

# Final Environmental Impact Report

for the  
**Northwest Land Park (P10-039)**  
SCH No. 2010052011



Prepared for  
**City of Sacramento**

Prepared by  
**PBS&J, an Atkins company**  
1200 Second Street, Sacramento, California 95814  
[www.atkinsglobal.com/northamerica](http://www.atkinsglobal.com/northamerica) | [www.atkinsglobal.com](http://www.atkinsglobal.com)

## Volume 1: Revised Draft EIR

April 2011

Final Environmental Impact Report  
for the  
Northwest Land Park Project  
(P10-039)

SCH No. 2010052011

Volume 1:  
Revised Draft Environmental Impact Report

Prepared for:

City of Sacramento

Prepared by:

PBS&J, an Atkins company

April 2011

## **TABLE OF CONTENTS**

---

# TABLE OF CONTENTS

---

## Volume 1:

<u>Chapter</u>	<u>Page</u>
1.0 Introduction .....	1-1
2.0 Project Description .....	2-1
3.0 Summary of Environmental Effects.....	3-1
4.0 Land Use & Planning/Population & Housing.....	4-1
5.0 Environmental Analysis	
5.0 Introduction to the Environmental Analysis.....	5.0-1
5.1 Air Quality .....	5.1-1
5.2 Biological Resources .....	5.2-1
5.3 Cultural Resources .....	5.3-1
5.4 Global Climate Change.....	5.4-1
5.5 Hazards and Hazardous Materials.....	5.5-1
5.6 Noise and Vibration .....	5.6-1
5.7 Parks and Recreation .....	5.7-1
5.8 Public Services .....	5.8-1
Fire Protection .....	5.8-1
Police Protection.....	5.8-9
Schools.....	5.8-15
5.9 Transportation and Circulation.....	5.9-1
5.10 Urban Design and Visual Resources .....	5.10-1
5.11 Utilities and Service Systems .....	5.11-1
Water Supply .....	5.11-1
Hydrology and Water Quality .....	5.11-19
Wastewater and Storm Drainage.....	5.11-39
Solid Waste .....	5.11-54
Electricity and Natural Gas .....	5.11-64
6.0 Other CEQA Considerations .....	6-1
7.0 Alternatives .....	7-1
8.0 References.....	8-1
9.0 Mitigation Monitoring and Reporting Program.....	9-1
10.0 Report Preparation.....	10-1

## LIST OF TABLES

---

<u>Table</u>	<u>Page</u>
2-1 Land Use Summary .....	2-8
3-1 Summary of Impacts and Mitigation Measures .....	3-8
4-1 Population Projections .....	4-6
5.1-1 Summary of Ambient Air Quality Monitoring Data in the Project Area .....	5.1-6
5.1-2 Project NO <sub>x</sub> Emissions During Construction .....	5.1-16
5.1-3 Project NO <sub>x</sub> and ROG Operational Emissions at Buildout .....	5.1-18
5-2-1 Sensitive Plant and Wildlife Species Potentially Occurring Within the Study Area.....	5.2-4
5.4-1 Annual Greenhouse Gas Emissions .....	5.4-26
5.6-1 Noise Ranges of Common Activities.....	5.6-2
5.6-2 Typical Levels of Ground-Borne Vibration .....	5.6-4
5.6-3 Human Response to Different Levels of Ground-Borne Noise and Vibration.....	5.6-5
5.6-4 Sleep Disturbance as a Function of Single-Event Noise Exposure.....	5.6-6
5.6-5 Existing Daytime Noise Levels at Selected Locations.....	5.6-9
5.6-6 Summary of Noise Levels Identified as Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety .....	5.6-10
5.6-7 Ground-Borne Vibration Impact Criteria for General Assessment.....	5.6-11
5.6-8 Sacramento City Noise Ordinance Standards Applicable at Exterior Spaces of Residential Uses .....	5.6-15
5.6-9 Construction Equipment Noise Levels .....	5.6-16
5.6-10 Traffic Noise Levels with and without the Proposed Project .....	5.6-18
5.6-11 Vibration Source Levels for Construction Equipment.....	5.6-25
5.7-1 2009 Existing Park Acreage.....	5.7-3
5.7-2 2009 Existing Trails/Bikeways (off street) .....	5.7-4
5.7-3 Parkland Needs Based on City Service Level Goals .....	5.7-8
5.8-1 Sacramento Police Department Staffing .....	5.8-9
5.8-2 2009 Average Response Times.....	5.8-10
5.8-3 2008-2009 Uniform Crime Report Comparison.....	5.8-10
5.8-4 Demand for Police Protection .....	5.8-14
5.8-5 Sacramento City Unified School District .....	5.8-15
5.8-6 Sacramento Student Generation.....	5.8-19
5.9-1 Intersection Level of Service Definitions .....	5.9-13
5.9-2 Roadway Segment Daily Volume Thresholds.....	5.9-14
5.9-3 Freeway Mainline LOS Criteria .....	5.9-14
5.9-4 Freeway Ramp Merge and Diverge LOS Criteria.....	5.9-15
5.9-5 Roadway Segment Operations – Existing Conditions.....	5.9-15
5.9-6 Intersection Operations – Existing Conditions.....	5.9-18

5.9-7	Freeway Operations – Existing Conditions .....	5.9-20
5.9-8	Off-Ramp Queuing – Existing Conditions .....	5.9-21
5.9-9	Daily Project Site Trip Generation – Existing Conditions .....	5.9-22
5.9-10	Peak Hour Project Site Trip Generation – Existing Conditions.....	5.9-22
5.9-11	Project Trip Generation – Phase 1 .....	5.9-31
5.9-12	Trip Generation – Project Buildout.....	5.9-32
5.9-13	Roadway Segment Operations – Existing Plus Project Conditions.....	5.9-38
5.9-14	Intersection Operations – Existing Plus Project Conditions .....	5.9-43
5.9-15	Freeway Operations – Existing Plus Project Conditions .....	5.9-45
5.9-16	Roadway Segment Operations – Cumulative Conditions .....	5.9-47
5.9-17	Intersection Operations – Cumulative Conditions .....	5.9-50
5.9-18	Freeway Operations – Cumulative Conditions .....	5.9-51
5.9-19	Off-Ramp Queuing – Cumulative Conditions .....	5.9-52
5.9-20	Intersection Operations – Cumulative With Site Access Improvements.....	5.9-60
5.11-1	Settlement Contract 2030 Maximum Diversion .....	5.11-3
5.11-2	Settlement Contract Maximum Diversion Schedule .....	5.11-3
5.11-3	City of Sacramento Historical Water Deliveries.....	5.11-6
5.11-4	Northwest Land Park Development Land Use and Water Demand Summary .....	5.11-15
5.11-5	Peak Day Surface Water Supply Capacity (Existing Facilities) and Demand Comparison during Normal (Above-Hodge) Flow Conditions.....	5.11-17
5.11-6	Peak Day Surface Water Supply Capacity (Existing Facilities) and Demand Comparison during Below-Hodge Flow Conditions.....	5.11-17
5.11-7	Average and Peak Day Dry Weather Wastewater Flows Generated from Existing Uses within the Project Site .....	5.11-42
5.11-8	Average and Peak Day Dry Weather Wastewater Flows Generated from the Proposed Project .....	5.11-48
5.11-9	Average and Peak Day Dry Weather Wastewater Flows Generated from the Proposed Project Compared to Existing Flows .....	5.11-50
5.11-10	Solid Waste Generation .....	5.11-62
7-1	Alternative Impact Discussion .....	7-4
7-2	Adaptive Re-Use Alternative NO <sub>x</sub> and ROG Operational Emissions at Buildout .....	7-8
7-3	Adaptive Re-Use Alternative Annual GHG Emissions .....	7-8
9-1	Northwest Land Park Mitigation Monitoring and Reporting Program .....	9-2

## LIST OF FIGURES

---

<u>Figure</u>	<u>Page</u>
2-1 Regional Location .....	2-2
2-2 Project Location .....	2-3
2-3 Proposed Land Uses .....	2-4
2-4 General Plan Land Use Designations .....	2-6
2-5 Existing Zoning .....	2-7
2-6 Proposed Zoning.....	2-11
2-7 Proposed Water Distribution System .....	2-13
2-8 Proposed Stormwater Collection System.....	2-15
2-9 Proposed Wastewater Collection System .....	2-16
2-10 Proposed Phase 1 Utility Plan .....	2-17
5.3-1 Built Environment.....	5.3-9
5.5-1 Soil Remediation Areas and Groundwater Monitoring Well Locations .....	5.5-9
5.6-1 Noise Monitoring Locations.....	5.6-8
5.7-1 Public Parks and Recreation Facilities.....	5.7-2
5.8-1 Fire and Police Station Locations.....	5.8-2
5.8-2 SCUSD School Locations .....	5.8-16
5.9-1 Study Area .....	5.9-4
5.9-2 Existing Roadway Facilities and Traffic Control .....	5.9-8
5.9-3 Existing Transit Routes .....	5.9-9
5.9-4 Existing Bicycle Facilities .....	5.9-12
5.9-5A Peak Hour Traffic Volumes and Lane Configurations – Existing Conditions .....	5.9-16
5.9-5B Peak Hour Traffic Volumes and Lane Configurations – Existing Conditions .....	5.9-17
5.9-6A Project Trip Distribution - Inbound Trips.....	5.9-34
5.9-6B Project Trip Distribution - Outbound Trips.....	5.9-35
5.9-7A Peak Hour Traffic Volumes and Lane Configurations – Project-Buildout Only Trips....	5.9-36
5.9-7B Peak Hour Traffic Volumes and Lane Configurations – Project-Buildout Only Trips....	5.9-37
5.9-8A Peak Hour Traffic Volumes and Lane Configurations – Existing Plus Project Phase 1 Conditions.....	5.9-39
5.9-8B Peak Hour Traffic Volumes and Lane Configurations – Existing Plus Project Phase 1 Conditions.....	5.9-40
5.9-9A Peak Hour Traffic Volumes and Lane Configurations – Existing Plus Project Buildout Conditions .....	5.9-41
5.9-9B Peak Hour Traffic Volumes and Lane Configurations – Existing Plus Project Buildout Conditions .....	5.9-42
5.9-10A Peak Hour Traffic Volumes and Lane Configurations – Cumulative Conditions .....	5.9-48
5.9-10B Peak Hour Traffic Volumes and Lane Configurations – Cumulative Conditions .....	5.9-49
5.9-11 5th Street Project Access Recommendations .....	5.9-63
7-1 Adaptive Re-Use Alternative.....	7-6

**Volume 2:**

<u>Chapter</u>	<u>Page</u>
1. INTRODUCTION .....	1-1
2. CHANGES TO THE DRAFT EIR .....	2-1
3. LIST OF AGENCIES AND PERSONS COMMENTING .....	3-1
4. COMMENTS AND RESPONSES .....	4-1
LETTER 1: Pacific Gas and Electric, Donald Kennedy .....	4-15
LETTER 2: Sacramento City Unified School District, Crystal Hoff .....	4-19
LETTER 3: Keith Roberts.....	4-23
LETTER 4: Cheryl McDonald.....	4-27
LETTER 5: Greater Broadway Partnership, William Y. Harrell.....	4-31
LETTER 6: Saccani Distributing Co., Gary Saccani and Roland Saccani.....	4-43
LETTER 7: Upper Land Park Neighborhood Association.....	4-47
LETTER 8: State of California, Governor's Office of Planning and Research .....	4-53
LETTER 9: Land Park Community Association.....	4-57
LETTER 10: Environmental Council of Sacramento .....	4-61
LETTER 11: Sacramento Metropolitan Air Quality Management District .....	4-75
LETTER 12: Sacramento Area Bicycle Advocates.....	4-85
LETTER 13: State of California, Department of Transportation .....	4-89

**Volume 3:**

**APPENDICES**

- A. Notice of Preparation (NOP) and NOP Responses
- B. Northwest Land Park Planned Unit Development (PUD) Guidelines
- C. Air Quality Control Practices and Model Outputs
- D. Air Quality Mitigation Plan
- E. Health Risk Assessment
- F. Biological Resources Assessment and Query Results
- G. Arborist Report
- H. Cultural Resources Inventory and Evaluation Report
- I. Setzer Forest Products Property Draft Historic Resource Evaluation Report
- J. Peer Review of Setzer Forest Products Property Draft Historic Resource Evaluation Report
- K. 2030 General Plan Climate Change Policies Consistency Table
- L. Climate Change Model Outputs (Revised)
- M. Phase I Environmental Site Assessment (2005)
- N. Phase I Environmental Site Assessment (2006)
- O. Phase II Subsurface Investigation
- P. Site Investigation Workplan
- Q. Remedial Action Workplan
- R. Noise Model Outputs
- S. Transportation Data
- T. Water Supply Assessment
- U. Trip Generation Information for Adaptive Re-Use Alternative
- V. Site Level Bike Trail Plan

## **1.0 INTRODUCTION**

---

### PROPOSED PROJECT

The Northwest Land Park Project (proposed project) would develop a residential/mixed-use community on approximately 31.7 acres within the Land Park Community Plan Area of the City of Sacramento. The project site is bounded by Broadway Street on the north, 5th Street on the east, McClatchy Way on the south, and an elevated section of Interstate 5 (I-5) on the west (see Figures 2-1 and 2-2 in Chapter 2, Project Description). The project would replace existing light industrial and commercial uses on the project site with up to 968 residential units, commercial-retail uses, and parks and open space. Specifically, the project would include up to 898 medium-density multi-family residences on approximately 19.2 acres, up to 70 high-density multi-family residences and 15,000 square feet of commercial-retail uses on approximately 1.2 acres, approximately 4.3 acres of park and public open space, approximately 1.1 acres of private open space, and approximately 5.9 acres of public rights-of-way. A four-phase project buildout is anticipated. The project would be developed consistent with existing Sacramento General Plan (adopted March, 2009) designations as analyzed in Sacramento's 2030 General Plan Master EIR. The project land use plan is shown on Figure 2-3 in Chapter 2. The project location, project objectives, and specific project elements are also described in Chapter 2.

The City of Sacramento is the lead agency for preparation of the Northwest Land Park environmental analysis. In conformance with sections 15050 and 15367 of the State CEQA Guidelines, the City of Sacramento is the "lead agency" which is defined as the "public agency which has the principal responsibility for carrying out or disapproving a project."

The City of Sacramento maintains a web site that includes information regarding the City, its programs and services, and its various departments. The City's web site is located at [www.cityofsacramento.org](http://www.cityofsacramento.org). The text of the 2030 General Plan and the Master Environmental Impact Report may be found at [www.sacgp.org](http://www.sacgp.org).

### PURPOSE OF THE ENVIRONMENTAL IMPACT REPORT

This Draft Environmental Impact Report (DEIR) has been prepared in conformance with the California Environmental Quality Act (CEQA) of 1970 (as amended) to evaluate the environmental impacts associated with the development of the proposed project. The City of Sacramento is the lead agency under CEQA for the preparation of this EIR. This EIR is a "Project EIR," pursuant to section 15161 of the CEQA Guidelines, for Phase 1 of the project and a "Program EIR," pursuant to section 15168 of the CEQA Guidelines, for Phases 2, 3, and 4 (see Scope of this EIR, below, for further description).

CEQA requires the preparation of an EIR when there is substantial evidence that a project could have a significant effect on the environment. The purpose of an EIR is to provide decision makers,

public agencies, and the general public with an objective and informational document that fully discloses the potential environmental effects of the proposed project. The term “proposed project,” as used in this EIR, refers to the development of the Northwest Land Park project. The EIR process is specifically designed to describe the objective evaluation of potentially significant direct, indirect, and cumulative impacts of the proposed project; to identify alternatives that reduce or eliminate the project's significant effects; and to identify feasible measures that mitigate significant effects of the project. In addition, CEQA requires that an EIR identify those adverse impacts determined to remain significant after mitigation. This project results in no environmental impacts that cannot be reduced to less than significant with mitigation. Normally, such a project could be considered on the basis of a mitigated negative declaration; however, the City and the applicant chose to prepare an EIR to assure a thorough analysis of the project's potential environmental effects. Moreover, because the alternatives section of an EIR generally analyzes alternatives that reduce or eliminate significant environmental impacts, the project's less-than-significant impacts did not facilitate the typical selection of a reasonable range of alternatives.

The City of Sacramento certified a Master EIR in March 2009 as part of its approval of the 2030 General Plan. Projects that are consistent with the General Plan and have been fully accounted for in the analysis contained in the Master EIR will not, in most cases, require extensive additional environmental review before they can be approved. In many cases, an Initial Study can be prepared for such projects to document their consistency with the General Plan and Master EIR, after which a finding of conformance can be made. However, as noted above, the City and the applicant chose to prepare an EIR to assure a thorough analysis of the project's potential environmental effects.

Because the proposed project is consistent with the land uses contained in the General Plan and analyzed in the Master EIR, the proposed project is within the scope of the Master EIR. Consequently, this DEIR is prepared in accordance with CEQA Guidelines sections 15176(d) and 15177, Subsequent Projects Within the Scope of the Master EIR. CEQA Guidelines section 15176(d) states:

Where a Master EIR is prepared in connection with a project identified in subdivision (b)(1) of section 15175, the anticipated subsequent projects included within a Master EIR may consist of later planning approvals, including parcel-specific approvals, consistent with the overall planning decision (e.g., general plan, or specific plan, or redevelopment plan) for which the Master EIR has been prepared. Such subsequent projects shall be adequately described for purposes of subdivision (b) or of this section (15176) if the Master EIR and any other documents embodying or relating to the overall planning decision identify the land use designations and the permissible densities and intensities of use for the affected parcel(s). The proponents of such subsequent projects shall not be precluded from relying on the Master EIR solely because that document did not specifically identify or list, by name, the subsequent project as ultimately proposed for approval.

CEQA Guidelines section 15177 states:

- (a) After a Master EIR has been prepared and certified, subsequent projects which the lead agency determines as being within the scope of the Master EIR will be subject to only limited environmental review.

- (b) Except as provided in subdivision (2) of this subdivision, neither a new environmental document nor the preparation of findings pursuant to section 15091 shall be required of a subsequent project when all the following requirements are met:
- (1) The lead agency for the subsequent project is the lead agency or any responsible agency identified in the Master EIR.
  - (2) The lead agency for the subsequent project prepares an initial study on the proposal. The initial study shall analyze whether the subsequent project was described in the Master EIR and whether the subsequent project may cause any additional significant effect on the environment which was not previously examined in the Master EIR.
  - (3) The lead agency for the subsequent project determines, on the basis of written findings, that no additional significant environmental effect will result from the proposal, no new additional mitigation measures or alternatives may be required, and that the project is within the scope of the Master EIR. "Additional significant environmental effect" means any project-specific effect which was not addressed as a significant effect in the Master EIR.
- (c) Whether a subsequent project is within the scope of the Master EIR is a question of fact to be determined by the lead agency based upon a review of the initial study to determine whether there are additional significant effects or new additional mitigation measures or alternatives required for the subsequent project that are not already discussed in the Master EIR.

This DEIR is also prepared in accordance with CEQA Guidelines section 15183, Projects Consistent with a Community Plan or Zoning. Specifically, CEQA Guidelines section 15183(a) states:

CEQA mandates that projects which are consistent with the development density established by existing zoning, community plan, or general plan policies for which an EIR was certified shall not require additional environmental review, except as might be necessary to examine whether there are project-specific significant effects which are peculiar to the project or its site. This streamlines the review of such projects and reduces the need to prepare repetitive environmental studies.

As noted above, the project would be developed consistent with existing Sacramento General Plan designations as analyzed in Sacramento's 2030 General Plan Master EIR. Therefore, this DEIR includes a discussion of the findings in the Master EIR and focuses on any potential new or additional project-specific significant environmental effects that were not analyzed in the Master EIR. The concept of tiering, described in CEQA Guidelines section 15152, refers to using the analysis of general matters contained in a broader EIR with later EIRs and negative declarations on narrower projects; incorporating by reference the general discussions from the broader EIR; and concentrating the later EIR or negative declaration solely on the issues specific to the later project. Thus, this DEIR tiers from the analysis in the Master EIR.

On September 30, 2010, Governor Schwarzenegger signed into law AB 231 and SB 1456, which amend the process by which an agency may tier environmental review for a later project from an EIR prepared and certified for an earlier program, plan, policy or ordinance. AB 231 authorizes a lead agency to incorporate by reference the statement of overriding considerations from a previous project if the impacts from the later project are not greater than those identified in the previous EIR,

all applicable mitigation measures identified in the prior EIR are incorporated into the later project, and the prior EIR was certified within three years of the approval of the later project. SB 1456 allows that if a lead agency determines that a cumulative effect has been adequately addressed in an earlier EIR, it need not be examined in a later EIR provided that the later project's incremental contribution to the cumulative effect is not cumulatively considerable. The amendments will remain in effect until January 1, 2016.

Although the proposed project would not result in impacts that are greater than those identified in the Master EIR, the Master EIR identified impacts that could not be reduced to less-than-significant levels, as discussed in the technical sections in this DEIR. For this reason, the statement of overriding considerations from the Master EIR is hereby incorporated by reference.

### **EIR Process**

In accordance with the CEQA Guidelines, a Notice of Preparation (NOP) was released May 5, 2010 for a 30-day agency and public review period. The NOP was distributed to responsible agencies, interested parties, business owners, residences, and landowners within the project area. The purpose of the NOP was to provide notification that an EIR for the project would be prepared and to solicit guidance on the scope and content of the document. A summary of the comments received on the NOP is included in each technical chapter. Appendix A contains a copy of the NOP and comment letters received on the NOP.

A public scoping meeting was held on May 19, 2010. Responsible agencies and members of the public were invited to attend and provide input on the scope of the EIR. Public or agency comments submitted at the scoping meeting included general questions about the CEQA process, questions about the proposed project (e.g., types of residential units, number of residential units, whether the project would include affordable housing), effects of the proposed project on adjacent uses and vice versa, and economic impacts of the proposed project. Questions raised at the scoping meeting that are pertinent to the environmental analysis are addressed in this DEIR

This Draft EIR was circulated for public review and comment for a period of 45 days. Upon completion of the public review period, a Final EIR will be prepared that will include written comments on the Draft EIR received during the public review period and the City's responses to those comments. The Final EIR will also include the Mitigation Monitoring Program (MMP). The Final EIR will address any revisions to the Draft EIR made in response to public comments. The Draft EIR and Final EIR together will comprise the EIR for the proposed project.

Before the City of Sacramento can approve the project, it must first certify that the EIR was completed in compliance with CEQA, that the City Council reviewed and considered the information in the EIR, and that the EIR reflects the independent judgment of the City. The City Council will also be required to adopt Findings of Fact for those impacts determined to be significant and unavoidable, and adopt a Statement of Overriding Considerations.

