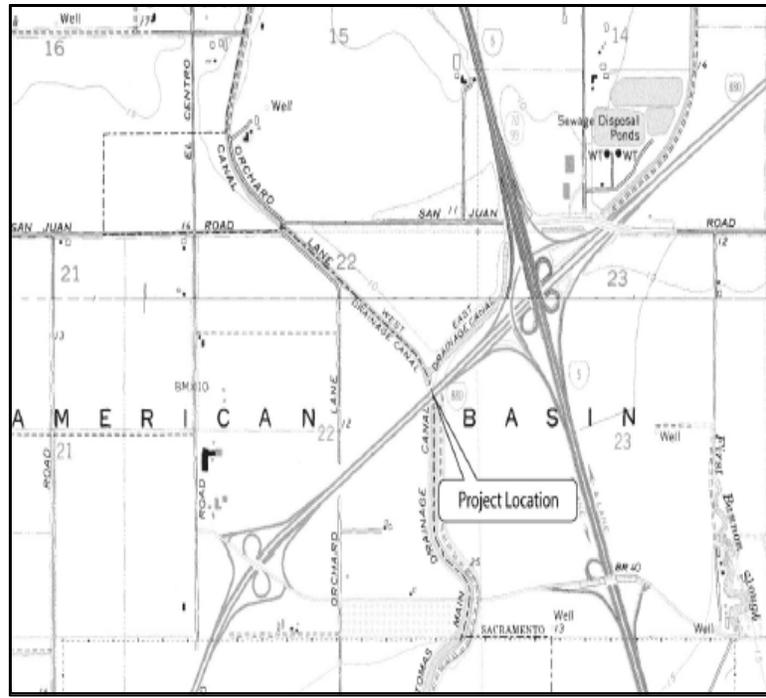


# Natomas Interstate 80 Bicycle and Pedestrian Overcrossing Project (CIP# HC21)



## Initial Study with Mitigated Negative Declaration

Prepared by the  
City of Sacramento  
Department of Transportation

June 2008

## GENERAL INFORMATION ABOUT THIS DOCUMENT

### What is in this document:

The City of Sacramento Department of Transportation has prepared this Initial Study/Mitigated Negative Declaration, which examines the potential environmental impacts of the proposed project located in Sacramento, California. The document describes why the project is being proposed; the existing environment that could be affected by the project; and the proposed mitigation measures.

### What you should do:

- Please read this Initial Study/Mitigated Negative Declaration. Additional copies of this document, as well as the technical studies, are available for review at the following locations:

City of Sacramento  
Development Services Department  
300 Richards Boulevard, 3<sup>rd</sup> Floor  
Sacramento, CA 95811

- We welcome your comments. If you have any comments regarding the proposed project, please send your written comments to the Department by the deadline.
- Submit comments via postal mail to:

Scott Johnson  
City of Sacramento Development Services Department  
300 Richards Boulevard, 3<sup>rd</sup> Floor  
Sacramento, CA 95811

- Submit comments via email to: [srjohnson@cityofsacramento.org](mailto:srjohnson@cityofsacramento.org)
- Submit Comments by the deadline: August 1, 2008



DEVELOPMENT SERVICES  
DEPARTMENT

**CITY OF SACRAMENTO**  
CALIFORNIA

300 RICHARDS BLVD, 3<sup>RD</sup> FLR  
SACRAMENTO, CA  
95811

**MITIGATED NEGATIVE DECLARATION**

The City of Sacramento, California, a municipal corporation, does hereby prepare, make declare, and publish this Mitigated Negative Declaration for the following described project:

**I-80 Pedestrian/Bicycle Overcrossing (CIP#: HC21)** The City of Sacramento proposes to construct a pedestrian/bicycle overcrossing (POC) over Interstate 80 adjacent to the Natomas Main Drainage Canal where the Natomas West and Natomas East Drainage canals merge. The City also proposes to construct an at-grade level bridge (Canal Bridge) across the West Drainage Canal to link the north end of the POC with the existing trail. The project will also consist of all railings and fencing, grading, paving and slope protection, signage, and lighting associated with the POC. The POC will consist of a cast-in-place box girder section, supported by two cast-in-place concrete abutments and five cast-in-place concrete columns on driven piles. The Canal Bridge will include a pre-manufactured steel truss "flat slab" structure this unit will consist of weathering steel, concrete deck, and smooth steel handrails; it will be designed to be removable as needed by the Reclamation District 1000 for maintenance of the Canal. Concrete will also line the canal bottom under the bridge and 10 feet beyond in both directions.

The City of Sacramento, Development Services Department, has reviewed the proposed project and on the basis of the whole record before it, has determined that there is no substantial evidence that the project, with mitigation measures as identified in the attached Initial Study, will have a significant effect on the environment. This Mitigated Negative Declaration reflects the lead agency's independent judgment and analysis. An Environmental Impact Report is not required pursuant to the Environmental Quality Act of 1970 (Sections 21000, et seq., Public Resources Code of the State of California).

This Mitigated Negative Declaration has been prepared pursuant to Title 14, Section 15070 of the California Code of Regulations; the Sacramento Local Environmental Regulations (Resolution 91-892) adopted by the City of Sacramento. A copy of this document and all supporting documentation may be reviewed or obtained at the City of Sacramento, Development Services Department, 300 Richards Boulevard, 3<sup>rd</sup> Floor, Sacramento, California 95811.

Environmental Services Manager, City of Sacramento,  
California, a municipal corporation

By: \_\_\_\_\_

Date: \_\_\_\_\_

6/24/08



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# Chapter 1 Proposed Project

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## 1.1 Introduction

The City of Sacramento (City), Department of Transportation (DOT), previously known as the Department of Public Works, proposes to construct a bicycle and pedestrian overcrossing (POC) over Interstate 80 (I-80), linking the communities of South and North Natomas in the City of Sacramento, in Sacramento County (County).

Funding for the construction phase is anticipated to be a combination of local, state, and federal funds. Subsequently, a Categorical Exclusion (CE) would be prepared for the proposed project to satisfy the National Environmental Policy Act (NEPA), for which the California Department of Transportation (Caltrans)—as the state designee for the Federal Highway Administration (FHWA)—would be the federal lead agency.

The proposed project is located within the northwestern area of the city of Sacramento, in Sacramento County, California (Figure 1.1-1). The project site (site) is between the areas addressed in the *North Natomas Community Plan* and *South Natomas Community Plan* (City of Sacramento 2007). The site is located where the Natomas Main Drainage Canal crosses I-80 at Post Mile (PM) 2.10, approximately 1/3 mile west of Interstate 5 (I-5) (Figure 1.1-2) (location reference PM-M2.1: 03-SAC-80 KP-M3.4). Local streets in the project area include Gateway Oaks Drive, Buchman Circle, Guadalajara Way, and Tintorera Way.

The project area also includes the portion of the Natomas Main Drainage Canal just south of I-80 and access right-of-way east of the canal. North of I-80, the project area includes portions of the West and East Drainage Canals, and access right-of-way adjacent to the confluence of these canals.

Rapid development and growth has led to increasing demands on all modes of the transportation system in both North and South Natomas. In response, the City has recognized the importance of a versatile network of bicycle trails that can be used for both nonvehicular commuting and recreation. Creation of the *2010 Sacramento City/County Bikeway Master Plan* (City of Sacramento, County of Sacramento 1993) (Bikeway Master Plan) in 1993 marked the beginning of the City's efforts to lay the foundation for its current pathway system.

The Bikeway Master Plan has been updated in the past; updates were adopted in 2001 and 2004 (City of Sacramento website). The current update includes the placement of new alignments throughout the various communities of Sacramento, as well as the removal of several proposed alignments within the North Natomas Community Plan area.

## 1.2 Purpose and Need

### 1.2.1 Project Purpose

The City DOT is creating an interconnected pathway system throughout the City and County, as envisioned in the updated Bikeway Master Plan. As part of the plan, the City has selected the Natomas Main Drainage Canal Trail to promote a safe, enjoyable, and efficient environment for bicycling in Natomas.

In accordance with the planning objectives of the Bicycle Master Plan, the objective of the proposed project is to construct a POC at I-80 and the West Drainage Canal that:

- is consistent with the goals and policies of other existing citywide or regional plans, such as the *2010 Sacramento City/County Bikeway Master Plan*, *City of Sacramento General Plan*, and the *North Natomas* and *South Natomas Community Plans*;
- is consistent with local and regional transportation plans and programs;
- is compatible with the preservation of cultural and biological resources;
- is compatible with existing and future adjacent land uses;
- will provide the highest possible level of safety and security for bicyclists; and
- will contribute to a bikeway system that will benefit and serve the recreational and transportation needs of the public.

### **1.2.2 Need for the Project**

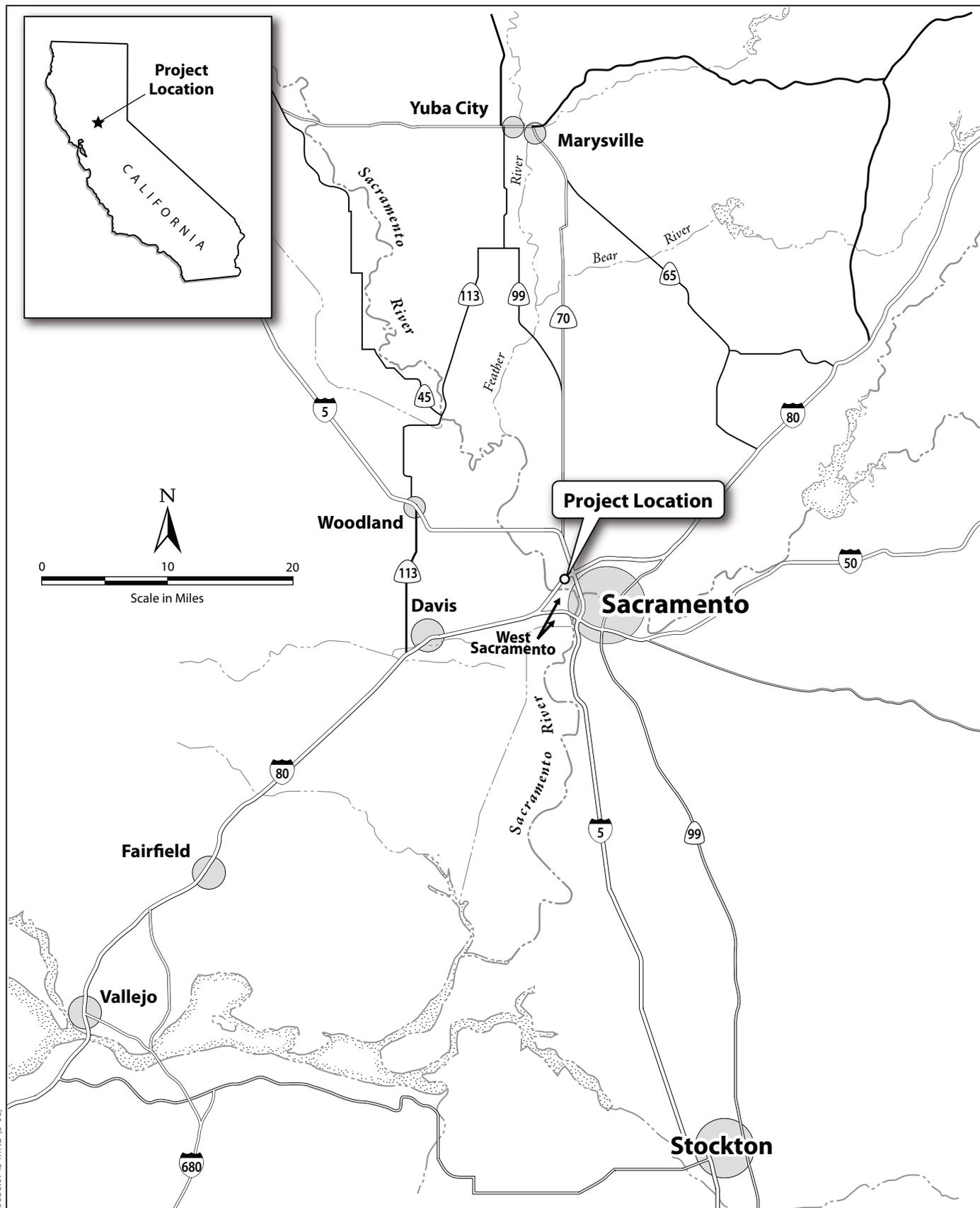
The goal of the Bikeway Master Plan is to coordinate and develop a bikeway system throughout Sacramento County that will benefit and serve the recreational and transportation needs of the public. When complete, the trail will provide an interconnected system along the West Drainage Canal corridor for use by both pedestrians and cyclists. Many successful trails are already in place, but obstacles preventing their overall connection occur at many major thoroughfares, such as I-80. The proposed project entails construction of a POC to connect existing and proposed trails to a more completely linked bicycle pathway system, and to provide an attractive and safe passage across the heavily traveled interstate highway without affecting vehicular traffic. The proposed project provides a crucial link in the trail system by constructing a dedicated POC over I-80 to connect the existing trail on the south side of I-80 with a planned segment on the north side of the freeway. The northern trail segment was constructed as part of the Lower Northwest Interceptor Sewer Main (LNWI) project). Construction of the POC is expected to begin in January 2010 and be completed by December 2010.

