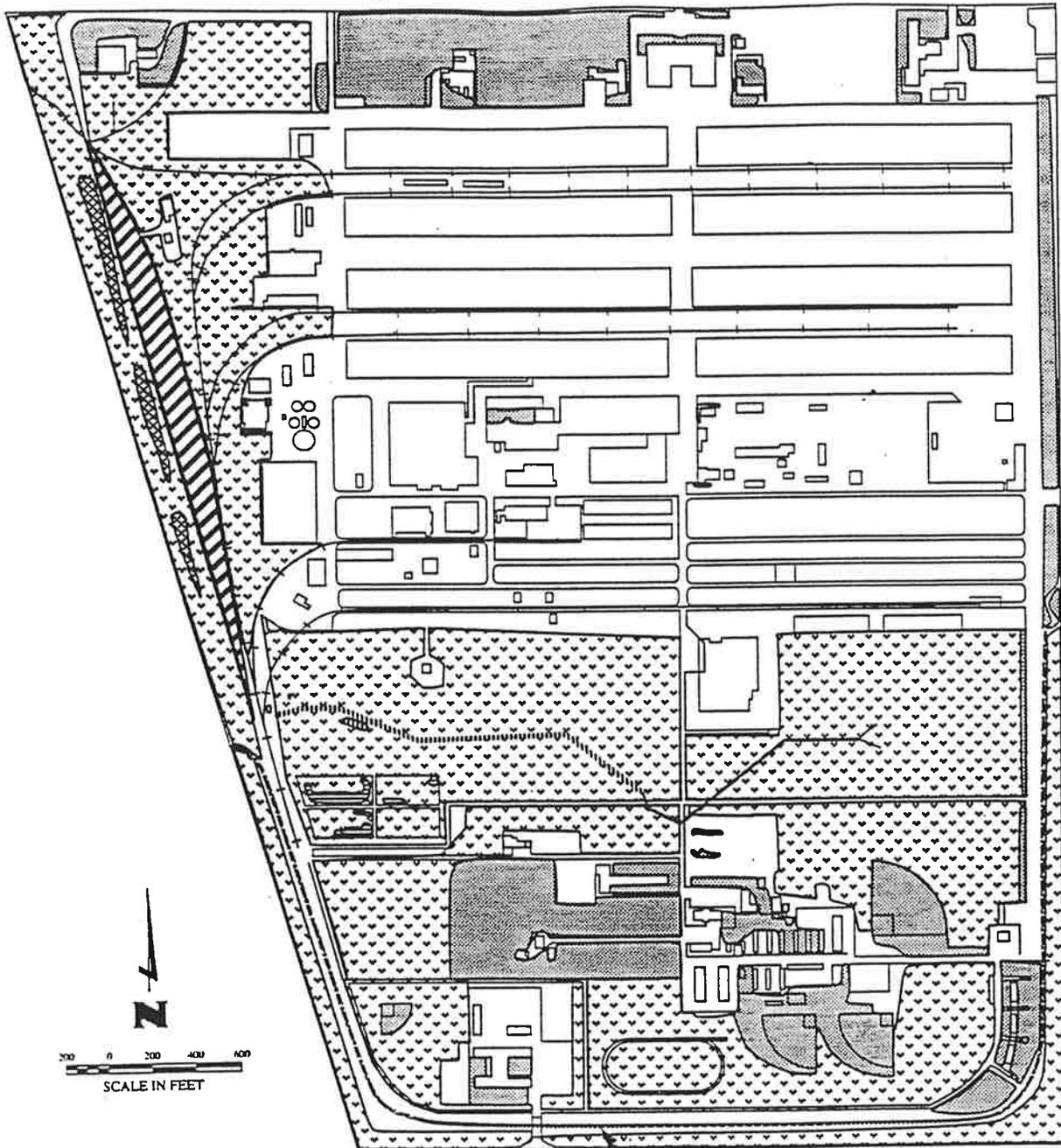
- AA The No Project Alternative would not result in any impacts to wetland resources.
- AB Alternative B does not include the preservation of the potential wetlands along the western edge of the Army Depot property. The development of the site under this alternative could result in the fill or alteration of wetlands. These wetland areas may be considered waters of the United States and, therefore, fall under the jurisdiction of the U.S. Army Corps of Engineers (ACOE) pursuant to Section 404 of the Clean Water Act. Because the total acreage of the potential wetland areas has been identified as less than one acre in size, a Nationwide permit may be issued by the ACOE to allow the filling of the wetland area. The California Department of Fish and Game (CDFG) also has a policy of no-net-loss of wetland values or acres and has regulatory authority of wetland habitats pursuant to Section 1601-1603 of the Fish and Game Code (Streambed Alteration Agreement). The development of the Army Depot site may result in the discharging of fill into wetland areas and may require permits from ACOE and CDFG. These agencies consider fill activity into jurisdictional wetlands a *significant impact*.

#### *Mitigation Measure*

##### 6.5-1 Loss of Wetland Habitat

No mitigation measures would be required for the proposed project and the No Project Alternative. Implementation of the following mitigation measures will reduce the impact identified for Alternative B to a *less-than-significant* level.

- AB (a) *Prior to the approval of any development on the Army Depot site, the City of Sacramento shall review the project for the occurrence of any wetland areas that may be disturbed or lost due to construction activities. If the City of Sacramento determines that wetlands would not be affected by the construction of the proposed project, then no further mitigation would be required for the loss of wetland habitat*
- (b) *If the City of Sacramento determines that a development application for the Army Depot site could affect known or existing wetlands, the applicant for the roadway project shall consult with the Army Corps of Engineers and the Department of Fish and Game to obtain the appropriate permits. The process to obtain these permits is described below:*



**LEGEND**

-  Annual Grassland
-  Landscaped Areas
-  Riparian Area (removed summer 1992)
-  Buildings and Paved Areas
-  Federal Jurisdictional Wetland
-  Potential Wetlands
-  Railroad Yard

Morrison Creek

**Figure 6.5-3**

**Vegetation Map of the Sacramento Army Depot**

SOURCE: U.S. Army Corps of Engineers, Sacramento District, 1994, *Sacramento Army Depot Disposal and Reuse Environmental Impact Statement, Draft*, January 1994, Sacramento, California, technical assistance from Ebasco Services, Incorporated, Sacramento, California; EIP Associates, 1994.

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- Both the U.S Army Corps of Engineers and the Department of Fish and Game may require conditions on their respective permits to reduce the impacts to the wetland areas. These agencies have acknowledged a hierarchy to these conditions that they may require. The first condition is the consideration of complete avoidance of the impact. If complete avoidance is not feasible, the next condition is to minimize the impacts. Measures which minimize impacts to wetlands will be reviewed during the preparation of the final design plans.
- If impacts to wetlands are unavoidable either through complete avoidance or minimization, the next mitigation condition involves the replacement of the impacted wetlands on-site and in-kind. If on-site and in-kind replacement is not feasible, the hierarchy for replacement is as follows: On-site/out-of-kind replacement of wetlands, off-site/in-kind replacement of wetlands, and lastly, off-site/out-of-kind replacement of wetlands (e.g., wetland mitigation banking).
- The California Department of Fish and Game (CDFG) typically requires on-site compensation for the loss of wetlands at a 1:1 replacement ratio. Compensatory wetlands should have the same beneficial functions, at equal or superior values, as the wetlands being impacted by the project. The soil types on the project site have been determined to be suitable for the on-site recreation of impacted wetlands, including vernal pools. However, the determination of the quantity of wetlands impacted by the proposed project, the type of mitigation conditions required, and the required replacement ratio (if needed) will be determined during the permitting process.
- The following procedures and mitigation measures may be required as part of the California Department of Fish and Game (CDFG) 1601/1603 Streambed Alteration Agreement and/or a United States Army Corps of Engineers Section 404 permit:
  1. Compensation for unavoidable wetland impacts (fill or modification) should occur by the creation of an equal or greater acreage of wetlands or equal or greater habitat value than those that are to be impacted. Re-creation should occur on the site, or in an equally suited area off-site. Where feasible, re-creation should occur prior to the beginning of construction activities.
    - a. Loss of vernal pools on-site should be mitigated by the construction of new vernal pools within the project area. The characteristic flora of the vernal pools present on-site or in adjacent areas should be utilized as a source of seeds in the construction of new vernal pools. If the construction of vernal pools on-site is not feasible, then an off-site location for the construction of vernal pools should be used (including wetland mitigation banks).
    - b. The acreage of wetlands other than vernal pools which will be lost due to construction of the proposed project may be compensated by creating wetlands. If on-site mitigation is not suitable, off-site areas may be utilized (including wetland mitigation banks).

2. Buffer zones may be established to protect and enhance the existing resources along wetland areas to be preserved. The Department of Fish and Game typically requires the provision of fifty-foot buffers.

### *Impact*

#### 6.5-2 Swainson's Hawk Foraging Habitat

- PP Based on CDFG mitigation guidelines for the Swainson's hawk, a site may provide suitable foraging habitat if a known nesting territory is within a 10-mile radius and the site contains fallow field/annual grassland type habitat. Section 2080 of the Fish and Game Code prohibits the take of threatened species. CDFG considers loss of suitable foraging habitat as a "take." However, Swainson's hawk nesting territories have not been identified near the Army Depot and the grasslands on the site are surrounded by development and are not considered high-quality foraging habitat. Therefore, this impact is considered *less-than-significant*.
- AA The No Project Alternative would not result in impacts to the existing site or result in a loss of potential Swainson's hawk foraging habitat.
- AB Alternative B could result in the loss of grasslands; however, these areas are not considered high-quality Swainson's hawk foraging habitat. This impact is considered *less-than-significant*.

### *Mitigation*

#### 6.5-2 Swainson's Hawk Foraging Habitat

No mitigation measures are required for the proposed project, the No Project Alternative, and Alternative B.

### *Impact*

#### 6.5-3 Burrowing Owls

- PP The Army Depot site provides suitable habitat for burrowing owls. During species surveys on the Army Depot, burrowing owls were observed on the western and central portions of the project site. Burrowing owls may continue to colonize on the site prior to implementation of the project and would likely be impacted during any earth moving activities. The proposed project designates approximately 83 acres of the site as Open Space, of which approximately 64 acres has been identified as habitat preservation area. This area contains the majority of the known and presumed nests on the project site. However, other nests exist on the site and may be affected by future development on the site. Because the burrowing owl is considered a California Species of Special Concern, any direct loss of the owl or its habitat is considered a *significant impact*.

- AA The No Project Alternative would not result in development of the existing site; therefore, no impact would result.
- AB Alternative B would include development that could affect burrowing owls and burrowing owl habitat. Alternative B does not include the designation of Open Space and habitat preservation area along the western edge of the property like the proposed project; therefore, this alternative is anticipated to have a greater impact on burrowing owls. The potential for this alternative to affect burrowing owls is considered a *significant impact*.

### Mitigation

#### 6.5-3 Burrowing Owls

Implementation of the following mitigation measure would reduce the magnitude of the impacts associated with the proposed project and Alternative B but not to a less-than-significant level; therefore the impact will remain *significant and unavoidable*. No mitigation is required for the Alternative A.

- PP, AB (a) *Prior to the approval of any development project on the Army Depot site, the City of Sacramento shall review the project for the occurrence of any burrowing owls nest that may be disturbed or lost due to construction activities. If the City of Sacramento determines that burrowing owl nests would not be affected by the construction of the proposed project, then no further mitigation would be required.*
- (b) *If the City of Sacramento determines that the construction of a proposed development project may affect a known or existing burrowing owl nest, the project applicant shall consult with CDFG and/or USFWS in order to conduct a burrowing owl survey. This survey shall be conducted on the project site by a qualified biologists in accordance with the most current CDFG/USFWS guidelines or protocols and shall be completed during the appropriate survey period. If the species specific surveys do not identify any burrowing owl habitats or burrowing owls on the project site, then no further mitigation would be required.*

*The survey(s) and subsequent report(s) identified above may include the following:*

- A detailed description of methodology including dates of field visits, the names of survey personnel with resumes, and a list of references cited and persons contacted.
- A map showing the location(s) of any burrowing owls identified on the project site.

- A detailed description of any identified burrowing owl population including information on the density, distribution, and habitat quality relative to typical occurrences of the burrowing owls.
- A discussion of the importance of the population(s) with consideration of both nearby populations and total species distribution.
- An assessment of significance of project impacts to any burrowing owl populations identified on the project site.

(c) *If burrowing owls or burrowing owl habitat are identified within an area that may be disturbed by the construction of the project, then the project applicant, in consultation with the City of Sacramento, CDFG, and USFWS, shall prepare and implement a mitigation plan in accordance with any applicable State and/or Federal statutes or laws that reduces the impact to a level of insignificance. This mitigation plan may include the following measures:*

- The project proponent shall demonstrate and ensure that the burrowing owl populations in question shall be protected on site. This shall include adequate buffer zones and financial means that will ensure the protection and management of the preserve lands in perpetuity.
- Should on-site preservation be infeasible, the City of Sacramento in consultation with CDFG and/or USFWS shall require that a mitigation plan be developed and implemented by the project proponent that will preserve the species at an off-site location. This could be accomplished on suitable public lands or through the purchase of fee title or conservation easement on suitable private lands to ensure protection of the preserve lands in perpetuity. The funds for the purchase of private lands or easements shall also include the amount necessary to maintain, monitor, and provide for remedial actions to ensure the establishment of the species at the new location.

## Impact

### 6.5-4 Special-Status Shrimp

PP Special Status Shrimp have been identified on the Army Depot site. There are three special-status freshwater invertebrates that potentially occur in the study area. These species are the vernal pool fairy shrimp (*Branchinecta lynchi*), the California linderiella (*Linderiella occidentalis*), and the vernal pool tadpole shrimp (*Lepidurus packardi*). These four species have been Federally Proposed for Endangered Status by the (U.S. Fish and Wildlife Service). The California linderiella has been observed on the project site. Special-status freshwater shrimp have been identified in areas that may be developed in the future; however, the majority of the shrimp species are located on the western edge of the Army Depot site. This area has been designated as a habitat preservation area in the Army Depot Reuse Plan and will be protected and enhanced so that the species will not

be disturbed throughout the development of the project site. Therefore, this is considered a **less-than-significant impact**.

- AA The No Project Alternative does not include construction activities that would impact any potential special status freshwater shrimp species habitat; therefore, no impact would result.
- AB Implementation of Alternative B does not include the designation of a habitat conservation area that would protect the special status shrimp species on the site. Therefore, the development of Alternative B could result in the loss of special-status freshwater shrimp. This is considered a **significant impact**.

### Mitigation

#### 6.5-4 Special-Status Shrimp

No mitigation measures are required for the proposed project and the No Project Alternative. Implementation of the following mitigation measures would reduce the impacts associated with Alternative B to a *less-than-significant* level.

- AB (a) *Prior to the approval of any development projects on the Army Depot site, the City of Sacramento shall review the project for the occurrence of any wetland areas that may be disturbed or lost due to construction activities. If the City of Sacramento determines that wetlands would not be affected by the construction of the proposed project, then no further mitigation would be required for the loss of special status invertebrate and vertebrate species.*
- (b) *If the City of Sacramento determines that the construction of the project could affect known or existing wetlands, the project applicant shall consult with CDFG and/or USFWS and shall conduct species specific surveys for special status shrimp species. Surveys shall be conducted on the project site by a qualified biologist in accordance with the most current CDFG/USFWS guidelines or protocols and shall be completed during the appropriate survey period. If the species specific surveys do not identify any special status shrimp species on the project site, then no further mitigation would be required for the loss of these species.*

*The survey(s) and subsequent report(s) identified above may include the following:*

- A complete list of species observed on the project site for inclusion in the report.
- A detailed description of methodology including dates of field visits, the names of survey personnel with resumes, and a list of references cited and persons contacted.

- AB Alternative B does not include the designation of a habitat preservation area and would add to the cumulative loss of wetlands in the Sacramento area. This is considered a *significant impact*.

*Mitigation*

6.5-5 Loss of Wetland Habitat (Cumulative)

No mitigation measures are required for the proposed project and Alternative A.

For Alternative B, no feasible mitigation measures are available. As future developed occurs in the Sacramento region, each project application will require an environmental review on a project-by-project basis. The Sacramento General Plan Update Environmental Impact Report (SGPU EIR) recommends various policies which are intended to reduce the buildout of the General Plan's impacts to wetlands to a less-than-significant level. However, these mitigation measures were determined to be infeasible and cumulative impacts to wetland resources were identified as significant. Therefore, cumulative impacts to wetland resources remain *significant and unavoidable*.

*Impact*

6.5-6 Loss of Wildlife Habitat (Cumulative)

- PP The proposed project in conjunction with cumulative development will potentially result in the loss of wildlife habitat. This is considered a *significant impact*.
- AA The No Project Alternative will not contribute to the loss cumulative loss of wildlife habitat; therefore, no impact would occur.
- AB The proposed project in conjunction with cumulative development will potentially result in the loss of Swainson's hawk foraging habitat. This is considered a *significant impact*.

*Mitigation*

6.5-6 Loss of Wildlife Habitat (Cumulative)

No mitigation measure is require for the No Project Alternative.

For the proposed project and Alternative B, no feasible mitigation measures are available. As future developed occurs in the Sacramento region, each project application will require an environmental review on a project-by-project basis. The Sacramento General Plan Update Environmental Impact Report (SGPU EIR) recommends various policies which are intended to reduce the buildout of the General Plan's impacts to wildlife habitat to a

- A map showing the location(s) of any special-status species identified on the project site.
  - A detailed description of any identified special-status species population including information on the density, distribution, and habitat quality relative to typical occurrences of the species in question.
  - A discussion of the importance of the population(s) with consideration of both nearby populations and total species distribution.
  - An assessment of significance of project impacts to any special-status species populations identified on the project site.
- (c) *If a special status shrimp species is identified within the area to be disturbed by the construction of the roadway, then the project applicant, in consultation with the City of Sacramento, CDFG, and USFWS, shall prepare and implement a mitigation plan in accordance with any applicable State and/or Federal statutes or laws that reduces the impact to a level of insignificance. This mitigation plan may include the following measures:*
- The project proponent shall demonstrate and ensure that the special-status species populations in question shall be protected on site. This shall include adequate buffer zones and financial means that will ensure the protection and management of the preserve lands in perpetuity.
  - Should on-site preservation be infeasible, the City of Sacramento in consultation with CDFG and/or USFWS shall require that a mitigation plan be developed and implemented by the project proponent that will preserve the species at an off-site location. This could be accomplished on suitable public lands or through the purchase of fee title or conservation easement on suitable private lands to ensure protection of the preserve lands in perpetuity. The funds for the purchase of private lands or easements shall also include the amount necessary to maintain, monitor, and provide for remedial actions to ensure the establishment of the species at the new location.