---

## **Public Review of the DEIR and Agency Information and Contact**

Upon publication of this DEIR, the City will provide public notice of the document's availability for public review and invite comment from the general public, agencies, organizations, and other interested parties. Copies of the DEIR will be available on the City's website at <http://www.cityofsacramento.org/dsd/planning/environmental-review/eirs/> and at the following locations:

City of Sacramento Community Development Department  
300 Richards Boulevard, Third Floor  
Sacramento, CA 95811  
(Open to the public from 9:00 am to 4:00 pm)

Sacramento Public Library  
828 I Street  
Sacramento, CA 95814

The public review and comment period is 45 days. Comments on the Draft EIR must be submitted in writing to the City. All comments or questions regarding the Draft EIR should be addressed to:

Dana Allen, Associate Planner  
Environmental Planning Services  
City of Sacramento Community Development Department  
300 Richards Boulevard, 3rd Floor  
Sacramento, CA 95811  
(916) 808-2762  
DAllen@cityofsacramento.org

## **Scope of This DEIR**

This EIR is a "Project EIR," pursuant to section 15161 of the CEQA Guidelines, for Phase 1 of the project, which includes construction of up to 208 residential units on approximately 7.8 acres. A Project EIR examines the environmental impacts of a specific project. This type of EIR focuses on the changes in the environment that would result from implementation of the project, including construction and operation. This EIR is a "Program EIR," pursuant to section 15168 of the CEQA Guidelines, for Phases 2, 3, and 4. A Program EIR is an EIR that may be prepared on a series of actions that can be characterized as one large project and are related. In the case of Phases 2, 3 and 4, the City will review the proposals for development when submitted, and determine whether additional environmental documentation must be prepared. If a later activity would have effects that were not examined in the Program EIR, subsequent environmental documentation must be prepared, consistent with sections 15162 through 15164 of the Guidelines. If no new effects would occur and no new mitigation measures would be required, the subsequent activity could rely on the scope of the environmental analysis provided in the Program EIR, and no additional environmental documentation would be required.

## **Organization of the Draft EIR**

This report includes six principal parts: Project Description, Summary of Impacts and Mitigation Measures, Land Use and Planning, Environmental Analysis (Setting, Impacts, and Mitigation Measures), Other CEQA Considerations, and Alternatives.

The **Project Description** (Chapter 2) describes the location of the project, the project background, existing conditions on the project site, and the nature and location of specific elements of the proposed project that are proposed for construction.

The **Summary of Environmental Effects** (Chapter 3) presents an overview of the results and conclusions of the environmental evaluation. This section identifies impacts of the proposed project and available mitigation measures.

**Land Use and Planning/Population and Housing** (Chapter 4) addresses the land use and planning implications of the project and discusses consistency with land use policies. This chapter also describes existing levels of and trends in population and housing in the City of Sacramento. It identifies the proposed project's development assumptions and analyzes projected population and housing growth in relation to city projections.

The **Environmental Analysis** (Chapter 5) includes a topic-by-topic analysis of impacts that would or could result from implementation of the proposed project. The analysis is organized in 10 topical sections. Each section is organized into two major subsections: Setting (existing conditions), and Impacts and Mitigation Measures, including cumulative impacts.

**CEQA Considerations** (Chapter 6) discusses issues required by CEQA: unavoidable adverse impacts, irreversible environmental changes, growth inducement, and a summary of cumulative impacts.

**Alternatives** (Chapter 7) includes a description of the project alternatives. An EIR is required by CEQA to provide adequate information for decision makers to make a reasonable choice between alternatives based on the environmental aspects of the proposed project and alternatives. As demonstrated in Table 7-1, this chapter provides a comparison of the impacts of the alternatives compared to those of the proposed project. This chapter also identifies the environmentally superior alternative.

The **References** (Chapter 8) used throughout the DEIR are included in this chapter.

**Report Preparation** (Chapter 9) includes a list of preparers of the DEIR.

The **Appendices** contain a number of reference items providing support and documentation of the analyses performed for this report.

## **2.0 PROJECT DESCRIPTION**

---

## 2.0 PROJECT DESCRIPTION

---

### INTRODUCTION

The Northwest Land Park Project (proposed project) would develop a residential/mixed-use community on approximately 31.7 acres within the Land Park Community Plan Area of the City of Sacramento. The project would replace existing light industrial and commercial uses on the project site with up to 968 residential units, commercial-retail uses, and parks and open space. No heavy industrial uses are located on the project site. Specifically, the project would include up to 898 medium-density multi-family residences on approximately 19.2 acres, up to 70 high-density multi-family residences and 15,000 square feet of commercial-retail uses on approximately 1.2 acres, approximately 4.3 acres of park, approximately 1.1 acres of private open space, and approximately 5.9 acres of public rights-of-way. The project land use plan is shown on Figure 2-3. A four-phase project buildout is anticipated. The project location, project objectives, and specific project elements are described in detail below.

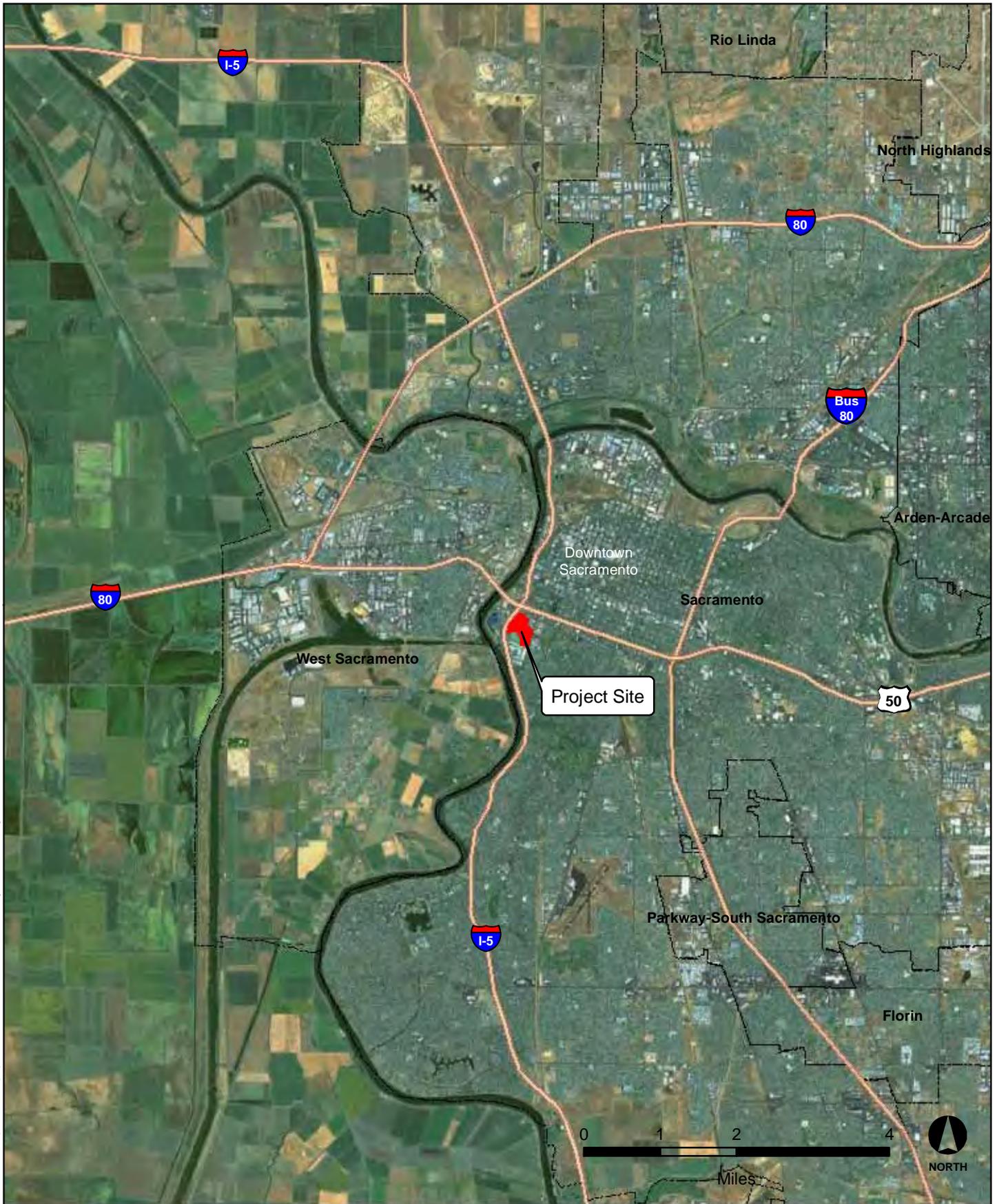
### PROPOSED PROJECT

#### Project Site

The project site is bounded by Broadway Street on the north, 5th Street on the east, McClatchy Way on the south, and an elevated section of Interstate 5 (I-5) on the west (see Figures 2-1 and 2-2). Existing uses on the project site include the currently active Setzer Forest Products plant and various produce storage and distribution facilities associated with the Sacramento Farmers Market. Vehicular and pedestrian access points to the project site are provided by Broadway, 3rd Street, 5th Street, 1st Avenue, and McClatchy Way. The project site is predominantly covered with structures and impervious surfaces. Vegetation is sparse and controlled by weed abatement. Some maintained landscaping surrounds the Setzer office building at the northeast corner of 3rd Street and 1st Avenue. An existing rail spur connects the property, via a tunnel under I-5, to Front Street and Miller Park.

#### Existing Land Use Designations and Zoning

The City of Sacramento 2030 General Plan land use designations for the project site are Urban Neighborhood Medium Density and Urban Corridor Low. No changes to the General Plan land use designations are proposed. The General Plan designation “Urban Corridor Low” applies to the northernmost portion of the site and allows minimum density of 20 dwelling units per acre and maximum 110 dwelling units per acre. The minimum floor area ratio (FAR) for mixed-use and non-residential uses is 0.40 and the maximum FAR is 3.0. (“Floor area ratio” is obtained by dividing the number of square feet to be developed on the site by the square footage of the site.) The project proposes mixed-use development on this portion of the site with a density of 60 dwelling units per acre. The “Urban Neighborhood Medium” designation applies to the majority of the project site and allows for minimum densities of 33 dwelling units per acre and maximum 110 dwelling units per acre.



Thursday, Dec. 09, 2010 11:18:44 AM P:\Projects - All Employees\10001\13515 Northwest Land Park\gis\100013515\_Fig2\_1.mxd



FIGURE 2-1  
**Regional Location**

100013515

Northwest Land Park



Thursday, Dec. 09, 2010 11:18:44 AM P:\Projects - All Employees\100013515 Northwest Land Park\100013515\_Fig2\_2.mxd

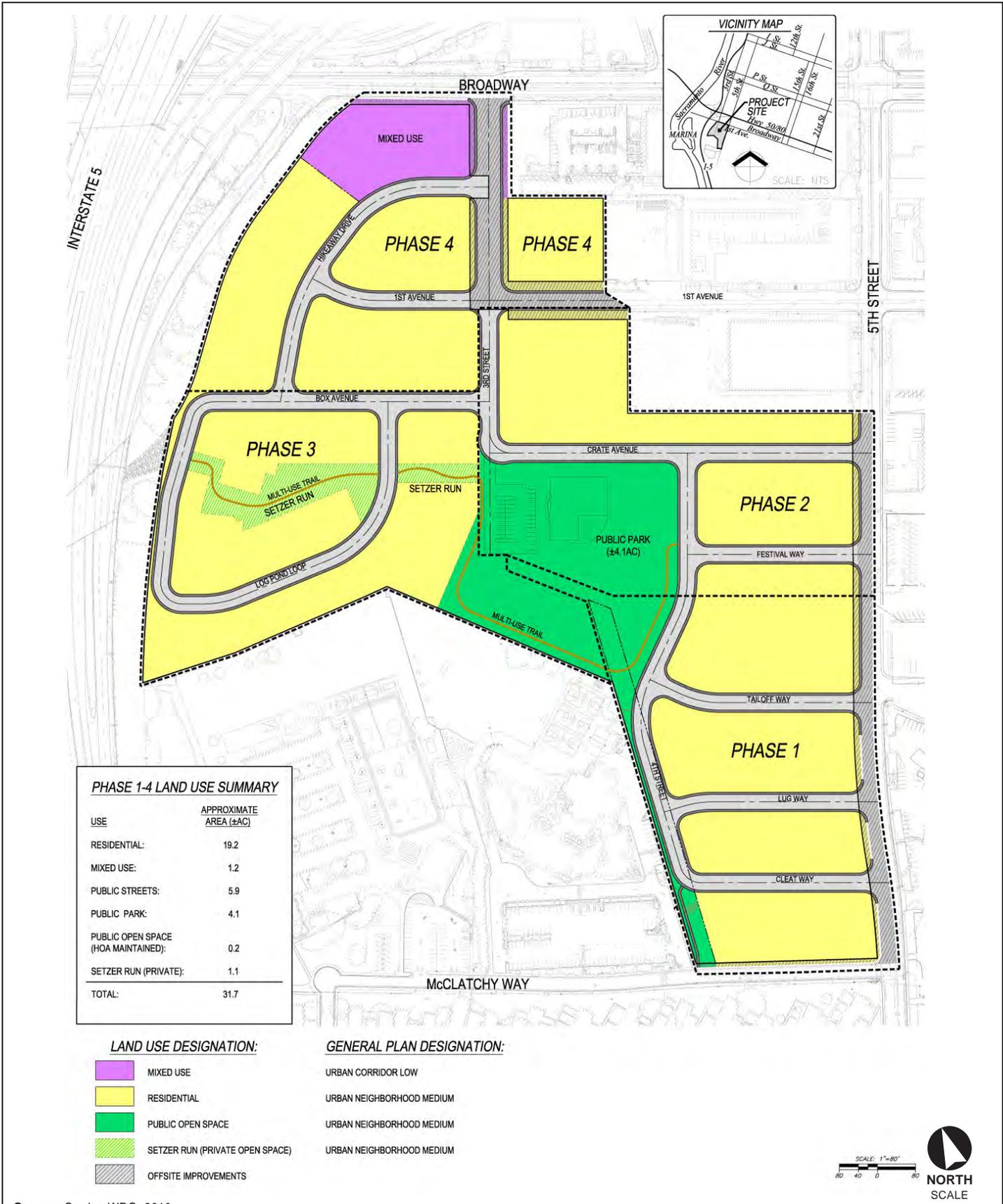
Project Boundary

**FIGURE 2-2**  
**Project Location**



100013515

Northwest Land Park

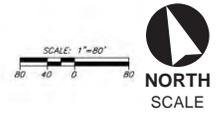


**PHASE 1-4 LAND USE SUMMARY**

USE	APPROXIMATE AREA (±AC)
RESIDENTIAL:	19.2
MIXED USE:	1.2
PUBLIC STREETS:	5.9
PUBLIC PARK:	4.1
PUBLIC OPEN SPACE (HOA MAINTAINED):	0.2
SETZER RUN (PRIVATE):	1.1
<b>TOTAL:</b>	<b>31.7</b>

- LAND USE DESIGNATION:**
- MIXED USE
  - RESIDENTIAL
  - PUBLIC OPEN SPACE
  - SETZER RUN (PRIVATE OPEN SPACE)
  - OFFSITE IMPROVEMENTS
- GENERAL PLAN DESIGNATION:**
- URBAN CORRIDOR LOW
  - URBAN NEIGHBORHOOD MEDIUM
  - URBAN NEIGHBORHOOD MEDIUM
  - URBAN NEIGHBORHOOD MEDIUM

Source: Cardno WRG, 2010.



**FIGURE 2-3**  
**Proposed Land Uses**

100013515

Northwest Land Park

The project anticipates multi-family residential development at densities of approximately 40 dwelling units per acre.

Existing zoning consists of Heavy Commercial Zone (C-4), Light Industrial Zone (M-1), Heavy Industrial Zone (M-2), and Heavy Industrial Zone with Plan Review (M-2-R).

Existing land use designations and zoning for the project site are shown on Figures 2-4 and 2-5. Proposed zoning for the project site is discussed below.

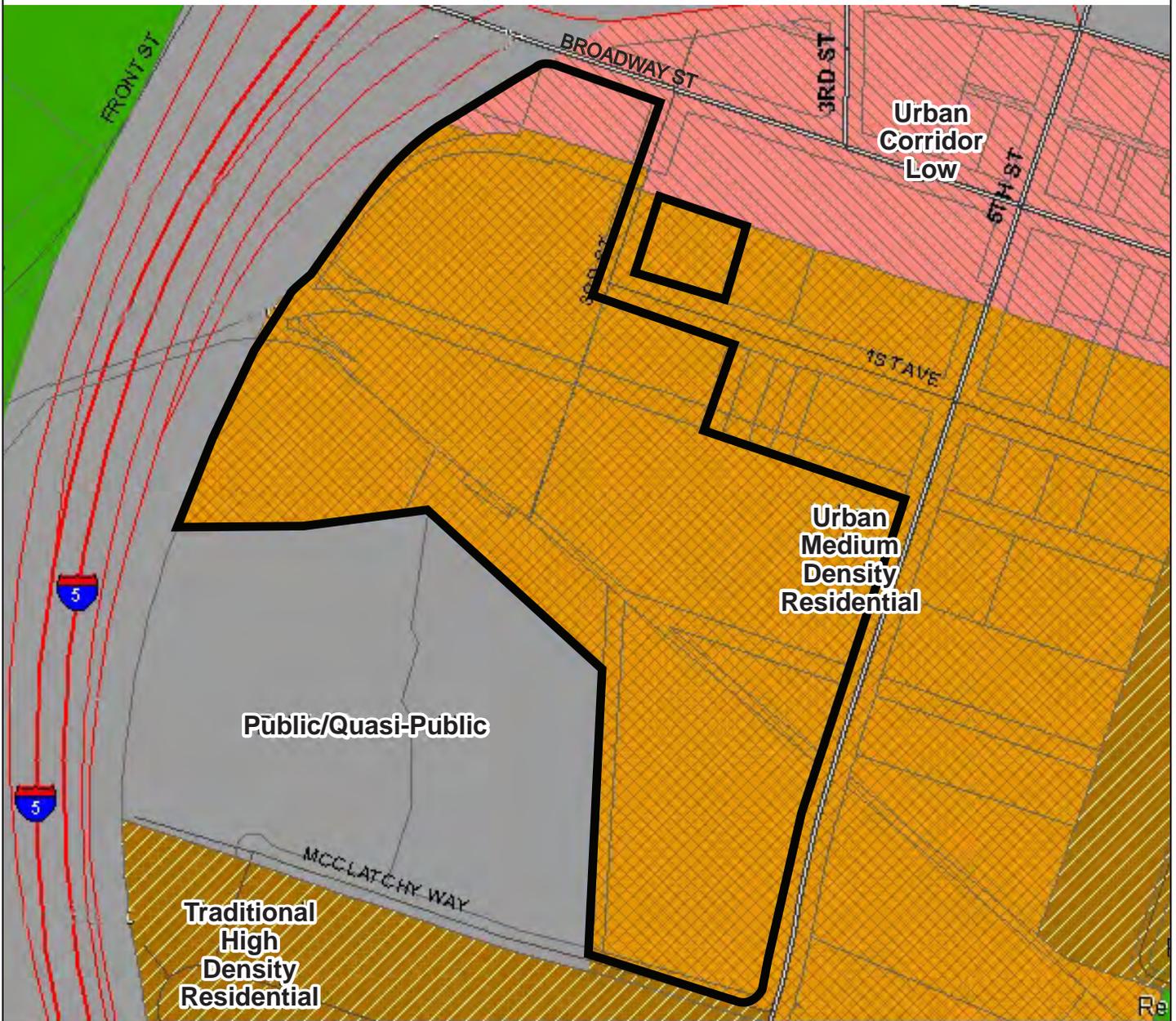
### **Adjacent Uses**

An elevated section of I-5 is immediately adjacent to the site to the west, with a railroad tunnel located beneath the freeway that is owned by the State Department of Parks and Recreation. Commercial and industrial uses, the City of Sacramento's Miller Park, and the Sacramento Marina are located beyond I-5 to the west. To the south of the site are Jedediah Smith Elementary School, Arthur A. Benjamin Health Professions High School, and properties owned by the Sacramento Housing and Redevelopment Agency. Commercial uses are located north of the project site, including the studio of the local ABC News 10 affiliate. To the east are commercial and light-industrial uses.

### **Project Objectives**

The overarching goal of the Northwest Land Park project is the orderly and systematic development of an integrated residential and mixed-use community that is generally consistent with the goals and policies of the land use designations within the City's 2030 General Plan. In support of this goal, the project applicant has developed the following project objectives.

- To develop a new, medium-density urban residential and mixed-use neighborhood reasonably close to the existing Downtown/Central City urban center consistent with the vision of the City for new residential development, as laid out in the 2030 General Plan's land use designations.
- To make efficient use of an opportunity for redevelopment of a developed site within the existing Land Park neighborhood and the Downtown/Central City Sacramento urban center.
- To design a development whose physical layout and land use mix promote walking to services, biking, and transit use.
- To incorporate public parks and open space into the project design in a manner that provides recreational opportunities for neighborhood residents and is aesthetically pleasing.
- To develop a residential community in proximity to the major employment centers of downtown Sacramento in order to help reduce the need for commuter travel.
- To recycle as much material as possible during the demolition and construction phases of the project.
- To develop a residential neighborhood that will complement the existing established Land Park neighborhood.