### **1.3 Project Description**

The proposed project will connect the existing bicycle path in South Natomas to a new bicycle path along the East Drainage Canal in North Natomas (Figure 1.3-1). The connection will consist of two bridge segments: one across I-80 and one across the West Drainage Canal. Both bridges will be compliant with the Americans with Disabilities Act (ADA).

The south connection point will be to the existing path running north-south at the present terminus of Gateway Oaks Drive near the east levee of the Natomas Main Drainage Canal. The new path will rise in elevation approximately 20 feet to cross I-80. The POC will follow a shallow “S” curve between its abutments; the north connection point will be on the west levee bank of the West Drainage Canal in North Natomas. From there, the path will cross the West Drainage Canal on a second bridge (Canal Bridge). From the east end of the Canal Bridge, a trail connects with the bicycle path.

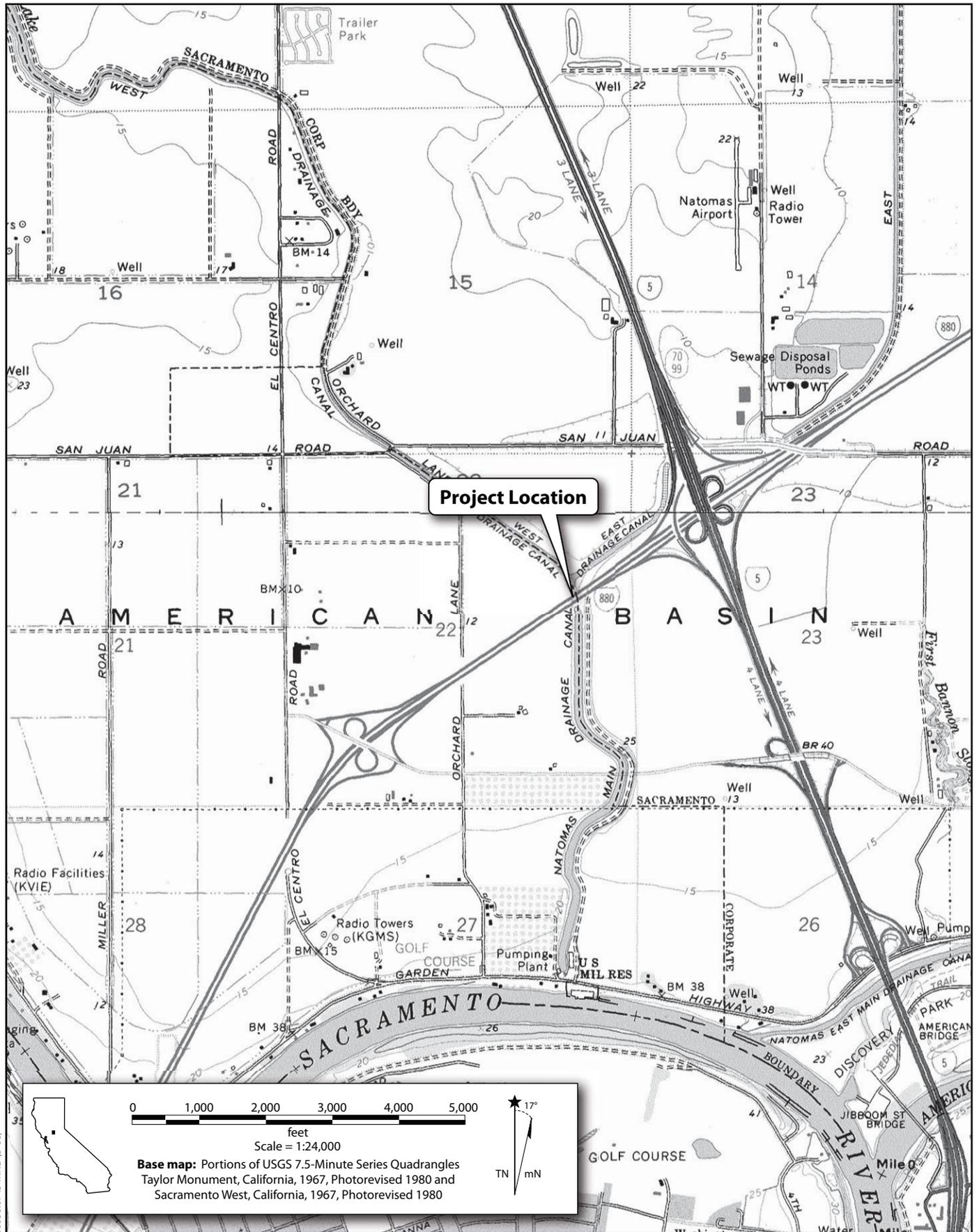
The LNWI access road, constructed by the Regional Sanitation District, runs from near the confluence of the East and West Drainage Canals along the sewer alignment, on the northwest side of the East Drainage Canal and terminating at San Juan Road near the I-5 undercrossing.



00638.07 IS-MND (9-08)

**Figure 1.1-1  
Regional Location**





0 1,000 2,000 3,000 4,000 5,000  
feet  
Scale = 1:24,000

**Base map:** Portions of USGS 7.5-Minute Series Quadrangles Taylor Monument, California, 1967, Photorevised 1980 and Sacramento West, California, 1967, Photorevised 1980

17°  
TN mN

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**Figure 1.1-2  
Project Vicinity**



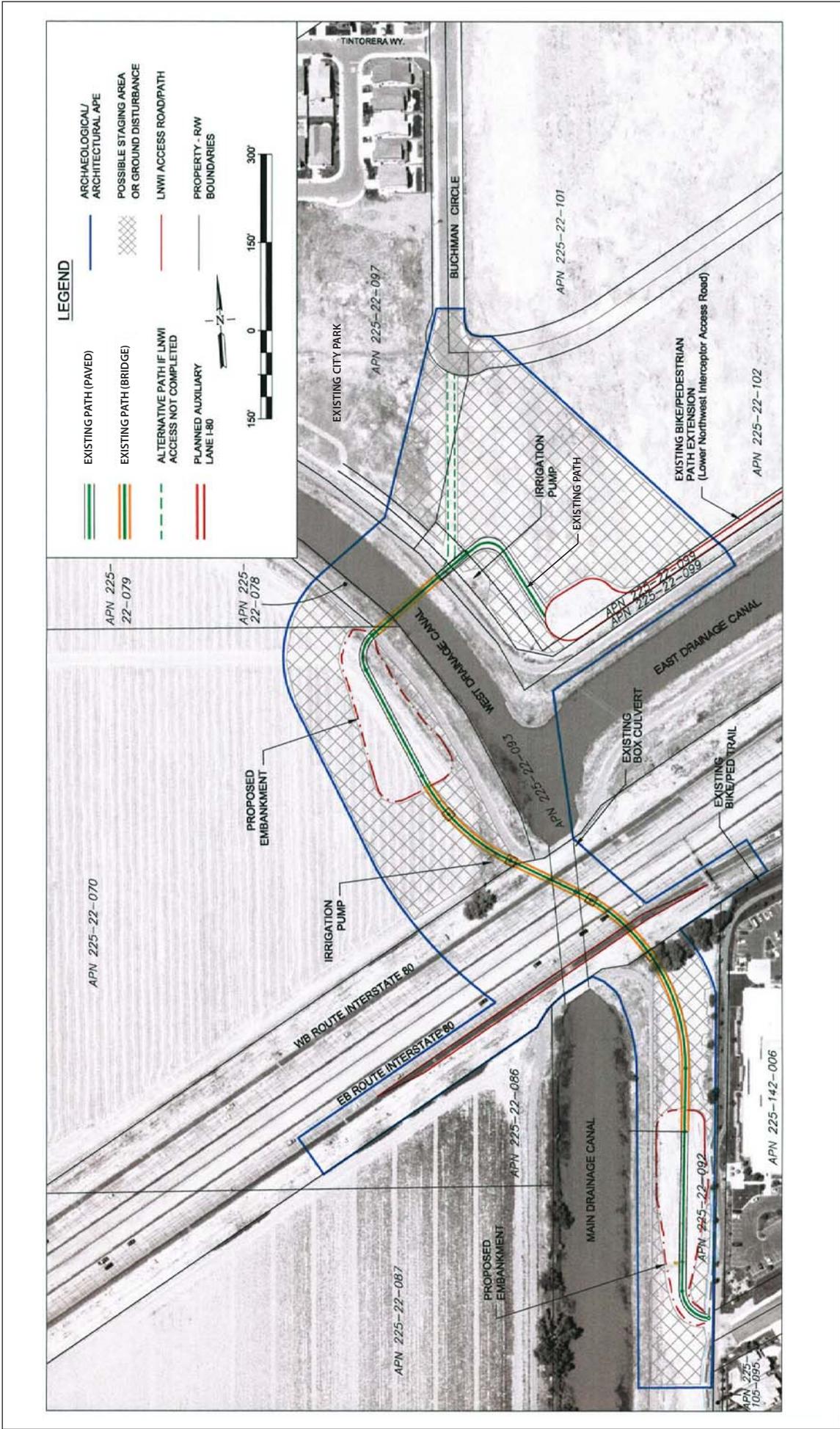


Figure 1.1-3  
Proposed Project Area



The proposed project design is adapted to several facilities of Reclamation District 1000 (RD-1000): the concrete box culvert under I-80, two pump stations on the West Drainage Canal, and the configuration of the West Drainage Canal and canal maintenance roads. The design of the POC footings has been developed in consideration of the LNWI sewer, which will cross the West Drainage Canal in the project vicinity. The proposed project is also designed to accommodate future improvements to I-80 and the I-80/I-5 interchange east of the project site, if and when such improvements become necessary. The proposed POC and path location have been selected to ensure compatibility with a possible future extension of Gateway Oaks Drive west across the Natomas Main Drainage Canal.

### **1.3.1.1 Freeway Overcrossing Structure**

The POC will consist of a cast-in-place (bathtub) box girder section, supported by two cast-in-place concrete abutments and five cast-in-place concrete columns on driven piles. The POC will follow a gentle “S” curve alignment with radii of 300 feet (Figure 1.3-1). The design and planned construction of the POC will not alter the amount or rate of water flow in the Natomas Main or West Drainage Canals. A Type Selection Report based on these proposed design concepts has been approved by Caltrans.

### **1.3.1.2 Canal Crossing Structure**

An at-grade level bridge across the West Drainage Canal (i.e., the Canal Bridge) will link the north end of the proposed POC with paths on the east side of the West Drainage Canal. The Canal Bridge will include a pre-manufactured steel truss “flat slab” structure. This unit will consist of weathering steel, concrete deck, and smooth steel handrails; it will be designed to be removable as needed by Reclamation District 1000 (RD-1000) for maintenance or access to the canal. The bridge grade will match the existing canal maintenance road on each side of the canal. RD-1000 requires concrete lining of the canal bottom under the bridge and 10 feet beyond in both directions. To conform to the operational requirements of RD-1000, the area under the Canal Bridge will be completely dewatered using two large cofferdams (inflatable dams) to be placed across the West Drainage Canal during construction.

### **1.3.1.3 Railings and Fencing**

Chain-link fencing will be installed to protect private property northwest of the POC and west of the Canal Bridge. Other areas where the path is adjacent to residential or commercial property will not be fenced. ADA-compliant railings will be provided on the POC and the Canal Bridge and at other locations on the path where required by ADA regulations. Chain-link fencing with an overhang will be provided on the POC, in conformance with Caltrans standards.

### **1.3.1.4 Grading**

Very little or no tree removal is anticipated. Grading and earthwork will primarily consist of fill to support bridge approaches, which connect the paths at ground level to the elevated structures. Minor grading will be required to direct drainage from the paved path and structure to natural drainage outlets in the immediate area. No other significant grading will be performed.

The approximate volume of cut is estimated at 392 cubic yards. Proposed cuts are not anticipated to be deep enough to encounter groundwater. If groundwater were encountered during excavation activities, pumped water would be channeled to an infiltration basin located within an upland area of the construction activities and would eventually percolate into the groundwater. Upon percolation of all pumped water, the infiltration basin would be backfilled and revegetated according to City and Regional Water Quality Control Board (RWQCB) requirements.