### *Impact*

#### 6.5-5 Loss of Wetland Habitat (Cumulative)

- PP The proposed project is not anticipated to add to the cumulative loss of wetlands in the Sacramento area. The proposed project includes 64 acres of habitat preservation area, which includes the potential wetlands identified on the site. This is considered a *less-than-significant impact*.
- AA The No Project Alternative will not contribute to the cumulative loss of wetland habitat; therefore, no impact would occur.

less-than-significant level. However, these mitigation measures were determined to be infeasible and cumulative impacts to wildlife habitat resources were identified as significant. Therefore, cumulative impacts to wildlife habitat remain *significant and unavoidable*.

## 6.6 PUBLIC SERVICES

## 6.6 PUBLIC SERVICES

### INTRODUCTION

This section evaluates the provision of public facilities and services available for implementation of the Army Depot Reuse Plan. For this analysis, public facilities and services are assumed to include water supply, wastewater conveyance and treatment, solid waste, natural gas, electricity, telecommunications, and police and fire protection. The analysis in this section is based on existing documentation and personal communications with City of Sacramento staff.

### SETTING

#### Water Supply

##### City of Sacramento

#### Water Availability

The City of Sacramento has water rights to 326,800 acre-feet of water per year (AFY) from the Sacramento and American rivers. Of this, the Sacramento Municipal Utility District (SMUD) has rights to 15,000 AFY. Therefore, the City's available surface water supply is 311,800 AFY. The 1990 total surface water demand city-wide was 100,000 acre-feet (32 percent of available water rights). This equates to an average daily flow of approximately 89 million gallons per day (mgd).

The City's current annual water rights are estimated to be adequate to meet increased demands in the time frame covered in the 1988 Sacramento General Plan Update, which extends to 2006. The City will continue to have rights to meet the current demand, but could lose the portion of Sacramento River water rights that is not used. In 1988, the State extended to the City its water rights for another 10 years to preclude this possibility. The original deadline for the requirement of full use of the Sacramento River water rights was 1960. This deadline has been extended five times.

#### Water Treatment Plant Capacity

The City operates three water diversion and treatment facilities: the Sacramento River, E.A. Fairbairn and Riverside Water Treatment Plants. The Sacramento River Water Treatment Plant has a capacity of 135 mgd. The E.A. Fairbairn Water Treatment Plant has a capacity of 91 mgd. Together with the Riverside Water Treatment Plant's 15 mgd capacity, the City's water treatment capacity is 241 mgd.

The Sacramento River Water Treatment Plant is located within the Richards Area, south of Bannon Street and east of Interstate 5. A recently completed plant expansion is intended to supply future development in the Natomas area. However, since all three treatment plants jointly serve the interconnected distribution system, one plant is not dedicated to serve a specific area.

Also, since development in the Natomas area has slowed due to restrictions on development in floodplains and recent business cycles, the plant capacity targeted for the Natomas area may not be needed as early as was anticipated.

In August of 1991, the City and County of Sacramento created the 'City-County Office of Water Planning' (CCOWP). The stated objective of this agency is:

To form an areawide plan for providing a safe and reliable water supply in a manner which protects the environment. The plan shall include the sound and efficient management of surface water, groundwater and reclaimed water resources and water conservation. The institutional arrangement necessary to insure successful implementation of the plan shall also be identified.

A comprehensive work plan is currently being developed which will meet the long term water supply needs within both the City and County of Sacramento in accordance with the objectives stated above. At the same time, the City of Sacramento is continuing to consider alternative projects to expand surface water diversion and treatment capacity to meet the short-term needs (10 years +/-) within its currently authorized Place of Use.

#### Water Storage Capacity

Water storage is required to meet water demand for periods when peak hour demands exceed maximum day supply rates. These high demand periods usually occur for four to six hours during hot summer days and potentially for longer periods during a large fire.

The City of Sacramento has seven storage reservoirs, each with a capacity of three million gallons, and one underground reservoir with a capacity of 15 million gallons. Therefore, total water storage capacity is 36 million gallons. This capacity is more than one-third of the City's 1990 average daily water demand of 89 million gallons, or approximately one-sixth of the 1990 maximum day demand of 229 million gallons.

The Sacramento Area Water Resources Management Plan recommends that three million gallons of storage be provided for every 20 million gallons of maximum daily demand. Although the Management Plan has not been officially adopted by the City, it recommends a course of action for provision of water to the City and the County through the year 2030.

#### **Army Depot**

Water for municipal and industrial supply to the Sacramento Army Depot has been provided by the City of Sacramento since 1968. The Sacramento Army Depot is connected by an 18-inch waterline from Fruitridge Road, and by a 10-inch line from Florin-Perkins Road. The system includes 62,159 linear feet of primarily cast iron lines. The system appears to be in good condition and there are no major repair requirements. The actual condition would have to be determined by field testing. Supply to the site is limited to 10,000 gpm (14.4 million gallons per day (mgd)) by the size of the lines. But there is no contractual limit to the amount of water supply. The historical average daily water demand for Sacramento Army Depot ranged from 0.33 to 0.36 mgd. The water distribution system is owned and maintained by the Army (Higginbotham).

## Wastewater Conveyance and Treatment

### City of Sacramento

Sewage treatment for the City of Sacramento is provided by the Sacramento Regional County Sanitation District (SRCSD). The SRCSD was formed in the mid-1970s as a result of the Sacramento Regional Wastewater Management Program. The Wastewater Management Program consolidated over a dozen treatment facilities and virtually eliminated effluent discharge into local waterways. Over 900,000 people are provided sewer service by the SRCSD. The SRCSD is responsible for the operation of all regional interceptors and wastewater treatment plants, while local collection districts maintain the systems that transport sewage to the regional interceptors.

The collection system serving the project site is operated by the County Sanitation District No. 1 (CSD-1). This CSD-1 system serves the unincorporated urban areas within the County and portions of the City of Sacramento. The County Public Works Department, Water Quality Division is responsible for the operation and maintenance of both the SRCSD and County wastewater collection systems.

From the collection system and regional interceptors, sewage flows ultimately reach the Sacramento Regional Wastewater Treatment Plant (SRWTP), which is located south of the City of Sacramento east of Freeport Boulevard. The SRWTP has an existing treatment capacity of approximately 150 million gallons per day (mgd) of average dry-weather flow and 300 mgd of peak wet-weather flow. An expansion now underway at the treatment plant will increase the dry-weather capacity to 185 mgd and will increase the peak wet-weather flow capacity to 400 mgd. This expanded capacity is anticipated to serve a projected year 2010 service area population of approximately 1.3 million people.

### Army Depot

The majority of the wastewater generated by the Sacramento Army Depot is collected by 37,716 linear feet of clay lines and discharged to the SRCSD through a 15-inch line. This sewer load discharged offsite consists of the wastewater generated by people, by the Industrial Wastewater Treatment Plant (IWTP), and by the Groundwater Treatment Plant. A small amount of wastewater is discharged onsite through septic tanks and drain wells.

The sewer lines appear to be in good condition based on the records kept by Facilities Services (Willdan). According to an analysis performed by Willdan Associates, the 15-inch line leaving the Sacramento Army Depot at its western edge is capable of carrying as much as 1,000 gallons per minute (gpm) (43 million gallons per month [mgm]). However, the exact carrying capacity of the main line is yet to be determined.

As stated above, the Sacramento Army Depot has an onsite Industrial Wastewater Treatment Plant (IWTP) which neutralizes acid and metal-bearing wastewater generated by the metals processing operations before discharge to the sewer system. The plant is located in Building 416. The treatment process for plating consists of treating cyanide rinse water. Treatment consists of changing the Ph balance to convert cyanide and free metals to insoluble salts. From treatment

tanks, the rinse water is transferred to a clarifier, from which the liquid is discharged to the sanitary sewer system. Solids are removed and disposed of as solid waste (ACOE, 1991). The Sacramento Army Depot has a Wastewater Discharge Permit (No. 1MFSAC17) from the County of Sacramento, which includes both domestic and industrial discharges; including the IWTP. The permit is valid until June 1, 1996.

The IWTP currently discharges 2.5 mgm in batch mode, but could discharge at least 10 mgm without additional modification (Fields, 1993). Another source of sanitary sewer load is the South Post Groundwater Treatment Plant. The plant discharges 12 to 15 mgm of treated groundwater into the sewer system.

The 3,540 baseline population generates 2.2 mgm of sewer load. This brings the total sanitary system discharge to approximately 17 mgm. The discharge from the Sacramento Army Depot into the county sewer system is treated at SRWTP. The permitted hydraulic capacity available to the Sacramento Army Depot is 17 mgm. The Army Depot is therefore operating near or at the permitted capacity.

### Solid Waste

Solid wastes from the Sacramento Army Depot are collected by Caltech Services, a subcontractor to Johnson Controls World Services, and disposed of at either L&D Landfill Company, or the South City transfer station of the County of Sacramento. Waste from this transfer station is deposited at the Kiefer Boulevard Landfill. The Sacramento Army Depot historically disposed of approximately 13,685 cubic yards of municipal waste per year.

The annual capacity of the County's Kiefer Boulevard Facility is about 1,000,000 tons per year. Recently, the discovery of wetlands and endangered species at the County landfill site has impacted estimates of remaining capacity and life span. The County Landfill had an estimated life span of 25 to 30 years before wetlands were discovered. The estimated life span is now 5-7 years due to approximately 350 acres having been removed from the total landfill size to avoid destroying wetlands. This projected life span is based upon the generation of 1,000,000 tons of solid waste per year, and does consider the addition of the City's solid waste production. The City will begin disposing of all City collected waste at the Kiefer Boulevard Landfill after Summer 1994, when the City's landfill will close.

The County of Sacramento Public Works Department is proceeding with acquiring another 430-acre site next to the County Landfill. Use of this acreage would result in a total of 730 acres and would prolong the landfill life span of the landfill to 25 to 30 years. Before any additional acreage can be used as landfill, a new operating permit must be submitted and approved by the Regional Water Quality Control Board and the State Integrated Waste Management Board. This permit process is estimated to take more than one year. It is anticipated that the interim recycling efforts will reduce the amount of waste disposed of at the City's landfill. In the mean time an agreement with the County (for space) and the state (for permits) will be obtained (Johnson, 1992).

## Regulatory Provisions

The California Integrated Waste Management Act of 1989 (AB 939) mandates that cities develop source reduction and recycling plans. It is the goal of this plan for Cities to divert 25 percent of the waste stream from going to landfills by 1996, and to divert 50 percent of the waste stream from going to landfills by the year 2000.

In compliance with AB 939, the City of Sacramento's Comprehensive Zoning Ordinance has provisions pertaining to solid waste recycling. In 1991, an amendment was added to the Zoning Ordinance (Section 34 - City Recycling Design Ordinance) to address recycling and solid waste disposal requirements for new and existing developments. In order to comply with Section 34 of the Zoning Ordinance the proposed project would need to:

- Provide a recycling program plan as a condition of issuance of a building permit. The recycling program must include a flow chart depicting the routing of recycled materials, and a site plan specifying the location and design components and storage locations associated with recycling efforts.
- Utilize secondary recycled materials in construction of proposed structures, as feasible.
- Recycle demolition materials from any existing structures, if applicable and as feasible.
- Provide educational program about recycling are items that are part of the required recycling program.

## Electricity, Gas, and Telecommunications

### Electricity

Sacramento Municipal Utility District (SMUD) currently provides electricity to the Sacramento Army Depot by a single 69-Kv overhead line. Electricity is transmitted throughout the SMUD service area on 230 Kv transmission lines to bulk power substations. Power from the transmission lines is stepped down at the substations to 115 and 69 Kv output. The 69 Kv lines deliver electricity to neighborhood substations. A SMUD substation is located at the junction of Midway Avenue and Attu Street. The substation was upgraded to its present capacity within the last five years to accommodate increased load requirements (Willdan, 1993). The existing power distribution system beyond the substation is the property of and maintained by the Sacramento Army Depot. The Naval and Marine Corps Training Center on the southwest corner receives power from a separate 12-Kv line along Elder Creek Road.

## Gas

PG&E provides natural gas to the Sacramento Army Depot at two points along Fruitridge Road. The 60 pounds per square inch (psi) PG&E line pressure is reduced at the two main meters to 8 psi for internal distribution.

PG&E maintains an extensive gas supply network in the project vicinity. This network consists of distribution lines that serve gas mains, which in turn serve gas regulators. Gas mains serving the City range in pressure capacity from 10 pounds to 60 pounds. The distribution lines have higher pressure than the mains. The Sacramento Army Depot owns the internal distribution system. The system consists of 10- and 6-inch steel pipes. California Public Utilities Commission (CPUC) requires that all new gas lines be operated at a minimum of 45 psi pressure.

Gas consumption of the Sacramento Army Depot during 1992 was approximately 1.23 million therms (1 therm = 100 cubic feet).

## Telecommunications

*Telephone.* Pacific Bell Telephone Co. currently provides telephone service to the Sacramento Army Depot. The distribution system within the installation is owned and maintained by the Sacramento Army Depot. The internal system consists of a digital switch, a cable system, and 3,250 phone units.

The digital switch was new when installed in 1987, at a cost of \$1.5 million. It is located in Building 150 and belongs to the U.S. Army Information Systems Command.

The cable system consists of over 50,000 feet of lines, with 35 and 65 percent above and below ground, respectively. A fiber optic line runs from the digital switch in Building 150 of Warehouse No. 7.

The Sacramento Army Depot owns the phone units. Approximately 10 percent of the units are programmable and may only be used in connection with the existing digital switch. The remaining 90 percent of the units are single line phones and may be used by any standard system.

*Cable TV.* A dual (one to transmit, one to receive) broad band cable system exists. The system is capable of handling over 60 channels.

*Local Area Network (LAN).* A LAN system installed and operated by Allied Data Communications, Inc. covers the Sacramento Army Depot. The system must be controlled by a single entity to continue operation.

*Defense Data Network (DDN).* Hardware located in Building 224 allows Navy and National Guard to access the worldwide DDN system.

*Electronic Mail.* A host computer located in Building 245 provides E-mail traffic and worldwide file transfer.

## **Energy Regulations and Policies**

The energy consumption of new buildings in California is regulated by the State Building Energy Efficient Standards, known as Title 24. These standards are contained in the California Code of Regulations, Title 24, Part 2, Chapter 2-53. Enforcement of the regulations is addressed in the California Code of Regulations, Title 20, Chapter 2, Subchapter 4, Article 1. Title 24 applies to all new construction of both residential and non-residential buildings, and regulates energy consumed for heating, cooling, ventilation, water heating, and lighting.

Compliance with Title 24 can be achieved through either a "performance" or "prescriptive" approach. Title 24 establishes the maximum amount of energy that can be consumed by new buildings. This is considered an energy budget, and is based on the building type and size and the climatic zone in which it is located. The calculated energy consumption may exclude energy obtained from non-depletable resources. Compliance with the Title 24 standards is considered the performance compliance approach. Using the prescriptive approach, a building must comply with prescribed design requirements that have been designed to meet the applicable energy budgets. This approach allows the builder to choose from a variety of alternative component packages that specify features such as insulation, glazing, lighting, shading, and water and space heating systems. In both cases, there are also certain mandatory requirements that must be fulfilled.

### City of Sacramento

The City of Sacramento has adopted an energy conservation review checklist and development guidelines for all projects and site plan reviews. The intent of the guidelines is to encourage consideration of energy conservation measures in the preliminary development stages so that project-related energy consumption is minimized. In addition to the checklist, Plan Review of the energy facilities for development occurs during the design review stage of the planning process.

### Police Protection

The Sacramento City Police Department maintains a staff of 581 sworn officers, of which 318 rank between Captains and Patrol Officers (Ohlson, 1994). The primary goal of the City Police Department is to provide the highest level of service in order to protect the City's residences and businesses. The existing level of service is approximately 1.6 officers per 1,000 citizens based upon recent census information.

The Police Department has four geographic sectors in the City, which are further divided into 23 patrol districts. Each patrol district is assigned a squad car. Under normal staffing conditions, one police officer is assigned to a car. Occasionally, two officers are assigned to one car. Specialty units are available to respond to first priority calls where life is in danger, or when a serious crime is in progress. The Police Department changes the size of patrol districts within the four geographic sectors periodically in response to population growth, and other parameters which require boundary adjustments.

The City of Sacramento has two police stations and one facility at the Hall of Justice for administration and investigations. One of the police stations is located in North Sacramento at 3550 Marysville Boulevard and the second station is located in South Sacramento at 5303 Franklin Boulevard. The station located at 5303 Franklin Boulevard provides police services for the project vicinity. A first priority call is a call involving an immediate life threat or a serious crime. The average response time to a first priority call is four to eight minutes. Response times to calls involving less serious crimes depend on the immediacy and location of the project. The average response time to a less serious crime is 12 minutes to one hour. According to the Police Department's Planning Coordinator, the main criminal problems in the project vicinity are burglaries, car thefts, thefts from parked cars, vandalism, gang related activity and drug related activity (Barclay, 1992).

The Sacramento Army Depot site is located in Patrol Sector 3, which encompasses the area between the I-50/80 Freeways to the north, Sutterville Road and the City limits to the south, the City limits to the east, and the Sacramento River to the west. This sector is further divided into six individual patrol districts, each served by one patrol unit. The project site is located in Patrol District 35.

Patrol Sector 3 serves mostly residential in the western portion of the sector, low income in mid-sector, and primarily light to heavy industrial in the east part of the sector.

The Sacramento Army Depot also uses a contractual security guard force and maintains a fenced perimeter.

### **Fire Protection and Emergency Response Services**

The Sacramento City Fire Department provides fire protection and emergency medical services to the project site (Watrus, 1994). The Fire Department consists of a total of 504 sworn officers and civilians, and a total of 66 pieces of specialized equipment, such as aerial platforms, aerial ladder trucks, and multi-purpose Hazardous Material Units. The Department's 25 fire stations serve an area of 139.1 square miles and 346,586 people. Every fire station is equipped with an engine. Ten of the City's fire stations contain a truck company in addition to an engine. A four person team, consisting of one captain, one driver and two fire fighters, is assigned to each engine and truck.