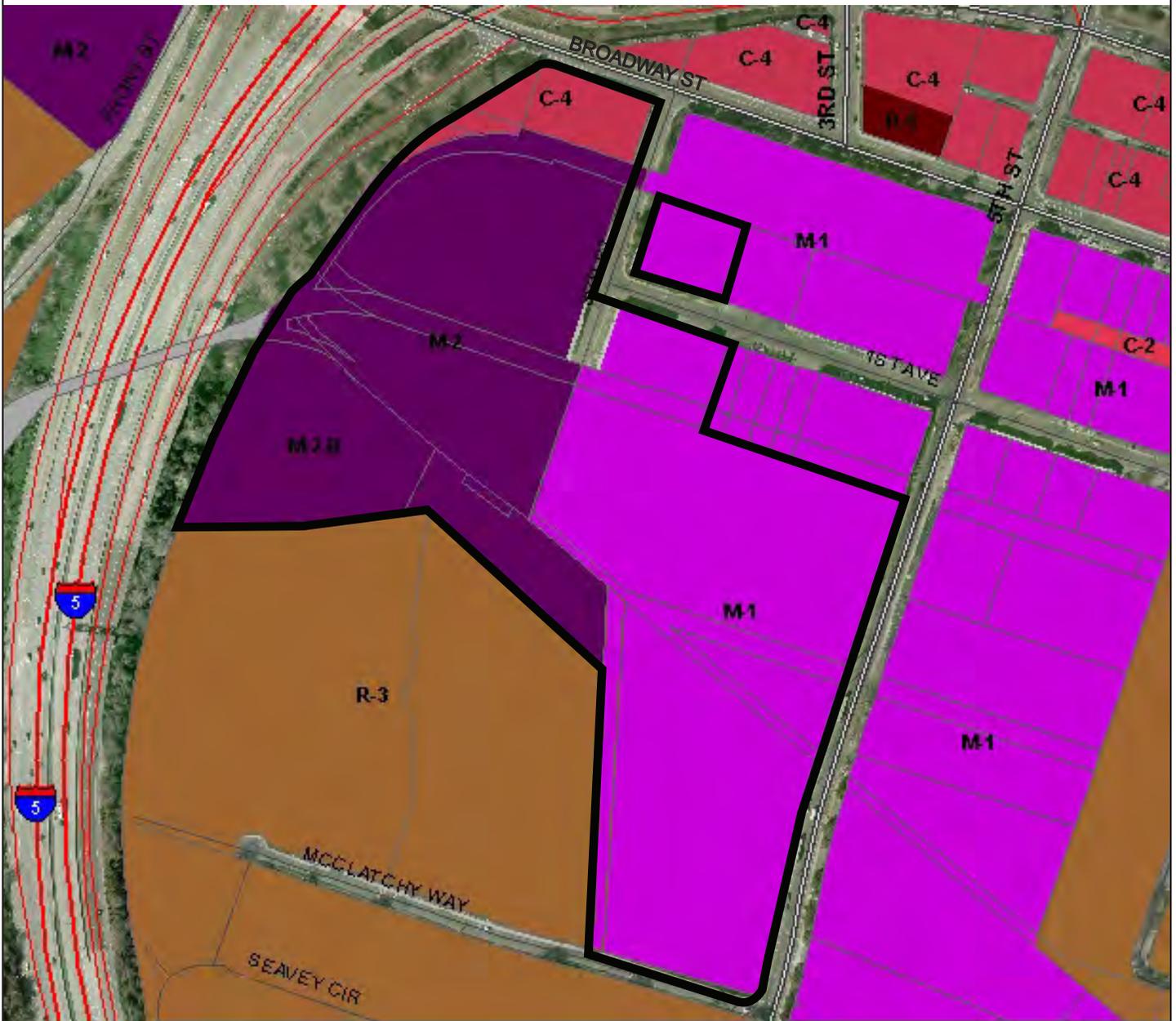
Source: City of Sacramento, 2010.



FIGURE 2-4  
General Plan Land Use Designations

100013515

Northwest Land Park



- C-4** Heavy Commercial Zone
- M-1** Light Industrial Zone
- M-2** Heavy Industrial Zone
- M-2-R** Heavy Industrial Zone with Design Review

Source: City of Sacramento, 2010.



**FIGURE 2-5**  
**Existing Zoning**

100013515

Northwest Land Park

## Project Elements

### Land Use Summary

A summary of land uses for the proposed project is included in Table 2–1. Proposed project elements are described below.

Land Use	Acres	Units	Square Feet
<b>Phase 1</b>			
Medium-Density Multi-Family Residential	5.1	208	
Public Streets	1.8		
Open Space/Future Public Park (Public)	0.8		
Setzer Run Open Space (Private)	0.1		
<b>Phase 1 Total</b>	<b>7.8</b>	<b>208</b>	
<b>Phases 2 through 4</b>			
Medium-Density Multi-Family Residential	14.1	690	
High-Density Multi-Family Residential		70	
Commercial-Retail			15,000
Mixed Use <sup>1</sup>	1.2		
Public Streets	4.1		
Open Space Park (Public)	3.5		
Neighborhood Center (optional amenity)			17,000
Setzer Run Open Space (Private)	1		
<b>Phases 2 through 4 Total</b>	<b>23.9</b>	<b>760</b>	
<b>Project Total</b>	<b>31.7</b>	<b>968</b>	
Note: 1. Mixed Use area includes high-density multi-family residential and commercial-retail areas.			

### Residential Development

The project would include a variety of medium-density residential building types, including, but not limited to, apartments, condominiums, and townhouses. The buildings are proposed as two-, three-, and four-story structures, with some buildings designed to have living space over covered parking and direct access garages, and some utilizing surface parking areas.

The project is planned as a street grid layout with small blocks similar to the existing downtown Sacramento layout. The proposed buildings are part of an urban medium-density design concept that allows market responsive flexibility for each block within the project on a phase-by-phase basis. The buildings are designed to coordinate in discrete clusters that fit within the standard block dimensions of the site. Specific building type plotting would be done for each phase of development based on market trends at the time each specific entitlement approval is proposed. This will allow the specific mixture of each unit, building, and cluster to be adjusted within the block configuration to adjust for future market demand and community cohesion.

### Mixed-Use Development

Within the Mixed Use Urban Corridor Low area (see Figure 2-3), the proposed project would include a mix of buildings with approximately 15,000 square feet of commercial space on the lower floors

with residential uses above. The commercial space would be neighborhood-serving retail and commercial operations that foster pedestrian activity from the new community, as well as from existing surrounding neighborhoods.

### **Parking Facilities**

Parking for residential buildings would be provided within attached garages, covered parking, or surface parking lots. Many of the units would have direct access from the garage to the living space. Apartment units and some condominium units would have surface or carport parking. Residential and commercial parking would be provided on site as required by City of Sacramento parking requirements.

### **Recreation and Open Space**

The project would include development of an approximately 4.3-acre neighborhood park within the central portion of the project site (see Figure 2-3) to partially fulfill City park dedication requirements. The park would be connected to the adjacent schools and surrounding street network through off-street trails, bike lanes, and pedestrian walkways. The park would be centrally located within the project and would include portions of the former railroad alignment within the project site. Pathways would connect with street sidewalks on the new streets and to existing 3rd and 5th streets.

A privately maintained park-like open space, Setzer Run, would be located through the middle of the project. Setzer Run would connect with pedestrian and bicycle trails on 5th Street and the public park as well as the western portions of the project site (see Figure 2-3). Setzer Run would be an approximately 0.4-mile-long passive recreational open space that would facilitate pedestrian movement and recreation within the project.

The project would also include dispersed private recreational and open space areas within some of the residential blocks that would be intended for use by occupants of residences immediately adjacent to these areas. Urban landscaping would be an integral element of the project. Street trees would be planted throughout the project consistent with City requirements, and extensive landscaping is proposed to keep the project in character with the surrounding established communities. Common areas would be landscaped to provide community recreation space.

### **Rezone**

The project proposes a rezone of the project site to change the zoning districts from C-4, M-1, M-2, and M-2-R to R-4 - Multi-Family Zone (Planned Unit Development [PUD]) and C-2 - General Commercial Zone (PUD) to achieve consistency with the 2030 General Plan. R-4 allows for maximum densities of 58 dwelling units per acre, and the project proposes multifamily residential development with densities of 40 dwelling units per acre in this zone. C-2 is a general commercial zone that provides for the sale of commodities, or performance of services, including repair facilities, offices, small wholesale stores or distributors, and limited processing and packaging. Any nonresidential development in the C-2 zone that requires a discretionary entitlement shall also be

subject to review for consistency with the commercial corridor design principles adopted pursuant to Section 17.132.180 and as they may be amended from time to time. A PUD designation constitutes an overlay zone. However, approval of a PUD designation does not establish an underlying zone or enlarge the uses provided by a zoning classification. Proposed zoning for the project site is shown on Figure 2-6.

## **Optional Elements**

The proposed project includes two optional elements that may be incorporated into the project as it is built-out and are evaluated at a programmatic level in this document. These optional elements, described below, are contingent on third-party approvals and participation in their development.

### Tunnel Option

The existing rail tunnel under I-5, adjacent to the western boundary of the project site could be improved to create a pedestrian and bicycle connection between the Northwest Land Park community and Miller Park located along the Sacramento River. The State Department of Parks and Recreation (DPR) is the current owner of the tunnel. In order to develop the tunnel, DPR could deed the land to the City, and the City could then quitclaim to the applicant for development consistent with recreational uses. If developed, the tunnel would be enhanced with paving, lighting, wayfinding, and security enhancements for pedestrian and bicycle use. The project applicant would also work with other responsible parties, including DPR, with liability and responsibility for this existing structure to ensure that the tunnel is appropriately secured and patrolled so it is not an attractive nuisance for the project or the surrounding neighborhood. Safety features could include, based upon input from the Sacramento Police Department, vandal-resistant lighting and video surveillance and monitors, so that users entering the tunnel would have a clear view of the area on the other side.

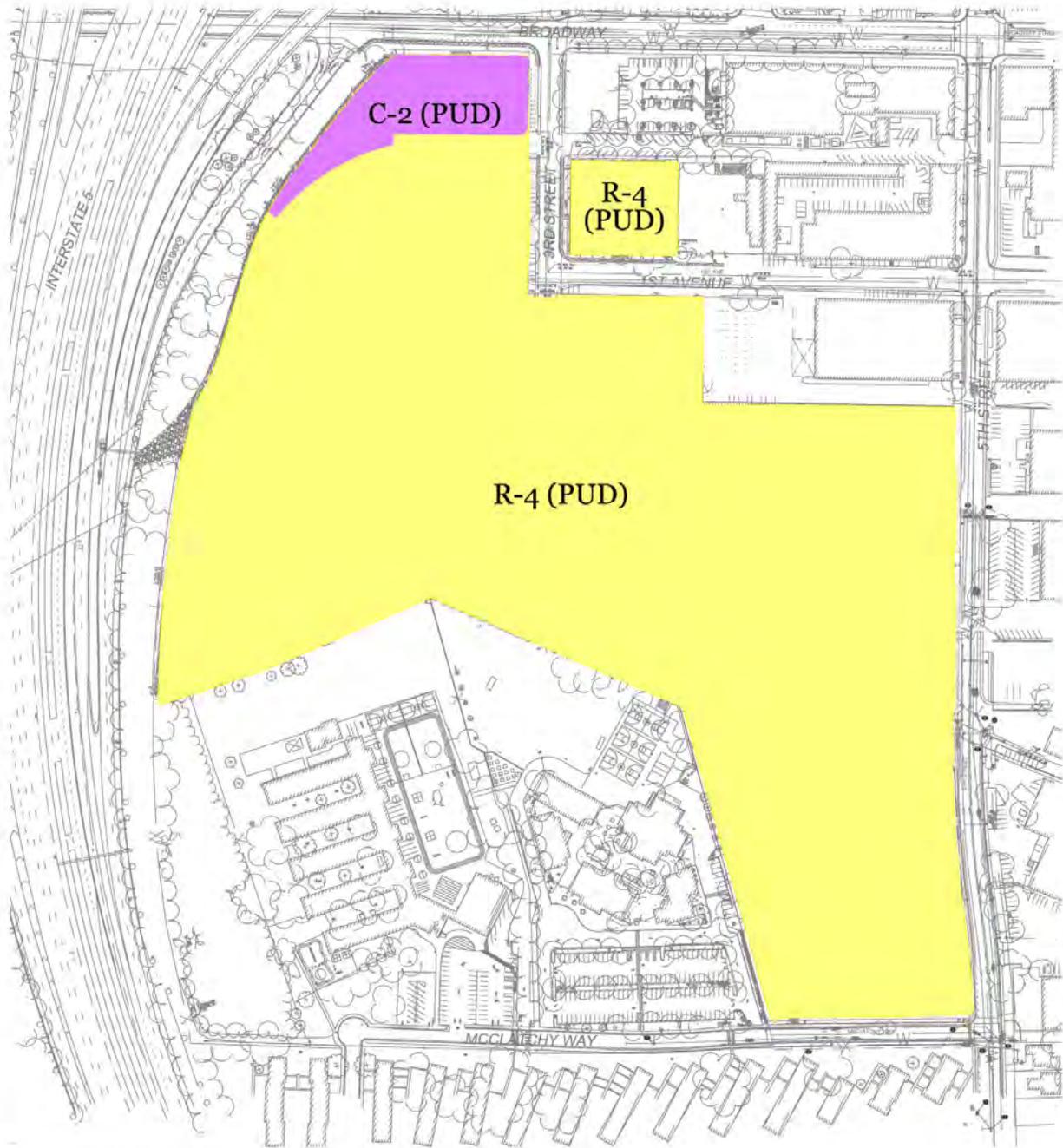
### Neighborhood Center Option

A reserved site for an optional public neighborhood center of up 17,000 square feet, with associated parking, is included within the proposed park area. The neighborhood center would be accessible to the general public and for students at the two adjacent schools. The neighborhood center is envisioned as a public amenity to host community gathering, continued education, and other indoor public gathering events.

## **Infrastructure**

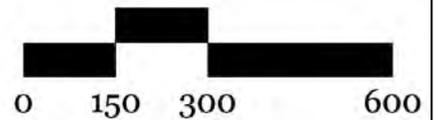
### Roadways and Circulation

The main access routes into the project site would be from Broadway at 3rd Street, 5th Street at 1st Avenue, at two new intersections on 5th Street lining up with existing driveways on the east side of 5th Street, and from McClatchy Way.



PROPOSED ZONING DESIGNATION:

- R-4 - MULTI-FAMILY ZONE (PUD OVERLAY)
- C-2 - GENERAL COMMERCIAL ZONE (PUD OVERLAY)



Source: Cardno WRG, December 7, 2010.



FIGURE 2-6  
Proposed Zoning

100013515

Northwest Land Park

The project proposes a public street system similar in form to the grid block and street patterns in the surrounding communities (see Figure 2-3). Existing streets would be extended directly into the project, and new proposed public streets form the block spacing for the project. Sidewalks would be provided on all new public streets to access all residential and mixed use commercial and recreational/neighborhood center areas and would be designed to be Americans with Disabilities Act (ADA)-accessible. The project would include private alleys and common drives between residential uses.

### Water Supply Distribution

Water service for the project site would be provided by the City of Sacramento. The City supplies water to existing commercial uses on the project site from the City water infrastructure that exists in the adjacent public streets. The proposed water system would include installation of minimum 8-inch water lines extended into the site under the proposed public streets rights of way. Existing City water 8-inch main lines in 3rd Street are anticipated connection sources to the existing water system. The existing 8-inch line in 5th Street would provide connections for the project in place of tapping the existing 42-inch main line also located in 5th Street. If necessary, the existing 8-inch water main would be upsized to serve the project. The proposed water distribution system is presented on Figure 2-7.

### Combined Stormwater and Wastewater Collection

A City of Sacramento combined sewer and storm drain system serves the existing commercial and industrial uses on the project site, as well as drainage from the surrounding public streets. In accordance with Department of Utilities policy, foundations and basements would be designed without the need for permanent dewatering. Similarly, the proposed wastewater and storm drainage systems would be separated within the project limits. The proposed wastewater system would include 8-inch minimum main lines extended into the project site within the public street rights of way. These lines would gravity-flow to the existing 60-inch combined system lines in 5th Streets. The stormwater system would be included within all the project streets and would collect the project drainage in 12-inch minimum diameter pipes. The stormwater would be conveyed southward and eastward and connect to the 60-inch combined sewer stormwater main line in 5th Street via main lines extended into the project site within the public right of way.

Since the project flows into the combined system and is treated at local wastewater treatment plants, the City of Sacramento Department of Utilities does not require on-site treatment of the post-construction storm water flows. However, in order to reduce stormwater runoff and increase infiltration, a number of Low Impact Development measures would be integrated into the development. Higher-density, clustered housing would preserve open space, minimized street widths and the use of permeable pavement and synthetic turf systems within the driveways would reduce hardscape and facilitate infiltration, and the use of grassy swales or detention facilities would attenuate peak flows as necessary.

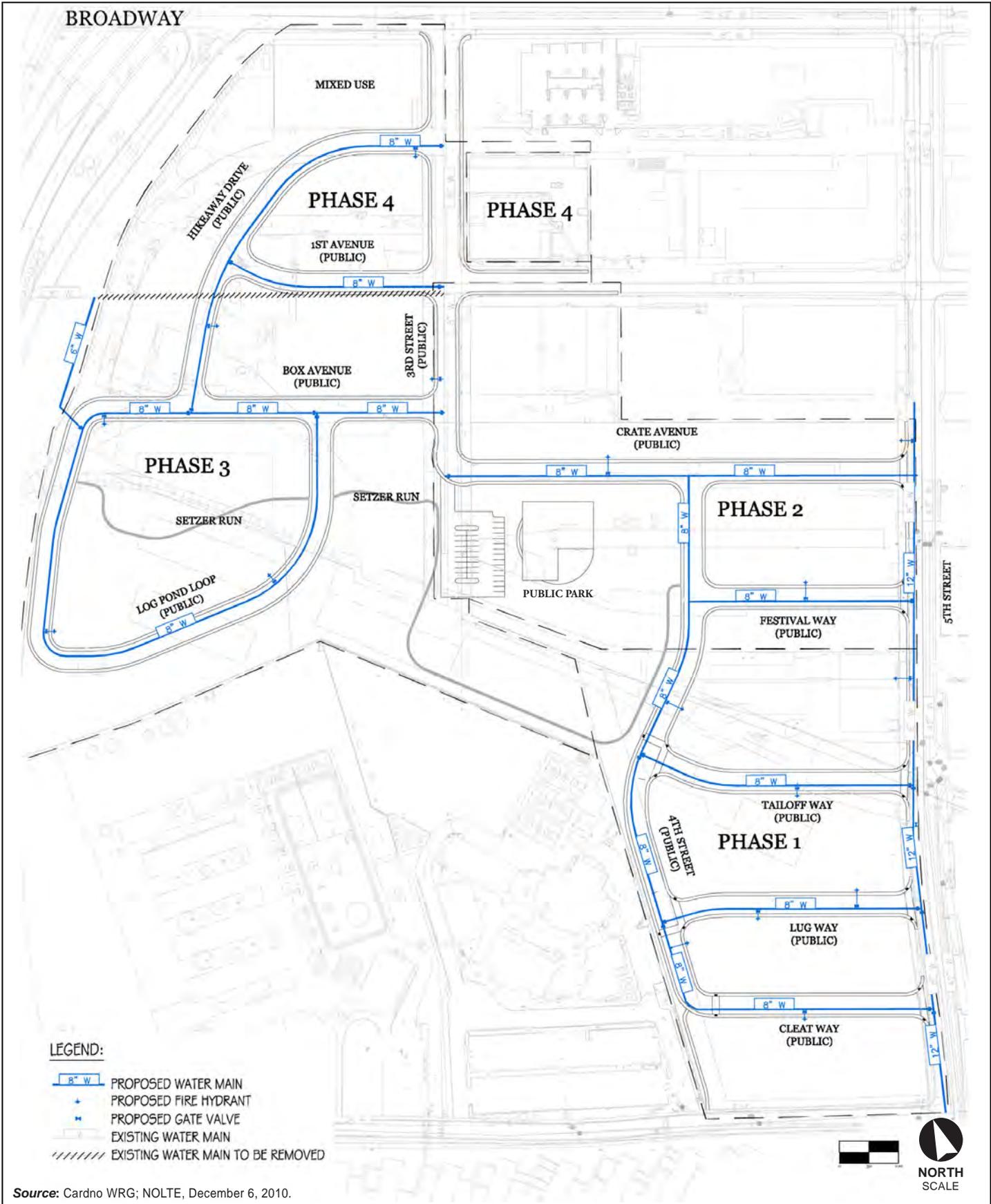


FIGURE 2-7  
**Proposed Water Distribution System**



100013515

Northwest Land Park

The stormwater system would be constructed in phases as the project is developed. Phase 1 is anticipated to require a detention facility that would be phased out as later phases that include more permeable surfaces are included. The proposed stormwater system is presented on Figure 2-8.

The proposed wastewater collection system is presented on Figure 2-9. The proposed Phase 1 utility plan is presented on Figure 2-10.

### Electric, Gas, Telephone, and Cable Utilities

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

Electric – Sacramento Municipal Utility District (SMUD)

Natural Gas – Pacific Gas and Electric (PG&E)

Infrastructure presently exists for these utilities on and in the vicinity of the project site. Development of the project would require the construction of an on-site distribution system to convey these services to uses on the project site.

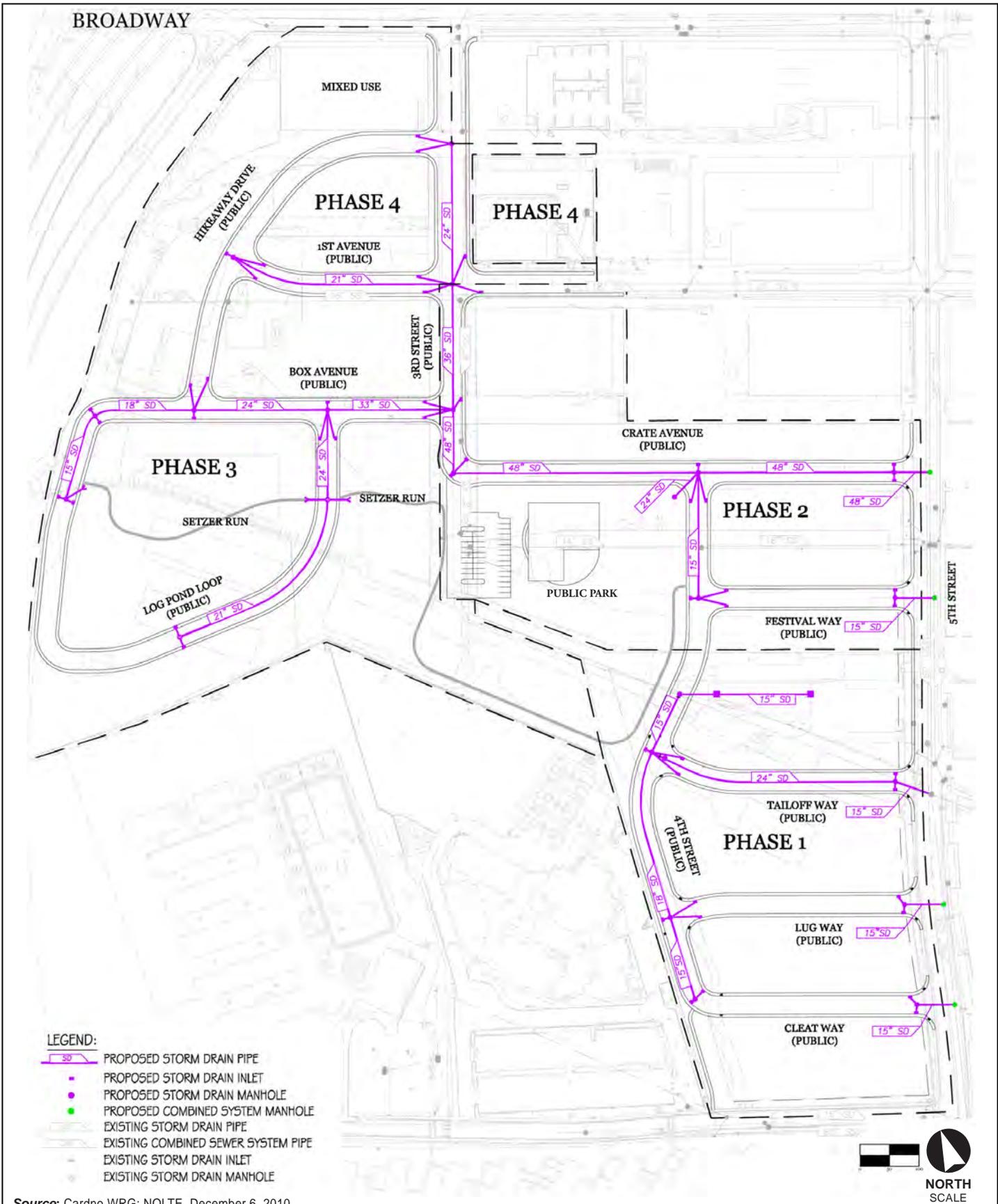
### **Project Design Features**

The design project features are enforced by and through the Planned Unit Development (PUD) Guidelines. Proposed commercial and retail uses would include lighting conservation elements and other energy conservation measures. Lighting conservation elements would include occupancy sensors to automatically turn off lights when not in use, lighting reflectors, electrical ballasts, and energy-efficient lamps. Conservation elements are expected to include improved HVAC systems with microprocessor-controlled energy-management systems.