The proposed project will require a modest amount of fill, expected to be approximately 9,810 cubic yards. Imported material will be used for needed fill. The source and haul routes are unknown and will be chosen by the contractor at the time they are needed. The maximum amount of material hauling trips is expected to be four trucks making four trips per day. Hauling will be conducted during normal business hours (8:30 a.m.–5 p.m., Monday–Friday). The proposed project is not expected to generate any excess material.

### **1.3.1.5 Paving and Slope Protection**

The pathways will be paved with impervious surfaces, primarily asphalt. The POC deck will be concrete. The Canal Bridge deck will be concrete or treated timber. The paved pathways will be 12 feet wide, with gravel shoulders (approximately 4 feet wide) on each side.

Bridge embankments will be stabilized with 1:4 slopes. These embankments will be mechanically placed and compacted to be permanently stable. Long-term erosion and sedimentation will be controlled by hydroseeding with native dryland grasses and typical grass cover according to Caltrans-approved construction site best management practices (BMPs)<sup>1</sup>, as appropriate. Irrigation and decorative landscaping will not be included in the proposed project. Temporary stabilization will also be implemented through use of Caltrans BMPs.

Drainage from the POC structure will be carried through open channel curbing and collected by small culverts at each end of the bridge. These culverts will carry any surface water away from the structure and into the natural drainages of the area. The presence of the bridge structures will not produce appreciable changes in the existing amount or rate of surface runoff.

### **1.3.1.6 Signage**

Signage will provide information or direction related to the path. The path will not cross any City streets, areas of public vehicular traffic, or other regulated areas. Caltrans may require installation of an overhead sign on the POC, to be attached with Caltrans standard bolts, inserts, and related hardware.

### **1.3.1.7 Lighting**

Lighting of the POC will be Caltrans standard fluorescent fixtures fixed on the overhang of the POC fence. Lighting for the proposed pathway will be based on City standard streetlights and will include lighting of the Canal Bridge. These lights will be designed and directed to minimize glare for people within surrounding land uses and for drivers on I-80.

### **1.3.1.8 Construction Staging Areas and Access**

Four possible staging areas have been identified on existing City or County properties or City-held easements:

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<sup>1</sup> Detailed descriptions and guidance regarding implementation of these BMPs may be found in the Caltrans *Construction Site Best Management Practices Manual* (California Department of Transportation 2003) and Section 2 of the *Statewide Storm Water Quality Handbooks* (California Department of Transportation 2007). These BMPs are organized into six categories suitable for temporary erosion and sediment control on construction sites, including soil stabilization practices, sediment control practices, tracking control practices, wind erosion controls, non-stormwater controls, and waste management and material pollution controls.

- the lot/easements northwest of the confluence of the East and West Drainage Canals on which the embankments, path connections, and Canal Bridge will be constructed;
- the lot/easements northeast of the confluence of the West and East Drainage Canals, which will likely be used for the contractor’s yard (office and limited storage);
- the strip of land along the east side of the Natomas Main Drainage Canal, between Gateway Oaks Drive and I-80; and

Staging areas will be accessed throughout the duration of the construction period. The total area used will be almost the entire project study area.

### 1.3.1.9 Construction Phasing

Construction will last approximately 1 year. Construction of the POC is expected to begin in January 2010 and be completed by December 2010. The Canal Bridge will be constructed at the same time as the I-80 POC construction. Cranes will be needed for drilling foundations and lifting bridge elements. I-80 traffic will be controlled through progressive lane closures at nights during bridgework over the highway. A one-time detour of traffic on I-80 will be required from midnight to 500 AM. Only one direction of I-80 will be detoured at a time. The detour is needed to remove the I-80 POC falsework. The construction stages and equipment are listed in Table 1.3.1-1. Also shown are the types of equipment that will be used, manufacturer/model, horsepower, and associated percentages of use.

**Table 1.3.1-1. Construction Stages and Equipment**

| Stage  | Duration | Hours of Operation | Equipment   |
|--|----------|--------------------|---|
| Mobilize and prepare site  | 2 weeks  | Daytime hours      | 3 pickups:200- 300 HP, V6 or V8: 15% utilization<br>1 backhoe loader: Cat 428B, 74 horsepower (HP), 35% utilization<br>1 dozer: Cat D7G, 200 HP, 15% utilization  |
| Construct embankment and rough grade approach fills to POC and Canal Bridge  | 3 weeks  | Daytime hours      | 4 pickups: Chevy, 300 HP, 15% utilization<br>1 backhoe loader: Cat 428B, 74 HP, 50% utilization<br>1 dozer: Cat D7G, 200 HP, 75% utilization<br>4 dump trucks: International, 300 HP, 85% utilization<br>4,000 gallon watertank truck: 15% utilization<br>1 vibratory sheepsfoot, Cat CP-553, 165 HP: 20% utilization   |
| Construct POC  | 25 weeks | Daytime hours      | 125-ton Crane:15% utilization<br>60-ton Crane: 20% utilization<br>Delmag D30 diesel pile driving hammer: 10 % utilization<br>4 pickups (3/4 ton): 20% utilization<br>4-ton forklift: 10% utilization<br>Kobelco SK-10 Excavator: 15% utilization<br>5-axle dump truck: 20% utilization<br>Flatbed truck: 20% utilization<br>Portable Compressor 250-CFM: 30% utilization<br>Bidwell 2450 /concrete paver: 10% utilization<br>4,000-gallon water truck: 50% utilization<br>10-CY Concrete delivery truck: as needed from suppliers<br>5-axle flatbed materials delivery trucks: as needed from suppliers |
| <ul style="list-style-type: none"> <li>• Drive piles, pour POC footings</li> <li>• Drive piles, form and pour POC abutments</li> <li>• Set formwork, rebar, and pour POC column bents</li> <li>• Erect falsework for POC superstructure; some night work setting overhead formwork</li> <li>• Set rebar and cast POC superstructure</li> </ul> |          |                    |   |

| Stage   | Duration             | Hours of Operation | Equipment   |
|---|----------------------|--------------------|---|
| Strip POC falsework   | 5 consecutive nights | Night hours        | 3 pickups:200- 300 HP, V6 or V8: 15% utilization<br>1 backhoe loader: Cat 428B, 74 HP, 25% utilization<br>1 dozer: Cat D7G, 200 HP, 15% utilization<br>1 dump truck: International, 300 HP, 60% utilization<br>1 link belt crane: ATC 822, 230 HP, 40% utilization<br>1 link belt crane: LS-208H II, 263 HP, 50% utilization<br>2 generator sets: Cat 1.1 L, 140 HP, 80% utilization  |
| Construct Canal Bridge<br><ul style="list-style-type: none"> <li>• Place 2 temporary dams and drain pipes across the West Drainage Canal and dewater the area under the Canal Bridge</li> <li>• Form, pour, and cure concrete lining of the canal</li> <li>• Remove cofferdams</li> <li>• Drive piles, form and pour Canal Bridge abutments</li> <li>• Set premanufactured Canal Bridge in place</li> </ul> | 10 weeks             | Daytime hours      | 3 pickups:200- 300 HP, V6 or V8: 15% utilization<br>1 backhoe loader: Cat 428B, 74 HP, 75% utilization<br>1 dump truck: International, 300 HP, 40% utilization<br>1 link belt crane: ATC 822, 230 HP, 15% utilization<br>1 link belt crane: LS-208H II, 263 HP, 20% utilization<br>2 generator sets: Cat 1.1 L, 140 HP; and dewatering pumps: 75% utilization<br>5 concrete trucks: Mack, 350 HP, 5% utilization              |
| Install lighting and fencing  | 3 weeks              | Daytime hours      | 2 pickups: 200- 300 HP, V6 or V8: 15% utilization<br>1 backhoe loader: Cat 428B, 74 HP, 30% utilization<br>1 generator set: Cat 1.1 L, 140 HP, 65% utilization  |
| Pave pathways and paint striping  | 4 weeks              | Daytime hours      | 3 pickups: 200- 300 HP, V6 or V8: 15% utilization<br>1 dozer: Cat D7G, 200 HP, 10% utilization<br>1 backhoe loader: Cat 428B, 74 HP, 20% utilization<br>2 asphalt hauling trucks: International, 300 HP, 15% utilization<br>1 paver: Cat AP-200 B, 35 HP, 10% utilization<br>1 AC roller: Cat CB-224C, 33 HP, 10% utilization<br>1 paver: Cat BG 245 B, 155 HP, 5% utilization<br>1 AC roller: Cat CB, 634 HP, 5% utilization |
| Finish grading and hydroseed  | 2 weeks              | Daytime hours      | 2 pickups: 200- 300 HP, V6 or V8: 15% utilization<br>1 backhoe loader: Cat 428B, 74 HP, 20% utilization<br>1 dozer: Cat D7G, 200 HP, 10% utilization  |
| Cleanup and demobilization  | 2 weeks              | Daytime hours      | 3 pickups: 200- 300 HP, V6 or V8: 15% utilization<br>1 backhoe loader: Cat 428B, 74 HP, 20% utilization<br>1 dozer: Cat D7G, 200 HP, 10% utilization  |

All access to the site for construction will be from local streets. The contractor will be expected to use the RD-1000 access roads from San Juan Road from the northwest, and to construct a temporary access road from Buchman Circle from the northeast. Access from the southeast will be from El Camino and Gateway Oaks Drive. Access to the Caltrans right-of-way may be from either west or east, but will be predominantly from the El Camino on-ramp west of the project site. Levees will not be used for accessing the West Drainage Canal in any direction. Abutments for the Canal Bridge will be located in the levees on each side.

### 1.3.1.10 Operation and Maintenance

Continued operation and maintenance of the facility will be the responsibility of the City Department of Transportation (DOT) in accordance with DOT standards. Pathway entry points at roadway or sidewalk connections will preclude motor vehicle access, except for emergency response or maintenance activities.

Pathway and bridge maintenance will be conducted during normal business hours (8:30 a.m.–5:30 p.m.), Monday–Friday (holidays excepted). Monthly visual inspections of facilities will be performed and documented for the presence of the following conditions:

- graffiti,
- damaged or broken light fixtures,
- damaged or broken fencing,
- illegal dumping, and
- debris and/or broken glass.

City-designated crews will forward any necessary maintenance issues to the appropriate team for resolution.

## 1.4 Permits and Approvals Needed

### 1.4.1 City of Sacramento (State Lead Agency under CEQA)

The following discretionary actions are required by the City, the designated state lead agency, for project implementation:

- adoption of an environmental document in compliance with the California Environmental Quality Act (CEQA);
- approval of the proposed project; and
- permits for tree removal, grading, or floodplain encroachment within 1,000 feet of the Federal Emergency Management Agency (FEMA)–designated 100-year floodplain. These permits are discussed below.
  - *Tree Permit.* A tree permit will be required if any City Street Trees or Heritage Trees are proposed for removal in accordance with the City tree ordinance (as defined by the City’s Tree Ordinance in Title 12, Chapters 12.56 and 12.64 in the Sacramento City Code).
  - *Grading Permit.* The City’s improvement standards require a grading permit for projects that would displace more than 50 cubic yards of soil material. Grading permits may be issued provided that the conditions contained in Section 15.88.091 are satisfied. Grading activities associated with project development are required to follow the requirements of the City’s Grading, Erosion, and Sediment Control Ordinance (Code 15.88.250) and the Standard Specifications for Public Works Construction (Section 6[6]).
  - *Floodplain Encroachment Permit.* The City’s improvement standards require a floodplain encroachment permit for projects that could affect the 100-year floodplain. Obtaining this permit would require rough and final grading plans and an erosion control plan.

## **1.4.2 Federal Highway Administration (Federal Lead Agency under NEPA)**

The following discretionary actions are required by FHWA, the federal lead agency, for project implementation:

- preparation and approval of environmental documentation in compliance with NEPA;
- approvals as required by the National Historic Preservation Act, Section 106; the federal Endangered Species Act (ESA), Section 7; and the Clean Water Act (CWA), Sections 404 and 401;
- approval of the proposed project; and
- approval of federal funding.

As the state designee for FHWA, Caltrans will provide oversight of technical studies and facilitate coordination between the City and FHWA.

## **1.4.3 Other Agencies**

The following agencies are also expected to use this Initial Study/Mitigated Negative Declaration (IS/MND) for the actions described.

### **1.4.3.1 Federal Agencies**

#### **U.S. ARMY CORPS OF ENGINEERS (USACE)—CWA SECTION 404 PERMIT**

The proposed project will require placement of fill in the West Drainage Canal to install the Canal Bridge. RD-1000 requires concrete lining of the canal bottom under the bridge and 10 feet beyond the bridge platform in both directions. In order to meet the RD-1000 requirements, the area under the Canal Bridge will be completely dewatered using two large cofferdams (inflatable dams) placed across the West Drainage Canal during construction. This action will require appropriate Section 404 permitting by USACE.