The SCFD has equipment designed to fight multi-story buildings, including a 150-foot aerial ladder used for high rises. Buildings over 150 feet are required to construct rooftop helicopter pads (50 feet by 50 feet landing pad with 100 feet of clear space on all sides) so that emergency equipment can be flown in to access stories above the 150-foot level. Buildings over 75 feet must also conform to the State of California Highrise Code regarding such items as sprinkler systems. The Uniform Fire Code is the basis for many of the standard fire safety requirements for all proposed developments. As is the case with the Sacramento Police Department, the Sacramento Fire Department participates in the environmental review process by reviewing project design and recommending design features or other measures that reduce the potential for fire safety problems.

The primary fire station serving the project vicinity is Station 9. Station 9 is located at 5801 Florin-Perkins Road. The average response time to the project site is anticipated to be less than three minutes. The basic initial response to any fire emergency in the project vicinity would consist of two engines, one ladder truck, and one battalion chief. It is anticipated that there is adequate water pressure to meet the demand in the event of a fire emergency (Smith, 1992).

## IMPACTS AND MITIGATION

### Standards of Significance

For purposes of this EIR, an impact would be considered significant if the proposed project or the alternatives would:

- demand water supplies in excess of available capacity, or require substantial modification to the existing on- or off-site water supply system;
- result in a need for new systems, or substantial alterations to existing wastewater collection or treatment systems onsite;
- generate enough solid waste to exceed the capacity of the landfill or substantially shorten the life of the landfill;
- substantially affect local and regional electrical and natural gas supplies or require substantial additional capacity that has not been planned for by the utility providers;
- result in demand for telecommunication service or infrastructure improvements which could not be made available;
- result in the need to provide additional law enforcement staff and equipment to maintain adequate service; or
- result in the need to provide additional fire protection staff or equipment to maintain an acceptable level of service.

### Methods

#### **Water Supply**

The analysis for determination of onsite water supply impacts was based on information provided in the Draft Infrastructure and Financing Report for the Sacramento Reuse Plan prepared by Willdan Associates.

## **Wastewater Conveyance and Treatment**

The analysis for determination of the onsite wastewater conveyance and treatment system impacts was based on information provided in the Draft Infrastructure and Financing Report for the Sacramento Reuse Plan prepared by Willdan Associates.

## **Solid Waste**

To estimate the quantity of solid waste generated by as a result of the proposed development on the project site, the solid waste generation factor of 130 lbs. per day per acre was applied to the land uses proposed for the Sacramento Army Depot Reuse Plan.

## **Electricity**

For this EIR, analysis was based on estimates and information provided in the Draft EIS prepared by the Army Corps of Engineers for the Reuse Plan Project and from SMUD in their response to the NOP for this project.

## **Gas**

Gas service is available to serve site development. PG&E has indicated that the developers need to coordinate with PG&E for service requirements. For this EIR, analysis was based on information provided by PG&E in their response to the NOP for the Reuse Plan Project and the Draft EIS.

## **Telecommunications**

Pacific Bell staff provided information on regional telecommunications service availability and has indicated that service to the site is readily available. Analysis was also based on information provided in the Draft EIS.

## **Police and Fire Protection Services**

The California Environmental Quality Act (CEQA) recognizes that in determining whether and how a project should be analyzed, a public agency has an obligation to balance a variety of public objectives, including environmental, economic, and social factors. The CEQA guidelines require that the environmental review of a project must address physical environmental impacts. Section 15131 of the CEQA Guidelines states that the economic or social effects of a project shall not be treated as a significant effect on the environment. According to the Guidelines, an Environmental Impact Report may trace a chain of cause and effect from the proposed decision on a project through anticipated economic or social changes resulting from the project, to physical changes caused in turn by the economic or social changes.

In the case of the provision of police and fire services to the site, the City's General Fund and other special collections such as Measure G provide the financial support to achieve basic safety services. This EIR does not recognize the level of provision of these services as physical

environmental impacts. The City views police and fire services as basic social services to be provided by the City. The level of service is based in part on the economic health of the service provider, in this case, the City of Sacramento.

Police and fire personnel provide a wide range of services that are affected by population increases. These services, however, are not impacted by physical environmental effects created by the development of the project. Section 15382 of the California Environmental Quality Act Guidelines defines a significant effect on the environment as a substantial or a potentially substantial adverse change in any of flora, fauna, ambient noise, and/or objects of historic or aesthetic significance. An economic or social change is not by itself considered a significant effect on the environment.

Development associated with the proposed Army Depot Reuse Plan will be required to incorporate design features identified in the Uniform Building Code and the Uniform Fire Code. Both the Police Department and the Fire Department are given the opportunity to review and comment on the site design of the proposed project and the alternatives that could affect public or fire safety. The incorporation of fire safety measures required by the Uniform Building Code and the Uniform Fire Code, is expected to reduce any physical impact associated with development of the project to a less-than-significant level.

For the purposes of the analysis in this EIR, information was provided by the City of Sacramento Fire Department to assess whether the project would be adequately served throughout the development of the project site.

### Impacts and Mitigation Measures

#### *Impact*

##### 6.6-1 Water Supply System (Project Specific)

PP Approval of the proposed project would allow additional industrial development to occur on the site. This would require water supply for both industrial uses and fire suppression. Average daily water use is estimated at approximately 1.01 mgd (see Table 6.6-1). This represents an increase of between 0.68 mgd and 0.71 mgd over existing use onsite. This demand is well within the surplus capacity of the City of Sacramento's water rights, treatment plants, and supply mains to the project site. However, the internal water supply system would need to be modified to accommodate additional supply mains and metering. In addition, a worst case fire demand scenario cannot be met with the existing water distribution and storage capacities. The existing system would need to be upgraded to meet the anticipated domestic and fire protection water demand on the Army Depot site. This is considered a *significant impact*.

AA With the No Project Alternative the site would remain under caretaker status and no reuse of the Army Depot would occur. There would be no additional demand for water or for on-site water capacity. Therefore, no impact would result.

**TABLE 6.6-1**  
**WATER DEMAND ESTIMATE<sup>1</sup>**

Land Use	Acres	Demand Factor <sup>2</sup>	Water Demand	
			Acre-feet Annually	Million Gallons Per Day (mgd)
Industrial	322.9	2.8	904.1	0.81
Public/Quasi-Public	79.1	2.8	221.0	0.20
Open Space	83.2	0.0	0.0	0.0
TOTAL	485.2	N/A	1,251.0	1.01

<sup>1</sup> Water demand estimate does not include water estimates for fire protection services on the Army Depot site.

<sup>2</sup> Water demand is estimated at 2.8 acre-feet per acre annually for both Industrial and Public/Quasi-Public land uses. It is assumed that no water will be applied to designated Open Space areas.

SOURCE: EIP Associates, 1994.

- AB As a result of the increased employment levels anticipated under Alternative B, the demand for water under this alternative would be higher than the proposed project, but still well within the capacity of the City of Sacramento's water rights, treatment capacity, and distribution capacity. The modifications to the internal water distribution system required for the proposed project would also be required for this alternative, and would be a *significant impact*.

### Mitigation

#### 6.6-1 Water Supply System (Project Specific)

Implementation of the following mitigation would reduce the impact of the proposed project and Alternative B to a *less-than-significant* level. For the No Project Alternative, no mitigation is required.

- PP, AB *Prior to the issuance of any occupancy permits for the Army Depot site, the City of Sacramento shall review each development application to determine whatever adequate water supply is available. If adequate water supplies are not available, the City of Sacramento shall require that water supply infrastructure improvements be constructed to adequately serve each project. The City of Sacramento shall require each project to pay its fair share of any on-site improvements necessary to serve the entire site. These*

*on-site infrastructure improvements may include an additional connection from the City's 30-inch main along Fruitridge Avenue or from the 24-inch main along Elder Creek Road.*

### *Impact*

#### 6.6-2 Wastewater Conveyance and Treatment Impacts on Collection/Interceptor Facilities and SRWTP (Project Specific)

PP Assuming the Sacramento County wastewater standards for commercial/industrial land uses of an average dry-weather flow of 1,550 gallons per acre per day, and 2,750 gallons per acre per day peak wet-weather, the 402 developed acres at the Army Depot site would generate an estimated peak flow of 1.1 mgd of wastewater. The site is served by the Sacramento Regional Wastewater Treatment Plant (SRWTP). This plant is currently undergoing expansion, and is projected to have adequate capacity to accommodate growth within its service area through the year 2010. However, the permitted hydraulic capacity of the Army Depot site is 17 mgm, and this would not be adequate to serve the future development potential of the site. Additionally, the on-site sewage collection system will need to be upgraded, and the system would need to be extended to serve the southerly portion of the site (Willdan, 1993). Additional permitting will also be necessary from the SRWTP for new industrial/commercial uses discharging into the sewer system. This is considered a *significant impact*.

AA Under the No Project Alternative no reuse of the site would occur, and the site would remain in caretaker status. Due to the anticipated lower level of activity, the wastewater flows from the site would be reduced, and no modification of the wastewater system would be required. Therefore, no impact would occur.

AB Under this alternative wastewater flows would be slightly higher than the proposed projected due to the higher on-site employment levels, but would still be within the projected capacity of the SRWTP. The anticipated need to improve and expand the on-site sewage collection system would also be required under this alternative, and this alternative would also require special consideration to identify specific high wastewater dischargers and their effect on the on-site sewage collection system (Willdan, 1993). Future development under this alternative would also exceed the current permitted discharge limits of the Army Depot site from the Sacramento Regional County Sanitation District, and require further permitting from this agency. Additional permitting will also be necessary from the SRWTP for new industries discharging to the sewer system. This is considered a *significant impact*.

### *Mitigation*

#### 6.6-2 Wastewater Conveyance and Treatment Impacts on Collection/Interceptor Facilities and SRWTP (Project Specific)

Implementation of the following mitigation would reduce the impact of the proposed project and Alternative B to a *less-than-significant* level. For the No Project Alternative, no mitigation is required.

- PP, AB *Prior to the issuance of any occupancy permits for the Army Depot site, the City of Sacramento shall review each development application to determine whether an adequate waste water infrastructure is available to the project site. If an adequate waste water infrastructure is not available, the City of Sacramento shall require that a wastewater infrastructure improvement be constructed to adequately serve each project. The City of Sacramento shall require each project to pay its fair share of any on-site improvements necessary to serve the entire site.*

### *Impact*

#### 6.6-3 Solid Waste Generation (Project Specific)

- PP Assuming a generation rate of 130 pounds per day per acre, the proposed project would generate an additional 52,260 pounds of solid waste to be disposed of at the County's Kiefer Boulevard Landfill. In addition, demolition of the existing structures on the Army Depot site would result in the disposal of construction wastes at the County Landfill. These increased flows to the solid waste stream would occur on a temporary basis. The additional waste generated by the estimated employees and demolition activities would not have a significant effect on the life span of the County landfill. Therefore, a *less-than-significant impact* would result.
- AA The No Project Alternative would not result in additional solid waste generation; therefore, no impact would result.
- AB The additional waste generated by the estimated number of employees under this alternative would be higher than anticipated for the proposed project, but would not have a significant effect on the life span of the Kiefer Boulevard Landfill, which would be the primary repository. Therefore, a *less-than-significant impact* would result.

### *Mitigation*

#### 6.6-3 Solid Waste Generation (Project Specific)

No mitigation is required for the proposed project, the No Project Alternative, or Alternative B.

*Impact*

## 6.6-4 Electricity

- PP The proposed project would not generate a demand that would require SMUD to secure a new electrical source beyond their current suppliers. Therefore, an impact on regional electrical service would not occur. However, development of the project site would require the existing systems to be upgraded or replaced to accommodate additional demand. The Army may convey the existing electrical system to SMUD to upgrade and maintain. Increased electrical demands would either be met by current infrastructure, upgraded facilities, or new electrical distribution systems, if the demand is increased beyond existing local infrastructure capacity. The requirement to upgrade the existing electrical system is considered a *significant impact*.
- AA The No Project Alternative would not result in additional impacts to the existing systems; therefore, no impact would result.
- AB Alternative B would not generate a demand that would require SMUD to secure a new electrical source beyond their current suppliers. Therefore, an impact on regional electrical service would not occur. However, development of the project site would require the existing systems to be upgraded or replaced to accommodate additional demand. The Army may convey the existing electrical system to SMUD to upgrade and maintain. Increased electrical demands would either be met by current infrastructure, upgraded facilities, or new electrical distribution systems, if the demand is increased beyond existing local infrastructure capacity. The potential requirement to upgrade the existing electrical system is considered a *significant impact*.

*Mitigation*

## 6.6-4 Electricity

Implementation of the following mitigation would reduce the impact of the proposed project and Alternative B to a *less-than-significant* level. For the No Project Alternative, no mitigation is required.

- PP, AB *Prior to the issuance of any occupancy permits for the Army Depot site, the City of Sacramento shall coordinate with SMUD to determine the necessary upgrades required to serve the future anticipated development of the site and require each project pay its fair share of any on-site improvements necessary to serve the entire site.*

*Impact*

## 6.6-5 Natural Gas (Project Specific)

- PP Increased demands on gas resources are met either by current PG&E infrastructure or by upgrading or adding new facilities if the demand is increased beyond existing local infrastructure capacity. The applicant and/or assessment district would be assessed the cost of upgraded/new facilities if required because of the increased demand. New developments are required to coordinate through PG&E to assure that gas is efficiently supplied. Implementation of the proposed project would not generate a demand that would require PG&E to secure a new gas source beyond their current suppliers. Therefore, a physical environmental impact related to an increased in the regional gas demand would not occur. However, development of the project site could require the existing gas distribution systems to be upgraded or replaced to accommodate the anticipated demand. This is considered a *significant impact*.
- AA The No Project Alternative would not result in additional impacts to the existing systems.
- AB Increased demands on gas resources are met either by current PG&E infrastructure or by upgrading or adding new facilities if the demand is increased beyond existing local infrastructure capacity. The applicant and/or assessment district would be assessed the cost of upgraded/new facilities if required because of the increased demand. New developments are required to coordinate through PG&E to assure that gas is efficiently supplied. Implementation of the proposed project would not generate a demand that would require PG&E to secure a new gas source beyond their current suppliers. Therefore, a physical environmental impact related to an increased in the regional gas demand would not occur. However, development of the project site could require the existing gas distribution systems to be upgraded or replaced to accommodate the anticipated demand. This is considered a *significant impact*.

*Mitigation*

## 6.6-5 Natural Gas (Project Specific)

Implementation of the following mitigation would reduce the impact of the proposed project and Alternative B to a *less-than-significant* level. For the No Project Alternative, no mitigation is required.

- PP, AB *Prior to the issuance of any occupancy permits for the Army Depot site, the City of Sacramento shall coordinate with PG&E to determine the necessary natural gas distribution upgrades required to serve the future anticipated development of the site. The City of Sacramento shall require each project pay its fair share of any on-site improvements necessary to serve the entire site.*

*Impact*

## 6.6-6 Telecommunications (Project Specific)

- PP Pacific Bell and the other telecommunication service providers in the Sacramento area are anticipated to be able to serve the future growth of the region. Increased demands for telecommunication services will be met either by current infrastructure or by upgrading or adding new facilities. Implementation of the proposed project will require modification of the existing telecommunication infrastructure to provide adequate service to project area. This is considered a *significant impact*.
- AA The No Project Alternative would not result in additional impacts to the existing systems; therefore, no impact would result.
- AB Pacific Bell and the other telecommunication service providers in the Sacramento area are anticipated to be able to serve the future growth of the region. Increased demands for telecommunication services will be met either by current infrastructure or by upgrading or adding new facilities. The implementation of the Alternative B will result in similar impacts as the proposed project, and will require modification of the existing telecommunication infrastructure to provide adequate service to the project area. This is considered a *significant impact*.

*Mitigation*

## 6.6-6 Telecommunications (Project Specific and Cumulative)

Implementation of the following mitigation would reduce the impact of the proposed project and Alternative B to a *less-than-significant* level. For the No Project Alternative, no mitigation is required.

- PP, AB *Prior to the issuance of any occupancy permits for the Army Depot site, the City of Sacramento shall coordinate with Pacific Bell to determine the necessary telecommunication upgrades required to serve the future anticipated development of the site. The City of Sacramento shall require that Telecommunication improvements be constructed to adequately serve each project. The City shall also require that each project pay its fair share of any on-site improvements necessary to serve the entire site.*

*Impact*

## 6.6-7 Police Protection (Project Specific)

- PP The proposed project would transfer the project site from the jurisdiction of the U.S. military to the City of Sacramento Police Department. This would, in effect, increase the degree of commercial development in the department's service area, thereby increasing the demand for service. This project would not, however, result

in increased residential development at the site, or an increased residential population. While the increased commercial development would place additional demands for service from the Sacramento Police Department, it is not estimated that the department would require additional resources in order to maintain adequate levels of service. This would be a *less-than-significant impact*.

- AA The No Project Alternative would not increase the demand for services from the Sacramento Police Department; therefore, no impact would result.
- AB Alternative B would result in increased employment levels at the project site, and would, therefore, result in greater demands for service from the Sacramento Police Department than would the proposed project. The increased demands for service under this impact would not, however, be expected to require additional resources for the Sacramento Police Department to maintain adequate levels of service, and would be a *less-than-significant impact*.

### *Mitigation*

#### 6.6-7 Police Protection (Project Specific)

No mitigation measures are required for the proposed project, the No Project Alternative, or Alternative B.

### *Impact*

#### 6.6-8 Fire Protection Services (Project Specific)

- PP The fire stations serving the Army Depot are adequately staffed to provide service to the project site as long as structures comply with fire code standards. (U.S. Army Corps of Engineers, 1994). Therefore, no impact to fire protection services would result from the proposed project.
- AA The fire stations serving the Army Depot are adequately staffed to provide service to the project site as long as structures comply with fire code standards. (U.S. Army Corps of Engineers, 1994). Therefore, no impact to fire protection services would result from the No Project Alternative.
- AB The fire stations serving the Army Depot are adequately staffed to provide service to the project site as long as structures comply with fire code standards. (U.S. Army Corps of Engineers, 1994). Therefore, no impact to fire protection services would result from Alternative B.