To the extent feasible, the project would re-use at least 50 percent of the salvageable materials on-site. This could take the form of re-use of entire structures, re-use or repurposing of significant elements such as beams or trusses, and recycling materials within the new project such as grinding paving and asphalt for use as base material at the site. These activities would increase the sustainability of the site through reduced waste materials from demolition, reduced need for new materials on-site, and reduction of the ancillary transportation impacts from off-haul and delivery of materials to the site.

To the greatest extent feasible, the project would reduce waste and recycle non-reusable materials during demolition, site development, and unit construction using the following hierarchy of procedures:

1. Recondition and re-use on site. For example, crushing old concrete, asphalt, and paving to be reused as base rock within the project grading activities.
2. Seek dealers and other re-use distributors to harvest intact components and materials for re-sale. As an example, existing large pole barn supports could be sold intact to telephone pole providers.



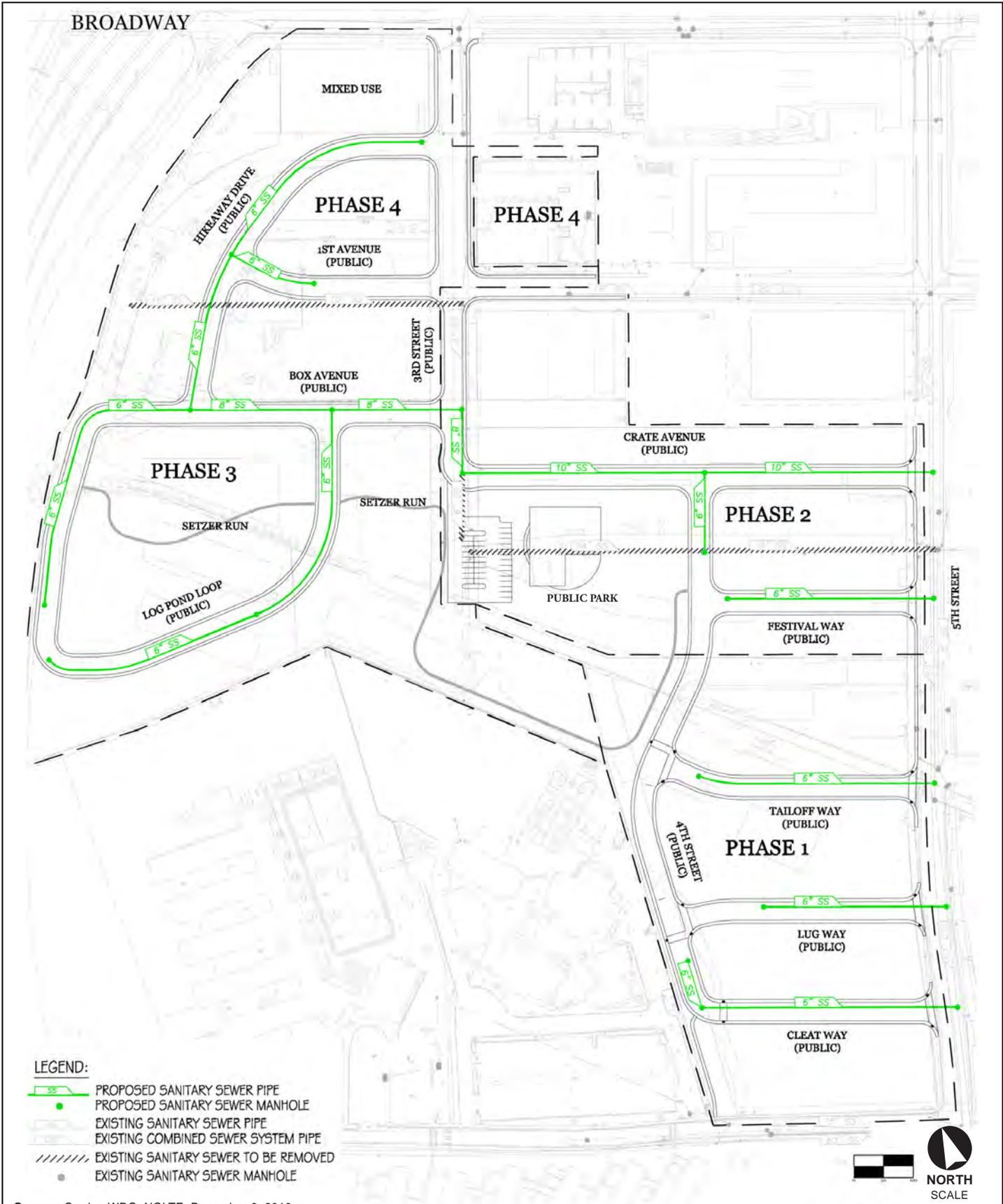
Source: Cardno WRG; NOLTE, December 6, 2010.

**FIGURE 2-8**  
**Proposed Stormwater Collection System**



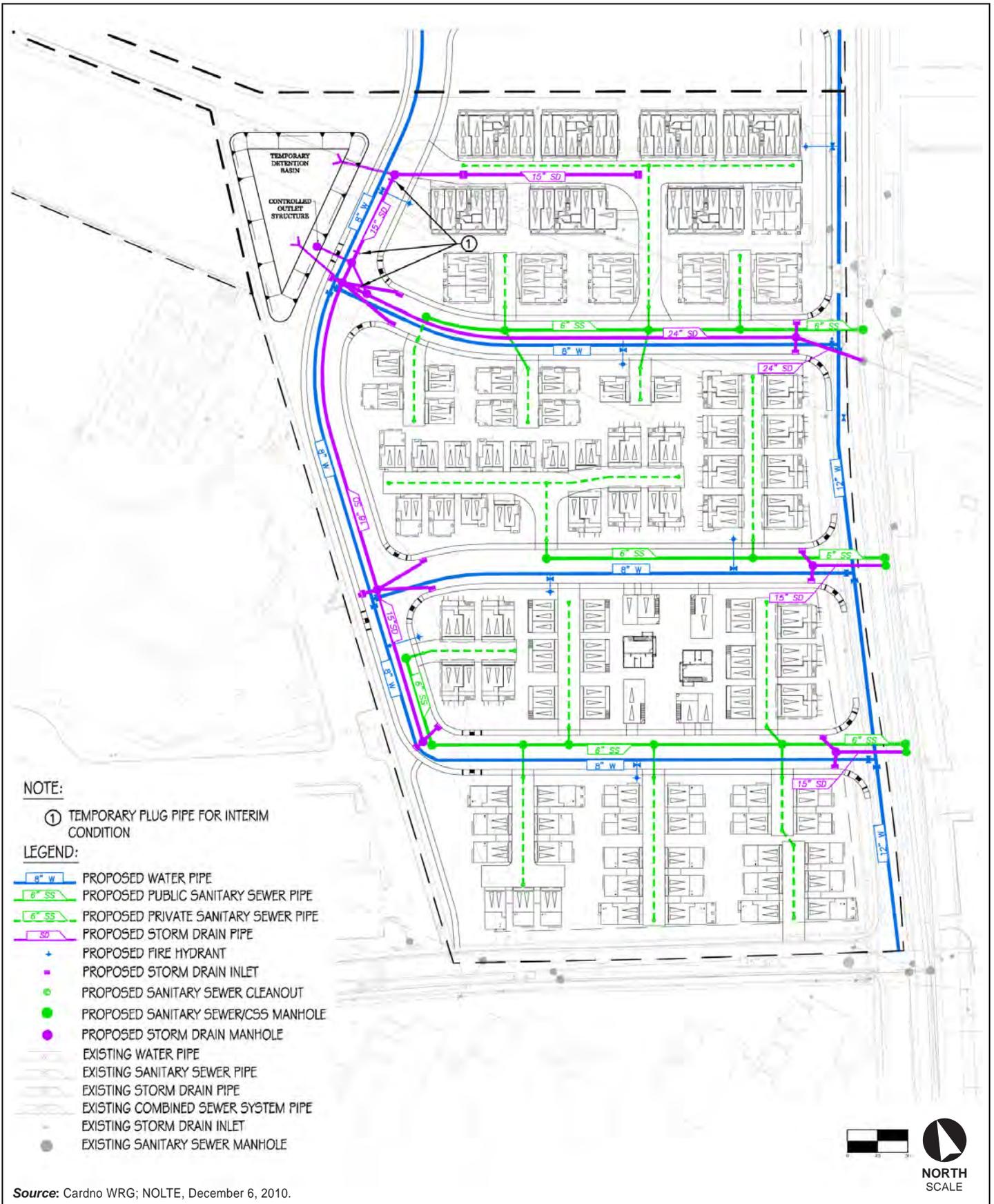
100013515

Northwest Land Park



**FIGURE 2-9**  
**Proposed Wastewater Collection System**





**FIGURE 2-10**  
**Proposed Phase 1 Utility Plan**



100013515

Northwest Land Park

3. Separate bulk recyclable items, such as wood and metal pieces, for reprocessing at standard recycling facilities.

## Project Phasing

The project would be constructed in four phases (see Figure 2-3). Construction is anticipated to begin in 2011 and continue through 2019. Each phase would be built to supply the infrastructure and stand-alone requirements for the land uses with that phase. Each phase would build the streets and block pattern infrastructure for that phase. The buildings would be designed for each block and lot within that phase. The timing of the permitting and construction of the subsequent phases would be dependent on market conditions.

## Construction Considerations

Demolition of existing industrial, warehouse, and commercial buildings and structures, site improvements, and infrastructure would occur as required for each of the phases. As part of the project, the applicant proposes to salvage and reuse various materials from some of the structures that are demolished (see description of the proposed salvage and re-use program above under Project Design Features).

The project site contains 33 trees, six of which are protected under the Sacramento City Code as heritage trees. Most of the trees on site are proposed for eventual removal. As part of project design, the project applicant would retain a certified arborist to survey trees in the project area, including potential laydown areas, and identify and evaluate trees that would be removed. If protected trees (or their canopy) are identified within the affected area, measures would be taken to avoid impacts on protected trees, as detailed in the City's tree ordinance. Protected trees that are lost as a result of the project would be replaced according to the provisions of the ordinance (Section 12.64.040), which generally requires a 1-inch-diameter replacement for each inch lost.

The project proposes to raise the existing ground surface by an average of one to three feet in order to provide adequate site drainage, generally in the southeasterly direction. Post-construction flows are anticipated to be less than pre-construction flows due to the increase in permeable surfaces. The proposed storm drainage system and streets would be designed to convey flows in compliance with City and County requirements. Site grading would be designed to minimize import of fill material and approach a balanced site to the extent possible. If necessary, soil stockpiles would be on-site, potentially on areas committed to subsequent phases of the project. A few localized areas may require remedial grading and engineered backfill due to previous placement of unsuitable material on site or the removal of sub-surface structures during demolition. Remediation on-site is being handled by removal of contaminated material. Any re-used material would be clean material from the site. Shallow ground water in the area may require dewatering during excavation and utility construction. Utility trenches are anticipated to range in depth from 3 to 10 feet.

---

## REQUIRED DISCRETIONARY ACTIONS

The City of Sacramento requires the following discretionary actions for project approval:

- **EIR Certification.** Before the City can approve the proposed project, it must certify that the EIR was completed in compliance with the requirements of the California Environmental Quality Act (CEQA), that the decision-making body has reviewed and considered the information in the EIR, and that the EIR reflects the independent judgment of the City of Sacramento. Approval of the EIR also requires adoption of a Mitigation Monitoring Plan (MMP), which specifies the methods for monitoring mitigation measures required to eliminate or reduce the project's significant effects on the environment. The City would also be required to adopt Findings of Fact, and for any impacts determined to be significant and unavoidable, a Statement of Overriding Considerations, as part of project approval.
- **Rezone.** The project would require a rezone of the project site to change the zoning districts from C-4, M1, M-2, and M-2-R to Multi-Family Zone (R-4) and General Commercial Zone (C-2) to achieve consistency with the 2030 General Plan.
- **Development Agreement.** The City and applicant would enter into a development agreement for allocation of infrastructure costs, park dedication requirements, and various agreements.
- **PUD Designation and Development Guidelines.** The project will require approval of a Planned Unit Development designation. A PUD controls the development of land with specific regulations related to design. The purpose of a PUD is to provide greater flexibility in the design or development standards of integrated developments than is otherwise possible through strict application of zoning regulations. PUDs can include all or a portion of a residential neighborhood, an employment center, or a mixed residential/employment development.
- **Tentative Parcel Map.** The applicant is seeking approval of a tentative map as part of Phase 1 of development entitlements.
- **Special Permits.** A special permit is required for condominium construction.
- **Subdivision Modification.** A subdivision modification is required for street modifications that are approved through the PUD process.

## OTHER PERMITS AND APPROVALS

- **Tree Permit for Heritage Trees.** Prior to the removal, pruning, placement of chemicals, or disturbance of the soil within the drip-line of any heritage trees on the site, the City Urban Forestry Manager must first issue a permit to the applicant allowing such activities. Any appeals are handled by the Director of the Department of Parks and Recreation.
- **Water Supply Assessment.** Since the project would demand an amount of water required to supply at least 500 dwelling units, the City will be required to approve a water supply assessment prepared for the proposed project, and provide a written verification consistent with SB 610/221 requirements.

- **Grading Permit and Stockpile Permit.** The City regulates land disturbances, landfill, soil storage, pollution, and erosion and sedimentation resulting from construction activities. Prior to any earth disturbing activities, the project applicant will be required to obtain a permit from the City per the City's grading ordinance (Sacramento City Code, Chapter 15.88). All grading must be done in compliance with the conditions of grading approval.
- **Limited Discharge to the Combined or Separated Sewer System.** Groundwater discharges to the Combined or separated sewers must be regulated and monitored by the Department of Utilities (City Council Resolution #92-439). Limited Discharges are short groundwater discharges of 7-days duration or less and must be approved through DOU by acceptance letter.

### **Responsible Agencies**

Responsible agencies are state and local public agencies, other than the lead agency, that have some authority to carry out or approve a project or that are required to approve a portion of the project for which a lead agency is preparing or has prepared an EIR or Initial Study/Negative Declaration. This DEIR has been designed to provide information to these agencies to assist them in the permitting processes for the proposed project. While CEQA is not binding on federal agencies, and no federal agencies have been identified that would be required to take action on the project, any such agency may use the analysis in this document in order to assist with the preparation of their own analyses required by federal law.

- **Rail removal and related improvements for development of Optional Tunnel (State Parks)**
- **Dewatering and Other Low-Threat Discharges to Surface Waters Permit (Central Valley Regional Water Quality Control Board [CVRWQCB])**

Construction activities may involve short term dewatering is anticipated during construction and discharge of groundwater to the City's CSS. If the discharge is part of a groundwater cleanup or contains excessive contaminants, CVRWQCB approval is required. Discharges may be covered by the permit provided they are (1) either four months or less in duration, or (2) the average dry weather discharge does not exceed 0.25 million gallons per day. Construction dewatering, well development water, pump/well testing, pipeline testing, and miscellaneous dewatering/low-threat discharges are among the types of discharges that may be covered by the permit. The general permit also specifies standards for testing, monitoring, and reporting, receiving water limitations, and discharge prohibitions.

- **Hazardous Materials Environmental Oversight**

Any environmental problems relating to hazardous materials detected on the project site may require oversight by the appropriate governmental agency (e.g., Department of Toxic Substances Control, County Division of Environmental Health Services). It would be the responsibility of the project applicant to contact the appropriate agency in the event any potential hazardous materials are identified before or during project construction.

- **Authority to construct and permit to operate** (Sacramento Metropolitan Air Quality Management District)

### **3.0 SUMMARY OF ENVIRONMENTAL EFFECTS**

---

## 3.0 SUMMARY OF ENVIRONMENTAL EFFECTS

---

### INTRODUCTION

This section summarizes the proposed project, the potential issues of concern as indicated from responses to the Notice of Preparation (NOP), and the proposed project impacts and applicable mitigation measures. Table 3-1 below details the following: the project's impacts, the significance of the impact after implementation of the 2030 General Plan Master Environmental Impact Report (Master EIR) mitigation measure and/or policy, additional mitigation measures that could be implemented, and the significance of the impact after the mitigation measure(s) is applied.

### PROJECT UNDER REVIEW

The Northwest Land Park Project (proposed project) would develop a residential/mixed-use community on approximately 31.7 acres within the Land Park Community Plan Area of the City of Sacramento. The project site is bounded by Broadway Street on the north, 5th Street on the east, McClatchy Way on the south, and an elevated section of Interstate 5 (I-5) on the west (see Figures 2-1 and 2-2 in Chapter 2, Project Description). The project would replace existing light industrial and commercial uses on the project site with up to 968 residential units, commercial-retail uses, and parks and open space. Specifically, the project would include up to 898 medium-density multi-family residences on approximately 19.2 acres, up to 70 high-density multi-family residences and 15,000 square feet of commercial-retail uses on approximately 1.2 acres, approximately 4.5 acres of park and public open space, approximately 1.1 acres of private open space, and approximately 5.9 acres of public rights-of-way. A four-phase project buildout is anticipated. The project would be developed consistent with existing Sacramento General Plan (adopted March, 2009) designations as analyzed in Sacramento's 2030 General Plan Master EIR. The project land use plan is shown on Figure 2-3 in Chapter 2. The project location, project objectives, and specific project elements are also described in Chapter 2.

### SUMMARY OF IMPACTS

CEQA Guidelines Section 15382 defines a significant effect as a substantial, or potentially substantial, adverse change in any physical conditions within the area affected by the project including land, air, water minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. Implementation of the proposed project would result in significant impacts to the environment. As lead agency, the City determined that this DEIR will address the following technical issue areas:

- Air Quality
- Biological Resources
- Cultural Resources

- Global Climate Change
- Hazards and Hazardous Materials
- Noise and Vibration
- Parks and Recreation
- Public Services, including police, fire, and schools
- Transportation and Circulation
- Urban Design and Visual Resources
- Utilities and Service Systems, including water supply, hydrology and water quality, sewer and storm drainage, solid waste, and electricity and natural gas

The specific topics evaluated are described in each of the technical sections presented in Chapter 5.

### **Effects Found to be Less Than Significant**

A number of project impacts identified in the Draft EIR were found to be less than significant, requiring no mitigation. These impacts can be found in sections 5.1, Air Quality; 5.2, Biological Resources; 5.3, Cultural Resources; 5.4, Global Climate Change; 5.5, Hazards and Hazardous Materials; 5.6, Noise and Vibration; 5.7, Parks and Recreation; 5.8, Public Services; 5.9, Transportation and Circulation; 5.10, Urban Design and Visual Resources; and 5.11, Utilities and Service Systems.

CEQA Guidelines Section 15126.4 requires that an EIR describe feasible mitigation measures that could minimize significant adverse impacts. Implementation of mitigation measures would either reduce the impact to a less-than-significant level or leave the impact as significant and unavoidable. In the course of drafting the EIR for this project, it was determined that numerous identified impacts could be reduced to a less-than-significant level with implementation of proposed mitigation measures described herein.

### **Environmental Impacts and Mitigation**

Under CEQA, a significant effect on the environment is defined as a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by the project, including air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance (CEQA Guidelines section 15382). Implementation of the proposed project would result in significant impacts to some of these resources, which are analyzed in Sections 5.1 through 5.11 of this document and summarized in Table 3-1 (provided at the end of this chapter).

This DEIR discusses mitigation measures that could be implemented by the City and/or the project applicant to reduce potential adverse impacts to a level that is considered less than significant. Such mitigation measures are noted in this document and are found in sections: 5.1, Air Quality; 5.3, Cultural Resources; 5.5, Hazards and Hazardous Materials; 5.6, Noise and Vibration; 5.9,

Transportation and Circulation; and 5.10, Urban Design and Visual Resources. No project-specific or cumulative significant and unavoidable impacts were identified for the proposed project.

## **ALTERNATIVES TO THE PROPOSED PROJECT**

The EIR analyzes the following alternatives to the proposed project:

**No Project/No Development Alternative.** This alternative assumes that the proposed project would not be built and there would be no new development of the site. This alternative assumes the existing buildings and uses on the site would remain.

**Adaptive Re-Use Alternative.** This alternative would be similar to the proposed project, but would modify Phase 2 of the proposed project to reuse portions of the existing brick Farmers Market building for market, restaurant, office, and neighborhood center uses. The market, restaurant, and office uses would be located on a portion of the project site designated for residential uses under the proposed project. The neighborhood center would be located in roughly the same location as the optional neighborhood center under the proposed project. This alternative would set the maximum number of dwelling units under this alternative at 825, a reduction of 143 units as compared to the proposed project.