#### **U.S. FISH AND WILDLIFE SERVICE (USFWS)—ESA SECTION 7 CONSULTATION**

The proposed project occurs both inside the Natomas Basin Habitat Conservation Plan (HCP) area (east side of West and Natomas Main Drainage Canals) and outside of the HCP area (west side of West Drainage Canal). Because the project effect area is subject to the provisions of ESA, FHWA will initiate ESA Section 7 consultation with USFWS. Impacts on special-status species in portions of the project effect area within the HCP area have already been mitigated through the HCP Section 10 ESA process. In addition, USACE is involved in Section 7 consultation with USFWS regarding the LNWI that crosses through the proposed project on the north side of I-80 (in both the HCP covered area and the non-HCP covered area). USFWS may concur that FHWA will not be required to compensate a second time for impacts that the LNWI has previously mitigated. Alternatively, USFWS may require mitigation for project-specific impacts under Section 7 of the ESA.

### **1.4.3.2 State Agencies**

#### **CALIFORNIA DEPARTMENT OF FISH AND GAME (DFG)—CALIFORNIA FISH AND GAME CODE SECTION 1602 STREAMBED ALTERATION AGREEMENT**

The proposed project will require a Section 1602 streambed alteration agreement from DFG for construction activities that would affect the bed and banks of the West Drainage Canal. The purpose of this permit is to identify measures that must be taken to prevent impacts on wildlife or riparian habitat.

### **STATE WATER RESOURCES CONTROL BOARD—CWA SECTION 402, STORM WATER POLLUTION PREVENTION PLAN**

Under the National Pollutant Discharge Elimination System (NPDES) general storm water permit for construction, a Storm Water Pollution Prevention Plan (SWPPP) will be required. The SWPPP will identify BMPs to be implemented before, during, and after construction in order to reduce pollution in stormwater runoff. The general construction permit also requires regular inspections of erosion and sediment control measures before, during, and after storm events.

### **CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD—CWA SECTION 401 WATER QUALITY CERTIFICATION**

In-channel and streambank improvements will need to meet RWQCB requirements for water quality certification pursuant to CWA Section 401.

### **STATE RECLAMATION BOARD—ENCROACHMENT PERMIT**

Alteration of flood protection facilities will require an encroachment permit from the State Reclamation Board. RD-1000 requires concrete lining of the canal bottom under the bridge and 10 feet beyond in both directions. In order to meet the requirements as specified by RD-1000, the area under the Canal Bridge will be completely dewatered using two large cofferdams (inflatable dams) placed across the West Drainage Canal during construction.

### **CALTRANS—HIGHWAY RIGHT-OF-WAY ENCROACHMENT PERMIT**

The extension of the paved roadway surface requires an encroachment permit from Caltrans in accordance with FHWA standards, as applicable to the Strategic Highway System requirements. Encroachment permits may be required for two broad categories of activity: access to the right-of-way (e.g., for preconstruction reconnaissance of the site) and manipulation of operations on the right-of-way (e.g., lane closures). The relevant sections of Caltrans Specific Encroachment Permits, Chapter 500, are Section 513—Construction Contract (Early Entry), Permit Code SC; and Section 517—Traffic Control and Temporary Signals and Signs, Permit Code TK, respectively (Caltrans 2002).

#### **1.4.3.3 Local Agencies**

### **COUNTY OF SACRAMENTO—GRADING PERMIT**

The County's improvement standards require a grading permit for projects that would disturb 1 acre or more, or displace more than 350 cubic yards, of soil material. Grading permits may be issued provided that the conditions contained in Section 15.88.091 are satisfied (as defined by the County's Land Grading and Erosion Control Ordinance, Chapter 16.44).

### **COUNTY OF SACRAMENTO—FLOODPLAIN ENCROACHMENT PERMIT**

For construction activities west of the West Drainage Canal, a permit is required for encroachment on lands owned by the County.

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# Chapter 2 Affected Environment, Environmental Consequences, and Mitigation Measures

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## 2.1 Human Environment

This section discusses environmental issues related to Land Use, Utilities/Emergency Services, Traffic and Transportation, Visual/Aesthetics, and Cultural Resources.

As part of the scoping and environmental analysis conducted for the project, the following environmental issues were considered, but no adverse impacts were identified. Consequently, there is no further discussion regarding these issues in this document.

- Farmlands and Timberlands
- Growth
- Community Impacts and Relocation

### 2.1.1 Land Use

#### 2.1.1.1 Existing and Future Land Use

##### REGULATORY SETTING

The project area comprises several general plan and zoning designations (Figure 2.1-1). The portion of the project area north of I-80 and west of the West Drainage Canal occurs within Sacramento County and is designated for Agricultural Cropland use. The zoning classifications for South Natomas include an overlay of Planned Unit Developments (PUDs) and the designations listed below (City of Sacramento 2003a).

- **R-1A-PUD Single Family Alternative Zone.** This area is bounded by Gateway Oaks Drive to the north, Weald Way to the east, and the Natomas Main Drainage Canal to the west. This zone also consists of the area bounded by I-80 to the north and the Natomas Main Drainage Canal to the east. This is a low- to medium-density residential zone.
- **R-2B-PUD Multi-Family Zone.** This development area is located immediately east of the R-1A-PUD zone and Weald Way, listed above.
- **OB-PUD Office Building Zone.** This area is located north of Gateway Oaks and extends east of the Natomas Main Drainage Canal, buffering both I-5 and I-80 by a minimum of 500 feet. This zone is primarily for development of business office centers and institutional or professional buildings. All new office buildings require plan review approval by the City. Maximum height is 35 feet, with no maximum lot coverage.
- **F Flood Zone.** This designation is given to the Natomas Main Drainage Canal south of I-80 and a portion of the East Drainage Canal in North Natomas. This zone permits agricultural uses and other uses subject to special review and approval. It is also considered a parks and open space zone.

North of I-80, new housing development has been constructed along Tintorera Way and west of Buchman Circle. The North Natomas Community Plan has designated the area immediately northeast of the West Drainage Canal Medium Density Residential, with Park and Open Space along the levee borders (City of Sacramento 2002).

Zoning classifications in North Natomas east of the West Drainage Canal are described below (City of Sacramento 2002, 2003b).

- **A-OS-PUD Agriculture—Open Space Zone.** This area is defined by the West Drainage Canal levee to the southwest, the oldest paved portion of Buchman Circle to the east, and Guadalajara Way to the north.
- **R-1A-PUD Single Family Alternative Zone.** This development area is located immediately north of the A-OS-PUD zone listed above, east of Buchman Circle, and extends north to San Juan Road and areas in South Natomas west of the Natomas Main Drainage Canal.
- **F-PUD Flood Zone.** This designation is given to the West Drainage Canal and the north portion of the East Drainage Canal. This zone permits agricultural uses and other uses subject to special review and approval. It is also considered a parks and open space zone.

## **AFFECTED ENVIRONMENT**

### *Regional Setting*

The City of Sacramento is in the Sacramento Valley, the southern portion of the Great Central Valley, which extends north from the City of Sacramento to Redding. The City is located near the western edge of the Sacramento metropolitan area, extending eastward from the confluence of the American and Sacramento Rivers to the foothills of the Sierra Nevada Mountains. Some of the richest agricultural land in the country is comprised of the alluvial soils found in the Sacramento River Valley. These soils support a wide variety of cash crops, such as rice, tomatoes, fruit and nut orchards, and grain fields (City of Sacramento 1988a). Major transportation corridors in the area that provide regional access include I-5 and SR 99 (north-south corridors) and I-80 (an east-west corridor).

### *Local Setting*

The project site is located within both the North Natomas Community Plan and the South Natomas Community Plan areas, situated at the northwestern edge of the urbanized City of Sacramento, in Sacramento County, California (Figure 1.1-1). Specifically, the site is located where the Natomas Main Drainage Canal crosses I-80, approximately 1/3 mile west of I-5. South Natomas is bounded by I-80 to the north, the Union Pacific Railroad to the east, and the American and Sacramento Rivers to the south (City of Sacramento 1988a). The North Natomas community is bounded by Elkhorn Boulevard to the north; I-80 to the south; the East Drainage Canal to the east; and the West Drainage Canal, Fisherman's Lake, and SR 99 to the west (City of Sacramento 1994).

**Figure 2.1-1  
Land Use and Zoning Designations  
in the Project Area**



Source: City of Sacramento, County of Sacramento



### Existing Land Uses

South of I-80, existing development east of the Natomas Main Drainage Canal is characterized by a combination of residential and office park land uses within the South Natomas Community Plan area. Low-density residential development is south of Gateway Oaks Drive. Gateway Oaks Drive terminates at the eastern edge of the canal. Presently, there is no development west of the Natomas Main Drainage Canal; however, an application for development of a mix of residential and park uses has been submitted to the City and is currently undergoing environmental review (Johnson pers. comm.).

### Agricultural Resources

The Sacramento area is one of the most productive agricultural regions in the world and contains extensive acreage of prime agricultural soils (City of Sacramento 1987). Prime agricultural soils surround the project area. According to the Prime Agricultural Lands Exhibit T-17 from the City of Sacramento General Plan Update Draft EIR, the portions of the project area south of I-80 and east of the West Drainage Canal qualify as prime farmland because of the availability of reliable irrigation water to these areas (City of Sacramento 1987).

## ENVIRONMENTAL CONSEQUENCES

For the purposes of this analysis, an impact is considered significant if the project would substantially alter an approved land use plan that would result in a physical change to the environment. Impacts on the physical environment resulting from the proposed project are discussed in subsequent sections of this document.

### Impact LU-1: Potential alteration of the present or planned use of an area

Development of the POC bridge would not require a general plan amendment or rezoning. The POC bridge would be a compatible use with existing residential, office, and open space uses in South Natomas and North Natomas. The POC bridge also would link an existing off-street bicycle route in South Natomas to existing on- and off-street bikeways and a city park in North Natomas east of the West Drainage Canal and west of Buchman Circle (APN 225-22-097) (Figure 2.1-1).

Construction of the proposed project could produce short-term impacts on adjacent residential and office park uses from construction activities. Because potential impacts on adjacent uses would be minor and temporary, they are considered less than significant. To lessen these impacts, the mitigation measures below are recommended.

### Impact LU-2: Potential effects on agricultural resources or operation

As described previously, the proposed project entails construction of a bicycle and pedestrian overcrossing to connect existing and proposed trails. The south connection point is located in South Natomas near the terminus of Gateway Oaks Drive and near the east levee of the Natomas Main Drainage Canal. It would elevate approximately 20 feet across I-80 and touch down at the north connection point on the west levee bank of the West Drainage Canal in North Natomas, where a second bridge (the Canal Bridge) would connect to the east levee bank of the West Drainage Canal and connect with the bicycle trail.

The proposed project would not significantly affect surrounding farmland, as minimal new right-of-way on farmland would be required to place concrete abutments and columns on driven piles, and to construct the embankment on the northwest side of the project site. The potential impact on agricultural resources would be less than significant.

## **CUMULATIVE IMPACTS**

There are no cumulative impacts on existing and future land uses associated with this project.

## **MITIGATION MEASURES**

Implementation of the following mitigation measures would further reduce less-than-significant, short-term construction impacts on existing uses in the project area:

### **Mitigation Measure LU-1: Locate Construction Staging Areas away from Residential Areas**

Prior to final approval of any project site improvement plans and the commencement of construction activities, the City will locate construction staging areas as far as feasibly possible from existing residential areas. Construction staging areas will be identified in project site improvement plans.

### **Mitigation Measure LU-2: Limit Construction Traffic**

During construction activities, the City will limit the amount of daily construction equipment traffic by staging most construction equipment and vehicles on the project site at the end of each workday rather than removing them.

### **Mitigation Measure LU-3: Provide Advance Notice of Construction Activities**

Prior to construction activities, the City will provide advanced public noticing of construction activities. Noticing will consist of the following items:

- Property owners within 500 feet of the proposed project will be noticed.
- Notices will identify time frames for construction activities and when roads may be partially closed, if required.
- Construction informational signage will be placed along affected roadways one week in advance, warning travelers of construction along roadways.

## **2.1.1.2 Consistency with State, Regional, and Local Plans**

### **REGULATORY SETTING**

#### *City of Sacramento General Plan*

The City is currently preparing the 2030 General Plan and anticipates its' adoption towards the end of 2008. In the 2030 General Plan, community plan policies focus on conditions and issues unique to each community plan area. Many of the issues that were previously covered in community plans are now being addressed in the citywide 2030 General Plan including topics such as flood protection, transit-oriented development, housing-type and affordability, tree canopy and urban forest, quality schools and hospitals, parks and recreation areas, bikeways, and river access.