### *Mitigation*

#### 6.6-8 Fire Protection Services (Project Specific and Cumulative)

No mitigation measures are required for the proposed project, the No Project Alternative, or Alternative B.

## 6.7 HAZARDOUS SUBSTANCES

## 6.7 HAZARDOUS SUBSTANCES

### INTRODUCTION

This section addresses the anticipated effects of known or suspected hazardous materials contamination on redevelopment at Sacramento Army Depot. The primary concern is the potential increased risk to human health and the environment from exposure to existing soil and/or groundwater contamination resulting from construction, development, and civilian reuse during the life of the project.

In order to evaluate these issues, this chapter summarizes the existing conditions at Sacramento Army Depot, evaluates impacts associated with development in the area, and proposes mitigation measures. Included in this summary are an overview of hazardous materials regulations, a description of the types of contaminants found or suspected based on historic land uses, and a description of identified and suspected sites of contamination.

### SETTING

#### Definition of Hazardous Substances

The term "hazardous substances" refers to both hazardous materials and hazardous wastes. A material is defined as hazardous if it appears on a list of hazardous materials prepared by a federal, state or local regulatory agency, or if it has characteristics defined as hazardous by such an agency. The California Department of Toxic Substances Control (DTSC), formerly the Department of Health Services, defines hazardous materials as follows:

A hazardous material is a substance or combination of substances which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either: 1) cause, or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating, irreversible illness; or 2) pose a substantial present or potential hazard to human health or the environment when properly treated, stored, transported or disposed of, or otherwise managed.

Table 6.7-1 represents general hazardous material categories and potential associated hazards. In addition, the EPA, DTSC and the Army have determined that petroleum products are considered hazardous substances for the redevelopment of Sacramento Army Depot.

#### Definition of Hazardous Waste

A hazardous waste is a "solid waste" that exhibits hazardous characteristics. The Federal Environmental Protection Agency (EPA) has defined the term "solid waste" to include the following"; any gaseous, liquid, semi-liquid, or solid material that is discarded or has served its intended purpose, unless the material is excluded from regulation. Such materials are considered wastes whether they are discarded, reused, recycled, or reclaimed.

The EPA classifies a waste as hazardous if it (1) is listed on the EPA's list of hazardous waste; and (2) exhibits one or more of the following properties: ignitability (including oxidizers, compressed gases, and extremely flammable liquids and solids), corrosivity (including strong

<b>TABLE 6.7-1</b>	
<b>GENERAL HAZARDOUS MATERIAL CATEGORIES AND POTENTIAL ASSOCIATED HAZARDS</b>	
<b>General Hazardous Materials Categories</b>	<b>Nature of Hazard</b>
Compressed Gases	Pressurized gases, liquefied gases, cryogenic gases, dissolved gases stored under pressure that can explode.
Severe Poisons	Substances that may cause death or injury at relatively low concentrations, or significant health effects from chronic exposure at relatively low concentrations.
Moderate Poisons	Substances that may cause premature death, injury or disease from chronic exposure, or harmful effects from acute exposure at higher concentrations.
Water Reactives	Materials that react violently with water to produce fire or toxic fumes other than strong acids or bases.
Oxidizers	Materials that release oxygen or add to the intensity of a fire.
Flammables	Liquids or solids that readily burn and/or are difficult to extinguish.
Corrosives	Materials that are strong acids or bases, will corrode skin or metal, and may react violently with water.
Radioactives	Materials that emit ionizing radiation.
Biohazards	Disease producing living organisms or spores.
Other Hazardous Materials	Includes carcinogens, halogenated solvents, explosives and others.
SOURCE: EIP Associates and Stanford University Department of Health and Safety, 1988.	

acids and bases), reactivity (including materials that are explosive or generate toxic fumes when exposed to air or water), or toxicity (including materials listed by EPA as capable of inducing systemic damage in humans or animals). Under Comprehensive Environmental Response Compensation and Liability Act (CERCLA), petroleum products are not categorized as hazardous substances. Despite the "petroleum exclusion" of CERCLA, the EPA, DTSC and Army have determined that petroleum products are considered hazardous for purposes of remediation at the Sacramento Army Depot.

### Risk of Exposure

#### **Hazard vs. Risk**

Human health, including workers, and the environment, are potentially at risk whenever hazardous substances have been or will be used. It is necessary to differentiate between the "hazard" of these substances and the acceptability of the "risk" they pose to human health and the environment. A hazard is any situation that has the potential to cause damage to human health and the environment. The risk to human health and the environment is determined by the probability of exposure to the hazardous substance and the severity of harm such exposure would pose; that is, the likelihood and means of exposure, in addition to the inherent toxicity of a substance, determine the degree of risk to human health. For example, a high probability of exposure to a slightly toxic chemical would not necessarily pose an unacceptable health risk, whereas a low probability of exposure to a highly toxic chemical might.

When the risk of an activity is judged acceptable by society in relation to perceived benefits, the activity is judged to be safe. For example, ammonia is a common household chemical whose use has been judged safe in our society. Although it can be hazardous to health, irritating the eyes, respiratory tract and skin, and even causing bronchitis or pneumonia following severe exposures, the risk of such a severe exposure is believed to be low and its benefits as a cleaner and disinfectant are high. Therefore, the use of household ammonia is thought to be a safe activity.

### Means of Exposure

Exposure to hazardous substances can occur in the following manner:

- 1) Exposure to soil and/or groundwater contamination during construction;
- 2) Improper handling or use of hazardous materials or hazardous wastes during the course of business, particularly by untrained personnel;
- 3) Failure of storage containment systems;
- 4) Environmentally unsound treatment/disposal methods;
- 5) Transportation accidents;
- 6) Fire, explosion or other emergencies;

- 7) Exposure to contaminants in soil, groundwater, and/or other media throughout the life of the project.

### Health Effects of Exposure to Hazardous Substances

The following factors influence the health effects of exposure to hazardous substances: the dose to which the person is exposed, the frequency of exposure, the duration of exposure, the exposure pathway (route by which a chemical enters a person's body), and the individual's unique biological susceptibility.

The means of exposure as outlined above would determine the way in which hazardous substances are absorbed into the body and, therefore, the bodily organs or systems affected. The major ways in which toxic substances may enter and be absorbed by the body are through the mouth (ingestion), the skin (penetration) or the lungs (inhalation). How a hazardous substance gets into the body and what damage it causes depends on the form or physical properties of the material, i.e. liquid, solid, gas, dust, fibers, fumes or mist. A chemical may be toxic by one route and not another.

Health effects from exposure to toxic substances may be acute or chronic. Acute effects may include reversible or irreversible damage to organs and systems in the body, including death. Chronic effects may also include systemic and organ damage, but chronic effects of particular concern are birth defects, genetic damage and cancer.

### Regulatory Compliance Overview for the Management of Hazardous Substances

Table 6.7-2 lists federal, state and local regulatory agencies that oversee hazardous materials management and the statutes and regulations that they administer. The following discussion contains a summary review of regulatory controls pertaining to hazardous substances, including federal, state and local laws and ordinances pertaining to hazardous substances management and cleanup.

#### **Federal**

Many agencies regulate hazardous substances. These include federal agencies such as the EPA, the Occupational Safety and Health Administration (OSHA), the Nuclear Regulatory Commission (NRC), the Department of Transportation (DOT) and the National Institute of Health (NIH). The following represent federal laws and guidelines governing hazardous substances.

- Federal Water Pollution Control Act
- Clean Air Act
- Occupational Safety and Health Act
- Federal Insecticide, Fungicide, and Rodenticide Act
- Comprehensive Environmental Response Compensation and Liability Act
- Guidelines for Carcinogens and Biohazards

TABLE 6.7-2

## SUMMARY OF HAZARDOUS MATERIALS REGULATORY AUTHORITY

Regulatory Agency	Jurisdiction	Authority
<b>FEDERAL AGENCIES</b>		
Dept. of Transportation	Federal	National Transportation Act - Code of Federal Regulations (CFR) 49
Environmental Protection Agency	Federal	Federal Water Pollution Control Act Clean Air Act Resource Conservation & Recovery Act (RCRA) Comprehensive Environmental Response, Compensation & Liability Act (CERCLA) Superfund Amendments & Reauthorization Act (SARA) Federal Insecticide, Fungicide & Rodenticide Act
Occupational Safety & Health Administration	Federal	Occupational Safety and Health Act & CFR 29
<b>STATE AGENCIES</b>		
Dept. of Toxic Substances Control	State	Hazardous Waste Control Law Hazardous Materials Release Response Plans/Inventory Law Acutely Hazardous Materials Law Sherman Food, Drug and Cosmetic Law Underground Storage Tanks Law California Code of Regulations (CCR) Titles 17, 19, and 22
Dept. of Industrial Relations (CAL-OSHA)	State	California Occupational Safety & Health Act, CCR Title 8
State Water Resources Control Board & Regional Water Quality Control Board	State	Porter-Cologne Water Quality Act
Health & Welfare Agency	State	Safe Drinking Water & Toxic Enforcement Act
Air Resources Board & Air Pollution Control District	State	Air Resources Act
Office of Emergency Services	State	Hazardous Materials Release Response Plans/Inventory Law
Dept. of Fish & Game	State	Fish & Game Code
Dept. of Food & Agriculture	State	Food & Agriculture Code
State Fire Marshal	State	Uniform Fire Code, CCR Title 19
<b>COUNTY AGENCIES</b>		
Sacramento Co. Environmental Mgmt Dept. Hazardous Materials Division	County	CCR Title 22
SOURCE: EIP Associates, 1991.		

- Superfund Amendments and Reauthorization Act Title III
- Resource Conservation and Recovery Act
- Safe Drinking Water Act
- Toxic Substances Control Act

At the federal level, the principal agency regulating the generation, transport and disposal of hazardous substances is the EPA, under the authority of the Resource Conservation and Recovery Act (RCRA). The EPA regulates hazardous waste sites under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA). Applicable federal regulations are contained primarily in Titles 29, 40, and 49 of the Code of Federal Regulations (CFR).

### State

The California Environmental Protection Agency (Cal-EPA) and the Office of Emergency Services (OES) of the State of California establish rules governing the use of hazardous materials. The California Highway Patrol (CHP) and the California Department of Transportation (Caltrans) are the enforcement agencies for hazardous substances transportation regulations. Chemical suppliers are responsible for complying with all applicable packaging, labeling and shipping regulations. The State Water Resources Control Board (SWRCB) has primary responsibility to protect water quality and supply.

Applicable state laws include the following:

- Porter Cologne Water Quality Act
- Public Safety/Fire Regulations/Building Codes
- Hazardous Waste Control Law
- Hazardous Substances Information and Training Act
- Hazardous Materials Release Response Plans and Inventory Act
- Air Toxics Hot Spots and Emissions Inventory Law
- Underground Storage of Hazardous Substances Act

Within Cal-EPA, the Department of Toxic Substance Control (DTSC), formerly the Department of Health Services, has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the state agency, for the generation, transport and disposal of hazardous substances under the authority of the Hazardous Waste Control Law (HWCL). State regulations applicable to hazardous materials are indexed in Title 26 of the California Code of Regulations (CCR).

For military base closures, DTSC has been designated as the primary contact for Cal-EPA.

### Local

Sacramento County is responsible for enforcing the state regulations, both in the City of Sacramento and the County, governing hazardous waste generators, hazardous waste storage, and underground storage tanks (including inspections, enforcement, and removals). The Sacramento County Hazardous Materials Division (HMD) regulates the use, storage, and disposal of

hazardous materials in Sacramento County by issuing permits, monitoring regulatory compliance, investigating complaints, and other enforcement activities. HMD reviews technical aspects of hazardous waste site cleanups, and oversees remediation of certain contaminated sites resulting from leaking underground storage tanks. HMD is also responsible for providing technical assistance to public and private entities which seek to minimize the generation of hazardous waste.

Goals and policies have been developed by the County of Sacramento concerning the management of hazardous substances to protect human health and the environment.

## **Hazardous Substances Handling Requirements**

### Federal

The RCRA established a federal hazardous waste "cradle-to-grave" regulatory program that is administered by EPA. Under the RCRA, EPA regulates the generation, transportation, treatment, storage and disposal of hazardous substances.

The RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the "cradle-to-grave" system of regulating hazardous substances. The HSWA specifically prohibits the use of certain techniques for the disposal of some hazardous substances.

Under the RCRA, individual states may implement their own hazardous waste management programs as long as they are consistent with, and at least as strict as, the RCRA. EPA must approve state programs intended to implement the RCRA requirements.

### State

In California, approval of the state hazardous waste management program is still pending, so both state and federal hazardous substances laws apply. The state program was created by the enactment of the HWCL, which is administered by the DTSC. The DTSC regulations govern the generation, transportation and disposal of hazardous substances.

Regulations implementing the HWCL list 791 hazardous chemicals and 20 or 30 more common substances that may be hazardous; establish criteria for identifying, packaging and labeling hazardous substances; prescribe management of hazardous substances; establish permit requirements for hazardous substances treatment, storage, disposal and transportation; and identify hazardous materials that cannot be deposited in landfills.

Under both the RCRA and the HWCL, the generator of a hazardous substance must complete a manifest that accompanies the waste from the point of generation to the ultimate treatment, storage or disposal location. The manifest describes the waste, its intended destination, and other regulatory information about the waste. Copies must be filed with the DTSC. Generators must also match copies of waste manifests with receipts from the treatment, storage or disposal facility to which it sends waste.

## **Hazardous Substances Worker Safety Requirements**

### Federal

The Federal Occupational Safety and Health Administration (Fed/OSHA) is the agency responsible for ensuring worker safety. Fed/OSHA sets federal standards for implementation of training in the work place, exposure limits, and safety procedures in the handling of hazardous substances (as well as other hazards). Fed/OSHA also establishes criteria by which each state can implement its own health and safety program.

### State

The California Occupational Safety and Health Administration (Cal/OSHA) assumes primary responsibility for developing and enforcing work place safety regulations within the State. Cal/OSHA standards are more stringent than federal regulations.

Cal/OSHA regulations concerning the use of hazardous materials include requirements for safety training, availability of safety equipment, hazardous substances exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA enforces the hazard communication program regulations, which include provisions for identifying and labeling hazardous substances, providing employees with Material Safety Data Sheets (MSDSs), describing the hazards of chemicals, and documenting employee training programs.

Both federal and state laws include special provisions for hazard communication to employees in research laboratories, including training in chemical work practices. The training must include safe methods for handling hazardous substances, an explanation of MSDSs, use of emergency response equipment, and building emergency response plans and procedures.

## **Hazardous Substances Management Planning**

### Federal

As of January 1991, Fed/OSHA requires a written Chemical Hygiene Plan for operations which use hazardous chemicals. Standards for Chemical Hygiene Plans emphasize safe handling and use of hazardous chemicals through procedures established by individual employers. The Chemical Hygiene Plans outline specific work practices and procedures (including employee training) that ensure employee protection from health hazards associated with hazardous chemicals.

### State

State law requires detailed planning to ensure that hazardous substances are properly handled, used, stored, and disposed of, and to prevent or minimize injury to human health or the environment in the event such materials are accidentally released. Federal laws, such as the Emergency Planning

and Community-Right-to-Know Act of 1986 (also known as Title III of the Superfund Amendments and Reauthorization Act, or SARA Title III) impose similar requirements.

The Hazardous Materials Release Response Plans and Inventory Law of 1985 (or the Business Plan Act) requires that a business that uses, handles, or stores hazardous materials prepare a plan, which must include:

- 1) details, including floor plans, of the facility;
- 2) an inventory of hazardous materials handled or stored;
- 3) an emergency response plan; and
- 4) a training program in safety procedures and emergency response for new employees, including annual refresher courses.

In addition, under the terms of State legislation passed in 1989, AB 3777-LaFollette, the responsible local agency is to be provided with a Risk Management and Prevention Plan (RMPP). A RMPP is the sum total of programs aimed at minimizing acutely hazardous material incident risks. This can include, but is not limited to:

- 1) systems safety review of design for new and existing equipment;
- 2) safety evaluation of standard operating procedures;
- 3) system review for reliability, both human and equipment/facility;
- 4) preventive maintenance procedures;
- 5) risk assessment for failure of specific pieces of equipment or operating alternatives;
- 6) emergency response planning; and
- 7) internal or external auditing procedures to ensure that safety programs and safety engineering controls are being executed as planned.

In general, this law requires that users of hazardous chemicals include in their RMPPs a hazards operations analysis (HAZOP) to be performed if specified quantities of approximately 30 acutely hazardous chemicals are used. In particular, the HAZOP must consider the off-site consequence of the release of any acutely hazardous material, as defined.

## **Hazardous Substances Transportation**

### Federal

The U.S. Department of Transportation (DOT) has the regulatory responsibility for the safe transportation of hazardous substance between states and to foreign countries. DOT regulations govern all means of hazardous substances transportation, (except for those packages shipped by mail, which are covered by the U.S. Postal Service [USPS] regulations), including transportation by rail. DOT regulations are contained in the Code of Federal Regulations Title 49.

Under the RCRA, the EPA sets standards for transporters of hazardous materials. In turn, the federal government authorized the State of California to carry out EPA regulations concerning transportation of hazardous waste, originating in, or passing through, the state.

### State

The State of California has also adopted regulations for the intrastate movement of hazardous substances. State regulations are indexed in the CCR Title 26.

The California Highway Patrol (CHP) has primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies. The CHP enforces hazardous substances labeling and packaging regulations. The goal of these regulations is to prevent leakage and spills of material in transit and to provide detailed information to clean-up crews in the event of an accident. Vehicle and equipment inspection, shipment preparation, container identification, and shipping documentation are all part of the responsibility of the CHP, which conducts regular inspections of licensed transporters to assure regulatory compliance.

Common carriers conduct a large portion of their business in the delivery of hazardous substances. Common carriers are licensed by the CHP under conditions specified in CCR Title 26, Division 14.1 Transportation of Hazardous Material, Section 32000.5, License to Transport Hazardous Materials. This section requires licensing of every motor (common) carrier who transports, for a fee, in excess of 500 pounds of hazardous substances at one time, and every carrier, if not for hire, who carries more than 1,000 pounds of hazardous substance of the type requiring placards. If the supplier or distributor carries fewer than 1,000 pounds of substance, a license is not required. Every package type used by a hazardous substances shipper must undergo tests that imitate some of the possible rigors of travel.