**Increased Intensity Alternative.** This alternative assumes a density halfway between minimum and maximum allowable under the 2030 General Plan: 71.5 DU/acre for a total of 2,267 residential units. While development under this alternative is denser than the proposed project and would result in more environmental effects than the proposed project, this alternative is consistent with the General Plan and provides a picture of what could potentially be developed on the site.

The relative effects of the alternatives are identified by impact area in Chapter 7, Alternatives.

### **Potential Issues of Concern**

The City received seven comment letters during the NOP public review period. The potential issues of concern identified through the environmental evaluation process include potential traffic impacts on roadways and freeways; potential air quality impacts, including greenhouse gas emissions and exposure to toxic air contaminants; impacts associated with wastewater conveyance and treatment; potential impacts associated with energy use; potential impacts related to rail-corridor safety; and adequacy of bicycle and pedestrian features.

Based on an initial review of the potential effects of the proposed project, the City determined that certain topics would not require further consideration in the DEIR. Those topics include:

Agricultural Resources: While maintained landscaping surrounds the Setzer office building at the northeast corner of 3rd Street and 1st Avenue, there are no agricultural uses on the project site, which has been completely developed with urban uses. Existing uses on the project site include light industrial, office, and commercial uses, including the Setzer Forest Products plant and various produce storage and distribution facilities associated with the Sacramento Farmers Market. There

are no commercial agricultural uses in the vicinity of the project site, and the proposed project would have no effect on agricultural resources.

Odors: The Northwest Land Park project includes development of residential uses and a limited amount of mixed use development. Residential uses and non-residential components of a mixed-use development would not be substantial producers of odors. In the past, there had been complaints of odors from the California Shellfish Company, located at 1st Avenue and 5th Street, east of the project site. However, with modifications to the operations of the facility following those complaints, off-site odors have been eliminated. Occupants of residences proposed as part of the project would not be exposed to sources of obnoxious odors. This would not be a significant impact and odor is not further addressed in the DEIR.

Geology and Soils: Impacts related to geology and soils would be less than significant with implementation of existing State of California or City of Sacramento regulations related to the design-controllable aspects of building foundation support, protection from seismic ground motion, and soil or slope instability. These regulations require that project designs reduce potential adverse soils, geology, and seismicity effects to less than significant levels. The project applicant must demonstrate that the project complies with applicable regulations before permits for project construction would be issued.

Surface faulting or ground rupture tends to occur along lines of previous faulting. The nearest fault is the Foothill Fault System, located approximately 23 miles east of the project site. Since previously identified fault lines are not within or near the project site, the possibility of fault rupture is negligible within the site, but in the event of an earthquake on a nearby fault, the project site could experience ground shaking. The California Geological Survey (CGS) probabilistic seismic hazards maps shows that the seismic ground-shaking hazard for the city is relatively low, and is among the lowest in the State. Nonetheless, the State of California provides minimum standards for structural design and site development through the California Building Code (CBC – California Code of Regulations (CCR), Title 24, Part 2).

Until January 1, 2008, the CBC was based on the then-current Uniform Building Code and contained Additions, Amendments, and Repeals specific to building conditions and structural requirements in the State of California. The 2007 CBC, effective January 1, 2008, is based on the current (2006) International Building Code and contains substantial enhancement of the sections dealing with fire safety, equal access for disabled persons, and environmentally friendly construction.<sup>1</sup> Each jurisdiction in the state may adopt its own building code based on the 2007 CBC. Local codes may be more stringent than Title 24, but, at a minimum, are required to meet all state standards and to enforce the regulations of the 2007 CBC beginning January 1, 2008. The City's enforcement of its Building Code ensures the project would be consistent with the CBC.

---

1 California Building Standards Commission, *2007 California Building Code*, California Code of Regulations, Title 24, Part 2, Volumes 1 and 2, effective January 1, 2008.

State and local regulations require design-level geotechnical investigations for the foundations of any structure for human occupancy proposed at the project site, including specific recommendations to reduce or eliminate post-construction settlement. The design-level geotechnical investigation for the project would be reviewed by the City for compliance with existing building codes and ordinances. Implementation of the recommended site preparation activities would be enforced through inspection by the City.

Before construction of the proposed project, the City Building Code requires a site-specific soils report that identifies any potentially unsuitable soil conditions (such as expansive, liquefiable, or compressive soils) and contains appropriate recommendations for foundation type and design criteria, including provisions to reduce the effects of these soils. The liquefaction report prepared for the project found that liquefaction could occur between 14 and 50 feet below grade.<sup>2</sup> Because of the presence of 14 to 20 feet of non-liquefiable soils near the surface, the probability of surface expressions of liquefaction appear to be very low, but there is potential for differential settling. The study recommends 1.5 to 2.5 feet of fill on building pads, but also recommends design of utility lines to allow for differential settling.

The recommendations made in the geotechnical report prepared for the project for ground preparation and earthwork would be incorporated in the construction design.<sup>3</sup> The soils evaluations must be conducted by registered soil professionals, and the measures to eliminate inappropriate soil conditions must be applied. The design for soil support of foundations must conform to the analysis and implementation criteria described in the City's Building Code.

Compliance with the above regulations would ensure that the underlying soil conditions are identified through geotechnical investigation and that appropriate design features are included to reduce or eliminate post-construction settlement due to ground shaking or liquefaction. Implementation of these regulations would ensure that impacts related to groundshaking, liquefaction, expansive soils or subsidence would not be significant. The proposed project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death due to rupture of a known earthquake fault.

The project site is level, so there would be no impact related to the possibility of landslides.

The proposed project is not expected to create substantial erosion or loss of topsoil because the project site is level, so the water erosion hazard is considered low. However, construction activities would disturb soils, which could lead to erosion. In addition, post-construction changes to drainage patterns on the project site could lead to erosion. The following regulations control construction-related activities with regard to erosion.

The State Regional Water Quality Control Board (SWRCB) permits all regulated construction activities under National Pollutant Discharge Elimination System (NPDES) General Permit for Storm

---

2 RMA Group, *Setzer Property Liquefaction Evaluation, Sacramento California*, July 6, 2010.

3 RMA Group, *Geotechnical Investigation, Setzer Property Residential Development, Sacramento, California*, July 19, 2010.

Water Discharges Associated with Construction Activity (Order No.2009-0009-DWQ, NPDES No. CAR000002) adopted September 2, 2009. However, because the proposed project's construction activities would discharge to the City's combined sewer system (CSS), this permit would not be applicable. Although coverage under the General Permit would not be required, the proposed project's construction activities would be required to comply with the City's Grading, Erosion and Sediment Control Ordinance. Compliance activities under this ordinance include preparation of an erosion and sediment control plan that identifies and implements a variety of Best Management Practices (BMPs) to reduce the potential for erosion or sedimentation. BMPs are intended to reduce impacts to the Maximum Extent Practicable (MEP), a standard created by Congress to allow regulators the flexibility necessary to tailor programs to the site-specific nature of municipal stormwater discharges. Regulations do not define a single MEP standard, but reducing impacts to the MEP generally relies on BMPs that emphasize pollution prevention and source control, with additional structural controls, as needed.

The proposed project would connect to the City of Sacramento's CSS and would not include the use of septic tanks or other alternative wastewater disposal systems that would be limited by local soils. Geology and soils issues are not further addressed in the DEIR.

Airport Related Impacts: The closest airport to the project site is the Executive Airport, located more than three miles southeast of the site. Air traffic would not be affected by the project and people residing or working in the project area would not be exposed to safety hazards due to aircraft operations. The project site is not located within a public or private airport land use plan. The proposed project would not expose people residing or working in the project area to excessive noise levels, and safety hazards and noise associated with airport operations are not further addressed in the DEIR.

Emergency Response/Evacuation Planning: The proposed project does not include substantial modifications to the existing street system. New streets would be developed as part of the project, but any new roadways or improvements to roadways would be required to comply with City requirements regarding access and street width and design. Since the project would be subject to the requirements contained in the City's emergency response and evacuation plans, impacts related to impaired implementation or physical interference with an adopted emergency response or evacuation plan would not be significant and are not further addressed in the DEIR.

Wildland Fire Hazards: The areas surrounding the project site are currently developed with urban uses, with school, residential, and commercial development to the north, south, and east. These uses would not represent a substantial wildland fire risk to the project site. Further, all new development is required to comply with requirements set forth by the City Fire Department. Because the land surrounding the project site is developed and does not include uses that would increase wildland fire hazards, the potential for wildland fire hazards to occur will not be addressed in the DEIR.

## SUMMARY TABLE

Table 3-1 (Summary of Impacts and Mitigation Measures), has been organized to correspond with the environmental issues discussed in Chapter 5. The summary table is arranged in four columns:

1. Environmental impacts (“Impact”)
2. Level of significance prior to mitigation measures (“Significance”)
3. Mitigation measures (“Mitigation Measure”)
4. Level of significance after mitigation measures (“Residual Significance”)

If an impact is determined to be significant or potentially significant, mitigation measures are identified, where appropriate and feasible. More than one mitigation measure may be required to reduce the impact to a less-than-significant level. This DEIR assumes that all applicable plans, policies, and regulations would be implemented, including state laws and regulations, the City of Sacramento 2030 General Plan Policies, and requirements or recommendations of the City of Sacramento and applicable building codes. Applicable plans, policies, and regulations are identified and described in the Regulatory Setting of each issue area and within the relevant impact analysis. A description of the organization of the environmental analysis, as well as key foundational assumptions regarding the approach to the analysis, is provided in Chapter 5.0, Introduction to the Analysis.

TABLE 3-1

## SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
<b>5.1 Air Quality</b>			
5.1-1 Implementation of the proposed project could conflict with or obstruct implementation of the Sacramento area air quality plans.	LS	None required.	NA
5.1-2 Implementation of the proposed project could result in construction activities that would increase NO <sub>x</sub> levels above 85 pounds per day.	PS	5.1-2 a) In order to ensure that emissions of NO <sub>x</sub> do not exceed the regulatory threshold of 85 pounds per day, construction of project phases shall not be conducted concurrently nor shall any portion of construction from one phase overlap that of another phase unless the applicant demonstrates to the satisfaction of the City and SMAQMD that the threshold of 85 pounds per day will not be exceeded. Written confirmation to the file from the City's Community Development Department that confirms satisfaction with this mitigation measure and confirms SMAQMD agreement is sufficient.  b) The following shall be incorporated into all construction plans for projects that estimated construction related NO <sub>x</sub> emissions exceed 85 lbs/day:  If projected construction related emissions for a project are not reduced below the 85 lbs/ day by application of MM 5.1-2(a), then an off-site construction mitigation fee shall be applied. The construction mitigation fee shall be calculated based upon the SMAQMD's current construction mitigation fee at the time of project specific evaluation. Verification of payment of the mitigation fee shall be provided to the City prior to the issuance of any grading permit.	LS
5.1-3 Implementation of the proposed project could result in operational emissions that would increase either of the ozone precursors (NO <sub>x</sub> or ROG) to above 65 pounds per day.	LS	None required.	NA

LS = Less than Significant

S = Significant

PS = Potentially Significant

PSU = Potentially Significant and Unavoidable

SU = Significant and Unavoidable

<b>TABLE 3-1</b>			
<b>SUMMARY OF IMPACTS AND MITIGATION MEASURES</b>			
<b>Impact</b>	<b>Level of Significance Prior to Mitigation</b>	<b>Mitigation Measure(s)</b>	<b>Level of Significance After Mitigation</b>
5.1-4 Implementation of the proposed project could result in PM <sub>10</sub> concentrations associated with construction activities that are at a level equal to or greater than five percent of the state ambient air quality standard (5 µg/m <sup>3</sup> over 24-hrs).	LS	None required.	NA
5.1-5 Implementation of the proposed project could result in operational CO concentrations that exceed the 1-hour state ambient air quality standard of 20.0 ppm or the 8-hr state ambient standard of 9 ppm.	LS	None required.	NA
5.1-6 Implementation of the proposed project would result in TAC emissions that could adversely affect sensitive receptors or could be located in an area that could expose the proposed project to TAC emissions.	LS	None required.	NA
<b>5.2 Biological Resources</b>			
5.2-1 Implementation of the proposed project could result in substantial degradation of the quality of the environment or reduction of habitat or population below self-sustaining levels of special-status birds, through the loss of both nesting and foraging habitat.	LS	None required.	NA
5.2-2 Implementation of the proposed project could affect plant species of special concern or regulatory water or wetlands.	LS	None required.	NA
5.2-3 Implementation of the proposed project could result in violation of the City's Heritage Tree Ordinance (City Code 12.64.040).	LS	None required.	NA

LS = Less than Significant

S = Significant

PS = Potentially Significant

PSU = Potentially Significant and Unavoidable

SU = Significant and Unavoidable

TABLE 3-1

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
<b>5.3 Cultural Resources</b>			
5.3-1 Implementation of the proposed project could cause a substantial change in the significance of a historical resource as defined in CEQA Guidelines section 15064.5.	LS	None required.	NA
5.3-2 Implementation of the proposed project could cause a substantial change in the significance of an archaeological resource as defined in CEQA Guidelines section 15064.5.	PS	5.3-2 a) In the event that any prehistoric or historic-era subsurface archaeological features or deposits, including locally darkened soil ("midden"), that could conceal cultural deposits, are discovered during construction-related earth-moving activities, all ground-disturbing activity within 100 feet of the resources shall be halted and the City of Sacramento Community Development Department shall be notified. The City shall consult with a qualified archeologist retained at the applicant's expense to assess the significance of the find. If the find is determined to be significant by the qualified archaeologist (i.e., because the find is determined to constitute either an historical resource or a unique archaeological resource), representatives of the City and the qualified archaeologist shall meet to determine the appropriate course of action, with the City making the final decision. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and a report shall be prepared by the qualified archaeologist according to current professional standards.  If the archaeologist determines that some or all of the affected property qualifies as a Native American Cultural Place, including a Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine (Public Resources Code §5097.9) or a Native American historic, cultural, or sacred site, that is listed or may be eligible for listing in the California Register of Historical Resources pursuant to Public Resources Code	LS

LS = Less than Significant

S = Significant

PS = Potentially Significant

PSU = Potentially Significant and Unavoidable

SU = Significant and Unavoidable

TABLE 3-1

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>§5024.1, including any historic or prehistoric ruins, any burial ground, any archaeological or historic site (Public Resources Code §5097.993), the archaeologist shall recommend to the City potentially feasible mitigation measures that would preserve the integrity of the site or minimize impacts on it, including any or a combination of the following:</p> <ul style="list-style-type: none"> <li>• Avoidance, preservation, and/or enhancement of all or a portion of the Native American Cultural Place as open space or habitat, with a conservation easement dedicated to the most interested and appropriate tribal organization. If such an organization is willing to accept and maintain such an easement, or alternatively, a cultural resource organization that holds conservation easements;</li> <li>• An agreement with any such tribal or cultural resource organization to maintain the confidentiality of the location of the site so as to minimize the danger of vandalism to the site or other damage to its integrity; or</li> <li>• Other measures, short of full or partial avoidance or preservation, intended to minimize impacts on the Native American Cultural Place consistent with land use assumptions and the proposed design and footprint of the development project for which the requested grading permit has been approved.</li> <li>• After receiving such recommendations, the City shall assess the feasibility of the recommendations and impose the most protective mitigation feasible in light of land use assumptions and the proposed design and footprint of the development project. The City</li> </ul>	

LS = Less than Significant

S = Significant

PS = Potentially Significant

PSU = Potentially Significant and Unavoidable

SU = Significant and Unavoidable

TABLE 3-1

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>shall, in reaching conclusions with respect to these recommendations, consult with both the project applicant and the most appropriate and interested tribal organization.</p> <p>b) If human remains are discovered at any project construction sites during any phase of construction, all ground-disturbing activity within 50 feet of the remains shall be halted immediately, and the City of Sacramento Community Development Department and the County coroner shall be notified immediately. If the remains are determined by the County coroner to be Native American, the Native American Heritage Commission (NAHC) shall be notified within 24 hours, and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. The project applicant shall also retain a professional archaeologist with Native American burial experience to conduct a field investigation of the specific site and consult with the Most Likely Descendant, if any, identified by the NAHC. As necessary, the archaeologist may provide professional assistance to the Most Likely Descendant, including the excavation and removal of the human remains. The City shall be responsible for approval of recommended mitigation as it deems appropriate, taking account of the provisions of state law, as set forth in CEQA Guidelines section 15064.5(e) and Public Resources Code section 5097.98. The project applicant shall implement approved mitigation, to be verified by the City, before the resumption of ground-disturbing activities within 50 feet of where the remains were discovered.</p>	

LS = Less than Significant

S = Significant

PS = Potentially Significant

PSU = Potentially Significant and Unavoidable

SU = Significant and Unavoidable

**TABLE 3-1**

**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
<p><b>5.3-3 Implementation of the proposed project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.</b></p>	<p>PS</p>	<p>5.3-3 Should paleontological resources be identified at any project construction sites during any phase of construction, the construction manager shall cease operation at the site of the discovery and immediately notify the City of Sacramento Community Development Department. The project applicant shall retain a qualified paleontologist to provide an evaluation of the find and to prescribe mitigation measures to reduce impacts to a less-than-significant level. In considering any suggested mitigation proposed by the consulting paleontologist, the Community Development Department shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, land use assumptions, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while mitigation for paleontological resources is carried out.</p>	<p>LS</p>
<p><b>5.4 Global Climate Change</b></p>			
<p><b>5.4-1 Construction and operation of the proposed project would generate greenhouse gas emissions that may have a significant impact on the environment.</b></p>	<p>LS</p>	<p><del>None required.</del>                      5.4-1 The following PUD Guidelines shall be incorporated into project design, as verified by City staff during design review:</p> <ul style="list-style-type: none"> <li>• <u>Choice of Mobility – The applicant shall allow for multiple modes of transportation including private automobiles, bicycles, and pedestrian mobility.</u></li> <li>• <u>Street Connectivity – The streets shall be designed on a modified grid with multiple connections to the surrounding roadway network.</u></li> <li>• <u>Pedestrian and Bicycle Connectivity – The applicant shall provide sidewalks on both sides along all streets, and a defined multi-use trail network. The applicant shall develop private pathways that provide pedestrian linkages within individual blocks and between community uses.</u></li> </ul>	<p>NA</p>

LS = Less than Significant

S = Significant

PS = Potentially Significant

PSU = Potentially Significant and Unavoidable

SU = Significant and Unavoidable

TABLE 3-1

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		<ul style="list-style-type: none"> <li>• <u>Safe Environment – Streets shall be designed to be safe in terms of traffic mobility, diversity in users, and crime prevention. Climate Appropriate Plants – Trees, shrubs, and grasses shall be conducive to the Northern California environment in terms of water use, drought tolerance, maintenance, and durability. Synthetic Turf should be used for active play areas and small gathering lawns.</u></li> <li>• <u>Low Maintenance &amp; Cost Effectiveness – Landscape material including trees, plants, turf, and hardscape should require minimal maintenance as compared to other varieties and material choices. Synthetic turf shall be used to the extent possible in lieu of natural turf and grasses. Materials should be cost effective to lessen the initial expenditure, periodic replacement, and long-term maintenance. Turf may be synthetic to lessen irrigation demands and long term maintenance.</u></li> <li>• <u>Standard Streetscape – The plantings along streets and the community trails shall consist mainly of species that at maturity will act as large canopy shade trees and colorful understory plantings. Nothing in this section shall be construed to require an initial planting larger than a 24” box tree.</u></li> <li>• <u>Alternative Local Streetscape - Landscaping along internal local streets shall be more lush and generous in plant coverage including primarily canopy shade trees to create a dynamic streetscape.</u></li> <li>• <u>Stormwater Management – The project will redevelop with smaller residential buildings interlaced within green courtyards, large central park and meandering greenbelt, and utilizing decorative permeable materials for private</u></li> </ul>	

LS = Less than Significant

S = Significant

PS = Potentially Significant

PSU = Potentially Significant and Unavoidable

SU = Significant and Unavoidable

TABLE 3-1

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		<p><u>driveways and courts. The pervious to impervious ratio for Phase 1 (40% permeable to 60% Impermeable) will be used as a minimum guideline for the build-out of the entire site through Phase 4.</u></p> <ul style="list-style-type: none"> <li>• <u>Water Efficiency – All project landscaping shall be climate appropriate for the area and irrigated with moisture sensor driven systems to provide drought tolerance and maximum efficiency of water use in irrigation. Synthetic turf shall be used, to the greatest extent possible, for private grassed areas within the development.</u></li> <li>• <u>Vegetation &amp; Forestation – Vegetation and tree planting plans shall be designed to provide shading for streets, hardscape surfaces, buildings, and recreation areas during summer months. In contrast, said plans shall include landscape varieties that lose their leaves during winter months to promote passive sunlight within the community, thus reducing energy use relating to heating and lighting.</u></li> <li>• <u>Air Quality – The project proposes that all buildings, units, and facilities, indoors and out, are free of devices designated to facilitate the combustion of wood or wood products to eliminate emissions generally associated with traditional fireplaces.</u></li> <li>• <u>Reuse and Recycling - The project shall re-use at least 50% of the salvageable materials in the existing improvements on-site, as measured by weight. This can take the form of re-use of entire structures, re-use or repurposing of significant elements, such as beams or trusses, and recycling materials within the new project such as grinding paving and asphalt for use as base material at the site. These activities will increase the sustainability of the site through reduced waste materials from demolition, reduced need for new materials on-site,</u></li> </ul>	

LS = Less than Significant

S = Significant

PS = Potentially Significant

PSU = Potentially Significant and Unavoidable

SU = Significant and Unavoidable

TABLE 3-1

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>and reduction of the ancillary transportation impacts from off-haul and delivery of materials to the site. Additionally, the project will evaluate brick, wood, metal, and masonry materials from the demolition to be re-manufactured into a “heritage” line of finishes to be offered as upgrades to the units. As an example, wood timbers would be converted into flooring material to provide the character and cache of “distressed” lumber underfoot. These efforts will increase the amount of on-site materials reused sustainably within the project.</p> <ul style="list-style-type: none"> <li>• <u>Efficient Floor Plans - The Northwest Land Park community will be developed with compact efficient floor plans. In addition the majority of units will share wall/floor space, and thus thermal mass, with at least one other unit.</u></li> <li>• <u>Insulation – Building shall be designed with a high-efficiency thermal shell for the units with exterior walls at or above R25 for walls and R40 for ceilings.</u></li> <li>• <u>Climatization – Residential buildings shall use small high efficiency heating and cooling units.</u></li> <li>• <u>Lighting - Buildings shall use a LED or fluorescent lighting system throughout the units, allowing for energy efficient lighting.</u></li> <li>• <u>Exterior Lighting – Exterior HOA maintained lighting, including pathway lights, accent/landscaping lights, motor-court lights, and private street lights shall use LED lighting technologies.</u></li> <li>• <u>Water Heaters - The project shall provide high efficiency tank-less hot water heaters to provide for the most energy efficient delivery of hot water. Nothing in this provision shall preclude installation of high efficiency</u></li> </ul>	