Seven of the community plans (i.e., Central City, Fruitridge Broadway, North Natomas, North Sacramento, Pocket, South Area, and South Natomas) contained in the 2030 General Plan incorporate the policies from previously adopted community plans. The policies were edited to eliminate redundancy and outdated information, to focus on issues unique to the community plan area, and to ensure the policies are consistent with the citywide policies in Part 2 of the General Plan. Except for the South Area, the edited policies do not include any "new" policy initiatives. The South Area Community Plan includes updated policy based on recent planning studies and community input.

Every community plan area includes a list of “opportunity areas” that will be the areas of major change, redevelopment, and growth. For the 2030 General Plan a few opportunity areas have been focused on in greater detail; these areas (i.e., Robla in North Sacramento, and Meadowview and Florin Subregional Center in South Area) include descriptions of existing conditions and an urban form concept that shows how the area might develop in the future. Community plan boundaries tend to follow major roadways. As a consequence, some major corridors and opportunity areas fall within two or more community plan areas.

To focus attention on Sacramento’s neighborhoods and communities, the 2030 General Plan creates a new framework for preparing and updating community plans. Part 3 of the General Plan includes policy or policy placeholders for ten community plan areas: Arden Arcade, Central City, East Sacramento, Fruitridge Broadway, Land Park, North Natomas, North Sacramento, Pocket, South Area, and South Natomas.

Sacramento first developed community plans in the 1960s to direct development and enhance community character in specific areas of the city. In the 1970s the City Council redrew community plan boundaries, reducing the number of community plan areas to 11 and establishing a policy basis for the City to eventually update all of its community plans according to the new boundaries. Since that time seven community plans have been adopted, including: Airport-Meadowview (1984), Central City (1980), North Natomas (1994), North Sacramento (1984), Pocket (1979), South Natomas (1988), and South Sacramento (1986).

These community plans were written as stand-alone documents to address unique issues and opportunities in each community plan area. While these community plans may have effectively addressed community-specific issues, land use designations and development standards were inconsistent with the land use designations in the citywide General Plan and other community plans. In addition, not every area of the City had a community plan (i.e., Arden-Arcade, East Sacramento, and Land Park), and some boundaries did not match the geographic identity of the communities (e.g., South Sacramento). Those areas without a community plan relied on the citywide land use designations.

#### *The North Natomas Community Plan*

The existing North Natomas Community Plan was adopted in 1994. This Plan, perhaps the most comprehensive of all the community plans, is also the most recently adopted. It was originally intended to guide greenfield development, and laid out a vision and detailed development standards to meet City expectations. The existing plan was carefully assessed in light of the new 2030 General Plan policies in order to make it consistent with the General Plan and the new format for the community plans. This is the only community plan that had a vision statement, which was retained in the new plan. The new North Natomas Community Plan balances the original community planning effort by retaining the vision statements and relevant policy, while ensuring that the plan is consistent with the 2030 General Plan.

The 1994 North Natomas Community Plan envisions a new urban form for North Natomas that includes a well integrated mixture of residential, employment, commercial and civic uses, interdependent on quality transit service and a radial network of connections linking activity centers with streets, transit routes, and linear parkways with pedestrian/bike trails.

#### *The Bikeway Master Plan*

The 2010 City/County Bikeway Master Plan was developed to serve the transportation and recreational needs of the public. The goal of the Bikeway Master Plan is to coordinate and develop a bikeway system throughout Sacramento County. When complete, the trail will provide an interconnected system along the West Drainage Canal corridor for use by both pedestrians and cyclists. Many successful trails are

already in place, but obstacles preventing their overall connection occur at many major thoroughfares, such as I-80. The proposed project entails construction of a POC to connect existing and proposed trails to a more completely linked bicycle pathway system, and to provide an attractive and safe passage across the heavily traveled interstate highway without affecting vehicular traffic. The proposed project provides a crucial link in the trail system by constructing a dedicated POC over I-80 to connect the existing trail on the south side of I-80 with the northern trail constructed as part of the LNWI project. Construction of the POC is expected to begin in January 2010 and be completed by December 2010.

## **AFFECTED ENVIRONMENT**

The proposed project is located within the northwestern area of the city of Sacramento, in Sacramento County, California. The project area also includes the portion of the Natomas Main Drainage Canal just south of I-80 and access right-of-way east of the canal. North of I-80, the project area includes portions of the West Drainage Canal and East Drainage Canal (and access right-of-way) adjacent to the confluence of these canals.

Rapid development and growth has led to increasing demands on all modes of the transportation system in both North and South Natomas. In response, the City has recognized the importance of a versatile network of bicycle trails that can be used for both nonvehicular commuting and recreation. Creation of the Bikeway Master Plan in 1993 marked the beginning of the City's efforts to lay the foundation for its current pathway system.

## **ENVIRONMENTAL CONSEQUENCES**

The proposed project is consistent with regional and local plans. There is no impact.

## **CUMULATIVE IMPACTS**

There are no cumulative impacts related to consistency with state, regional, and local plans associated with this project.

## **MITIGATION MEASURES**

No Mitigation is necessary.

### **2.1.1.3 Parks and Recreation**

## **REGULATORY SETTING**

Both the City and County maintain parks within the City of Sacramento. The City's Department of Parks and Recreation maintains over 3,300 acres of developed parkland, manages 200 parks, recreation, and bikeway projects, operates over 20 aquatic facilities (including play pools, wading pools, and swimming pools), and 21 community centers and neighborhood clubhouses (de Beauvries pers. comm.).

Bicycle and pedestrian trails exist within Sacramento County, many of which are not connected to other trails. The South Natomas trail follows the Main Drainage Canal running north-south and terminates at Gateway Oaks Drive. The population of the Natomas area has rapidly increased, causing demand for more recreational opportunities. The Bikeway Master Plan aims to interconnect existing trails with proposed trails throughout the County, creating a network of trails that would benefit recreation and transportation needs of residents (City of Sacramento 2001).

## **AFFECTED ENVIRONMENT**

This project will connect the existing bicycle path in South Natomas to a new bicycle path along the East Drainage Canal in North Natomas by constructing an overcrossing above I-80. The connection of the two trails will work to satisfy the demand for more recreational opportunities for residents of the Natomas area and the City of Sacramento, resulting in a beneficial effect on recreational resources.

A City park has been constructed near the East and West Drainage Canals. This park is connected to other parks within the City by the proposed POC. Further, the connection of the proposed trail to the existing trail would benefit recreationists by providing an improved network of trails and providing access to other recreation areas. Construction of the trail would not affect the existing trail or the newly constructed park.

## **ENVIRONMENTAL CONSEQUENCES**

The proposed project would result in a beneficial result for local parks and recreation. There is no impact.

## **CUMULATIVE IMPACTS**

There are no cumulative impacts on local parks and recreation associated with this project.

## **MITIGATION MEASURES**

No mitigation is necessary.

### **2.1.2 Utilities/Emergency Services**

#### **2.1.2.1 Regulatory Setting**

The City of Sacramento Department of Transportation has a policy that outlines standard specification for construction projects within the city as outlined below.

##### *Standard Specifications for Public Works Construction*

##### **Protection of Existing Improvements (34-6)**

Existing improvements, utility and adjacent property shall be protected from damage resulting from the Contractor's operations. All trees, shrubbery, fences, and other improvements and underground utilities and other improvements not to be removed under this contract shall be protected from damage by the Contractor throughout the construction period.

##### **Maintaining Existing Electrical Facilities (34-7)**

All existing electroliers shall be maintained in operation until replacement electroliers are energized, as directed by the Engineer.

##### **Excavating and Backfilling (34-9)**

The excavations required for the installation of conduit, foundations and other appurtenances shall be performed in such a manner as to cause the least possible injury to the streets, sidewalks and other improvements. All lawns or improvements disturbed in excavating shall be replaced or reconstructed with the same kind of material as found on the work or with materials of equal quality. The trenches shall not be excavated wider than necessary for the

proper installation of the electrical appurtenances and foundations. Excavating shall not be performed until immediately before installation of conduit and other appliances.

### **2.1.2.2 Affected Environment**

#### **WATER SUPPLY/TREATMENT**

The City of Sacramento currently provides water service from a combination of surface and groundwater sources. The area south of the American River is served by surface water from the American and Sacramento rivers. The City also pumps groundwater to areas north of the American River. A small portion of the South Natomas area is within the Swallows Nest Water Maintenance District and is supplied by wells. The City operates three diversion and treatment facilities: the Sacramento River, the American River, and the Riverside water treatments plants; and four storage tanks, each with a three million gallon capacity. (City of Sacramento, 1987).

#### **SEWER SYSTEM**

The City of Sacramento, including the project area, is serviced by the Sacramento Regional County Sanitation District (SRCSD) (City of Sacramento, 1987). The SRCSD is responsible for the operation of all regional interceptors and wastewater treatment plants. The Regional Plant has an existing capacity of approximately 150 million gallons per day (mgd) of dry weather flow and 300 mgd of wet weather flow. The plant discharges effluent subjected to secondary treatment into the Sacramento River downstream from City of Sacramento domestic water supplies.

#### **STORMWATER DRAINAGE**

The stormwater drainage system of the City is a complex network of natural channels, canals, levees, subsurface drains, and pumping systems. All drainage is ultimately discharged to the American and Sacramento rivers. The East and West Drainage Canals flow through the project area.

#### **SOLID WASTE**

The City of Sacramento Solid Waste Division collects most solid waste generated in the City and disposes of it in the Kiefer Landfill.

### **2.1.2.3 Environmental Consequences**

The POC project would not require any additional gas supply. Limited additional electrical supplies would be necessary for the proposed lighting along the POC. The proposed project may require the relocation of gas and electrical lines. Relocation of private utilities would be the responsibility of the utility companies themselves. Detailed project plans would be forwarded to affected utility companies for use in planning the relocation of their facilities, if necessary.

The project would require the consumption of fossil fuels during construction. Construction equipment would be maintained and tuned at the interval recommended by the manufacturers to ensure efficient use of fuel (see mitigation measures under “Air Quality” for additional information).

Implementation of the project is already subject to Standard Specifications for Public Works Construction (2007) (Section 34 (2)) related to the protection of existing improvements, maintaining existing electrical facilities, and excavating and backfilling. These standard specifications would ensure that the project would have a less-than-significant impact on power and natural gas, non-renewable resources, the demand of existing sources of energy, or the development of new sources of energy.

The proposed project would not result in the need for new communications systems, as these systems are not proposed for the bicycle-pedestrian overcrossing project.

The proposed project would not impact local or regional water supplies. The project design and proposed BMPs would treat stormwater runoff prior to entering local or regional water supplies. Potential contamination of water supplies as a result of gas leaks and spills from construction vehicles would be increased during project construction. However, this would not be considered significant because of the BMPs and stormwater treatment proposed as part of the project.

The proposed project would not result in the need for drinking water or landscaping irrigation facilities, as no connection to the city's water system is proposed as a component of the project.

The proposed project would not result in the need for septic or sewer facilities and none are proposed as a component of the project.

The proposed project would not result in impacts on stormwater drainage patterns, as project design and proposed BMPs would treat stormwater runoff (see mitigation measures under "Geology, Soils, and Seismicity" for additional information).

The proposed project would not result in impacts on existing solid waste disposal services or facilities, or the need for any new solid waste disposal facilities. No solid waste, except that associated with construction activities, is expected to be generated as a result of the proposed project. Waste associated with construction activities would be disposed of by the City of Sacramento Solid Waste Division.

## **CUMULATIVE IMPACTS**

There are no cumulative impacts on utilities or emergency services associated with this project.

### **2.1.2.4 Mitigation Measures**

No mitigation is required. Standard construction BMPs will reduce any impacts on utilities that may result from construction activities.

## **2.1.3 Traffic and Transportation/Pedestrian and Bicycle Facilities**

### **2.1.3.1 Regulatory Setting**

An impact is considered significant for roadways or intersections when the project causes the facility to change from Level of Service (LOS) C or better to LOS D or worse. For facilities that are, or will be worse than LOS C without the project, an impact is also considered significant if the project: 1) increases the average delay by 5 seconds or more at an intersection, or 2) increases the volume to capacity ratio by .02 or more on a roadway.

*Bikeways.* An impact is considered significant if implementation of the project will disrupt or interfere with existing or planned (Bicycle Master Plan) bicycle or pedestrian facilities.

*Regional Transit.* An impact is considered significant if the project will cause transit boardings to increase beyond the crush load of a transit vehicle or if the project will cause a 10% or greater increase in travel time along any route.

*Parking.* A significant impact on parking would occur if the anticipated parking demand of the project exceeds the available or planned parking supply.

### **2.1.3.2 Affected Environment**

#### **REGIONAL SETTING**

The project site is located in the northwestern area of the city of Sacramento. Regional access to the project area is provided via I-80 and I-5; The I-80 and I-5 interchange is located approximately one-third mile northeast of the project site.