### **Sacramento Army Depot Existing Hazardous Materials Contamination**

The following discussion describes the Sacramento Army Depot hazardous substances remediation regulations and existing known hazardous substances contamination. In addition, the discussion describes the predominant types of hazardous materials that have been identified, or which may occur at Sacramento Army Depot. Included below is a general description of the hazardous materials, their behavior in the environment, and accepted remediation techniques.

## Regulatory and Environmental Management

Because Sacramento Army Depot has been operated as a federal military installation, the EPA, DOD, U.S. Army, and California EPA have been, and will continue to be, the main agencies overseeing hazardous substances investigations and remediation on the base. The DOD oversees its own program, Installation Restoration Program (IRP), which identifies, characterizes, and remediates environmental contamination at military facilities. The DOD implemented IRP's in 1980 to clean up hazardous materials/waste contamination on its installations. The program established a process for identifying and evaluating past disposal sites, controlling migration of contaminants, and controlling potential hazards to human health and the environment. The DOD has the authority, through Section 211 of SARA, codified as the Defense Environmental Restoration Program (DERP), to conduct its own environmental restoration programs.

In 1987, the Sacramento Army Depot was listed on the U.S. Environmental Protection Agency (USEPA) National Priorities List (NPL). The entire base was included on the list due to groundwater contamination. In 1988, Sacramento Army Depot entered into a federal facilities agreement with the EPA Region IX and the State of California. The California Department of Health Services was identified as the lead agency responsible for the program carried out under this agreement. Authority continues to lie with this agency, now known as the Cal-EPA DTSC. This agreement requires that corrective actions under RCRA shall be considered and managed pursuant to CERCLA regulations.

The IRP prepared by the DOD for Sacramento Army Depot was designed to be consistent with terminology used by the EPA. The three phases of the IRP are described as:

### Preliminary Assessment/Site Inspection (PA/SI)

The preliminary assessment portion of this phase is comparable to a Phase I and consists of records searches, site reconnaissance and interviews with knowledgeable persons to identify whether a potential problem exists. This phase may include limited soil or groundwater sampling to further assess the potential problems.

### Remedial Investigation/Feasibility Study (RI/FS)

This phase consists of additional soil and groundwater sampling to help determine the extent of the contamination. It includes a risk assessment which helps to determine site remediation needs.

### Remedial Design/Remedial Action (RD/RA)

The selected remedial alternative defined by the FS is designed by the RD and implemented in the RA. Long-term monitoring is usually performed in association with site clean-up to meet all regulatory standards and achieve clean-up goals.

Until recently, CERCLA required the entire facility be investigated, cleaned, and a ROD prepared before any parcel of land can be released for disposal. Under the recently enacted CERFA, federal facilities listed in BRAC 91 have 18 months to identify and document uncontaminated properties. CERFA amended Section 120(h) of CERCLA and established new procedures with

respect to contamination assessment and regulatory agency notification\concurrence for Federal facility closures. The primary CERFA objective is for Federal agencies to expeditiously identify real property offering the greatest opportunity for immediate reuse and redevelopments. The first step in satisfying the objective is the identification of real property where no hazardous substances or petroleum products (or their derivatives) were stored for one year or more, or were released or disposed of.

An investigation called an Environmental Baseline Survey (EBS) assesses the presence or documents the absence of contamination through a detailed search of government documents pertaining to the property, employee interviews, physical inspections, and sampling if required. Prior to the transfer of real property identified as uncontaminated by CERFA and/or the EBS, a Finding of Suitability to Transfer (FOST) or a Finding of Suitability to Lease (FOSL) must be certified by a Senior Army Environmental Official. The public and regulatory agencies will be notified of the intent to sign the FOST. The State (i.e., Cal-EPA) will be given the opportunity to review the designated parcels. Once the agreement is received, the uncontaminated parcels are available for transfer or disposal while the remainder of the installation goes through the CERCLA process.

The CERCLA process is applied to the cleanup of identified contaminated parcels. Steps include the site cleanup and verification that such cleanup meets the appropriate ROD conditions. In certain instances, the Army may elect to transfer property while cleanup is ongoing. According to the USEPA's interpretation of CERCLA Section 120 (h)(3), leases can proceed while investigation and cleanup is in progress. Properties may be transferred parcel by parcel as there is no need to wait for cleanup of the entire facility. The ROD process provides adequate protection to future property owners by identifying in the ROD the Army's cleanup responsibility. This approach would be especially applicable at locations where surface soils are clean but underlying groundwater contamination exists and is being remediated. The Army retains liability for any contamination which is determined to be its responsibility, and which may be discovered in the future.

#### Remediation Areas

These are areas known to contain residual hazardous wastes generated by past operations. Some areas have been remediated (Tank 2, Pesticide Mix Area, and Battery Disposal Well). Others are currently in progress (Freon 113 Area, Groundwater, Parking Lot 3, Oxidation Lagoons, South Post Burn Pits). Remedial action is planned for the Building 300 Burn Pits and the Locomotive Repair Facility. No Further action was deemed necessary for the Firefighter Training Area. The Contractors Spoils area was investigated as a possible source of contamination. The site contains construction debris but is not a hazardous waste site.

#### Hazardous Material/Hazardous Waste Handling/Storage Areas

These are areas where hazardous wastes (or hazardous materials) were either generated, handled, or stored in recent years. Some areas are still active. There is the potential, given the past handling of hazardous material/waste, that such areas or facilities may have residues (e.g., in soils or groundwater) which would require remediation (RCRA) or simple due diligence.

### Clean Areas

These areas are believed not to have experienced releases of hazardous waste, or as is the case with certain former underground storage tank (UST) locations, have already been certified clean. These consist of all areas not included in the previous two classifications. However, these areas do not necessarily satisfy the CERFA definition of clean.

Figure 6.7-1 shows the remediation areas as well as the areas and facilities where the hazardous material waste handling and storage have occurred. The clean areas are not shaded. Some of the clean areas have existing groundwater monitoring wells (MW) and extraction wells (EW), and disposal of these areas should take into consideration the continued use of these wells even after change of ownership. Groundwater monitoring and extraction well locations are shown in Figure 6.7-2.

### Lead Based Paints, Asbestos, and Radon

Lead-based paints have been used on the Sacramento Army Depot, and Buildings 651, 653 to 660, 663, 664, 674, 675, 681, and 682 are known to have lead based paint. These buildings will be demolished in 1996, and will generate lead-contaminated debris requiring proper disposal. A lead-based paint survey is being performed, through the Army Corps of Engineers, to determine which other buildings at the Depot contain lead-based paint. The Depot will comply with all current Army policies regarding lead-based paint. A lead based paint survey is being conducted through the Army Corps of Engineers and will be available in 1994.

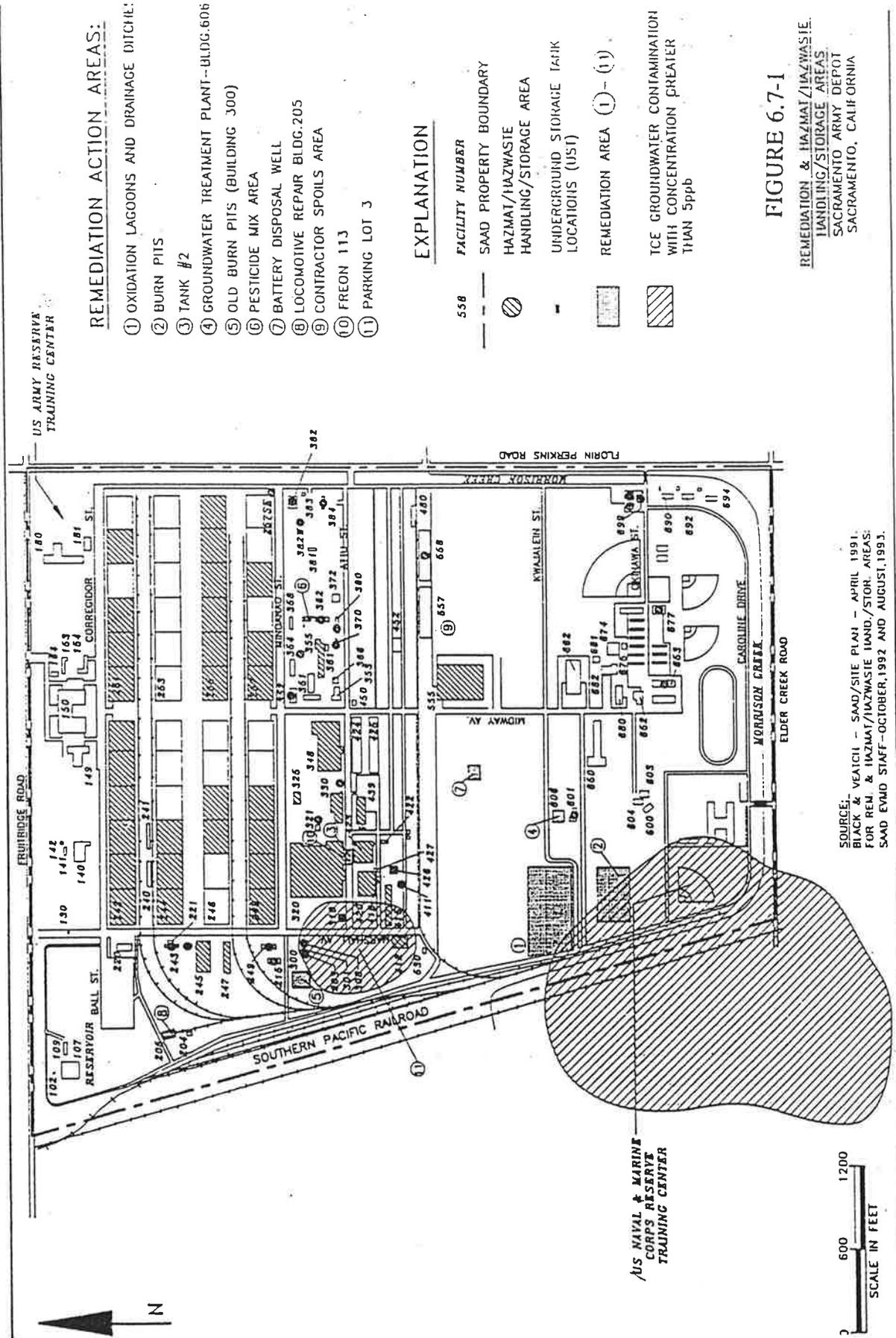
Asbestos can be a concern in buildings, and inhalation of asbestos fibers can cause asbestosis in the lungs. An initial survey of 151 buildings was completed in 1989 and was followed by removal or repair of accessible friable asbestos. Asbestos has been removed or repaired as normal maintenance for construction and repair projects. An Asbestos Management Plan has been implemented and updated asbestos survey results will be available in 1994. The above mentioned buildings containing lead-based paint are also known to have asbestos-containing materials. Demolition of these buildings will generate asbestos containing debris. Proper removal of the ACM and disposal of this debris will be required.

A radon survey has been completed at the Depot. Radon survey levels were well below acceptable exposure limits.

### **Historic Storage and Disposal of Hazardous Waste**

As a permitted industrial operation the Sacramento Army Depot has, throughout its history, used, stored, generated, treated and disposed of significant quantities of hazardous materials and hazardous wastes. Consequently, all areas and facilities that have stored or handled such substances could, at some point during their history, have experienced unrecorded releases.

Areas included in this classification are locations of past and present operations involving hazardous materials and hazardous wastes, underground storage tanks, and a former battery acid handling area.



**REMEDIATION ACTION AREAS:**

- ① OXIDATION LAGOONS AND DRAINAGE DITCHES
- ② BURN PITS
- ③ TANK #2
- ④ GROUNDWATER TREATMENT PLANT--BLDG. 606
- ⑤ OLD BURN PITS (BUILDING 300)
- ⑥ PESTICIDE MIX AREA
- ⑦ BATTERY DISPOSAL WELL
- ⑧ LOCOMOTIVE REPAIR BLDG. 205
- ⑨ CONTRACTOR SPOILS AREA
- ⑩ FREON 113
- ⑪ PARKING LOT 3

**EXPLANATION**

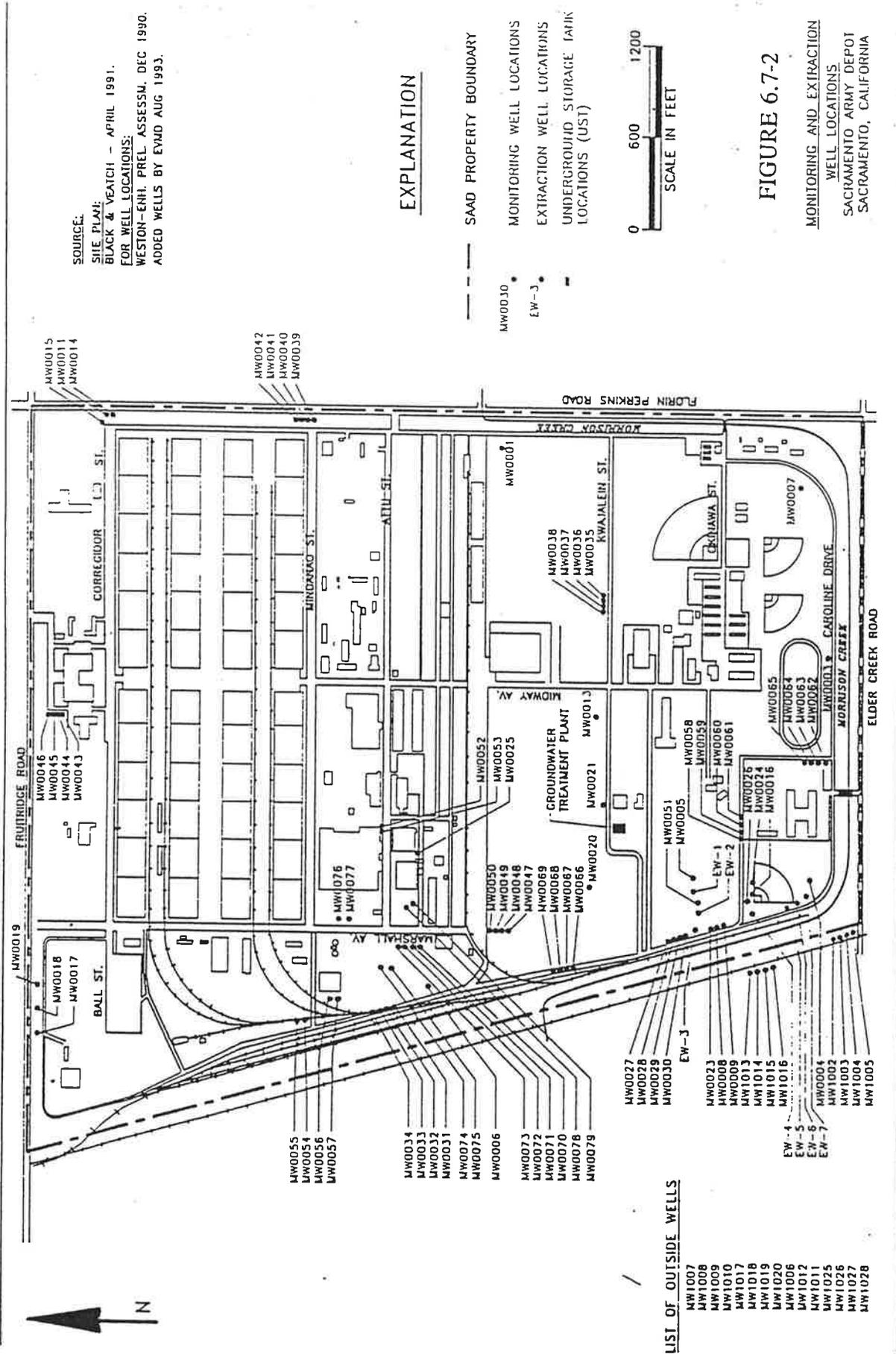
- 558 FACILITY NUMBER
- SAAD PROPERTY BOUNDARY
- ⊗ HAZMAT/HAZWASTE HANDLING/STORAGE AREA
- UNDERGROUND STORAGE TANK LOCATIONS (UST)
- ① - (11) REMEDIATION AREA
- ▨ TCE GROUNDWATER CONTAMINATION WITH CONCENTRATION GREATER THAN 5ppb

**FIGURE 6.7-1**

REMEDIATION & HAZMAT/HAZWASTE HANDLING/STORAGE AREAS  
SACRAMENTO ARMY DEPOT  
SACRAMENTO, CALIFORNIA

SOURCE:  
BLACK & VEATCH - SAAD/SITE PLAN - APRIL 1991.  
FOR REM. & HAZMAT/HAZWASTE HANDLING/STOR. AREAS:  
SAAD EYMD STAFF-OCTOBER, 1992 AND AUGUST, 1993.

0 600 1200  
SCALE IN FEET



Existing hazardous waste management facilities are discussed in the following section. These facilities may be used by transferees, at least on an interim basis.

### **Source Areas of Hazardous Waste**

The potential sources of historical releases of hazardous material or wastes from operations still in place and active at the Sacramento Army Depot are described in this section. Sources of documented information include the latest RCRA permit and several waste minimization studies performed by Ebasco Environmental in 1990 and 1991.

Table 6.7-3 represents Sacramento Army Depot buildings and facilities used for maintenance, and for hazardous material and waste accumulation and storage areas. These buildings and facilities will be included in the EBS, which Ebasco Environmental began in September 1993. To be included in this study is the history of spills and possible releases of hazardous materials or wastes to the environment. Contaminated facilities and buildings will be decontaminated and certified clean by DTSC before disposal.

#### Plating Shop (Building 420)

Building 420 is the site of the Sacramento Army Depot's plating shop. A wide variety of chemical solutions in various tanks were used in the building to conduct nickel, electrolyzed nickel, cadmium, tin, copper, silver, lead and gold plating activities. The tanks included plating baths and rinsewater tanks containing heavy metals, cyanide, oils, solvents, acids, and caustics. Wastewater from the plating shop was treated on-site at the Industrial Wastewater Treatment Plant (IWTP).