LS = Less than Significant

S = Significant

PS = Potentially Significant

PSU = Potentially Significant and Unavoidable

SU = Significant and Unavoidable

TABLE 3-1

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		<p><u>alternative energy source hot water heating and storage units.</u></p> <ul style="list-style-type: none"> <li>• <u>Electrical vehicle accommodations – The project shall incorporate 110v electrical outlets in the garage units such that they are readily accessible for use with electric vehicles.</u></li> <li>• <u>Renewable Energy Commitment - The project shall incorporate a 400 KW renewable energy system to reduce the amount of energy purchased by the Project. The 400 KW renewable energy will be incorporated over the life of the project such that a minimum of 100 KW will be incorporated into phase 1 with an aggregate total of 100 KWs per phase through the buildout of phase 4. The 400 KW system will result in an annual reduction of 730,000 kWh of purchased electricity at full project buildout. This is equivalent to the emissions from electrical consumption of approximately 188 dwelling units. The renewable energy system may include solar, wind, fuel cells, or other new technology that becomes available over the implementation of the project. The following are the commitments already made by the project to foster this renewable commitment:</u> <ul style="list-style-type: none"> <li>○ <u>Photovoltaic Design - The project shall be planned to orient at least 40% of the roof area of a minimum of 50% of the buildings to the west, south or southwest so that photovoltaic panels and collector systems can provide maximum benefit when installed. The project shall work with the local utility and, through an aggressive sales program, encourage and provide solar systems and/or alternative energy systems as an option.</u></li> </ul> </li> </ul>	

LS = Less than Significant

S = Significant

PS = Potentially Significant

PSU = Potentially Significant and Unavoidable

SU = Significant and Unavoidable

**TABLE 3-1**

**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		<ul style="list-style-type: none"> <li>○ <u>Solar Orientation – The majority of the project’s buildings shall be designed to orient the roof tops with strong solar capture opportunities for photovoltaic panels throughout the community. The orientation of at least 40% of the roof area of at least 50% of the buildings shall be west, southwest, or south.</u></li> <li>○ <u>Solar Energy – As indicated in the AQMP (measure M28), the NWLP Project has committed to the implementation of a solar energy system that will offset a minimum of 2.5% of the residential needs of the project.</u></li> </ul>	
<p><b>5.4-2 Construction and operation of the proposed project may conflict with applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.</b></p>	<p>LS</p>	<p>None required.</p>	<p>NA</p>
<p><b>5.5 Hazards and Hazardous Materials</b></p>			
<p><b>5.5-1 Implementation of the proposed project could result in the exposure of people to hazards and hazardous materials during construction activities.</b></p>	<p>PS</p>	<p>5.5-1 a) No grading may occur on the parcels within Phases 2, 3 or 4 until SCEMD issues a no further action letter for Phases 2, 3 and 4, respectively. In the event a no further action letter is issued for only certain parcels within a Phase, grading may only occur on the parcels for which a no further action letter was issued. The applicant shall be responsible for providing written confirmation of SCEMD action prior to the issuance of a grading permit for any affected project phase.</p> <p>b) Prior to issuance of a grading permit that would include installation of underground utility trenches, the City shall ensure a groundwater management plan has been prepared by a qualified environmental professional registered in California. The plan shall be submitted to the City for review and approval.</p>	<p>LS</p>

LS = Less than Significant

S = Significant

PS = Potentially Significant

PSU = Potentially Significant and Unavoidable

SU = Significant and Unavoidable

**TABLE 3-1**

**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>The groundwater management plan shall identify the locations and depths of underground utility trenches relative to known contaminated groundwater. If it is determined trenches could intercept contaminated groundwater during construction, the plan shall identify measures to be implemented to properly remove and dispose of contaminated groundwater in accordance with best management practices and City requirements. Such measures could include, but not be limited to, the use of a pump to extract the contaminated groundwater out of the trench and then store the water onsite in a sump or storage tank until properly discharged into the City sewer system per City regulations described below.</p> <p>All dewatering activities shall be subject to the requirements of the City's Department of Utilities Engineering Services Policy No. 0001 (adopted as Resolution No. 92-439 by the Sacramento City Council), which protects water quality by monitoring dewatering activities and ensuring that all groundwater discharges are free of contamination.</p> <p>The groundwater management plan shall also identify specific measures (e.g., design features, construction methods) to ensure underground utilities do not create a horizontal conduit for contaminant migration. The plan shall include provisions for monitoring the effectiveness of the construction methods in minimizing horizontal contaminated groundwater migration along utility trenches.</p>	

LS = Less than Significant

S = Significant

PS = Potentially Significant

PSU = Potentially Significant and Unavoidable

SU = Significant and Unavoidable

TABLE 3-1

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>c) Prior to site preparation (i.e., grading, clearing), the project applicant shall consult with SCEMD to determine whether there are any construction activities that could damage or otherwise interfere with use of on-site monitoring wells, specifically MW-3 for ongoing groundwater monitoring. If SCEMD determines the wells would not be affected by project activities, the project applicant shall obtain written documentation from SCEMD to that effect. If it is determined that well relocation or protective measures are necessary, the project applicant shall coordinate with SCEMD in advance of any site preparation activities during construction to identify the appropriate measures and to obtain regulatory approval of such measures. Site preparation activities that could affect the monitoring wells shall not be implemented until SCEMD has inspected any modifications and provided written notification to the City that it has reviewed and approved the protective measures.</p> <p>The City shall not issue a grading permit to the project applicant until written documentation from SCEMD is provided to the City that determines the groundwater monitoring wells would not be affected by site preparation project activities, or, if it is determined that well relocation or protective measures are necessary, SCEMD has inspected any modifications and provided written notification to the City that it has reviewed and approved the protective measures.</p>	
<p>5.5-2 Implementation of the proposed project could result in the exposure of people to hazards and hazardous materials during project operation/occupancy.</p>	<p>LS</p>	<p>None required.</p>	<p>NA</p>

LS = Less than Significant

S = Significant

PS = Potentially Significant

PSU = Potentially Significant and Unavoidable

SU = Significant and Unavoidable

TABLE 3-1

## SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
<b>5.6 Noise and Vibration</b>			
<p><b>5.6-1 Implementation of the proposed project could result in exterior noise levels at sensitive receptors in the project area (including those on the project site) that are above the upper value of the normally acceptable category for various land uses.</b></p>	PS	<p>5.6-1 a) Residential structures in the project shall be designed to avoid any exterior communal/recreational areas, excluding balconies, on the third and fourth floors with direct line-of-sight to I-5.</p> <p>b) Residential structures in the project shall be designed to avoid any exterior communal/recreational areas within 200 feet (direct line-of-sight) of the existing commercial operations located immediately northeast of the project site, unless subsequent design features, which may include, but are not limited to, a masonry wall, can be incorporated into the project design to reduce noise associated with truck operations to less than 65 dBA <math>L_{eq}</math> over a 1-hour period. The applicant shall provide written confirmation from a qualified noise consultant that any such design features are effective to achieve the required reduction in noise exposure.</p>	LS
<p><b>5.6-2 Implementation of the proposed project could result in residential interior noise levels of <math>L_{dn}</math> 45 dB or greater at sensitive receptors in the project area (including those on the project site).</b></p>	S	<p>5.6-2 a) The project applicant shall design residential structures in Phases 3 and 4 of the project to provide up to a 30 dBA reduction from exterior to interior noise levels on any third and fourth floors of proposed residential structures in accordance with City standards and the requirements of CCR Title 24 Section 1207.11.2. The project applicant shall demonstrate to the City in the form of a site-specific, design-specific acoustical analysis that no residences shall be subject to interior noise levels in excess of City standards. Measures that may be incorporated into the design of residential structures within Phases 3 and 4 may include, but are not limited to:</p> <ul style="list-style-type: none"> <li>• The use of triple-paned or no windows along any western facing walls;</li> <li>• Limiting buildings to two stories in height;</li> </ul>	LS

LS = Less than Significant

S = Significant

PS = Potentially Significant

PSU = Potentially Significant and Unavoidable

SU = Significant and Unavoidable

TABLE 3-1

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		<ul style="list-style-type: none"> <li>• Increasing the setback distance between residential structures and I-5;</li> <li>• The use of gypsum board or other sound-insulating building material; and</li> <li>• Providing a uniform wall or line of structures along the western boundary of the site.</li> </ul> <p>b) <u>So long as existing industrial and commercial uses continue to operate, the</u> <del>The</del> project applicant shall design residential structures, immediately adjacent to the existing commercial operations located along 1<sup>st</sup> Avenue in Phases 2 and 4 to achieve up to a 35 dBA reduction between exterior and interior noise levels through the use of certain design-specific measures that may include, but are not limited to:</p> <ul style="list-style-type: none"> <li>• The use of triple-paned or no windows for structure walls fronting the existing commercial operations located along 1<sup>st</sup> Avenue;</li> <li>• Not allowing bedrooms along the outermost structure walls of the northern and eastern boundaries of Phase 2 and the eastern boundary of Phase 4.</li> <li>• The use of gypsum board or other sound-insulating building material; and</li> <li>• Providing a uniform wall or line of structures along the <del>western</del> boundary of the site <u>where Phase 2 abuts the existing use on the south side of First Avenue and on the eastern boundary of Phase 4 where it abuts the existing use on the north side of First Avenue.</u></li> </ul>	

LS = Less than Significant

S = Significant

PS = Potentially Significant

PSU = Potentially Significant and Unavoidable

SU = Significant and Unavoidable

<b>TABLE 3-1</b>			
<b>SUMMARY OF IMPACTS AND MITIGATION MEASURES</b>			
<b>Impact</b>	<b>Level of Significance Prior to Mitigation</b>	<b>Mitigation Measure(s)</b>	<b>Level of Significance After Mitigation</b>
		c) The City shall require, through a deed restriction providing notice to purchasers that any future residents of structures adjacent to the existing commercial operations be required to acknowledge ongoing commercial activities that could result in noisy activities at the time of purchase or lease of a residential unit.	
<b>5.6-3</b> Implementation of the proposed project could result in construction noise levels that exceed the standards in the City of Sacramento Noise Ordinance.	LS	None required.	NA
<b>5.6-4</b> Implementation of the proposed project could permit existing and/or planned uses in the project area to be exposed to vibration-peak-particle velocities greater than 0.5 inches per second due to project construction.	LS	None required.	NA
<b>5.6.5</b> Implementation of the proposed project could permit adjacent residential, educational, and commercial uses to be exposed to vibration peak particle velocities greater than 0.5 inches per second due to operational activities.	LS	None required.	NA
<b>5.6-6</b> Implementation of the proposed project could permit historic buildings and archaeological sites to be exposed to vibration-peak-particle velocities greater than 0.25 inches per second due to project construction.	LS	None required.	NA
<b>5.7 Parks and Recreation</b>			
<b>5.7-1</b> Implementation of the proposed project could result in increased use of existing parks or recreational facilities or create a need for construction or expansion of recreational facilities beyond what was anticipated in the General and/or Community Plans.	LS	None required.	NA

LS = Less than Significant

S = Significant

PS = Potentially Significant

PSU = Potentially Significant and Unavoidable

SU = Significant and Unavoidable

<b>TABLE 3-1</b>			
<b>SUMMARY OF IMPACTS AND MITIGATION MEASURES</b>			
<b>Impact</b>	<b>Level of Significance Prior to Mitigation</b>	<b>Mitigation Measure(s)</b>	<b>Level of Significance After Mitigation</b>
<b>5.8 Public Services</b>			
5.8-1 Implementation of the proposed project could result in the construction of new, or the expansion of existing facilities related to the provision of fire protection.	LS	None required.	NA
5.8-2 Implementation of the proposed project could result in the construction of new, or the expansion of existing, facilities related to the provision of police protection.	LS	None required.	NA
5.8-3 Implementation of the proposed project could generate additional demand for schools.	LS	None required.	NA
<b>5.9 Transportation and Circulation</b>			
5.9-1 Phase 1 of the proposed project could cause potentially significant impacts to study intersections.	LS	None required.	NA
5.9-2 Phase 1 of the proposed project could cause potentially significant impacts to study freeway ramps.	LS	None required.	NA
5.9-3 Phase 1 of the proposed project could cause potentially significant impacts to transit.	LS	None required.	NA
5.9-4 Phase 1 of the proposed project could cause potentially significant impacts to pedestrian facilities.	LS	None required.	NA
5.9-5 Phase 1 of the proposed project could cause potentially significant impacts to bicycle facilities.	LS	None required.	NA
5.9-6 Phase 1 of the proposed project could cause potentially significant impacts on parking.	LS	None required.	NA

LS = Less than Significant

S = Significant

PS = Potentially Significant

PSU = Potentially Significant and Unavoidable

SU = Significant and Unavoidable

TABLE 3-1

## SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
5.9-7 Phase 1 of the proposed project could cause potentially significant impacts due to construction-related activities.	S	5.9-7 Prior to the beginning of construction, the applicant shall prepare a construction traffic and parking management plan to the satisfaction of City Traffic Engineer and subject to review by all affected agencies. The plan shall ensure that acceptable operating conditions on local roadways and freeway facilities are maintained. At a minimum, the plan shall include: <ul style="list-style-type: none"> <li>• Description of trucks including: number and size of trucks per day, expected arrival/departure times, truck circulation patterns.</li> <li>• Description of staging area including: location, maximum number of trucks simultaneously permitted in staging area, use of traffic control personnel, specific signage.</li> <li>• Description of street closures including: duration, advance warning and posted signage, safe and efficient access routes for emergency vehicles, and use of manual traffic control.</li> <li>• Description of driveway access plan including: provisions for safe vehicular, pedestrian, and bicycle travel, minimum distance from any open trench, special signage, and private vehicle accesses.</li> </ul>	LS
5.9-8 Project buildout could cause potentially significant impacts to study intersections.	LS	None required.	NA
5.9-9 Project buildout could cause potentially significant impacts to study freeway ramps.	LS	None required.	NA
5.9-10 Project buildout could cause potentially significant impacts to transit.	LS	None required.	NA

LS = Less than Significant

S = Significant

PS = Potentially Significant

PSU = Potentially Significant and Unavoidable

SU = Significant and Unavoidable

TABLE 3-1

## SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
5.9-11 Project buildout could cause potentially significant impacts to pedestrian facilities.	LS	None required.	NA
5.9-12 Project buildout could cause potentially significant impacts to bicycle facilities.	LS	None required.	NA
5.9-13 Project buildout could cause potentially significant impacts on parking.	LS	None required.	NA
5.9-14 Project buildout could cause potentially significant impacts due to construction-related activities.	S	5.9-14 Implement Mitigation Measure 5.9-7.	LS
5.9-15 The proposed project would contribute to unacceptable peak hour operations at the W Street/9th Street intersection.	S	5.9-15 The project applicant shall contribute its fair share toward restriping the southbound approach to the W Street/9 <sup>th</sup> Street intersection to add an exclusive right-turn lane while maintaining the two existing through lanes and one existing shared through/right lane.	LS
5.9-16 The proposed project would contribute to unacceptable peak hour operations at the I-5 NB Off-Ramp/Broadway intersection and vehicular queuing that extends onto the freeway mainline.	S	5.9-16 The project applicant shall contribute its fair share toward the installation of a traffic signal at the I-5 NB Off-Ramp/Broadway intersection.	LS
5.9-17 The proposed project could cause potentially significant impacts to transit.	LS	None required.	NA
5.9-18 The proposed project could cause potentially significant impacts to pedestrian facilities.	LS	None required.	NA
5.9-19 The proposed project could cause potentially significant impacts to bicycle facilities.	LS	None required.	NA
5.9-20 The proposed project could cause potentially significant impacts on parking.	LS	None required.	NA
5.9-21 The proposed project could cause potentially significant impacts due to construction-related activities.	S	5.9-21 Implement Mitigation Measure 5.9-7.	LS

LS = Less than Significant

S = Significant

PS = Potentially Significant

PSU = Potentially Significant and Unavoidable

SU = Significant and Unavoidable

<b>TABLE 3-1</b>			
<b>SUMMARY OF IMPACTS AND MITIGATION MEASURES</b>			
<b>Impact</b>	<b>Level of Significance Prior to Mitigation</b>	<b>Mitigation Measure(s)</b>	<b>Level of Significance After Mitigation</b>
<b>5.10 Urban Design and Visual Resources</b>			
<b>5.10-1 Implementation of the proposed project could cast glare in such a way as to cause a public hazard or annoyance for a sustained period of time.</b>	PS	5.10-1 The proposed project shall prohibit new development within the project site from: 1) using reflective glass that exceeds 50 percent of any building surface and on the ground three floors; 2) using mirrored glass; 3) using black glass that exceeds 25 percent of any surface of a building; and 4) using metal building materials that exceed 50 percent of any street-facing surface of a primarily residential building.	LS
<b>5.10-2 Implementation of the proposed project could cast light onto oncoming traffic or residential uses.</b>	LS	None required.	NA
<b>5.10-3 Implementation of the proposed project could result in a substantial adverse change to the existing visual character or quality of the site and its surroundings.</b>	LS	None required.	NA
<b>5.11 Utilities and Service Systems</b>			
<b>5.11-1 Implementation of the proposed project could increase demand for potable water.</b>	LS	None required.	NA
<b>5.11-2 Implementation of the proposed project could result in an increase in demand for potable water in excess of the City's existing diversion and treatment capacity, and could require the construction of new water supply facilities.</b>	LS	None required.	NA

LS = Less than Significant

S = Significant

PS = Potentially Significant

PSU = Potentially Significant and Unavoidable

SU = Significant and Unavoidable

TABLE 3-1

## SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
5.11-3 Implementation of the proposed project could result in construction activities that could degrade water quality and violate state water quality objectives by increasing sedimentation and other contaminants entering streams and rivers.	LS	None required.	NA
5.11-4 Implementation of the proposed project could generate new sources of polluted runoff that could violate water quality standards.	LS	None required.	NA
5.11-5 Implementation of the proposed project could increase exposure of people and/or property to risk of injury and damage from a localized 100-year flood.	LS	None required.	NA
5.11-6 Implementation of the proposed project could increase exposure of people and/or property to risk of injury and damage from a regional 100-year flood.	LS	None required.	NA
5.11-7 Implementation of the proposed project could generate additional wastewater and stormwater that could require the expansion of existing conveyance and treatment facilities.	LS	None required.	NA
5.11-8 Implementation of the proposed project could require the need for expansion of wastewater treatment facilities, which could cause significant environmental effects.	LS	None required.	NA
5.11-9 Implementation of the proposed project could result in the construction of new solid waste facilities or expansion of existing facilities.	LS	None required.	NA
5.11-10 Implementation of the proposed project would not require or result in the construction of new energy production or transmission facilities.	LS	None required.	NA

LS = Less than Significant

S = Significant

PS = Potentially Significant

PSU = Potentially Significant and Unavoidable

SU = Significant and Unavoidable

## **4.0 LAND USE AND PLANNING/POPULATION AND HOUSING**

## 4.0 LAND USE AND PLANNING/POPULATION AND HOUSING

---

### INTRODUCTION

This chapter of the DEIR describes existing and planned land uses in and adjacent to the project site, current land uses, land use designations, and zoning, and analyzes the consistency of the proposed Northwest Land Park project (proposed project) with existing land use plans and policies as well as land use compatibility with adjacent lands and uses proposed internal to the project.

CEQA Guidelines section 15125(d) provides that the environmental setting of an EIR must discuss “any inconsistencies between the proposed project and applicable general plans and regional plans.” Potential inconsistencies between the proposed project and the City of Sacramento 2030 General Plan, the Land Park Community Plan (a subset of the General Plan), and the City of Sacramento zoning ordinance are discussed in this chapter. In addition, the reader is referred to the various technical sections for a discussion of any potential physical/environmental effects and potential incompatibilities that may be considered in the determination of physical environmental impacts. For example, land uses that produce excessive noise, light, dust, odors, traffic, or hazardous emissions may be undesirable when they intrude on places used for residential activities (residences and parks). Thus, some industrial or commercial uses (which can produce noise and odors) would not be considered compatible with residential uses, unless buffers, landscaping, or screening can be used to protect residents from health hazards or nuisances. Such potential concerns or land use incompatibilities would be addressed in the applicable technical sections.

The determination of project consistency with the City’s 2030 General Plan must be made by the City. The information provided in this chapter is meant to inform that decision. A general discussion on plan consistency is included below.

This chapter also describes existing levels of and trends in population and housing in the City of Sacramento. It identifies the proposed project’s development assumptions and analyzes projected population and housing growth in relation to city projections.

Changes in population and housing in and of themselves are generally characterized as social and economic effects, not physical effects on the environment. CEQA provides that economic or social effects are not considered significant effects on the environment unless the social and/or economic effects are connected to physical environmental effects. A social or economic change related to a physical change may be considered in determining whether the physical change is significant (CEQA Guidelines section 15382). The direction for treatment of economic and social effects is set forth in section 15131(a) of the CEQA Guidelines:

Economic or social effects of a project shall not be treated as significant effects on the environment. An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. The intermediate economic or social changes

need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on physical changes.

While increased population and demographic changes resulting from new development do not necessarily cause direct adverse physical environmental effects, indirect physical environmental effects such as increased vehicle trips and associated increases in air pollutant emissions could occur. The information in this chapter is used as a basis for the analysis of project impacts in the technical sections of this DEIR. Physical environmental effects associated with the increase in population and housing are discussed in the technical sections included in Chapter 5.

Comments related to land use and population and housing were received in response to the NOP (see Appendix A). Those comments include oral comments received at the scoping meeting, including an inquiry as to whether an affordable housing component would be included as part of the project; concerns associated with the compatibility of adjacent industrial uses and adjacent neighborhoods, including Land Park; and a request to include design guidelines as part of the project. Those issues are addressed in this chapter.

Information for this chapter was obtained from the City of Sacramento 2030 General Plan and Master EIR (March 2009), City of Sacramento General Plan 2008-2013 Housing Element (adopted November 18, 2008), the Northwest Land Park Planned Unit Development (PUD) Guidelines, and the Central City and Land Park Community Plans.