#### *Roads*

Major streets in the vicinity include San Juan Road, El Centro Road, and West El Camino Avenue. Local streets in the project area include Gateway Oaks Drive, Buchman Circle, Guadalajara Way, and Tintorrera Way. The project site is accessible by automobile from Buchman Circle to the north and Gateway Oaks Drive to the south.

#### *Public Transportation*

The Sacramento Regional Transit (RT) District is the major public transportation service provider within Sacramento County, providing 20 miles of light rail service and fixed-route bus service on 65 routes. Bus route #88 uses West El Camino Avenue and bus route 89, a peak-only route, includes service to Gateway Oaks Drive. Many of the bus routes and light rail service are currently oriented to the downtown area. The light rail station nearest the project site is the Arden/Del Paso Station, located approximately 3.5 miles to the southeast.

#### *Bikeways*

A bike lane is designated along West El Camino Avenue in the Bikeway Master Plan. This bike lane is proposed within the project area and would extend along West El Camino Avenue from Truxel Road over I-80. There are currently no striped bike lanes along West El Camino Avenue within the project area.

#### *Parking*

No parking would be allowed on the pedestrian overcrossing; parking is allowed along some segments of Gateway Oaks Drive and Buchman Circle.

### **2.1.3.3 Environmental Consequences**

The proposed project does not include any design features that would result in a substantial increase in the number of vehicle trips, a substantial increase in the volume-to-capacity ratio on nearby roads, or an exceedance of a LOS standard during operations. The proposed project provides a crucial link in the Natomas Main Drainage Canal trail system by constructing a dedicated POC over I-80 to connect the existing trail on the south side of I-80 with a planned segment on the north side. It is possible that bicycle and pedestrian traffic at nearby intersections will increase following project construction, but this impact would be less than significant because the project is intended to compliment these modes of travel, their volumes are light in comparison with existing vehicular traffic in the area, and these increases are not anticipated to significantly impact the LOS at area intersections.

During construction, the movement of crews, equipment, and material would result in temporary increases in traffic on the surrounding roadways. The additional traffic would be minor compared to the existing daily and peak-hour traffic volumes on the local roadways. It is not anticipated that periodic

short-term lane closures or detours would be necessary. The increased vehicle trips during project construction and bicycle and pedestrian use of the POC would be less than significant.

The proposed project does not include design features that would result in hazardous traffic conditions and would not increase hazards for motorists, bicyclists, or pedestrians. The two ramps providing access to the POC would be ADA-compliant, which would decrease the possibility of hazards associated with ramp curves and gradient. The proposed project is intended to create a safer route for bicyclists and pedestrians to take for commute or recreational trips in the project area.

During construction and operation of the project, it is not anticipated that the blockage of any lanes, residential or commercial/office properties would occur. Four possible staging areas have been identified on existing City or County properties or City-held easements (see Chapter 1, Proposed Project, Section 1.3.1) in the project area. Emergency access to adjacent properties would not be impeded during construction since the construction staging areas are proposed to be within existing City or County properties or City-held easements and would not block or prohibit access to surrounding properties.

Following project completion, the improvements made would have a beneficial impact in terms of safety on pedestrians and bicyclists in the area by providing designated bike/pedestrian paths, raised overcrossings, and safety/security lighting.

The proposed project would have a less-than-significant impact.

#### **CUMULATIVE IMPACTS**

There are no cumulative impacts on traffic and transportation associated with this project.

#### **2.1.3.4 Mitigation Measures**

The project would have a less-than-significant impact on traffic and transportation services. No mitigation is necessary.

#### **2.1.4 Visual/Aesthetics**

##### **2.1.4.1 Methodology and Approach**

The term *aesthetics* typically refers to the perceived visual impression of an area, such as a scenic view, open space, or feature of architectural interest. The aesthetic value of an area is a measure of its *visual character* and *visual quality* combined with *viewer response* (FHWA 1983). This combination may be affected by the components of a project (e.g., buildings constructed at a height that obstructs views, hillsides cut and graded, or open space changed to an urban setting), as well as by changing elements, such as light, weather, and the length and frequency of viewer exposure to the setting. Aesthetic impacts thus are defined as changes in viewer response as a result of project construction and operation.

#### **VISUAL CHARACTER**

Visual character is the appearance of the physical form of the landscape, composed of natural and human-made elements, including topography, water, vegetation, structures, roads, infrastructure, and utilities; and the relationships of these elements in terms of form, line, color, and texture.

## **VISUAL QUALITY**

Visual quality is evaluated based on the relative degree of vividness, intactness, and unity as modified by its visual sensitivity.

- *Vividness* is the visual power or memorability of landscape components as they combine in striking or distinctive visual patterns.
- *Intactness* is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements; this factor can be present in well-kept urban and rural landscapes, as well as in natural settings.
- *Unity* is the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the artificial landscape. (FHWA 1983.)

High-quality views are highly vivid, relatively intact, and exhibit a high degree of visual unity. Low-quality views lack vividness, are not visually intact, and possess a low degree of visual unity.

## **VIEWER RESPONSE**

Viewer response is the psychological reaction of a person to visible changes in the viewshed. A *viewshed* is defined as all of the surface area visible from a particular location (e.g., an overlook) or sequence of locations (e.g., a roadway or trail) (FHWA 1983). The measure of the quality of a view must be tempered with the overall sensitivity of the viewer and viewer response. Viewer sensitivity is dependent on the number and type of viewers and the frequency (e.g., daily or seasonally) and duration of views (i.e., how long a scene is viewed). Visual sensitivity is also modified by viewer activity, awareness, and visual expectations in relation to the number of viewers and the viewing duration.

## **AESTHETIC ASSESSMENT PROCESS**

The concepts presented above are combined in a visual impact assessment process that involves identification of the following:

- visual character and quality of the project area,
- relevant policies and concerns for protection of visual resources,
- general visibility of the project area and site using descriptions and photographs, and
- viewer response and potential impacts.

### **2.1.4.2 Regulatory Setting**

#### **SACRAMENTO CITY CODE**

Title 12 (*Streets, Sidewalks and Public Places*) of the Sacramento City Code contains chapters that may apply to the proposed project and aesthetic resources. These include, but are not limited to, Chapter 12.56—Trees Generally and Chapter 12.64—Heritage Trees.

#### **SACRAMENTO GENERAL PLAN**

The following policies from the Sacramento General Plan (City of Sacramento 2007, 2004) apply to the proposed project.

*Land Use and Urban Design (2007)*

**LU 2.3.1 Multi-Functional Green Infrastructure.** The City shall strive to create a comprehensive and integrated system of parks, open spaces, and urban forests associated with its neighborhoods, centers, riparian corridors, wetlands, agricultural lands, and utility corridors that provides a “green” network that frames and complements the city’s urban areas and serves as visual a amenity, recreational resource, environmental asset, and natural infrastructure.

**LU 2.3.2 Adjacent Development.** The City shall require that development adjacent to parks and open spaces complements and benefits from this proximity by:

- Preserving physical and visual access;
- Requiring development to front, rather than back, onto these areas;
- Using single-loaded streets along the edge to define and accommodate public access;
- Providing pedestrian and multi-use trails;
- Augmenting non-accessible habitat areas with adjoining functional parkland; and
- Extending streets perpendicular to parks and open space and not closing off visual and/or physical access with development.

**LU 5.2.2 Enhanced Design Character.** The City shall encourage renovation, infill, and redevelopment of existing suburban centers that reduces the visual prominence of parking lots, makes the centers more pedestrian friendly, reduces visual clutter associated with signage, and enhances the definition and character of the street frontage and associated streetscape.

**LU 6.1.11 Enhanced Pedestrian Environment.** The City shall promote the transformation of existing automobile-dominated corridors into boulevards that are attractive, comfortable, and safe for pedestrians by incorporating:

- Wider sidewalks;
- On-street parking between sidewalk and travel lanes;
- Fewer curb cuts and driveways;
- Enhanced pedestrian street crossings;
- Building entrances oriented to the street;
- Transparent ground floor frontages;
- Street trees;
- Streetscape furnishings; and
- Pedestrian-scaled lighting and signage.

*Aesthetic Resources (2007)*

**ER 7.1.1 Protect and Enhance Scenic Views.** The City shall protect and enhance views from public places to the Sacramento and American Rivers, adjacent greenways, landmarks, and urban views of the downtown skyline and the State Capitol along Capital Mall.

*Public Facilities and Services Element (2004)*

**Goal E—Design public facilities in such a manner as to ensure safety and attractiveness.** Utilities and related infrastructure should be designed and constructed in a manner to prevent possible visual blight and ensure safety to Sacramento residents. The City should continue to support and encourage the construction of utility lines underground and provide safe, attractive infrastructure. Existing and newly constructed infrastructure should be maintained.

### **2.1.4.3 Affected Environment**

The aesthetic environment surrounding the proposed project area is characterized by typical views of freeways and streets, and office park/highway commercial, open space, and agricultural land uses, with some light commercial and residential uses. There are no unique or visually outstanding manmade features within the project area.

The Natomas Main Drainage Canal is a marginally valuable natural scenic resource, although it is not a major defining element in the landscape of the project area. The tree and vegetative cover along the Natomas Main Drainage Canal is an important visual element in the project area, as few tall structures and topographic features add vertical stratification.

### **2.1.4.4 Environmental Consequences**

#### **Impact AES-1: Substantially change scenic resources**

Construction of the proposed project would create temporary changes in views of and from the project area. Construction activities would introduce considerable heavy equipment and associated vehicles, including dozers, graders, scrapers, and trucks, into the viewshed of I-80, public roadways, and residential and business properties. Construction signage would also be a visible element. Construction is expected to require from 10 to 12 months. Residents and businesses would experience a short-term change in the visual character of the area near their respective locations through construction staging and construction activities. Because construction is a very typical element within the growing Natomas area and since visual changes due to construction will be temporary, this impact is considered less than significant.

#### **Impact AES-2: Degrade visual character in project area**

The project area is typified by open space and agricultural views. However, views to the northwest, east, and southeast of the site include single-family residences and office park uses, and highway views of I-80, which the POC structure would cross. The proposed area, including land designated for agricultural use, is designated for future urban development, as described in the land use section. The POC would provide opportunities for future users of the trail system, including residents of South and North Natomas, to benefit from visual resources (e.g., views of current open space land and of the Natomas Main Drainage Canal). The POC would not alter the existing visual character for viewer groups in the project area because freeway interchanges, and their associated bridges and infrastructure, are common visual

elements in the project vicinity. The proposed project would not result in demonstrable negative aesthetic effects; instead, it is arguable that the proposed project would result in positive aesthetic affects. Additionally, the proposed project would not affect a scenic vista or adopted view corridor, as no areas within the roadway corridor are designated as such. These impacts are considered less than significant.

### **Impact AES-3: Create a new source of light and glare which would adversely affect views**

Lighting of the POC structure will be Caltrans standard fluorescent fixtures fixed on the overhang of the POC fence. Lighting for the proposed pathway will be based on City standard streetlights. Although this lighting would create additional light, the lights will be designed and directed to minimize glare for people within surrounding land uses and for drivers on I-80. Furthermore, existing lighting is already present in the project area from I-80 and adjacent development, and the proposed additional lighting would be negligible. The project POC would create shadows on adjacent properties because it is planned to rise to approximately 20 feet in height as it crosses over I-80. The shadows from the north- to south-trending bridge would generally fall on either side of the bridge, depending on the time of day. The shadows created by the POC would not shade a recognized public gathering place (e.g., a park) as none currently exist in the area adjacent to the elevated overcrossing. The POC also would not place residences or child care centers in complete shade because none exist immediately adjacent to the project site, or they are located sufficiently distant to be unaffected by shadows from the raised portion of the POC. The new shadows created by the POC would affect traffic along I-80 but are expected to be similar to shadows from existing roadway overcrossings common to the I-80 corridor and are considered less-than-significant effects.

The proposed project is anticipated to result in less-than-significant impacts associated with light, glare, or the creation of shadows on adjacent property.

## **CUMULATIVE IMPACTS**

There are no cumulative impacts related to the visual character of the area associated with the project.

### **2.1.4.5 Mitigation Measures**

No mitigation is required.

## **2.1.5 Cultural Resources**

For the purposes of this document, the information described within this section is taken from the 2004 Historic Resources Evaluation Report (HRER) prepared for this project and the 2008 Natomas Interstate 80 Bicycle and Pedestrian Overcrossing Finding of Effects (FOE) document prepared by Jones & Stokes (2008) for this project. The 2004 HRER notes that the segments of the Natomas Main, East, and West Drainage Canals retained integrity of location, design, and materials.