#### Industrial Graphic Arts Facility (Building 320)

The Industrial Graphic Arts Facility was located in Building 320. Graphic Arts processes performed in this facility included silk-screening, decal-making, etching and paint spraying. Inside this facility were plating baths and rinse water tanks containing heavy metals, acid, caustics, and solvents. Waste rinse water was discharged to the IWTP for treatment.

#### Industrial Wastewater Treatment Plant (IWTP)

Building 416 is the site of the IWTP. The treatment plant was in operation from 1978 to 1994, and was used to pretreat plating shop wastewater from Buildings 320 and 420. Hexavalent chromium and other heavy metals were treated by precipitation. Cyanide was destroyed by chlorination. Wastewater pH was adjusted by the addition of sulfuric acid or caustics. The IWTP discharged pretreated wastewater to the clarifier tanks (Structures 301 and 308), where water quality was checked to ensure consistency with county standards prior to being released to the county wastewater treatment plant. The IWTP has a sewer use permit from the Sacramento County Regional Sanitation District. The permit establishes water quality restriction on wastewater releases. A Notice of Intent for a permit by (PBR) has been filed with the DTSC.

TABLE 6.7-3 POTENTIALLY CONTAMINATED  
MAINTENANCE, ACCUMULATION AND STORAGE AREA

Building Number	Building Name	Hazardous Materials/Wastes Stored
154	Health Clinic	Developers, fixers, alcohols
205	RR Equipment Maintenance Shop	Metal dust, caustics, perchloroethylene
215	Flammable Materials Storage	Paints, adhesives, solvents, toners
241	DLA Hazardous Materials Storage	Hazardous materials turn-ins
242	General Purpose Warehouse	Radioactive materials
243	Lead Acid Battery Storage	Pesticides, oils, antifreeze, solvents, lead-acid batteries
244	General Purpose Warehouse	Radioactive materials
249	Hazardous Materials Storage	Solvents, paints
250	UST (Diesel 4,000 gal)	Diesel fuel
254	Storage Shed	Paints, solvents/thinners
255	General Purpose Warehouse	Radioactive materials
256	Storage Shed	Paints, solvents/thinners
257	General Purpose Warehouse, CARC Facility	Paints, solvents/thinners, paint booth filters, radioactive materials
300	TMDE - Calibration Lab	Radioactive materials
303	Holding Tank (IWTP-Clarifier)	Plating wastewater, metal sludge
308	Holding Tank (IWTP-Clarifier)	Plating wastewater, metal sludge
310	Flammable Materials Storage	Oils, solvents
320	Graphic Arts	Blast media with metals, metal dust, solvents, coolants, oils, greases, paints, radioactive materials
325	Chemistry Lab	Acids, bases, solvents, oils
348	HW Accumulation Site	Petroleum products, antifreeze, solvents, paints, metal dust
352	HW Storage, E of B352	Oils, acids, caustics, solvents
356	Former Pesticide Storage	Pesticides, herbicides
361	Paint Booth	Paints, solvents/thinners, paint booth filters
370	Paint Storage	Paints, solvents/thinners
411	Former Battery Acid Handling Area	Sulfuric acid
412	HW Container Storage Area	Acids, caustics, flammable materials, pesticides, PCBs, paints, solvents/thinners
413	Cyanide Building	Cyanide filters
415	Hazardous Materials Storage	Solvents, refrigerants, batteries, acids, caustics, plating chemicals
416	IWTP & Control Bldg	Acids, caustics, oxidizers, metal sludge
419	Storage Shed	Paints, solvents/thinners
420	Painting and Plating Shop	Paints, solvents/thinners, paint booth filters, blast media with metals
423	Plastic Media Blast Facility	Blast media with metals

TABLE 6.7-3 (cont.) POTENTIALLY CONTAMINATED  
MAINTENANCE, ACCUMULATION AND STORAGE AREA

Building Number	Building Name	Hazardous Materials/Wastes Stored
426	Hazardous Materials Handling Facility	Paint, aerosol, solvent, thinner, petroleum, oil and lubricant cans
437-438	Pesticide Mix Area	Pesticides
552	Accumulation Point	Paints, solvents/thinners
555	Electro-Optics Facility	Radioactive materials, paints, solvents/thinners, paint booth filters
558	War Reserves	Flammable materials (war reserve)
601	Auto Hobby Shop	Petroleum products, metal dust, antifreeze, solvents
662	Hi-Tech Training Center	Oils, antifreeze, alcohols, Freon
699	Service Station (3 Uses)	Gasoline, oils, antifreeze
000	Navy/Marine Reserve	Paints, oils, antifreeze, alcohols
Shed 1	Near Bldg. 380-381	Paint, thinners, oil, antifreeze, alcohols
Shed 2	Near Bldg. 380-381	Paint, thinners, oil, antifreeze, alcohols
Shed 3	Near Bldg. 380-381	Paint, thinners, oil, antifreeze, alcohols
Shed 4	Near Bldg. 380-381	Paint, thinners, oil, antifreeze, alcohols

Source: Sacramento Army Depot EVMD list May 5, 1993.

### Painting Areas

Buildings 248, 320, 348, 361, 420, 555, and (Building 257-Bay 6), which contained a chemical agent resisting coating (CARC) facility, are included in this category. Hazardous materials and wastes used or produced in these areas included paints, solvents and thinners, and paint filters. Hazardous wastes were placed in drums, and stored at the Hazardous Waste Container Storage Area (HWCSA) prior to off-site disposal. Pint booths were permitted as required with SMAQMD.

### Hazardous Waste Container Storage Area (Building 412)

This RCRA-permitted hazardous waste container storage area has been in operation at the Sacramento Army Depot since 1981. The existing facility is designed according to contemporary criteria for containment, separation of incompatible wastes, etc. However, prior to 1981, drums were stored in this area as well, and releases to soil may have occurred.

### Hazardous Materials Handling Facility

Building 426, with a perimeter chain-link fence and metal roof, is the location of the hazardous waste consolidation area and two solvent distillation units. Paint cans; aerosol cans; solvent and thinner cans; petroleum, oil, and lubricant (POL) cans have been consolidated in this area and packed in 55-gallon drums prior to transfer to the HWCSA or off-site treatment, storage and disposal (TSD) facilities. Used solvents were distilled and recovered using the solvent distillation units inside this area until April 1993. The area of the facility is approximately 2,000 square feet.

### Plastic Media Blast Facility

Building 423 is the location of plastic media blasting operations which were used for cleaning metal surfaces. This facility generates waste plastic media with heavy metals contamination.

### Other Maintenance Areas

Maintenance activities occurred in various buildings where activities such as vehicle, optical, electrical, machine, and avionic maintenance were conducted. Washing of oily rags in Building 427 (Rag Recycling Facility) generated rinse water contaminated with oil. The rinse water was treated at the IWTP.

### Accumulation\Storage Areas

Hazardous materials and wastes used, accumulated, or stored in these areas for less than 90 days included pesticides, plating chemicals, acids, caustics, metal plating sludges, solvents, paints and paint sludges, oils, grease, fuel, antifreeze, asbestos and polychlorinated biphenyls (PCBs).

### Storage Areas for Radiological Sources

Radiological sources are stored in buildings 242, 244-4, 244-5, 255, 257, 300, and 320. These sources include night vision lenses and image tubes.

### Underground Storage Tanks (USTs)

There have been numerous USTs used at the Sacramento Army Depot, all but four have been removed and (if necessary) remediated. The present status of USTs is listed in Table 6.7-4. Included in the table are the tank identification numbers, vicinity location, volume, contents, status, compliance measures and results of yearly precision tank testing conducted to determine tank tightness. The remaining tanks, 250, 600-4, 600-5, and 600-6 could be used indefinitely. The areas around these tanks are clean and comply with regulations, and are being monitored. However, they will be subject to inventory reconciliation, annual precision tank testing, and continuous pipeline release detection, in accordance with applicable regulations.

Any USTs that do not meet the standards for new tanks must be upgraded by December 1998. The upgrades include: double containment; cathodic protection for metal systems; spill and overfill protection; and continuous release detection. The existing tanks have some or all of the upgrades. If the USTs come under new ownership, and are in service after December 1998, these upgrades should be implemented by the new owner. The new owner is responsible for any leakage after its takeover of the tanks operation.

### Battery Acid Handling Area

The battery acid handling area was located in Building 411 until battery processing at the Sacramento Army Depot was prohibited by regulatory agencies. The waste handled in this area was sulfuric acid with dissolved heavy metals. The pH of the sulfuric acid was less than two.

### **Characterization and Remedial Investigations**

Presently, eleven (11) areas and projects fall into the remediation category. In each case, the remedial planning (i.e., remedial investigation/feasibility study [RI/FS], remedial design [RD]) and remedial action (RA) process is well underway to efficiently remediate areas of known hazardous waste release, and to protect human health and the environment. These areas, and the status of remedial planning/action, are presented in Table 6.7-5. Location of these areas is shown in Figure 6.7-1. Note that most have either been issued a ROD, or expect such action in the near future. Two areas are being handled as BRAC cleanups, but within the IRP pursuant to the Sacramento Army Depot's Federal Facility Agreement (FFA) with the regulatory agencies.

The following provides a brief history and present status report for the 11 remediation areas identified above.

TABLE 6.7-4 STATUS OF UNDERGROUND STORAGE TANKS

Table 4-15  
Status of Underground Storage Tanks

Tank I.D.	Tank Location	Tank Capacity (gallons)	Tank Contents	Usage/ Removal Status	Regulatory Compliance (tank in use)	Precision Tank Test Results
250-1	B-245	5,000	Diesel	In Use	Daily inventory reconciliation;	Pass
600-4	B-699N	8,000	Unleaded Gas	In Use	annual tank testing;	Pass
600-5	B-699N	8,000	Unleaded Gas	In Use	continuous pipeline leak detection	Pass
600-6	B-699N	8,000	Unleaded Gas	In Use		Pass

Source: Ebasco 1993a.

### Oxidation Lagoons and Drainage Ditches

Four former oxidation lagoons are located in the southwest section of the Sacramento Army Depot. Each lagoon is approximately 0.5 to .75 acre in area. These lagoons were used from 1950 to 1972 as a place for industrial and domestic liquid waste disposal. Concentrated untreated rinse waters generated from metal plating operations were diluted with large volumes of water and then drained into the lagoons. Currently, the lagoons are dry. All vegetation has been recently removed from the lagoons as part of the remediation effort. Directly north of the lagoons are overflow drainage ditches and Old Morrison Creek. After the establishment of the Sacramento Army Depot Morrison Creek was channelized and diverted to follow around the Sacramento Army Depot's southern perimeter to its original discharge point at the eastern boundary of the installation. Presently, Old Morrison Creek is a dry bed that bisects the Sacramento Army Depot from east to west.

For many years the western portion of Old Morrison Creek served as an overflow outlet for effluent drained from the oxidation lagoons by the drainage ditches. A feasibility study prepared by Kleinfelder indicated the presence of metals in the soils that the oxidation lagoons, drainage ditches, and Old Morrison Creek.

The primary contaminants of concern include cadmium, lead and arsenic. Other contaminants of concern are zinc, aluminum, chromium and nickel. Approximately 12,000 cubic yards of soil were affected and require treatment.

The ROD was signed in September 1992 for this site, and a remediation pilot test began in October 1992 and was completed in April 1993. In full scale remediation, contaminate soil will be excavated and washed using various chemical reagents. Remediation is expected to be completed by October 1994.

### South Post Burn Pits

Two burn pits were used for burning activities during the late 1950s to 1966. These burn pits are located in the southwest section of the Depot, a relatively small distance from the oxidation lagoons. The size of each burn pit is approximately 30 feet wide by 360 feet long by 30 feet deep. Waste materials incinerated at the burn pits were primarily plating shop and paint sludges, oil and grease, mercury batteries, and debris.

A Kleinfelder feasibility study indicated the presence of volatile organic compounds (VOCs), semi-VOCs, metals (lead, cadmium, antimony, arsenic, manganese, zinc, total chromium, and hexavalent chromium), PCBs, and dioxins and furans the soils at the burn pits. Approximately 247,900 cubic yards of soil have been affected and require treatment. Of this total, approximately 16,900 cubic yards are located within the two original burn pits and are contaminated with metals, PCBs, dioxins and furans, VOCs, and semi-VOCs. The remaining 231,000 cubic yards are made up of soil around and under the burn pits.

TABLE 6.7-5 STATUS OF REMEDIATION AREAS

Remediation Project	Status
Oxidation Lagoons	ROD signed in September 1992, remediation ongoing
South Post Burn Pits	ROD signed March 1993, remediation ongoing
Area of Tank No. 2	ROD signed in December 1991, remediation completed March 1993
South Post Groundwater Treatment Plant (on-site)	ROD signed in September 1989, remediation ongoing
Groundwater Treatment (off-site) (part of existing groundwater treatment)	Base-wide ROD July 1994, remediation ongoing
Building 300 - Old Burn Pits	Base-wide ROD July 1994, contracting
Pesticide Rinse Area	Base-wide ROD July 1994, investigative removal completed July 1993
Battery Disposal Well	Base-wide ROD July 1994, investigative removal completed July 1993
Locomotive Repair Area (Bldg. 205) Building/Soil Contamination (if any additional contamination is found on the installation)	BRAC cleanup action FY 1994, investigation ongoing
Building 555 Contractor Spoils Area	BRAC cleanup action July 1994, contracting
Freon 113 Contamination	Base-wide ROD July 1994, investigation ongoing, remediation FY 1994
Parking Lot No. 3 Groundwater (pilot test removal)	Base-wide ROD July 1994, remediation ongoing

Source: Sacramento Army Depot EVMD.

Treatability studies were conducted for soil ventilation soil washing and soil stabilization to gather more site specific information on these processes. The selected remediation was soil ventilation for VOCs, followed by removal of borroughs and stabilization of contaminants (solidification), and a final cover of 5 feet of clean soil cap. This remediation will require a deed restriction on exaction or drilling for future use. The ROD was signed in March 1993, and remediation is expected to be completed by January 1995. The Burn Pits have been determined as the source of groundwater contamination at the Sacramento Army Depot.

#### Area of Tank No. 2

The Area of Tank 2, located in the northwestern quadrant of the Depot between Building 320 and Attu Street, was a 1,000-gallon underground solvent storage tank which was removed in 1986. The tank showed signs of significant deterioration. The former tank site was backfilled and is currently under a concrete slab.

A Kleinfelder feasibility study indicated the presence of ethylbenzene, total xylenes, 2-butanone, isophorone, phthalates, pyrene, toluene, fluoranthene, phenanthrene, naphthalene, and PCBs 25 to 30 feet below ground surface. Approximately 1,000 cubic yards of soil were affected and were subject to treatment.

In accordance with the ROD signed in September 1991, soil ventilation of VOCs with air emissions control and ultraviolet/peroxidation treatment of the soil moisture was used for remediation. Remediation of this site was completed in March 1993 and approved by the agencies.

#### South Post Groundwater Treatment Plant and Groundwater Treatment

Field investigations (FI) conducted by Kleinfelder confirmed presence of VOCs in the groundwater beneath the southwest corner of the Sacramento Army Depot and beyond the property line. Quarterly groundwater sampling between 1985 and 1989 from several monitoring well showed tetrachloroethane, and perchloroethene (PCE, trans-1,2-dichloroethene (t-1,2-DCE), 1,2-dichloroethane, and chloroform to be present at or above reporting limits. The RI/FS process was finished in 1989, leading to issuance of a ROD in September 1989.

In accordance with the ROD, on-site groundwater is current being extracted and treated at the rate of 350,000 gallons per day, but can be expanded to 500,000 gallons per day if required. The treatment system consists of seven extraction wells and an ultraviolet/oxidation process. The treatment system has been effective in destroying VOCs in the groundwater, and restoring it to current drinking water standards without residual air emission or hazardous waste byproducts. The system is expected to be in operation until 2001. Because the contaminated groundwater plume extends beyond the Sacramento Army Depot's property line, the off-site plume will be addressed in the Basewide ROD to install additional off-site extraction wells. The Basewide ROD is expected to be signed in July 1994.

### Building 300 Old Burn Pits

Building 300 was the site of two burn pits (similar to the South Post Burn Pits) which were used from 1945 to the mid-1950's for burning and burying hazardous wastes and debris. One burn pit area was approximately 40 feet by 170 feet (this burn pit was removed prior to construction of Building 300 and taken to the South Post Burn Pits), and the other is approximately 40 feet by 230 feet by 30 feet deep. Plating shop wastes containing acids, alkalies, and cyanide were reported disposed of in the pits. Other wastes include heavy metals (chromium, cadmium, copper, silver, gold), paint sludges, radium dial paint, mercury batteries, oil, grease, and sanitary refuse.

No soil ventilation is required since the VOCs are below action levels. It has been recommended that contaminated soils be excavated and stabilized at the South Post Burn Pits. This corrective action will be incorporated in the proposed Final Basewide ROD expected to be signed in July 1994.

### Pesticide Rinse Area

A former pesticide mixing area adjacent to Building 362, in the eastern portion of the site, south of Mindanao Street consisted of an abandoned outdoor utility sink on the side of a small metal shed. The site appears to be a low area, with an access hole cover at the site of the purported drain well. Until 1982, pesticides were mixed in the area and containers were rinsed in the utility sink in Building 362. The sink drained directly to an open drain well approximately 30 feet to the east. The pesticide solutions were allowed to percolate into the surficial deposits. Pesticides mixed and rinsed included malathion and DDT (dichlorodiphenyl-trichloroethane). Kleinfelder conducted a soils investigation in the summer of 1986, which indicated the presence diazinon.

An investigative removal action in accordance with CERCLA regulation was conducted. Contaminated soil has been excavated and drummed and properly disposed. Remediation was completed in July 1993 and an Environmental Engineering and Cost Analysis (EECA) is being prepared for the regulators.

### Battery Disposal Well

A hand-dug well, approximately 10 feet in diameter at the surface, and located west of Building 555, was used as a battery disposal well in 1946 and 1947. Depleted dry-cell batteries, consisting of a zinc anode, a carbon cathode packed in manganese dioxide, and an aluminum chloride electrolyte solution, were disposed of in this well. In 1990, soil samples were analyzed for VOCs, semi-VOCs, metals, moisture content, and pH. Metals were determined to be the contaminant of concern. Magnetic anomalies were also detected in the proximity of the well during a magnetometer survey conducted by Kleinfelder in 1986.