## **Existing Land Uses**

The project site is located within a developed area of the city and includes a number of buildings, surface parking lots, and other impervious surfaces. Vegetation is sparse with some trees and small areas of grass and landscaping. Existing land uses at the project site include industrial and office buildings, surface parking lots, and roadways. Buildings on the project site include the currently active Setzer Forest Products plant and various produce storage and distribution facilities associated with the former Sacramento Farmers Market. Some maintained landscaping surrounds the Setzer office building at the northeast corner of 3rd Street and 1st Avenue. Vehicular and pedestrian access to the project site is provided by Broadway, 3rd Street, 5th Street, 1st Avenue, and McClatchy Way.

## **Surrounding Uses**

Surrounding land uses include the Jedediah Smith Elementary School, Arthur A. Benjamin Health Professions High School, and single-family residences located southeast of the project site, as shown in Figure 2-2. The Sacramento Housing and Redevelopment Agency Twin Rivers housing complex, located south of the project site, contains 218 units. Commercial and industrial uses including Horizon Irrigation and Equipment Sales, Saccani Distributing Company, Dan Good Distributing, Pacific Pallet Exchange, American Lithographers, 5th Street Restaurant and Bar Supply, and Saldivar Auto Body are located north and east of the project site, south of Broadway. Beyond the industrial uses to the east is another public housing complex, a small commercial strip mall, O'Neill Park, and News 10, a local ABC affiliate. A raised portion of I-5 abuts the project site to the west.

An existing rail spur, owned and managed by Union Pacific Railroad, connects the property, via a tunnel under Interstate 5 (I-5), to Front Street and Miller Park to the west.

## **Community Plan and General Plan Land Use Designations**

The majority of the project site is located within the boundaries of the Land Park Community Plan Area in an area identified as “Upper Land Park,” by the Land Park Community Association. The Land Park Community Plan area encompasses approximately 6.7 square miles (4,327 acres) and is generally bounded by Broadway to the north, 35<sup>th</sup> Avenue to the south, Highway 99 to the east, and the Sacramento River to the west.<sup>1</sup> A small portion of the project site adjacent to the south side of Broadway is located within the Central City Community Plan area.

The project site is designated in the City’s 2030 General Plan and Community Plans as Urban Neighborhood Medium Density (UNMD) and Urban Corridor Low (ULC), as shown on Figure 2-4 in Chapter 2, Project Description. Urban Neighborhood Medium Density allows for moderate to higher intensity urban housing and neighborhood support uses including small-lot single-family dwellings, small-lot single-family attached dwellings (e.g., duplexes, triplexes, townhomes), multifamily dwellings (e.g., apartments and condominiums), mixed-use neighborhood-serving commercial, compatible public, quasi-public, and special uses. The allowable density is 33-110 units per net acre. The allowable floor area ratio (FAR) is between 1.5 and 4.0 FAR. (“Floor area ratio” is obtained by dividing the number of square feet to be developed on the site by the square footage of the site.)

The Urban Corridor Low designation includes street corridors that have multi-story structures and more-intense uses at major intersections, lower-intensity uses adjacent to neighborhoods, and access to transit service throughout. At major intersections, nodes of intense mixed-use development are bordered by lower-intensity single-use residential, retail, service, and office uses. Street-level frontage of mixed-use projects is developed with pedestrian-oriented uses. The streetscape is appointed with landscaping, lighting, public art, and other pedestrian amenities. The allowable density is 20-110 units per net acre. The allowable FAR is between 0.30 and 3.0 FAR.

## **Current Zoning**

Existing zoning consists of Heavy Commercial Zone (C-4), Light Industrial Zone (M-1), and Heavy Industrial Zone (M-2), as shown in Figure 2-5 in Chapter 2, Project Description. Since the City adopted its 2030 General Plan in early 2009, the Zoning Code has not yet been updated to reflect the new land use designations. The City plans on updating the Zoning Code to achieve consistency with the land use designations as development applications are received. The project proposes to rezone the site to Multi-Family Zone (R-4) and General Commercial Zone (C-2) to be consistent with the underlying land use designations.

---

1 City of Sacramento, *2030 General Plan*, Land Park Community Plan, March 2009, p. 3-LP-3.

## **SACOG Blueprint**

The Sacramento Area Council of Governments (SACOG) is an association of local governments in the six-county Sacramento Region. Its members include the counties of El Dorado, Placer, Sacramento, Sutter, Yolo, and Yuba, as well as 22 cities, including the City of Sacramento.

SACOG provides transportation planning and funding for the region, and serves as a forum for the study and resolution of regional issues. In addition to preparing the region's long-range transportation plan, SACOG approves the distribution of affordable housing in the region and assists in planning for transit, bicycle networks, clean air, and airport land uses.

SACOG, in partnership with the non-profit organization Valley Vision, undertook the Blueprint Project to build a consensus around a single, coherent, long-term vision for the development of the Sacramento region. The project was not intended to advocate any particular development pattern; instead, SACOG assumed that if it provided accurate information and forecasting tools to a wide variety of interest groups, a consensus would naturally emerge on what the region as a whole wanted for its future.

Through discussions at a series of workshops held throughout the greater Sacramento region, a consensus emerged that the low-density, segregated land use developments of the recent past would likely cause deterioration in the regional quality of life if continued into the future. The regional consensus supported the notion that future development should follow the principles of "smart growth," incorporating density of both residential and commercial development, diversity of land uses within a neighborhood, design of the neighborhood, and access to regional destinations.

The Preferred Blueprint Scenario (or Blueprint) was adopted by the SACOG Board of Directors in December 2004. The Blueprint is a voluntary framework for guiding future growth in the region. The Blueprint is not a policy document and does not approve or prohibit growth in the region, but suggests general land uses and locations for growth. The Blueprint is a transportation and land use analysis suggesting how cities and counties should grow based on the key principles listed below. A key issue for the Blueprint Project is that compliance with the adopted plan relies entirely on SACOG's ability to persuade jurisdictions to voluntarily follow the SACOG model, rather than some type of statutory power to require compliance. The Blueprint is intended by SACOG to be advisory and to guide the region's transportation planning and funding decisions.

### **Blueprint Growth Principles**

The Blueprint Preferred Plan is based on seven interlocking principles, listed below.

- Compact Development that requires less conversion of rural land, shortens travel distances, and reduces the per-unit cost of infrastructure and services.
- Housing Choices, in particular small lot single-family dwellings and attached products that suit the needs of seniors, empty-nesters, young couples, single-person households, single-parent households and other types of small households that currently make up 4-out-of-5 American households. The smaller products fit well with the theme of compact development.

- Mixed-Use Developments that allow people to work and shop near their home.
- Use of Existing Assets, in particular the development of sites that are already within the urban footprint and urban services coverage. This includes both infill development of vacant lots as well as re-development of under-utilized sites such as low-density strip retail areas.
- Transportation Choices, in particular the ability to use non-auto modes (transit, bike, walk) for at least some trips. Non-auto modes are most practical in compact, mixed-use communities.
- Quality Design in terms of aesthetic buildings but also in terms of providing attractive, walkable public spaces that create a sense of community.
- Conservation of Natural Resources through less conversion of land to urban use, slower growth of demand for water, and reduction in the amount of per-capita auto travel.

## **Population and Housing**

### **Population**

The population of the city of Sacramento is racially and ethnically diverse, represented by a mix of White, African-American, Asian, and Latino people. Approximately 45 percent of the city's population is estimated to be low or very low income compared to the estimated countywide median income.<sup>2</sup> According to the state Department of Finance (DOF), Sacramento's population was 467,343 on January 1, 2007. Current DOF projections show the City's population in 2009 was 481,356 and was estimated to increase to 486,189 by 2010.<sup>3</sup>

The population within the Land Park Community Plan area in 2000 was 33,546 and is anticipated to increase to 35,875 by 2025.<sup>4</sup> The General Plan assumed a level of development would occur in this area, but the proposed project was not specifically included because a development application had not yet been submitted.

The project is anticipated to generate a total population of 1,936 new residents at buildout, based on 2.0 persons per household. Phase 1 is anticipated to generate approximately 416 new residents, as shown below in Table 4-1.

### **Housing**

#### **Regional Housing Supply**

The housing supply in the greater Sacramento region has grown since the 1990s, but recent slowing of the economy has affected housing growth across the region. The region's slowly-improving job

- 
- 2 City of Sacramento, *Sacramento 2030 General Plan Master Environmental Impact Report*, Certified March 3, 2009, p. 5-2.
  - 3 Department of Finance, <http://www.dof.ca.gov/research/demographic/reports/estimates/e-1/2009-10>, accessed July 2010.
  - 4 City of Sacramento, *Sacramento 2030 General Plan Master Environmental Impact Report*, Certified March 3, 2009, p. 5-3.
-

growth is anticipated to result in a continuation of the slow pace of home building and sales in the six-county Sacramento region.

Land Use	Units	Population <sup>1</sup>
<b>Phase 1</b>		
Medium-Density Multi-Family Residential	208	416
<b>Phase 1 Total</b>	<b>208</b>	<b>416</b>
<b>Phases 2 through 4</b>		
Medium-Density Multi-Family Residential	690	1,380
High-Density Multi-Family Residential	70	140
Mixed Use <sup>2</sup>		-
<b>Phases 2 through 4 Total</b>	<b>760</b>	<b>1,520</b>
<b>Project Total</b>	<b>968</b>	<b>1,936</b>
Notes:		
1. Assumes 2.0 persons per household.		
2. Mixed Use area includes high-density multi-family residential and commercial-retail areas.		
Source: City of Sacramento, <i>Sacramento 2030 General Plan Master Environmental Impact Report</i> , Certified March 3, 2009, p. 5-12, Table 5-6.		

### City of Sacramento

According to the 2000 Census, about 64 percent of the city's housing units were single-family homes. Since the 1990s, more single-family homes have been constructed than multi-family units, and the mix of housing has shifted towards more single-family homes. According to the DOF, in 2009 approximately 65.5 percent of existing housing units were single-family homes, 32.5 percent were multi-family homes and approximately 2 percent were mobile homes or other.<sup>5</sup>

### **Applicable Mitigation Measures from the City of Sacramento 2030 General Plan Master EIR**

No mitigation measures affecting land use, population, or housing were identified.

### **LAND USE AND HOUSING/POPULATION EVALUATION**

This section evaluates the proposed project for consistency with the City's 2030 General Plan. Physical environmental impacts resulting from development of the project site are discussed in the applicable technical sections in this EIR. This chapter differs from impact discussions in that only plan or policy consistency issues are discussed, as opposed to a discussion of the physical impacts on the environmental that could occur with implementation of the proposed project. This discussion complies with section 15125(d) of the CEQA Guidelines, which requires EIRs to discuss potential conflicts with local or regional plans as part of the environmental setting. Therefore, the following discusses the compatibility of proposed land uses with adjacent land uses and uses proposed

5 Department of Finance <<http://www.dof.ca.gov/research/demographic/reports/estimates/e-5/2001-10>>, accessed July 2010.

internal to the project, consistency with the City's 2030 General Plan, Housing Element, and Zoning Ordinance (Title 17), and compares projected population and housing growth with city projections.

This consistency analysis provides the reader with a general overview of the whether the project is in harmony with the overall intent of the City's 2030 General Plan goals and policies. It is within the City's purview to decide if the proposed project is consistent or inconsistent with any applicable city goals or policies.

Analyses of consistency with other planning documents (e.g., regional air quality plans) are provided in the applicable technical sections of this EIR.

### **Physical Division of an Established Community**

The project site is located in an area of the city that is at the edge of a developed area constrained by I-5 that forms the western boundary of the site, as shown in Figure 2-2 Chapter 2, Project Description. The project site contains approximately 25 structures that were constructed between 1927 and 1988. All of the structures are associated with either the former Setzer Box Factory or the Sacramento Farmers Market (now used as a food distribution warehouse). The buildings on the project site include manufacturing, distribution/warehouse, and factory-type uses with a number of vacant or underutilized buildings. There are no residential uses located within the project site.

There are a mix of uses that surround the project site, including commercial uses to the north and east, with two schools and a residential neighborhood to the south. Interstate 5 limits development to the west of the project site. The project would remove the existing buildings to develop a mix of residential, park, and commercial uses, consistent with the existing surrounding neighborhood. Due to the project's location and historic use as a self-contained quasi-industrial park, development of the project would not physically divide an established community. The project would, instead, complete the northwest portion of the Upper Land Park neighborhood with a continuation of a mix of residential and commercial uses.

### **Land Use Compatibility with Surrounding Uses**

The proposed project is consistent with the City's general plan land use designations for the project site, which include Urban Corridor Low in the northernmost portion of the site, which allows a minimum density of 20 dwelling units per acre and maximum 110 dwelling units per acre. The project proposes mixed-use development on this portion of the site with a density of approximately 60 dwelling units per acre. The remainder of the site is designated Urban Neighborhood Medium, which allows for minimum densities of 33 dwelling units per acre and maximum 110 dwelling units per acre. Residential uses currently exist to the south and southeast of the project site with a mix of commercial, industrial, and retail uses to the north and east of the project site. There is no development to the west of the project site with the exception of an existing fuel storage yard located on the west side of Front Street near the intersection with Broadway. This use is located over 300 feet west of the project site.

As shown in Figure 2-3, in Chapter 2, Project Description, the northwest portion of the site immediately adjacent to Broadway is proposed for mixed-use development. This type of development is compatible with the existing mix of uses along Broadway. Residential uses are proposed in the remainder of the site to the east and west of 3<sup>rd</sup> Street. In the western portion of the site, the project abuts undeveloped land adjacent to the railroad tracks and I-5. There are no developed uses adjacent to the site to the west; therefore, there would be no land use compatibility concerns.

In the eastern portion of the site, residential uses are proposed along 5<sup>th</sup> Street and adjacent to existing commercial uses south of Broadway. A public park, proposed in the center of the site, is adjacent to open fields and the Jedediah Smith Elementary School and the Arthur Franklin High School to the south. Schools near or within residential neighborhoods are common throughout Sacramento and are considered a compatible land use. School operations could cause increased traffic and noise during school hours that could affect nearby residential areas; however, increased traffic and noise would be mostly confined to school hours, school drop-off and pick-up times, and special events at the schools. For further discussion regarding noise and traffic, see Sections 5.9 Transportation and Circulation and 5.6 Noise and Vibration.

The proposed residential uses adjacent to 5th Street would be just north of existing residential neighborhoods along McClatchy Way, San Luis Court, and Dudley Way located in the upper portion of the Land Park neighborhood. There would be no potential land use incompatibilities between these existing residential uses and the project. Existing uses on the east side of 5th Street include a mix of undeveloped areas, warehouses, and vacant uses. An existing warehouse facility located at the corner of 1<sup>st</sup> Avenue and 5<sup>th</sup> Street immediately adjacent to the boundary of the project site includes loading docks where early morning activities could disturb project residences located adjacent to this use. Noise concerns associated with adjacent warehouse uses are addressed in Section 5.6, Noise and Vibration.

Due to the project site's proximity to I-5 there are concerns associated with air emissions and noise. Please see Section 5.1, Air Quality for more information pertaining to any potential health concerns associated with proximity to the freeway and Section 5.6, Noise and Vibration for information regarding noise.

### **Consistency with Adopted Plans and Zoning**

As discussed above, the proposed project is consistent with the City's General Plan land use designations for the project site. The following discussion generally addresses the project's overall consistency with applicable goals and policies contained in the City's adopted 2030 General Plan. It is not a policy-by-policy discussion, but rather, a general evaluation of the intent of the goals and policies contained in the City's General Plan. However, the Planning Commission and City Council would determine if the project is consistent with the City's General Plan and with the vision of the City.

As discussed above, a majority of the project site is located in the Land Park Community Plan area with only a small portion located within the Central City Community Plan area. A brief discussion of the project's consistency with the Land Park and Central City community plans is included below.

### **City of Sacramento 2030 General Plan**

The City of Sacramento 2030 General Plan includes goals and policies that seek to promote sustainable growth and development practices, including focusing growth on infill sites to reduce dependency on automobiles and increase use of other modes of transit. Other goals and policies focus on the creation of diverse neighborhoods that promote alternative modes of transportation and create a sense of place while integrating mixed uses and housing types for all socioeconomic levels. The 2030 General Plan seeks to create visually-stimulating neighborhoods and commercial centers and corridors that center around pedestrian activity and create a sense of place and is intended to promote the type of growth identified as desirable in the SACG Blueprint (see discussion above).

The proposed project's PUD Guidelines were developed, in part, to ensure internal compatibility between various land uses, as well as meet the new 2030 General Plan goals and policies. The project is proposed in a developed area of the city that has been identified in the General Plan for future infill development with a mix of residential and commercial uses. The project is consistent with the General Plan's land use designations for the site.

The applicant asserts that the project has been designed to incorporate sustainable planning practices and smart growth elements, such as incorporating occupancy sensors to automatically turn off lights when not in use, lighting reflectors, electrical ballasts, and energy-efficient lamps, similar to the ideals of the 2030 General Plan. Specifically, the applicant indicates that the project would be an integrated, residential and mixed-use community in an underutilized infill site near downtown and other employment areas. The project provides high-density residential, consistent with the General Plan. Proximity to commercial areas and access to existing transit would help reduce vehicle trips and encourage walking and bicycling. The project also includes guidelines for energy efficiency that would meet or exceed current requirements, along with an ambitious goal to reuse and recycle up to 50 percent of salvageable building materials from buildings slated for demolition to incorporate into the project in a variety of applications.

Based on this information and project approach, it appears that the proposed project is generally consistent with the City's 2030 General Plan land use goals and policies pertaining to the provision of residential, retail, parks, and open space facilities within close proximity of each other as well as to adjacent uses. The public hearing review process for the project would include staff recommendations regarding findings of consistency with the 2030 General Plan, and findings of consistency would be required for any project approval.

### **City of Sacramento 2008-2013 Housing Element**

The City of Sacramento Housing Element reflects the City's long term vision of shifting towards infill development and a focus on sustainable and complete neighborhoods. The overarching goal is to

direct growth to key areas in the City in order to locate people in close proximity to jobs, transit, and other urban amenities. The City also considers the design and character of the City's neighborhoods, to ensure that new development contributes to a high quality of life for Sacramento residents.

The project is located in an area of the City that formerly housed six wood box factories that assembled packing containers for the region's agricultural produce, a farmers market, and cold storage facilities for meats and produce that were distributed throughout the city to various grocery stores. Many of these existing businesses have ceased operation and the buildings are vacant and the area is underutilized. The project proposes to redevelop this land with a variety of housing types including apartments, condominiums, and townhouses at a variety of densities, in conformance with goals and policies contained in the 2030 General Plan. The project proposes a mix of housing types that provide attainably-priced housing for a wide spectrum of the community: empty nesters or retired persons, young families, first time home buyers, or single parents. Units would range in size from approximately 600 to 1,800 square feet. The project meets the intent of the goals and policies contained in the Housing Element to provide housing that meets the diverse needs of the community.

The project is not required to comply with the City's Mixed Income Housing Ordinance, because the project is located in an infill area within the City and not within a new growth area.

## **Community Plans**

### Land Park Community Plan

Community plans were revised during the 2030 General Plan process. As a result, the Land Park Community Plan includes those general plan provisions that relate to the community plan area, but policies that apply specifically to the community plan area would be developed in the future. The project site is identified as an Opportunity Area in the general plan and community plan. Development of the project site as proposed would, therefore, be consistent with the Land Park Land Park Community Plan.

### Central City Community Plan

The Central City Community Plan includes a number of policies unique to the Central City that supplement the overall intent and vision of the citywide land use policies. There are no policies that directly apply to the project site or would be applicable for the project. However, like the Land Park Community Plan, the Central City Community Plan includes a discussion of Opportunity Areas and identifies the project site as a future opportunity area for development. The Community Plan does not specify land uses for the opportunity areas that are different from the citywide land use diagram. Development of the project site as proposed would, therefore, be consistent with the Land Park Community Plan.

## **City of Sacramento Zoning Ordinance (Title 17)**

The City will be updating zoning designations throughout the city to be consistent with the land use designations included in the City's 2030 General Plan as development is proposed. The existing zoning consists of C-4 - Heavy Commercial Zone, M-1 - Light Industrial Zone, M-2 - Heavy Industrial Zone, and M-2-R - Heavy Industrial Zone with Plan Review. The project would require a rezone of the project site to change the zoning districts from C-4, M1, M-2, and M-2-R to R-4 - Multi-Family Zone (PUD) and C-2 - General Commercial Zone (PUD) to achieve consistency with the 2030 General Plan. A PUD designation constitutes an overlay zone. However, approval of a PUD designation does not establish an underlying zone or enlarge the uses provided by a zoning classification. The project proposes to rezone the site consistent with the City's 2030 General Plan; therefore, the project would be consistent with the City's Zoning Ordinance.

## **Northwest Land Park Planned Unit Development Guidelines**

The project also includes the Northwest Land Park PUD Guidelines (see Appendix B) that establish design, roadway, and landscaping parameters for development of the site. The Northwest Land Park PUD Guidelines are designed to serve as a supplement to the existing Sacramento Zoning Ordinance. In some cases, these Guidelines create design flexibility for certain community design components and impose more specific design standards unique to this area. PUD Guidelines are consistent with direction provided in the Sacramento 2030 General Plan in that they provide projects with flexibility to provide creative solutions to various design opportunities.

The City would use the PUD Guidelines in its review of subsequent development proposals within the project site. All development, land use activity, and maintenance plans within the project would be required to comply with the PUD Guidelines. In instances where the PUD Guidelines are silent or unspecified, the Sacramento Zoning Ordinance would apply unless strict application of the zoning code does not meet the goals and objectives of the PUD Guidelines.

The PUD Guidelines influence the community's visual character and integrity by establishing standards for site planning, architecture, and landscape design for new construction. The PUD Guidelines include both mandatory standards and recommendations to provide a systematic development framework for the project. The PUD Guidelines and the City's review process would ensure that development within the site implement the City's goals, objectives, and policies.

## **SACOG Blueprint**

The proposed project generally complies with the Blueprint's seven principles by developing a site that has previously been developed (infill); developing a site that is within close proximity of downtown Sacramento and other employment areas; encouraging a range of transit opportunities due to the project's location near downtown Sacramento and close to recreational and commercial uses; offering a variety of housing types, including medium- and high-density residential units; providing a mix of land uses, including residential, commercial, and park uses; and developing an attractive project with quality design, as specified in the proposed PUD Guidelines.

### **Changes in Housing and Population**

The project, at full buildout, proposes a total of 968 residential units, as shown in Table 4-1. Based on the City's multi-family factor of 2.0 persons per household, this would result in an additional 1,936 residents. The City's 2030 General Plan assumed that new growth would occur and factored in the additional new residents based on the change in land use designations. The 2030 General Plan assumed the City would add approximately 97,000 new housing units and 197,000 new residents within the next 20 years.