### **2.1.5.1 Regulatory Setting**

Under federal law, the criteria of adverse effect are set forth by the Advisory Council on Historic Preservation (ACHP) in its implementing regulations, 36 CFR Part 800 (revised January 11, 2001). As codified in 36 CFR Part 800.4(d)(2), if historic properties may be affected by a federal undertaking, the agency official shall assess adverse effects, if any, in accordance with the criteria of adverse effect. The criteria of adverse effect (36 CFR 800.5 [a][1]) read:

An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the [NRHP] in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the [NRHP]. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

36 CFR 800.5 (a)(2) reads:

Adverse effects on historic properties include, but are not limited to:

- (i) Physical destruction of or damage to all or part of the property;
- (ii) Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the [secretary of the interior's] Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines;
- (iii) Removal of the property from its historic location;
- (iv) Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;
- (v) Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;
- (vi) Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and
- (vii) Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

### **2.1.5.2 Affected Environment**

In 1911, the State of California established a State Reclamation Board and subsequently proposed the construction of levees, weirs, and bypasses along the Sacramento River. Shortly thereafter, new reclamation districts came into existence, such as RD 1000, through which the proposed project passes. When the Natomas Corp. founded RD 1000, the entity owned 80% of the 55,000-acre district. By 1939, the district comprised three district-perimeter levees (the East, River, and Cross Canal Levees), three exterior drainage canals (the Natomas East Main Drainage, Pleasant Grove, and Cross Canals), three pumping plants, and numerous interior canals. In 1936, passage of the federal Flood Control Act increased federal participation in reclamation projects, and 20 years later the management of the district was turned over to individual landowners. The establishment of RD 1000 eventually allowed for land to be drained and the area (known as Natomas) to be settled.

The Natomas Main Drainage Canal is part of RD 1000's historic drainage system, which was designed to protect the American River Basin from flooding and to facilitate land reclamation. The earth-lined Natomas Main Drainage Canal, East Drainage Canal, and West Drainage Canal were three of four branches of the interior drainage canals that drained RD 1000 land and carried water to the main pumping plant (Plant Number 1). The Natomas Main Drainage Canal is formed by the intersection of the East and West Drainage Canals. Comparable in overall design and construction, the segments of the East and West Drainage Canals are approximately 112 feet in top width, with the Natomas Main Drainage Canal segment extending approximately 130 feet (the confluence of the three canals is within the project area). Bottom width was not discernible because of the presence of water in the segments. The banks of the canals were graded recently. Vegetation is located along the east and west banks of the Main Drainage Canal segment. I-80 bisects the project area and crosses the waterway via a concrete box culvert. Fallow agricultural fields are located west of and adjacent to the canal segments. Modern residences are constructed adjacent to and north of the West and East Drainage Canal segments. Modern three-story commercial and residential construction is located adjacent to the Natomas Main Drainage Canal and south of I-80. The introduction of the modern elements as well as I-80 gives the area an urban feeling.

Dames & Moore conducted a previous inventory and evaluation of RD 1000 for USACE, Sacramento District, in December 1995. The survey population in the Area of Potential Effects (APE) for the current study, as opposed to Dames & Moore's 1995 inventory and evaluation, is composed of a segment of the West Drainage Canal, as well as its confluence with the East and Natomas Main Drainage Canals. The water conveyance structures were determined previously to be eligible for listing in the National Register of Historic Places (NRHP) as contributing features of the RD 1000 Rural Historic Landscape District. It should be noted that the timeline suggests that the State Historic Preservation Office (SHPO) reviewed a draft report submitted by USACE that was finalized between September 1994 and December 1995. The USACE report made no eligibility determination pursuant to CEQA. In 2004, cultural resources staff at Jones & Stokes completed an HRER, which evaluated the resource for potential significance under CEQA, considered the NRHP status of the canals, and found that the properties within the APE associated with RD 1000 are historical resources under CEQA and remained contributors to the NRHP-eligible historic district (Bowen 2004).

As described in a 1994 SHPO letter (Widell pers. comm.), the character-defining features are broken into three main groups: the drainage system, the road system, and large-scale land patterns. The drainage system encompasses the primary canals, levees, pumping plants, and ditches within the areas of contributing large-scale land patterns. The road system includes many local jurisdictional roads within the boundaries of the RD 1000 Rural Historic Landscape District, as well as right-of-way roads within fields in the areas of contributing large-scale land patterns. Finally, the large-scale land patterns are those composed of open fields formed by the intersection of the canals and roads in the areas generally north of modern I-80.

Given the size and complexity of the RD 1000 Rural Historic Landscape District, as well as the number of years since the Dames & Moore 1995 evaluation, contributing and noncontributing features of the district are now less clearly defined.

The I-80 POC project area is located within lands formerly used for agricultural activities and increasingly converted to transportation, residential, and commercial development. Grading, cutting, and filling along existing roadways (primarily I-80) and graded road margins, trenching for utilities, and other construction activities have resulted in substantial surface and subsurface ground disturbance throughout the project area. Intensive mechanized agriculture has caused further ground disturbance in the area.

The project segment of the I-80 POC passes over segments of the Natomas Main, East, and West Drainage Canals, which are contributing components of the NRHP-eligible RD 1000 Rural Historic

Landscape District. Contributing features of the District include the drainage system itself, of which the Natomas Main, East, and West Drainage Canals are principal components, and “large scale land patterns” that exhibit the qualities of a rural historic landscape at the beginning of the 20<sup>th</sup> century (the period of historical significance for the District).

Review of records available at the North Central Information Center of the California Historical Resources Information System (CHRIS) at California State University, Sacramento, as well as other sources specified in the Archaeological Survey Report (ASR) (Jones & Stokes 2004) and the HRER, did not identify any other previously recorded prehistoric or historic resources within the project APE. According to these records, portions of the project APE have been previously surveyed for cultural resources. Intensive archaeological field survey of the entire project APE did not identify any new cultural resources within the project APE. The portions of the Natomas Main, East, and West Drainage Canals within the project APE were recorded on a Department of Parks and Recreation (DPR) site record form set, which is included in Appendix A of the HRER (Bowen 2004).

The Natomas Main, East, and West Drainage Canals retain significance within the RD 1000 Rural Historic Landscape District as original components of the drainage system. They were identified as contributing components to the district because their location, materials, and design (function within the drainage system) remain unchanged from the District’s period of significance (1911–1939). The land north of I-80 and surrounding the north half of the I-80 POC of the Natomas Main, East, and West Drainage Canals is designated (as of 1994) as a contributing component of the District. The land south of I-80 and surrounding the south half of the I-80 POC of the Natomas Main Drainage Canal, on the other hand, is designated as a noncontributing component of the District because it has lost the rural character of the District’s period of significance.

### **2.1.5.3 Environmental Consequences**

#### **Impact CUL-1: Cause a substantial adverse change in significance of a historic resource**

The proposed project has the potential to affect the historic property known as the RD 1000 Rural Historic Landscape District. Caltrans has determined that only criterion “v” above applies to the proposed project. The bicycle and POC, as well as the Canal Bridge, would present a visual change within the proposed APE at the southern boundary of the RD 1000 Rural Historic Landscape District. The proposed structure over I-80 would extend approximately 33 feet above grade.

The proposed project would not result in the physical destruction, alteration, or removal of segments of the Natomas Main, East, or West Drainage Canals (criteria “i,” “ii,” and “iii” above), which are the only contributing features of the RD 1000 Rural Historic Landscape District within the APE for the proposed project. Similarly, the segments of the Natomas Main, East, and West Drainage Canals would continue to be used as water conveyance structures and would not be neglected, transferred, leased, or sold as a result of the proposed undertaking (criteria “iv,” “vi,” and “vii” above).

As a bicycle and pedestrian improvement project, the project would not be likely to introduce atmospheric or audible elements (criterion “v” above); however, if the noise level were to increase, it would not result in an adverse effect on the property’s historically significant features. The proposed project has the potential to introduce a visual element that might affect the integrity of the setting of the historic property, which also falls under criterion “v” above. According to the 1995 evaluations that established the NRHP eligibility of RD 1000, the historic property derives its significance from its association with reclamation and flood control within the Sacramento River Basin and Sacramento Flood Control Project. RD 1000, as it existed in 1995, was “an open rural landscape that consisted of levees, canals, and roads intersecting to form large blocks of fields” (Bradley and Corbett 1995). Although the proposed project would represent

a change to features at the established southern boundary of the district, the project would not change the character of physical features within the property's setting that currently contribute to its historic significance. Therefore, relative to criterion "iv" above, the proposed project would not result in an adverse effect on the historic property.

Although the overcrossing structures would be located over segments of the Natomas Main, East, and West Drainage Canals, this would not represent an adverse effect on historic structures. With regard to criterion "v," the alternative would introduce new visual elements at the southern boundary of the property. These elements would include two new POC structures. Although they would be near the historic structures and within the boundary of the RD 1000 Rural Historic Landscape District, these new elements would be located at the very edge of the boundary of the historic property and would be of comparable (or lesser) scale and size to that of the adjacent existing highway signage and the I-80/I-5 interchange. These new elements would not physically alter contributing elements of the segments of the Natomas Main, East, and West Drainage Canals or the RD 1000 Rural Historic Landscape District. The area proposed for the overcrossing structures is not within the primary viewshed of the district. Given the nature and function of the historic district, any extant contributing elements of RD 1000 would be viewed most appropriately from areas well outside the proposed project area, where less modern residential, commercial, and agricultural development is present. Therefore, the new overcrossing structures would not obstruct the primary views of the existing contributing features of RD 1000.

Under this proposed project, the majority of physical aspects of integrity—including the location, design, materials, and workmanship of the segments of the Natomas Main, East, and West Drainage Canals—would remain much as they were in 2004. Approximately 30 feet along the bottom of the West Drainage Canal (under the new at-grade pedestrian bridge) would be lined with concrete under the proposed project. The structures' feeling and association as early 20th-century engineering features tied to RD 1000 would not be altered as a result of any changes brought about under this specific project. Although the site's setting might be altered somewhat by the introduction of new visual elements of the proposed project, the majority of these elements would be comparable in size and scale to those already in existence. Only the I-80 overcrossing portion of the proposed project appears to feature elements that have the potential to alter the existing viewshed to any notable degree. On balance, the proposed structure would be located along the boundary (I-80) that, as early as 1996, separated much of the noncontributing areas of RD 1000 from those that contributed to the historic property.

In summary, because the introduction of these new physical and visual elements would not diminish the seven aspects of integrity (location, design, setting, materials, workmanship, feeling, and association) of the historic property to a level at which the property would fail to convey its significance, the proposed project would have no adverse effect on the RD 1000 Rural Historic Landscape District.

#### **CUMULATIVE IMPACTS**

There are no cumulative impacts on cultural resources associated with this project.

#### **2.1.5.4 Mitigation Measures**

Caltrans, as assigned by the FHWA, has applied the criteria of adverse effect and determined that the undertaking would have no adverse effect on historic properties pursuant to Stipulation X.B.1 of the Programmatic Agreement (PA). In accordance with 36 CFR 800.5(c) and Stipulation X.B.1.a. of the PA, Caltrans requested the SHPO's concurrence with this finding in January 2008. On March 24, 2008, a letter of concurrence for the finding of no adverse effect was forwarded was sent to Caltrans by SHPO (Appendix E). No additional mitigation is necessary.

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## 2.2 Physical Environment

This section examines potential impacts on the human environment that may result from implementation of the proposed project.

### 2.2.1 Hydrology, Water Quality, Stormwater, and Runoff

#### 2.2.1.1 Regulatory Setting

In order to maintain high quality, it is imperative to reduce sedimentation and erosion into the tributaries. The City of Sacramento General Plan Update Draft EIR includes a number of precautionary construction measures aimed at maintaining water quality within the City. These measures include: minimizing surface disturbance as much as possible; placing mulch and reseeding/revegetating disturbed areas; enforcing strict onsite soil handling rules; collection and removal of pollutants such as petroleum products from the job site; maintaining riparian vegetation to the maximum extent feasible; using appropriate sanitation to avoid bacterial and nutrient contamination; and preparation of a spill prevention plan in the event of an accidental materials spill (City of Sacramento 1987).

The Central Valley RWQCB has primary responsibility for protecting the quality of surface- and groundwaters within the City. The RWQCB's efforts are generally focused on preventing either the introduction of new pollutants or an increase in the discharge of existing pollutants into bodies of water that fall under its jurisdiction. The proximity of the Sacramento and American Rivers to the project site and the existence of both a shallow water table and deep aquifer beneath the area keep the RWQCB interested in activities in the area.

The City has obtained a NPDES permit from the State Water Resources Control Board under the requirements of the Environmental Protection Agency (EPA) and Section 402 of the CWA. The goal of the permit is to reduce pollutants found in urban storm runoff. The general permit requires the permittee to employ BMPs before, during, and after construction. 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. BMP mechanisms minimize erosion and sedimentation, and prevent pollutants such as oil and grease from entering the stormwater drains.