An investigative removal action, in accordance with CERCLA regulation, was conducted, and the affected area has been excavated. Soil was sampled and analyzed for contamination after screening and all solid debris has been separated. The screened soil is contaminated, and will be

properly disposed of off-site or at the burn pits stabilization. Remediation was completed in July 1993.

#### Locomotive Repair Area (Building 205)

An area south of the Rail Yard Engine Shed was the site of a locomotive diesel spill. A BRAC Cleanup Action is expected to begin in 1994. On site bioremediation is being explored as a possible solution, because of the presence of proposed endangered fairy shrimp species.

#### Contractor Spoils Area

An area east of Building 555 was used to dispose of construction excavation soils, concrete, asphalt, and small amounts of debris. An investigation done by Kleinfelder determined that 90 percent of the spoils is soil. Tests have been taken for VOCs, semi-VOCs, metals and pH. No elevated contamination levels were obtained.

A BRAC Cleanup Action is expected to begin in July 1994. The area will be tractor screened and leveled for future use.

#### Freon 113

An area by the Tank No. 2 project contains Freon 113 contamination in the soil and groundwater. Contamination levels have not reached regulatory action levels for groundwater, but indications are that they would in the future.

A delineation investigation is being performed by Kleinfelder and remediation is expected to begin in 1994.

#### Parking Lot 3

A parking lot west of Building 320 has been found to contain VOC contamination in soil and groundwater. Aerial photos from the 1940's show an above ground storage tank in this location. The groundwater and soil contamination is isolated and contained due to the asphalt cap of the parking lot.

A pilot test removal action was started in August 1993, consisting of air sparging and groundwater extraction.

## **IMPACTS AND MITIGATION**

### Introduction

As presented earlier in this chapter, Sacramento Army Depot is known to be the site of extensive soil and groundwater contamination. The redevelopment of Sacramento Army Depot presents a range of concerns related to the intense reuse of contaminated sites. Such concerns include the

appropriate staging of new development in relation to toxics remediation activities, the appropriateness of future land uses, the relationship of remediation standards to proposed reuse activities and the types of measures necessary to protect the public health and safety and the environment today, during the development (construction) process, and throughout the life of the uses to be developed at Sacramento Army Depot.

Before the Army may "dispose" of any property at Sacramento Army Depot, it must comply with the provisions of CERCLA Section 120(h). Section 120(h) requires that, before property may be transferred, the United States must provide notice of specific hazardous waste activities on the property, and include in any deed a covenant warranting that:

All remedial action necessary to protect human health and the environment with respect to any [hazardous] substance remaining on the property, has been taken before the date of such transfer.

Further, the covenant must warrant:

Any response action or corrective action found to be necessary after the date of such sale or transfer shall be conducted by the United States.

Table 6.7-6 lists Indemnification Provisions in the 1993 DOD Authorization Act (HR5006).

The primary responsibility for implementation of measures to mitigate the impacts upon human health and the environment caused by contamination at the Sacramento Army Depot remains with the parties to the FFA: the Army, the EPA and Cal-EPA. The County is not a party to the FFA and cannot independently invoke its procedures to enforce the obligations of the Army to remediate contamination or mitigate its impacts on human health and the environment. Neither may the City dictate remediation standards or enforcement obligations inconsistent with those adopted pursuant to the FFA.

Under President Clinton's five point plan to facilitate reuse of closing military bases, remediation activities must consider and support the proposed reuses designated by the City. Mitigation measures adopted as part of the EIR should not relieve the Army or the regulatory agencies of their responsibilities under the FFA or federal or state law. Neither should these mitigation measures impose obligations upon the City which are obligations of the Army or regulatory agencies. The City may be unable to adopt or enforce mitigation measures which are inconsistent with or duplicative of the obligations of the parties involved.

However, the City should adopt measures to mitigate impacts to the extent it is able, in the following areas:

- 1) Monitor and provide input to the remediation and site investigation activities of the parties to the FFA to assure remediation is consistent with and coordinated with land use and development.

TABLE 6.7-6

**COMPARISON OF INDEMNIFICATION PROVISIONS IN THE  
1993 DOD APPROPRIATIONS ACT (Repealed 7/2/93) AND  
1993 DOD AUTHORIZATION ACT**

Issue	DOD Authorization Act (HR 5006)
Who indemnifies?	Secretary of Defense
What is the scope?	to hold harmless, defend and indemnify
Who is indemnified?	any (1) state, (2) political subdivision of a state, (3) other person or entity, or (4) successor, assignee, transferee, lender, or lessee of a person or entity listed above  ...that acquires ownership or control of any facility at a military installation.
What property is covered?	military installations or portions of military installations that are closed pursuant to a base closure law
What is indemnified against?	any (1) suit, (2) claim, (3) demand or action, (4) liability, (5) judgment, (6) cost, or (7) other fee.
What types of damages are indemnified against?	arising out of any claim for personal injury or property damage (including death, illness, or loss of or damage to property or economic loss)
What must cause the damages?	"results from or is in any manner predicated upon the release or threatened release of any hazardous substance, pollutant, or contaminant"
What must the causes of the damages result from?	Department of Defense activities at any military installation or portion thereof that is closed pursuant to base closure law
Stated exclusions:	(1) To extent indemnified persons or entities "contributed to any such release or threatened release" then protections do not apply, and (2) If indemnitee does not allow Secretary of Defense to settle or defend the claim.

TABLE 6.7-6

**COMPARISON OF INDEMNIFICATION PROVISIONS IN THE  
1993 DOD APPROPRIATIONS ACT (Repealed 7/2/93) AND  
1993 DOD AUTHORIZATION ACT**

Issue	DOD Authorization Act (HR 5006)
Definitions:	(1) "hazardous substance" has the meaning given the phrase in CERCLA (does not include petroleum), (2) "pollutant or contaminant" and "release" have the meaning given the terms in CERCLA, (3) "facility" has the meaning given the term in CERCLA, (4) "accrual of action": date on which plaintiff knew or reasonably should have known.
Notice requirements:	DOD must be notified in writing within two years of the date the claim accrues (knew or reasonably should have known)
Other requirements:	cooperate with DOD by furnishing pertinent papers and proof of the claim and allow the Secretary of Defense access to information to settle or defend claim
Statute of Limitations:	must begin legal action within six months of the day of mailing of notice of final denial of the claim by DOD
Date signed by the President:	October 24, 1992
Current status:	Currently in effect
SOURCE: Parker, Milliken, Clark, O'Hara and Samuelian, 1994.	

- 2) Coordinate City activities to prevent disruption of remediation or site investigations, including long term groundwater monitoring.
- 3) Obtain Army and regulatory agency input prior to commencing construction or other development activities, including licensing or leasing activities to:
  - a) Minimize exposure to areas containing contamination, including areas where remediation is complete but contamination is encapsulated.
  - b) Assure land use is consistent with remediation standards adopted for specific areas.
  - c) Avoid exposure or disruption of encapsulated areas of contamination.
  - d) Minimize activities increasing risk exposure.
  - e) Minimize activities enhancing potential for mitigation of existing contaminants.
  - f) Determine necessary and reasonable precautions to minimize threats with input from the Army and the regulatory agencies.
  - g) Assure that transferees, tenants, or sublessees of the City comply with similar measures.
  - h) Prioritize areas for remediation that have the most significance for productive reuse.

### Standards of Significance

For the purposes of this EIR, an impact is considered significant if one or more of the following conditions would result from implementation of the Army Depot Reuse Plan:

A substantial risk of:

- unacceptable human exposure to hazardous substances;
- unacceptable environmental degradation; or
- explosion, fire or accidental release of hazardous substances.

Due to any of the following:

- attracting people to the Sacramento Army Depot project site;
- construction work in the Sacramento Army Depot project site;
- use of hazardous materials in the Sacramento Army Depot project site;

- storage of hazardous materials in the Sacramento Army Depot project site; or
- transportation of hazardous materials through the Sacramento Army Depot project site.

### Methods

Data for this analysis was summarized from conversations with Sacramento Army Depot Environmental Management Office personnel and from existing reports regarding the ongoing site investigation and remediation at Sacramento Army Depot. These reports include the Basewide Environmental Baseline Survey, Sacramento Army Depot, California, December 1993; the Army Installation Restoration Program, Remedial Investigation report for Sacramento Army Depot; and the Draft EIS for the Disposal and Reuse of Sacramento Army Depot, California, 1994.

Other documents reviewed include the BRAC Cleanup Plan (BCP), 1994.

Redevelopment of Sacramento Army Depot to civilian use would increase the potential for unacceptable exposure of individuals and/or a number of people simultaneously to hazardous substances contamination or use. Exposure of the projected population was assumed to occur for this analysis under the following circumstances: (1) due to the mixed-use nature of the land uses people would move freely throughout the area; (2) demolition and construction activities could involve exposure to hazardous substances; and (3) over time, site uses may change. Hence, increased levels of development activities at Sacramento Army Depot would require steps to ensure protection for future workers, residents, and visitors from unacceptable exposures to hazardous substances.

### Impacts and Mitigation Measures

#### *Impact*

#### 6.7-1 Construction Activities, Contaminated Soil (Project Specific)

PP Though significant efforts have been made to identify all sites of contamination on the Sacramento Army Depot site, the potential exists that unidentified sites of contamination are still present on the site. These sites could be identified after the property is transferred, leased, or conveyed to the City of Sacramento. If contaminated sites are encountered after property transfer, the Army will still be responsible for remediation. Contamination could be encountered during construction activities, therefore worker exposure is possible. Construction activities that move soil, such as grading, trenching and excavation, could expose construction workers to chemicals not only near the surface, but also deeper in the soil column. As previously discussed, contaminants at Sacramento Army Depot can be classified in four basic categories: metals, VOCs, hydrocarbons and semi-VOCs, each with its own characteristics in terms of where it is likely to be found in the soil column and its mobility in the environment. Exposure to substances that adsorb to the soil, like heavy metals and semi-volatile organic compounds, could occur through inhalation or ingestion of affected soils. Exposure to more

mobile chemicals, such as VOCs, could result from inhalation of gases or skin contact. Exposure to hydrocarbons could result by any of the above mentioned exposure routes. Development consistent with the Sacramento Army Depot Reuse Plan could involve construction activities that could expose construction workers to previously unidentified contaminated soil. This would be considered a *significant impact*.

- AA The No Project Alternative would have no construction activities; therefore, no impact would occur.
- AB Development consistent with Alternative B would result in construction related hazardous substance impacts. These impacts would be similar to those identified in the proposed project; therefore, this is considered a *significant impact*.

### Mitigation

#### 6.7-1 Construction Activities, Contaminated Soil (Project Specific)

For the proposed project and Alternative B, the following mitigation would reduce the impact to a *less-than-significant* level. No mitigation is required for the No Project Alternative.

- PP, AB (a) *If the potential for contamination is suspected, construction activities shall stop and sampling shall be conducted by qualified personnel, in accordance with all applicable regulations to determine the constituent levels and the extent of the contamination.*
- (b) *If contamination is identified, remediation and disposal procedures shall be undertaken by qualified personnel in accordance with all applicable regulations, and in coordination with all applicable regulatory agencies*

### Impact

#### 6.7-2 Construction Activities, Asbestos (Project Specific)

- PP The demolition of older buildings could expose construction workers and the public to carcinogenic asbestos fibers. Asbestos is present in "non-friable" form in the existing structures. Non-friable asbestos is generally bound to other materials such that it does not become airborne under normal conditions. In most cases, asbestos in older structures is contained in linoleum, insulation, and similar building materials. These non-friable materials do not present an intrinsic health hazard by their mere presence, because the asbestos is encapsulated in another material. However, any activity that involves manipulation of these materials (i.e., cutting, grinding, or drilling) could release hazardous airborne asbestos fibers.

Asbestos-containing materials have been identified at Sacramento Army Depot. Though some of this material would be removed prior to conveyance of Sacramento Army Depot, some will remain in place. The US Army is responsible for asbestos abatement at Sacramento Army Depot, but will not remove all ACM under all circumstances. Development consistent with the Sacramento Army Depot Reuse Plan Amendment could involve construction activities at Sacramento Army Depot which could require the demolition and/or renovation of existing structures, possibly containing asbestos material, thereby exposing construction workers and the public to associated hazards. This would be considered a *significant impact*.

- AA The No Project Alternative would have no construction activities; therefore, no impact would occur.
- AB Development consistent with Alternative B would result in construction related asbestos impacts. These impacts would be similar to those identified in the proposed project; therefore, this is considered a *significant impact*.

### Mitigation

#### 6.7-2 Construction Activities, Asbestos (Project Specific)

For the proposed project and Alternative B, the following mitigation measure would reduce the impact to a *less-than-significant* level. No mitigation is required for the No Project Alternative.

- PP, AB (a) *If asbestos fibers are suspected or identified in soils or existing building materials, then additional sampling shall be performed prior to any construction activities to identify asbestos-containing materials that may be contained in building materials or obscured behind walls, above ceilings, and beneath floors.*
- (b) *Demolition activities affecting asbestos-containing material shall be performed by a licensed asbestos abatement contractor with properly trained personnel in accordance with all applicable federal, state and local regulations.*

### Impact

#### 6.7-3 Hazardous Substances (Project Specific)

- PP Remediation of groundwater contamination at Sacramento Army Depot is not due for completion until 2001. The groundwater remediation requires monitoring wells which will require an easement for continued use. All other remediation activities are due for completion prior to transfer of the property to the City; however, leasing may occur before remediation is complete. Therefore, there will

likely be some limitations to site use due to remedial activities and the potential for human exposure to contaminants.

Prior to lease or transfer of all or portions of the Sacramento Army Depot site to the City of Sacramento, potential health hazards will be identified and appropriate measures taken to prevent human exposure.

Sacramento Army Depot would be developed incrementally over many years. Development of some portions of the site would occur at the same time as remediation of other portions of the site (i.e., groundwater). In order to protect users of the site, remediation systems will be designed to prevent the spread of groundwater plumes, mobile chemicals in soil, or airborne contaminants. The concurrent development/leasing of some portions of Sacramento Army Depot and remediation of other portions of Sacramento Army Depot could result in potential exposure of new residents and/or employees in the area to hazardous substances. Such exposures could occur from exposed soils and blown dust, uncontrolled runoff, or the free movement of people between portions of the Sacramento Army Depot site.

When the project is partially developed, a substantial number of people will work on the site. At the same time, areas of the site may not be completely remediated, and major infrastructure and mitigation measures such as streets, transit facilities, and parks will not yet be complete. Development consistent with the Sacramento Army Depot Reuse Plan could occur incrementally so that early stages of development could be completed prior to complete remediation of the entire site, thereby potentially exposing inhabitants and users to hazardous substances. This would be considered a *significant impact*.

- AA The No Project Alternative would have no construction activities; therefore, no impact would occur.
- AB Development consistent with Alternative B would result in hazardous substance impacts. These impacts would be similar to those identified in the proposed project; therefore, this is considered a *significant impact*.

### *Mitigation*

#### 6.7-3 Hazardous Substances (Project Specific)

For the proposed project and Alternative B, the following mitigation would reduce the impact to a *less-than-significant* level. No mitigation is required for the No Project Alternative.

- PP, AB (a) *Unacceptable exposures to active remediation sites, areas of encapsulation or remaining contamination, and unremediated portions of Sacramento Army Depot shall be prevented by one or*

more of the following measures as determined appropriate by regulatory agencies.

- (1) *Buffer zones as determined appropriate by regulatory agencies between areas that are completely remediated and ready for development and those that are not completely remediated.*
  - (2) *Cleanup of accessible portions of the site to interim levels that are determined by the lead agencies to be adequately protective for short-term human exposure.*
  - (3) *Interim cover of accessible portions of the site in order to bury or otherwise encapsulate hazardous materials and to prevent human exposure.*
  - (4) *Limitations on access to active remediation sites, areas of encapsulated or remaining contamination, and unremediated areas of the site, that are not otherwise covered by means of fencing, posting of signs, and site security.*
  - (5) *Dust control for active cleanup sites and unremediated bare ground.*
  - (6) *Perimeter air monitoring for active remediation sites and during construction.*
- (b) *For property to be leased, transferred, or conveyed to the City by the Army, the City of Sacramento shall require that future development at Sacramento Army Depot comply with any limitations or restrictions pertaining to hazardous substance remediation identified in any lease, transfer, or conveyance agreement. These agreements are currently under negotiation with the EPA, the California EPA, the U.S. Army, and the City.*

### *Impact*

#### 6.7-4 Cleanup Interference (Project Specific)

PP Development under the Reuse Plan would occur incrementally over many years. Similarly, the anticipated schedule of remediation activities would occur at least throughout the 1990s. Development consistent with the Sacramento Army Reuse Plan could interfere with cleanup efforts of existing contaminated sites. This would be considered a *significant impact*.

- AA The No Project Alternative would have no construction activities; therefore, no impact would occur.
- AB Development consistent with Alternative B would result in the interference of cleanup efforts of existing contaminated sites. These impacts would be similar to those identified in the proposed project; therefore, this is considered a *significant impact*.

### Mitigation

#### 6.7-4 Cleanup Interference (Project Specific)

For the proposed project and Alternative B, the following mitigation would reduce the impact to a *less-than-significant* level. No mitigation is required for the No Project Alternative.

- PP, AB
- (a) *The City shall coordinate with the U.S. Army, the U.S. EPA, the California EPA, and other involved agencies as appropriate to assure that the proposed development at Sacramento Army Depot does not interfere with any adjacent, and/or on-site remediation activities, or unduly delay either project development or area remediation.*
  - (b) *All contractors shall coordinate with the City, the U.S. Army, the U.S. EPA, the California EPA, and other involved agencies, as appropriate, to assure that construction activities do not interfere with any adjacent and/or on-site remediation activities or unduly delay either project development or site remediation.*
  - (c) *The City shall cooperate with the U.S. Army and the U.S. EPA and California EPA to ensure that EPA remediation priorities for Sacramento Army Depot are maintained.*

### Impact

#### 6.7-5 Contaminated Soil and/or Groundwater (Project)

- PP In addition to concern for initial inhabitants and users, remediation measures must account for movement of people and activities across the site through its entire life. Currently, federal and state law provide for recordation of deed/lease restrictions in order to restrict existing and future land uses on contaminated sites to uses compatible with the levels of hazardous materials left in place. The allowable land uses are those that have been determined by the lead agencies not to pose an unacceptable risk to human health or the environment. Although the remaining levels of contamination may be considered protective of populations associated with some types of land uses (such as industrial and commercial), they

may not be acceptable for others (such as children), regardless of the primary land use designation.

A site that has been remediated may be subject to additional remediation at a future time if any of the following conditions occur: (1) the clean-up standards themselves change; (2) the previous remediation is determined to have been inadequate; (3) previously unidentified hazardous material contamination is identified; or (4) land uses upon which remediation standards were determined, change.

Development under the Reuse Plan will lead to changes in land use that will bring increased numbers of residents and users into an area that formerly was primarily a federal military facility. Redevelopment of this area will require investigation of potential risks to public health and safety. Development consistent with the Sacramento Army Depot Reuse Plan could result in exposure of inhabitants and users to contaminated soil and/or groundwater. This would be considered a *significant impact*.

- AA The No Project Alternative would have no construction activities; therefore, no impact would occur.
- AB Development consistent with Alternative B would result in contaminated soil and/or groundwater impacts. These impacts would be similar to those identified in the proposed project; therefore, this is considered a *significant impact*.

#### *Mitigation*

##### 6.7-5 Contaminated Soils and/or Groundwater (Project Specific)

For the proposed project and Alternative B, the following mitigation would reduce the impact to a *less-than-significant* level. No mitigation is required for the No Project Alternative.

- PP, AB (a) *Implement Mitigation Measures 6.7-1(a) and 6.7-1(b).*
- (b) *Individual site plans for each project phase or subphase at Sacramento Army Depot shall be coordinated with locations of groundwater extraction wells, and other groundwater treatment facilities.*

*Impact*

## 6.7-6 Contaminated Soils and/or Groundwater (Project Specific)

- PP Throughout the life of the project, uses on the Sacramento Army Depot site may change from those that were originally approved. In addition, over time, cleanup standards may change. Any reuse of a site that results in increased exposure to chemicals above currently acceptable levels should accordingly trigger a review of prior remediation levels in light of the most recent scientific information and applicable standards to determine if additional remediation is necessary. Construction workers, inhabitants and other users could be exposed to unacceptable levels of contaminated soil and/or groundwater at Sacramento Army Depot due to future changes in general plan land use designations and/or new construction or demolition. This would be considered a *significant impact*.
- AA The No Project Alternative would have no construction activities; therefore, no impact would occur.
- AB Development consistent with Alternative B would result in contaminated soil and/or groundwater impacts. These impacts would be similar to those identified in the proposed project; therefore, this is considered a *significant impact*.

*Mitigation*

## 6.7-6 Contaminated Soils and/or Groundwater (Project Specific)

For the proposed project and Alternative B, the following mitigation would reduce the impact to a *less-than-significant* level. No mitigation is required for the No Project Alternative.

- PP, AB (a) *Redevelopment or change of use of any portion of the Sacramento Army Depot site shall comply with limitations or restrictions identified in the lease, transfer or conveyance agreement with the U.S. Army, the U.S. EPA and the California EPA and the City.*
- (b) *The City shall review and comment on all remediation plans proposed by the regulatory and enforcement agencies.*

*Impact*

## 6.7-7 Hazardous Substances Transportation (Project Specific)

- PP Although it is not possible at this time to predict the exact types of hazardous materials that could be transported through the Sacramento Army Depot site, it can be expected that haulers could transport any material legally transportable on roads and rail lines. Trucking on highways and local streets is the most common

method of transporting hazardous materials and waste in the City of Sacramento. It is estimated that 6.9 percent of all highway accidents involve trucks, and that accidents also occur on local streets where the trucks travel when delivering hazardous materials and collecting hazardous waste. The California Highway Patrol estimates that approximately 25 percent of trucks in urban areas carry hazardous substances. In 1990, Department of Transportation accident reports for California identified approximately 668 accidents involving hazardous substances. Approximately 59 incidents involving trains carrying hazardous substances occurred for the same period. As discussed in the Setting section of this Chapter, CFR 49 and Title 26 regulate the transportation of hazardous substances by trucks and other vehicles. CFR 49, Parts 106 through 189, regulate the transport of Hazardous Materials on rail lines. Furthermore, the California PUC General Order 161 requires rules to assure coordination between federal, state, and local agencies and railroads in the area of emergency response during a hazardous substances incident during rail transport. Development consistent with the Sacramento Army Depot Reuse Plan could include uses that could increase the amount of hazardous substances transported through the Sacramento Army Depot site, as well as bring new employees in proximity to existing hazardous substances. This would be considered a *significant impact*.

- AA The No Project Alternative would have no construction activities; therefore, no impact would occur.
- AB Development consistent with Alternative B would result in hazardous substances transportation impacts. These impacts would be similar to those identified in the proposed project; therefore, this is considered a *significant impact*.

### *Mitigation*

#### 6.7-7 Hazardous Substances Transportation (Project Specific)

For the proposed project and Alternative B, the following mitigation would reduce the impact to a *less-than-significant* level. No mitigation is required for the No Project Alternative.

- PP, AB *Prior to issuance of any entitlement to construct at the Sacramento Army Depot site, a Hazardous Substances Transportation Program shall be prepared for incorporation into project design. The transportation program shall be in compliance with the Sacramento County Hazardous Waste Management Plan and shall include the following elements:*
- (1) *Identify firms and land uses requiring hazardous material shipping access.*
  - (2) *Identify sensitive facilities and environmentally sensitive areas.*

- (3) *Identify and adopt appropriate transportation routes that would avoid sensitive land uses.*
- (4) *Evaluate accident probability and severity.*
- (5) *Identify emergency response services.*

### *Impact*

#### 6.7-8 Hazardous Materials (Project Specific)

- PP Existing residential development near potential heavy commercial or industrial uses could result in increased unacceptable exposure to hazardous materials. Greater numbers of people, or more sensitive populations (such as children) may be exposed to ongoing industrial or commercial operations. As summarized in the setting section of this chapter, many federal and state regulations govern storage, use, handling and emissions of hazardous materials. Anyone handling hazardous materials within the site would be required to comply with all applicable regulations. Location of industrial and commercial uses on the Sacramento Army Depot site adjacent to existing residential uses could expose residents to hazardous materials. This would be considered a ***significant impact***.
- AA The No Project Alternative would have no construction activities; therefore, no impact would occur.
- AB Development consistent with Alternative B would result in hazardous materials impacts. These impacts would be similar to those identified in the proposed project; therefore, this is considered a ***significant impact***.

### *Mitigation*

#### 6.7-8 Hazardous Materials (Project Specific)

For the proposed project and Alternative B, the following mitigation would reduce the impact to a *less-than-significant* level. No mitigation is required for the No Project Alternative.

- PP, AB
- (a) *As part of the information required to apply for a development permit at the site, the City shall require, as appropriate, studies, such as air toxics evaluations, to determine if the proposed use will create an unreasonable risk to adjoining properties. Such studies shall suggest measures that would mitigate the unacceptable effects of hazardous material on adjoining properties.*
  - (b) *The City shall require businesses at the Sacramento Army Depot site that use solvents and/or other toxic or hazardous materials to*

*present Hazardous Substance Management Plans for the review and approval of the Sacramento County Environmental Management Department, and the Sacramento Fire Districts Chiefs, prior to final building inspection. The plans shall demonstrate that adequate safety precautions have been taken for the storage and handling of hazardous materials and/or wastes, including:*

- *Proper on-site management;*
- *Proper transportation;*
- *Properly designed and outfitted disposal facilities;*
- *Source reduction and recovery;*
- *Measures to prevent hazardous wastes from entering sanitary sewers;*
- *Programs to reduce spills of hazardous substances during transport.*

*(c) The City shall require that all buildings or structures containing hazardous materials be labeled at all doorways with easy-to-read signs that provide emergency response teams with information on the hazardous contents of the building or structure, and proper containment procedures. Labeling should be based on existing systems (such as the national Fire Protection Association 704 System) and approved by the City Fire Department.*

*(d) Outdoor storage of materials on the site shall be minimized. Materials which emit odors, fumes, or otherwise cause a nuisance or hazard to neighboring properties shall not be stored outdoors. Any outdoor storage shall be done in compliance with all applicable federal, state, and local regulations.*

### Cumulative Impacts

#### *Impact*

#### 6.7-9 Hazardous Materials (Cumulative)

PP Growth in the Sacramento Area would increase industrial and commercial operations which could increase the use, storage, handling and transportation of hazardous materials. Planned development in the region would also increase the number of people living in proximity to such uses who could be exposed to risks associated with hazardous materials handling.

On a cumulative level, increased handling of hazardous substances and therefore increased potential for a hazardous substances incident, is to be expected in an area experiencing industrial and commercial growth. It is also to be expected that

population growth in an area will increase the number of people exposed to associated health risks of such incidents.

However, recent legislative emphasis on source reduction, waste minimization, and recycling, should have a positive effect in reducing the overall amounts of hazardous substances used by private and public enterprises. Cumulative development in the region, including development of the Sacramento Army Depot site, could increase the number of people exposed to risks associated with hazardous materials. This would be considered a *significant impact*.

AA The No Project Alternative would have no construction activities; therefore, no impact would occur.

AB Cumulative development in the region; including development consistent with Alternative B, would result in hazardous materials impacts. These impacts would be similar to those identified in the proposed project; therefore, this is considered a *significant impact*.

### *Mitigation*

#### 6.7-9 Hazardous Materials (Cumulative)

For the proposed project and Alternative B, the following mitigation would reduce the impact to a *less-than-significant* level. No mitigation is required for the No Project Alternative.

PP, AB *Implementation of Mitigation Measures 6.7-1 through 6.7-8.*

## 7. GROWTH INDUCING IMPACTS

## 7. GROWTH INDUCING IMPACTS

Section 15126(g) of the CEQA Guidelines require that the EIR discuss the growth-inducing impacts of the proposed project. Specifically, CEQA states:

Discuss ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas). Increases in the population may further tax existing community service facilities so consideration must be given to this impact. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

Growth inducing impacts can result from development that directly or indirectly induces additional growth pressures which are more intense than what is currently planned for in general and community plans. An example of this would be the redesignation of property planned for agricultural uses to urban uses. The growth inducement that may result, in this example, would be the development of services and facilities that may encourage the transition of additional land in the vicinity to more intense urban uses. Another example would be the oversizing of services, e.g., sewage mains, to a project site which may have the additional capacity to serve more intense land uses nearby. Neither of these examples apply to the project site.

The project site is currently owned by the federal government and is a military installation used as a repository for the United States Army. The site is currently located in an area that has been and continues to be developed with industrial and warehousing uses. The approval of the proposed Army Depot Reuse Plan will provide a land use designation compatible with these surrounding uses.

Adoption and implementation of the proposed Sacramento Army Depot Reuse Plan would result in additional industrial development in the South Sacramento Community Plan area. This development has been identified as consistent with the current Industrial land use designation for the site as identified in the South Sacramento Community Plan. In addition, the Sacramento Army Depot site has been rezoned to Heavy Industrial - Special Planning District (M-2(SPD)) and is designated Public/Quasi-Public in the City of Sacramento General Plan. The reuse of the site as proposed would be consistent with the planned uses for the site and the surrounding area.

Public utilities are currently provided to the Sacramento Army Depot through the existing infrastructure serving the Florin Industrial Park area. The existing off-site infrastructure is anticipated to be adequate to provide services to the reuse of the site. On-site infrastructure requirements would be required for the proposed development on the Army Depot site; however, this is not anticipated to increase or change the rate of growth outside of the project site. Therefore, the approval and implementation of the Sacramento Army Depot Reuse Plan would not break down any barriers to growth in the region and would not result in a growth inducing impact.

## 8. CUMULATIVE IMPACTS

## 8. CUMULATIVE IMPACTS

### INTRODUCTION

The CEQA Guidelines (Section 15130) require that an EIR discuss the cumulative and long-term effects of the proposed project that adversely affect the environment. The CEQA Guidelines defines cumulative impacts as two or more individual effects that, when considered together, create a considerable environmental impact, or that compound or increase other environmental impacts.

Development of the proposed Sacramento Army Depot Reuse Plan in conjunction with proposed development in the vicinity of the project site and within the region would contribute to cumulative environmental impacts. This cumulative development is assumed to be within the anticipated buildout planning horizon of the City of Sacramento General Plan and the South Sacramento Community Plan.

The cumulative effects of the proposed project are identified and discussed within Sections 6.2 through 6.5 in Chapter 6. A summary of the cumulative impacts identified in this EIR is presented below:

### SIGNIFICANT CUMULATIVE IMPACTS

The following lists the cumulative impacts that were identified as significant and unavoidable.

- Implementation of the proposed project would result in a significant and unavoidable level of traffic (see Chapter 6.2, Impact 6.2-27).
- Implementation of the proposed project would result in a significant and unavoidable cumulative increase in  $PM_{10}$  due to traffic associated with the project and cumulative development in the region (see Chapter 6.3, Impact 6.3-7).
- Implementation of the proposed project would result in a significant and unavoidable cumulative loss of wetlands (see Chapter 6.5, Impact 6.5-5).
- Implementation of the proposed project would result in a significant and unavoidable cumulative loss of wildlife habitat (see Chapter 6.5, Impact 6.5-6).

**9. SHORT-TERM AND LONG-TERM  
IMPLICATIONS OF THE PROJECT**

## 9. SHORT-TERM AND LONG-TERM IMPLICATIONS OF THE PROPOSED PROJECT

### INTRODUCTION

The CEQA Guidelines require a discussion of the relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity (15125(e)). The section is to include a description of the cumulative and long-term effects of the proposed project which adversely affect the state of the environment. Special attention should be given to impacts which narrow the range of beneficial uses of the environment or pose long-term risks to health or safety. In addition, the reasons why the proposed project is believed by the sponsor to be justified now, rather than reserving an option for further alternatives, should be explained.

### LONG-TERM EFFECTS

The environmental issues sections of Chapter 6 identified effects of the implementation of the proposed project and of cumulative development in the region that are considered unavoidable. The reuse of the Army Depot site could result in the loss of special-status species habitat, such as wetlands and grasslands, and could result in a disturbance or loss of special-status species, such as burrowing owls and fairy shrimp, that have been found on the site. Implementation of the project would also contribute to increased traffic congestion in the project area, specifically at Folsom Boulevard and Power Inn Road, and would contribute to the air quality degradation in the Sacramento Valley Air Basin. In addition, the construction of impervious surfaces on the site could increase stormwater runoff into the Morrison Creek Flood Control Channel, furthering the possibility of flooding during a significant storm event.

### SHORT TERM BENEFITS

Approval of the Army Depot Reuse Plan will allow industrial development to occur on the project site after the land is conveyed from the federal government to individuals or private organizations. Upon full buildout of the proposed plan, the future users of the site are anticipated to provide as many as 6,000 new jobs to the region. The addition of this employment to the Sacramento economy could have slightly downward effect on the regional unemployment rate and could enhance the regional economy. In addition, the direct increase in employment on the site could spur additional employment and economic development in the region, as explained by the "multiplier effect." The "multiplier effect" is a term used by economists to measure the effect of economic activity in a region. Multiplier effects account for economic relationships between businesses, business and households, and households, retail sales, and household services. Economic activity on the Army Depot site can generate economic activity elsewhere in the Sacramento region.

With the conveyance of the Army Depot property away from the federal government, the City of Sacramento will be able to collect property taxes from the new property owners. Property taxes are based on an assessment of the valuation of the property. As development occurs on the

site, the valuation of the properties is expected to rise, thus increasing the amount of property tax revenue realized by the City of Sacramento. This is considered a significant benefit of the project.

### NEED FOR THE PROJECT

In response to changing global security requirements, the Department of the Army is reducing its force, resulting in fewer Army installations. The process to determine which installations would be closed or realigned was established in the Defense Base Closure and Realignment Act of 1990 (1990 Base Closure Act), Public Law 101-510. The Defense Base Realignment and Closure Commission's 1991 recommendations for base realignments and closure identified that the Sacramento Army Depot would be closed no later than July 1997. The Army, however, is working toward closure by September 1994.

The adoption and implementation of the proposed Sacramento Army Depot Reuse Plan will allow new industrial development to occur on the site. The City of Sacramento has conducted an extensive planning process to determine the best use of the site. This process accounted for the prior uses on the site and the existing land uses in the project area. This project is necessary to formalize the results of this process and to allow the implementation and development of private industrial uses at the site. Without the redesignation of the site's land uses via a General Plan Amendment and the adoption of the proposed Sacramento Army Depot Reuse Plan, the site would continue to operate in the "caretaker" status and would not be conveyed away from the federal government.

## 10. IRREVERSIBLE ENVIRONMENTAL EFFECTS

## 10. IRREVERSIBLE ENVIRONMENTAL EFFECTS

### INTRODUCTION

This chapter identifies impacts that could not be eliminated or reduced to an insignificant level by mitigation measures as part of the project or other mitigation measures that could be implemented. The final determination of significant impacts will be made by the City Council of the City of Sacramento as part of their certification action.

### SIGNIFICANT UNAVOIDABLE IMPACTS

The significant unavoidable impacts resulting from the proposed project are:

- Implementation of the proposed project, in conjunction with cumulative buildout, would result in a significant and unavoidable level of traffic (see Chapter 6.2, Impact 6.2-27).
- Implementation of the proposed project would result in a significant and unavoidable increase in regional ozone levels (see Chapter 6.3, Impact 6.3-1).
- Implementation of the proposed project, in conjunction with cumulative development, would result in a significant and unavoidable increase in the level of ozone precursors (see Chapter 6.3, Impact 6.3-2).
- Implementation of the proposed project would result in a significant and unavoidable increase in  $PM_{10}$  due to an increase in traffic associated with the project (see Chapter 6.3, Impact 6.3-5).
- Implementation of the proposed project, in conjunction with cumulative development, would result in a significant and unavoidable increase in  $PM_{10}$  (see Chapter 6.3, Impact 6.3-7).
- Implementation of the proposed project would result in a significant and unavoidable loss of burrowing owl habitat (see Chapter 6.5, Impact 6.5-3).
- Implementation of the proposed project, in conjunction with the cumulative buildout of the region, would result in a significant and unavoidable loss of wildlife habitat (see Chapter 6.5, Impact 6.5-6).

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