Components of BMPs include:

- maintenance of structures and roads;
- flood control management;
- comprehensive development plans;
- grading, erosion and sediment control ordinances;
- inspection and enforcement procedures;
- educational programs for toxic material management;
- reduction of pesticide use; and

- site-specific structural and non-structural control measures.

### 2.2.1.2 Affected Environment

*Flooding.* FEMA publishes Flood Insurance Rate Maps (FIRM) that delineate flood hazard zones for communities. The project site is designated as an “A” flood zone area inundated by 100-year flooding.

*Surface/Groundwater.* The aquifer system underlying the City is part of the larger Central Valley groundwater basin. The Sacramento, American, and Cosumnes Rivers are the main surface water tributaries that drain much of Sacramento and recharge the aquifer system. In the northern portion of the City, where the proposed project is located, other smaller tributaries include the East Drainage Canal and West Drainage Canal, which connect south of the project to form the Main Drainage Canal. Surface inflows to the east of the City Limits, and deep percolation of precipitation and surface water applied to irrigated crop land, recharge the aquifer system. Groundwater is depleted by pumped extractions of groundwater for municipal, industrial, and agricultural purposes. Groundwater levels in the Sacramento area have been declining since 1940. The pattern of pumping has continued over the years, and the current rate of decline is about 1.5 feet per year (City of Sacramento 1987).

*Water Quality.* The City’s municipal water is received from the American and Sacramento Rivers. The water quality of the American River is considered very good. The Sacramento River water is considered to be of good quality also, although higher sediment loads and extensive irrigated agriculture upstream of Sacramento tends to degrade the water quality. During the spring and fall, irrigation tailwaters are discharged into drainage canals that flow to the river. In the winter, runoff flows over these same areas. In both instances, flows are highly turbid and introduce large amounts of herbicides and pesticides into the drainage canals, particularly rice field herbicides in May and June. The aesthetic quality of the river is changed from relatively clear to turbid from irrigation discharges.

Water quality of the drainage tributaries is also affected by other pollutants, such as runoff from urban storm drains and illegal dumping at creeks and drainageways (City of Sacramento 1987).

### 2.2.1.3 Environmental Consequences

For the purposes of this analysis, an impact is considered significant if the project would substantially impact water quality, interfere with groundwater quality, significantly alter drainage or runoff patterns, or introduce flooding hazards.

#### **Impact HYD-1: Potential alteration of existing drainage patterns or absorption rates**

The proposed project would not result in substantial changes to absorption rates, drainage patterns, or the rate and amount of surface runoff. The proposed overcrossing structure would result in the creation of minimal additional impervious surface. Additionally, drainage from the structure will be carried through open channel curbing and collected by small culverts at each end of the bridge. These culverts will carry any surface water away from the structure and into the natural drainages of the canal. The presence of the bridge structures will not produce appreciable changes in the existing amount of surface runoff. The proposed project would have a less-than-significant impact on absorption rates, drainage patterns, or the rate and amount of surface runoff.

### **Impact HYD-2: Potential to increase flooding hazards**

The project area is located within Special Flood Hazard Area (SFHA) Zone “A”. Zone “A” is defined by FEMA’s National Flood Insurance Program (NFIP) as an area inundated by 100-year flooding, for which no Base Flood Elevations (BFEs) have been determined. The proposed project would not create additional risk because the POC would span the West Drainage Canal with abutments placed on the existing canal levees. Impacts from exposure of people or property to water-related hazards such as flooding would be less than significant.

### **Impact HYD-3: Potential impacts on water quality**

Construction-related activities have the potential to impact water quality. The release of sediments, fuel, oil, grease, solvents, concrete wash, and other chemicals used in construction activities could impact water quality if allowed to enter the East or West Drainage Canals.

The majority of the project area is level and, as discussed in Section 1.3, long-term erosion and sedimentation will be controlled by hydroseeding with native dryland grasses and typical highway median grass cover. Potential for erosion due to surface water flow would be primarily limited to embankment slopes and areas disturbed by grading during construction.

Sedimentation controls would be implemented in order to lessen the potential for water quality impacts. The POC project would be required to comply with the City of Sacramento Code, Ordinance 15.88.250, Erosion and Sediment Control, and the Standard Specifications for Public Works Construction. Additionally, the construction of the POC would be coordinated with the California DFG, the Central Valley RWQCB, and the USACE.

Therefore, the proposed project is anticipated to have a less-than-significant impact on surface waters, changes in currents, or the course or direction of water movements.

### **Impact HYD-4: Potential to deplete or interfere with groundwater supplies and recharge**

No change in the quantity or quality of ground waters, either through direct additions or withdrawal, or through interception of an aquifer by cuts or excavations, or through substantial loss of groundwater recharge capability is expected to result from the proposed POC project. Therefore, the proposed project would have a less-than-significant impact on ground water quantity, direction or rate of flow, or quality.

### **CUMULATIVE IMPACTS**

There are no cumulative impacts on existing and future land uses for hydrology and water quality associated with this project.

#### **2.2.1.4 Mitigation Measures**

The proposed project would have no impact on flooding, stormwater runoff, or water quality. No mitigation is necessary.

## 2.2.2 Geology, Soil, and Seismicity

### 2.2.2.1 Regulatory Setting

#### FEDERAL REGULATIONS

##### *Clean Water Act 402/National Pollutant Discharge Elimination System*

The CWA is discussed in detail in Section 2.2.1, “Hydrology, Water Quality, Stormwater, and Runoff.” However, because CWA 402 is directly relevant to excavation and grading, additional information is provided below.

Amendments in 1987 to the CWA added Section 402p, which establishes a framework for regulating municipal and industrial stormwater discharges under the NPDES program. The EPA has delegated to the State Water Resources Control Board (SWRCB) the authority for the NPDES program in California, which is implemented by the state’s nine RWQCBs. Under the NPDES Phase II Rule, construction activity disturbing 1 acre or more must obtain coverage under the state’s General Permit for Discharges of Storm Water Associated with Construction Activity (General Construction Permit). Proponents of specific projects that would disturb one or more acres will be required to obtain a General Construction Permit, prepare a Notice of Intent and a SWPPP, and implement and maintain BMPs to avoid adverse effects on water quality as a result of construction activities, including earthwork.

#### STATE REGULATIONS

##### *Alquist-Priolo Earthquake Fault Zoning Act*

California’s Alquist-Priolo Act (PRC 2621 et seq.), originally enacted in 1972 as the Alquist-Priolo Special Studies Zones Act and renamed in 1994, is intended to reduce the risk to life and property from surface fault rupture during earthquakes. The Alquist-Priolo Act prohibits the location of most types of structures intended for human occupancy across the traces of active faults and strictly regulates construction in the corridors along active faults (Earthquake Fault Zones). It also defines criteria for identifying active faults, giving legal weight to terms such as “active,” and establishes a process for reviewing building proposals in and adjacent to Earthquake Fault Zones.

Under the Alquist-Priolo Act, faults are zoned, and construction along or across them is strictly regulated if they are “sufficiently active” and “well-defined.” A fault is considered sufficiently active if one or more of its segments or strands shows evidence of surface displacement during Holocene time (defined for the purposes of the act as within the last 11,000 years). A fault is considered well-defined if its trace can be clearly identified by a trained geologist at the ground surface or in the shallow subsurface, using standard professional techniques, criteria, and judgment (Hart and Bryant 1997).

##### *Seismic Hazards Mapping Act*

Like the Alquist-Priolo Act, the Seismic Hazards Mapping Act of 1990 (PRC 2690–2699.6) is intended to reduce damage resulting from earthquakes. While the Alquist-Priolo Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including strong ground shaking, liquefaction, and seismically induced landslides. Its provisions are similar in concept to those of the Alquist-Priolo Act: The state is charged with identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides, and other corollary hazards; and cities and counties are required to

regulate development within mapped Seismic Hazard Zones. At the present time, the state has mapped only Alameda, Los Angeles, Orange, San Francisco, and Ventura Counties.

#### *California Building Standards Code*

The State of California's minimum standards for structural design and construction are given in the California Building Standards Code (CBSC) (CCR Title 24). The CBSC is based on the Uniform Building Code (UBC) (International Conference of Building Officials 1997), which is used widely throughout the United States (generally adopted on a state-by-state or district-by-district basis) and has been modified for California conditions with numerous, more detailed or more stringent regulations. The CBSC provides standards for various aspects of construction, including (i.e., not limited to) excavation, grading, and earthwork construction; fills and embankments; expansive soils; foundation investigations; and liquefaction potential and soil strength loss. In accordance with California law, proponents of specific projects would be required to comply with all provisions of the CBSC for certain aspects of design and construction.

#### *Caltrans Seismic Design Criteria*

The California Department of Transportation (Caltrans) has Seismic Design Criteria (SDC), which is an encyclopedia of new and currently practiced seismic design and analysis methodologies for the design of new bridges in California. The SDC adopts a performance-based approach specifying minimum levels of structural system performance, component performance, analysis, and design practices for ordinary standard bridges. The SDC has been developed with input from the Caltrans Offices of Structure Design, Earthquake Engineering and Design Support, and Materials and Foundations. Memo 20-1 of the SDC outlines the bridge category and classification, seismic performance criteria, seismic design philosophy and approach, seismic demands and capacities on structural components, and seismic design practices that collectively make up Caltrans' seismic design methodology.

### **LOCAL REGULATIONS**

#### *Geotechnical Investigations*

Local jurisdictions typically regulate construction activities through a process that may require the preparation of a site-specific geotechnical investigation. The purpose of a site-specific geotechnical investigation is to provide a geologic basis for the development of appropriate construction design. Geotechnical investigations typically assess bedrock and Quaternary geology, geologic structure, soils, and the previous history of excavation and fill placement. Proponents of specific projects in the MTP 2035 that require design of earthworks and foundations for proposed structures will need to prepare geotechnical investigations on the physical properties of soil and rock at the site prior to project design.

#### *Local Grading and Erosion Control Ordinances*

Many counties and cities have grading and erosion control ordinances. These ordinances are intended to control erosion and sedimentation caused by construction activities. A grading permit is typically required for construction-related projects. As part of the permit, project applicants usually must submit a grading and erosion control plan, vicinity and site maps, and other supplemental information. Standard conditions in the grading permit include a description of BMPs similar to those contained in a SWPPP.

### County and City General Plans

The seismic elements of the City General Plan contains goals, objectives, and policies aimed at reducing the seismic risk to people and property. Proponents of specific projects would be required to consult the general plans and design the project consistent with the applicable guidelines outlined within the general plan.

## 2.2.2.2 Affected Environment

### REGIONAL GEOLOGY

The project area is located in the City of Sacramento, which is within the Sacramento Valley and a part of the larger Great Central Valley. The Great Central Valley is a deep trough that extends 400 miles from the Klamath Mountains in the north to the Tehachapi Mountains in the south. The American and Sacramento Rivers and their tributaries, which drain the Sacramento Valley, flow south and west toward San Francisco Bay. The project area does not contain any unique geologic or physical features, as it is generally level with minimal variations in topography.

### SOILS

According to the Sacramento General Plan Update Draft EIR, the project area is underlain by Holocene floodplain deposits. These recent floodplain and basin deposits represent the depositional regime of the area immediately prior to streamflow and drainage changes brought about within the last 135 years (City of Sacramento 1987). Floodplain deposits are unconsolidated sands, silts, and clays formed from flooding of the American and Sacramento rivers, and are generally moderately to highly permeable.

In 1990, the City of Sacramento obtained a NPDES permit from the State Water Resources Control Board under the requirements of the EPA and Section 402 of the CWA. The permit addresses pollutants found in stormwater runoff. For more detailed requirements of the City's NPDES permit, refer to Section 2.2.1, "Hydrology, Water Quality, Stormwater, and Runoff."

### SEISMICITY

Geologic features, such as faults or Alquist-Priolo special studies zones, are not known to occur on or in the immediate vicinity of the project area (City of Sacramento 1987). However, several faults occur throughout California, including unknown faults, where movement that may cause surface rupture is possible. Regionally, 13 major faults occur within a 75-mile radius, the nearest being 29 miles from Sacramento (Dunnigan Hills fault) and the farthest being 75 miles away (San Andreas fault). According to the Sacramento General Plan Update Draft EIR, the City of Sacramento is subject to potential damage from earthquake groundshaking at a maximum intensity of VIII (Modified Mercalli Scale)<sup>1</sup> (City of Sacramento 1987). The City requires that all new structures be designed to withstand this intensity level, since the City is within Zone 3 of the Uniform Building Standard Code's Seismic Risk Map of the United States (City of Sacramento 1987).

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<sup>1</sup> VIII on the Modified Mercalli Intensity Scale is described as follows: damage slight in specially designed structures; considerable in ordinary standard buildings, with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Chimneys, factory stacks, columns, monuments, and walls fall. Heavy furniture overturned. Disturbs persons driving vehicles (VIII +/- IX, Rossi-Forel Scale).