The proposed project is consistent with the 2030 General Plan land use designations for this area and does not propose to change those land use designations. Therefore, the number of housing units and population projections for this site are consistent with the assumptions of the 2030 General Plan.

## **5.0 Introduction to the Analysis**

---

---

## 5.0 INTRODUCTION TO THE ANALYSIS

---

### FORMAT OF THE ENVIRONMENTAL ANALYSIS

The technical sections of the environmental analysis are comprised of three primary topic areas: environmental setting, regulatory setting, and impacts and mitigation measures. Each topic area is described in more detail below.

### ENVIRONMENTAL SETTING

According to section 15125 of the CEQA Guidelines, an EIR must include a description of the existing physical environmental conditions in the vicinity of the project to provide the “baseline condition” against which project-related impacts are compared. The baseline condition is typically the physical condition that exists when the Notice of Preparation (NOP) is published. The NOP for the proposed project was published May 5, 2010. For analytical purposes, impacts associated with implementation of the proposed project are generally derived from the existing baseline environmental setting.

### REGULATORY SETTING

This section of each chapter provides the federal, State, and local regulations that would apply to the proposed project and that could reduce or eliminate potentially significant impacts. The impact analyses assume compliance with these regulations. This section also informs the reader of the applicable General Plan policies and Community Plan policies, if any.

### IMPACTS AND MITIGATION MEASURES

This section analyzes both project-specific and cumulative environmental impacts and the proposed mitigation measures. Information included in this section is described in more detail below.

#### Methods of Analysis

This subsection identifies the methodology used to analyze potential environmental impacts.

#### Standards of Significance

The CEQA Guidelines define a significant effect on the environment as “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic and aesthetic significance” (CEQA Guidelines Section 15382). Definitions of significance vary with the physical conditions affected and the setting in which the change occurs. The CEQA Guidelines set forth physical impacts that trigger the requirement to make “mandatory findings of significance” (CEQA Guidelines, section 15091). For all environmental issues, this EIR identifies specific standards of significance.

Where explicit quantification of significance is identified, such as a violation of an ambient air quality standard, this quantity is used to assess the level of significance of a particular impact in this EIR. For less easily quantifiable impacts, events or occurrences that would be regarded as significant or potentially significant were identified. For example, growth-inducing impacts would be identified as significant if the project results in a level, rate, or character of growth that (among other criteria) exceeds the capacity of existing infrastructure and services. Where the “substantial” effect of an impact is not identified in the CEQA Guidelines, the criteria for evaluating the significance of potential impacts have been determined and identified in this document.

### **Project Impacts and Mitigation Measures**

The project impact and mitigation measure section analyzes the environmental impacts of the project. This subsection describes the potential environmental impacts of the proposed project and, based upon the thresholds of significance, concludes whether the environmental impacts would be considered significant, potentially significant, or less than significant. Each impact is summarized in an “impact statement,” followed by a more detailed discussion of the potential impacts and the significance of each impact before mitigation.

The impact number consists of the section of the EIR in which that impact is identified followed by a “-” to indicate the number of the impact in that section. For example, Impact 5.1-1 is the first impact identified in Section 5.1.

As discussed in Chapter 1, Introduction, of this DEIR, the proposed project would be developed consistent with general plan land use designations as analyzed in Sacramento’s 2030 General Plan Master EIR and this EIR is prepared in accordance with CEQA Guidelines sections 15176(d) and 15177, Subsequent Projects Within the Scope of the Master EIR. Therefore, the impact discussions in the technical sections begin with a discussion of the Master EIR findings for that topic to provide the context for the analysis of the proposed project. The impact of the proposed project, to the extent that it differs from the findings in the Master EIR, is then discussed.

The impact discussion includes a description of applicable regulations and 2030 General Plan policies, and concludes with a statement regarding whether the impact would be less than significant or significant prior to mitigation. If the impact is significant and mitigation is required, the finding of significance after mitigation is also identified.

The analysis of environmental impacts considers both the construction and operational phases associated with implementation of the proposed project. As required by section 15126.2(a) of the CEQA Guidelines, direct, indirect, short-term, long-term, on-site, and/or off-site impacts are addressed, as appropriate, for the environmental issue area being analyzed.

A “significant effect” is defined by section 15382 of the CEQA Guidelines as “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant

effect on the environment...[but] may be considered in determining whether the physical change is significant.” The DEIR uses the following terms to describe the level of significance of impacts identified during the course of the environmental analysis:

- **Significant and Unavoidable Impact (SU)**—Impact that exceeds the defined threshold(s) of significance and cannot be eliminated or reduced to a less-than-significant level through the implementation of feasible mitigation measures.
- **Significant Impact (S)**—Impact that exceeds the defined threshold(s) of significance. For purposes of this document, pre-mitigation impacts that exceed the defined threshold(s) of significance are referred to as significant; however, when the impacts cannot be eliminated or reduced to a less-than-significant level through the implementation of feasible mitigation measures, these impacts are referred to as significant and unavoidable.
- **Less-Than-Significant Impact (LS)**—Impact that does not exceed the defined threshold(s) of significance. This term is used for impacts for which mitigation measure(s) identified can reduce a pre-mitigation impact to a less-than-significant level.

An example of the format is shown below.

#### **5.X-1 Statement of impact for the proposed project in bold type.**

General discussion of impact for proposed project in paragraph form, and a determination of the impact’s significance in ***bold, italic type***.

#### Mitigation Measure

5.X-1 *Statement of what, if any, mitigation measures are required.*

#### **Mitigation Measures**

For impacts that were found to be potentially significant, feasible mitigation measures that could reduce the severity of the impact are identified. As noted above, it is assumed that the project applicant would also continue to comply with all applicable local, state, and federal laws and regulations, and these laws and regulations are considered to be part of the project description. In many instances, the actions that are necessary to reduce a project impact are already required by local, state, or federal law; compliance with these laws and regulations is not included as mitigation. Similarly, established design guidelines or other requirements that the City regularly recognizes and follows for development projects are also considered part of the project description. In this DEIR, such requirements are identified and considered in the impact assessment *prior to* the identification of additional project-specific mitigation measures that would reduce the level of significance of impacts.

#### **Cumulative Impacts**

The cumulative context of a specific issue area is defined (e.g., a specific watershed for drainage and hydrology impacts) and the cumulative effects of the project are analyzed to determine if the

project's contribution to the cumulative effect or impact are "considerable." If applicable, feasible mitigation measures are also included to reduce the severity of an impact. The Master EIR for the 2030 General Plan provides the basis for analysis of cumulative effects, growth-inducing effects, and irreversible significant effects associated with development under the general plan. As discussed above, because the proposed project is consistent with the land use assumptions for the site contained in the City's 2030 General Plan and Master EIR, the cumulative effects of the proposed project are compared to the cumulative context described in the Master EIR.

## **5.1 Air Quality**

---

### INTRODUCTION

This section addresses potential effects of the proposed Northwest Land Park Project (proposed project) on ambient air quality. The section evaluates the potential for the proposed project to: conflict with or obstruct implementation of applicable air quality plans; violate an air quality standard or contribute substantially to an existing or projected air quality violation; expose sensitive receptors to unhealthful pollutant concentrations; or result in a cumulatively considerable net increase of any criteria pollutant for which the region is in nonattainment. Air pollutants of concern for Sacramento County include ozone (O<sub>3</sub>), which results from reactive organic gases (ROG) and nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), and particulate matter (PM). Section 5.4, Climate Change, evaluates potential changes in global climate associated with greenhouse gas emissions generated by the proposed project.

The Master EIR that was certified in connection with adoption of the 2030 General Plan in March 2009 included an extensive analysis of air quality. The Master EIR evaluated the effects of development that could occur under the new general plan, and identified and evaluated the effects of the project and future development, including analysis of growth-inducing effects and irreversible environmental effects. The discussion of air quality in the Master EIR (see Chapter 6.1) is incorporated here by reference pursuant to CEQA Guidelines section 15050. The Master EIR may be reviewed at [www.sacgp.org](http://www.sacgp.org).

The Sacramento Metropolitan Air Quality Management District (SMAQMD) submitted a comment letter pertaining to air quality during the NOP comment period (see Appendix A). SMAQMD recommended that, due to the location of sensitive receptors within 500 feet of a major roadway, the DEIR should perform an analysis consistent with the agency's *Recommended Protocol for Evaluating the Location of Sensitive Land Uses Adjacent to Major Roadways*, including, if appropriate, preparation of a health risk assessment. SMAQMD provided sources for mitigation options in the event that construction and/or operational emissions from the project would be above significance thresholds. These issues are addressed in the section. No other comments pertaining to air quality were received during the public review period for the NOP.

The analysis included in this section was developed based on project-specific construction and operational features, and data provided in the City of Sacramento 2030 General Plan, City of Sacramento 2030 General Plan Master Environmental Impact Report, traffic information provided by the traffic consultant, the project specific health risk assessment, SMAQMD, and the California Air Resources Board (CARB).

### ENVIRONMENTAL SETTING

There are no unique issues present in the Land Park Community Plan Area or specifically within the Northwest Land Park Project area associated with criteria air pollutants. Portions of the proposed

project uses would be sited within 500 feet of a major roadway, Interstate 5 (I-5), which requires a discussion of exposure of future residents to toxic air contaminants (TACs). The discussion of existing air quality included below is presented on a local and region-wide basis.

### **Regional and Local Climate**

The project area is located within the Sacramento Valley Air Basin (SVAB). Local air quality is mainly influenced by regional climate, topography, and pollutant sources. The physical characteristics of the Sacramento Valley and the surrounding region have the potential for high concentrations of pollutant, which are emitted locally and from areas outside the SVAB. The geographic features giving shape to the SVAB are the Coast Range to the west, the Sierra Nevada to the east, and the Cascade Range to the north. These ranges channel winds through the Sacramento Valley, but also inhibit dispersion of pollutant emissions.

Under particular meteorological conditions, the barrier to air flow created by the mountain ranges surrounding the valley can trap air pollutants. Autumn and early winter experience the highest frequency of air stagnation when large high-pressure cells remain over the valley. During this time, pollutants become concentrated in the area due to the lack of surface wind and reduced vertical flow caused by relatively low surface heating, which reduces the influx of outside air. Concentrations are highest when these conditions are combined with temperature inversions that trap cool air, fog, and pollutants near the ground.

### **Stationary and Mobile Sources of Air Pollutants**

Air pollutant emissions are generated by stationary and mobile sources. Within the Basin stationary sources can be divided into two major subcategories: point and area sources. Point sources are usually subject to a permit to operate from the local air district, occur at specific identified locations, and are usually associated with manufacturing and industry. Examples of point sources include refineries, concrete batch plants, and can coating operations.

Area sources are widely distributed, produce many small emissions and do not require permits to operate from any air agency. Examples of area sources include residential and commercial water heaters, portable generators, lawn mowers, and consumer products such as barbeque lighter fluid and hairspray. The wide-spread use of these items and operations contributes to local and regional air pollution.

Mobile sources account for the majority of the air pollution in the Basin and include emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road. On-road sources are those vehicles that legally operate on roadways and highways. Off-road sources include construction vehicles, aircraft, ships, trains, and racecars.

### **Criteria Air Pollutants**

Federal and state laws regulate the air pollutants emitted into the ambient air by stationary and mobile sources. These regulated air pollutants are known as "criteria air pollutants" and are

categorized as primary and secondary pollutants. Primary air pollutants are those that are emitted directly from sources. Carbon monoxide, ROGs, NO<sub>x</sub>, sulfur dioxide (SO<sub>2</sub>), and most fine particulate matter including lead (Pb) and fugitive dust (PM<sub>10</sub> and PM<sub>2.5</sub>) are primary air pollutants. Of these CO, SO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> are criteria pollutants. ROGs and NO<sub>x</sub> are criteria pollutant precursors that, through chemical and photochemical reaction in the atmosphere, form secondary criteria pollutants.

Ozone and nitrogen dioxide (NO<sub>2</sub>) are the principal secondary pollutants. Diesel Particulate Matter (DPM) is a mixture of particles that is a component of diesel exhaust. The U.S. Environmental Protection Agency (EPA) lists DPM as a mobile source air toxic due to the cancer and non-cancer health effects associated with exposure to diesel exhaust. Presented below is a description of each of these primary and secondary criteria air pollutants and their known health effects.

**Carbon Monoxide** is an odorless, colorless, and toxic gas. Because it is impossible to see, taste, or smell the toxic fumes, CO can kill people before they are aware that it is in their homes. At lower levels of exposure, CO causes mild effects that are often mistaken for the flu. These symptoms include headaches, dizziness, disorientation, nausea, and fatigue. The effects of CO exposure can vary greatly from person to person depending on age, overall health, and the concentration and length of exposure. The major sources of CO in the Basin are on-road vehicles, aircraft, and off-road vehicles and equipment.

**Reactive Organic Gases** are defined as any compound of carbon that participates in atmospheric photochemical reactions, excluding CO, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. It should be noted that there are no state or national ambient air quality standards (AAQS) for ROGs because they are not classified as criteria pollutants. They are regulated, however, because a reduction in ROG emissions reduces certain chemical reactions that contribute to the formulation of O<sub>3</sub>. ROGs are also transformed into organic aerosols in the atmosphere, which contribute to higher PM<sub>10</sub> levels and lower visibility. Although health-based standards have not been established for ROGs, health effects can occur from exposures to high concentrations because of interference with oxygen uptake. In general, higher concentrations of ROGs are suspected to cause eye, nose, and throat irritation; headaches; loss of coordination; nausea; and damage to the liver, kidneys, and central nervous system. The major sources of ROGs in the Basin are on-road motor vehicles and solvent evaporation.

**Nitrogen Oxides** serve as integral participants in the process of photochemical smog production. The two major forms of NO<sub>x</sub> are nitric oxide (NO) and NO<sub>2</sub>. NO<sub>2</sub> is a byproduct of fuel combustion. The principal form of NO<sub>2</sub> produced by combustion is NO. Nitrogen oxide reacts with oxygen in the air to form NO<sub>2</sub> creating the mixture of NO and NO<sub>2</sub> commonly called NO<sub>x</sub>. Other oxides of nitrogen including nitrous acid and nitric acid are part of the nitrogen family. While the EPA's National Ambient Air Quality Standards (NAAQS) covers this entire family, NO<sub>2</sub> is the component of greatest interest and the indicator for the larger group of nitrogen oxides.

NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO<sub>2</sub> is a reddish-brown, irritating gas

formed by the combination of NO and oxygen. NO<sub>x</sub> acts as an acute respiratory irritant and increases susceptibility to respiratory pathogens. NO<sub>x</sub> is also an ozone precursor. When NO<sub>x</sub> and ROG<sub>s</sub> are released in the atmosphere, they can chemically react with one another in the presence of sunlight to form ozone.

**Ozone** is one of a number of substances called photochemical oxidants that are formed when reactive organic compounds and NO<sub>x</sub> (both byproducts of the internal combustion engine) react with sunlight. Ozone is present in relatively high concentrations in the Basin, and the damaging effects of photochemical smog are generally related to O<sub>3</sub> concentrations. Ozone may pose a health threat to those who already suffer from respiratory diseases as well as healthy people. Additionally, O<sub>3</sub> has been tied to crop damage, typically in the form of stunted growth and pre-mature death. Ozone can also act as a corrosive, resulting in property damage such as the embitterment of rubber products.

**Sulfur Dioxide** is a colorless, pungent gas. At levels greater than 0.5 parts per million (ppm), the gas has a strong odor, similar to rotten eggs. Sulfuric acid is formed from SO<sub>2</sub> and is an aerosol particle component that may lead to acid deposition. Acid deposition into water, vegetation, soil, or other materials can harm natural resources. Sulfur oxides (SO<sub>x</sub>) include SO<sub>2</sub> and sulfur trioxide (SO<sub>3</sub>). Although SO<sub>2</sub> concentrations have been reduced to levels well below state and national standards, further reductions are desirable because SO<sub>2</sub> is a precursor to sulfates. Sulfates are a particulate formed through the photochemical oxidation of SO<sub>2</sub>. Long-term exposure to high levels of SO<sub>2</sub> can cause irritation of existing cardiovascular disease, respiratory illness, and changes in the defenses in the lungs. When people with asthma are exposed to high levels of SO<sub>2</sub> for short periods of time during moderate activity, effects may include wheezing, chest tightness, or shortness of breath.

**Particulate Matter** consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulate are now recognized. Course particles, or PM<sub>10</sub>, include that portion of the PM with an aerodynamic diameter of 10 microns (i.e., ten one-millionths of a meter or 0.0004 inch) or less. Fine particles, or PM<sub>2.5</sub>, have an aerodynamic diameter of 2.5 microns, that is 2.5 one-millionths of a meter or 0.0001 inch or less. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities; however, wind action on the arid landscape also serves to increase the level of particulates. Both PM<sub>10</sub> and PM<sub>2.5</sub> may adversely affect the human respiratory system, especially in those people who are naturally sensitive or susceptible to breathing problems.

Fugitive dust poses primarily two public health and safety concerns. The first concern is that of respiratory problems attributable to the suspended particulates in the air. The second concern is that of motor vehicle accidents caused by reduced visibility during severe wind conditions. Fugitive dust may also cause significant property damage during strong windstorms by acting as an abrasive material agent (similar to sandblasting activities). Finally, fugitive dust can result in a nuisance factor due to the soiling of proximate structures and vehicles.

**Diesel Particulate Matter** is a mixture of many exhaust particles and gases that are produced when an engine burns diesel fuel. Many compounds found in diesel exhaust are carcinogenic, including

16 that are classified as possibly carcinogenic by the International Agency for Research on Cancer. Diesel Particulate Matter (DPM) includes the particle-phase constituents in diesel exhaust. Some short-term (acute) effects of diesel exhaust include eye, nose, throat, and lung irritation and exposure can cause coughs, headaches, light-headedness, and nausea. Diesel exhaust is a major source of ambient PM pollution as well, and numerous studies have linked elevated PM levels in the air to increased hospital admission, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems. DPM in the Basin poses the greatest cancer risk of all the toxic air pollutants.

### **Regional and Local Air Quality**

Sacramento County is designated as “serious” nonattainment for federal eight-hour and state one-hour ozone standards. Although Sacramento County does meet the Federal standards for PM<sub>10</sub>, it has yet to be reclassified as a maintenance area. However, the County remains in nonattainment for the state PM<sub>10</sub> standard. Sacramento County is designated as nonattainment for both the state and federal PM<sub>2.5</sub> standard.

The California Air Resources Board (CARB) collects ambient air quality data through a network of air monitoring stations throughout the state and summarizes it annually in the CARB’s California Air Quality Data Summaries. There are seven monitoring stations in Sacramento County, with the monitoring station located at 1309 T Street being the closest to the proposed project site. Air quality data for O<sub>3</sub>, NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> was available from the T Street station. CO monitoring data was obtained from the station at 3535 El Camino Boulevard as the T Street station does not monitor CO. Table 5.1-1 identifies the national and state [California Ambient Air Quality Standards (CAAQS)] for air pollutants of concern and lists the ambient pollutant concentrations that have been measured at those stations between 2007 and 2009. The Sacramento area has a recent history of federal and state exceedances for the O<sub>3</sub> and PM standards, although the standards for CO and NO<sub>2</sub> have not been exceeded during this time.

### **Toxic Air Contaminants**

Toxic air contaminants (TACs) are airborne substances that are capable of causing chronic and acute adverse effects on human health. They may be emitted from a variety of common sources such as motor vehicles and gasoline stations and they include both organic and inorganic chemical substances. TACs are different than the “criteria” pollutants previously discussed in that AAQS have not been established for them, largely because there are hundreds of air toxics and their effect on health tend to be local rather than regional. DPM has been classified by CARB as a toxic air contaminant of particular concern.

TABLE 5.1-1				
SUMMARY OF AMBIENT AIR QUALITY MONITORING DATA IN THE PROJECT AREA				
Pollutant	Air Quality Standards	Year		
		2007	2008	2009
<b>Ozone</b>				
Maximum 1-hour concentration		0.109	0.107	0.102
# of days exceeding State 1-hour standard.	>0.09 ppm	2	7	3
Maximum national 8-hour concentration.		0.089	0.092	0.088
# of days exceeding national 8-hour standard.	>0.075 ppm	2	9	4
Maximum state 8-hour concentration.		0.90	0.92	0.89
# of days exceeding state 8-hour standard.	>0.070 ppm	7	18	13
<b>Carbon Monoxide (CO)</b>				
Maximum 8-hour concentration		3.20	2.84	2.84
# of days exceeding national 8-hour standard	>9.0 ppm	0	0	0
# of days exceeding State 8-hour standard	>9.0 ppm	0	0	0
<b>Nitrogen Dioxide (NO<sub>2</sub>)</b>				
Maximum 1-hr concentration		0.064	0.065	0.068
# days exceeding State 1-hr Standard	>0.18 ppm	0	0	0
<b>Respirable Particulate Matter (PM<sub>10</sub>)</b>				
Maximum National 24-hour concentration		53.4	73.7	47.8
# of days exceeding national standard	>150 µg/m <sup>3</sup>	0	0	0
Maximum State 24-hr concentration		57.4	70.9	50.7
# of days exceeding State standard	>50 µg/m <sup>3</sup>	5	3	1
<b>Fine Particulate Matter (PM<sub>2.5</sub>)</b>				
Maximum national 24-hour concentration		58.0	66.1	37.7
# of days exceeding national standard	>35 µg/m <sup>3</sup>	27.6	15.4	3
Maximum state 24-hour concentration		58.0	78.9	50.1
# of days exceeding state standard	-	-	-	-
Notes: µg/m <sup>3</sup> = micrograms per cubic meter of air. ppm = parts by volume per million of air. Source: California Air Resources Board, <www.arb.ca.gov/adam>, 2010.				

The increased chance of contracting cancer over a 70-year period as a result of exposure to a toxic substance or substances constitutes a lifetime cancer risk. The largest contributor to inhalation cancer risk is particulate matter emitted by diesel engines. Cancer risk specific to DPM is estimated to be 360 per million in Sacramento County.<sup>1</sup>

## Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardio-respiratory diseases. Residential areas are considered to be sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Schools are also considered sensitive as children are present for extended durations and engage in regular outdoor activities. Recreational land uses are considered moderately sensitive to air pollution because exercise places a high demand on respiratory functions, which can be impaired

<sup>1</sup> Sacramento Metropolitan Air Quality Management District, *Recommended Protocol for Evaluating the Location of Sensitive Land Use Receptors Adjacent to Major Roadways*. January 2010.

by air pollution. Because the proposed project includes the development of residential as well as recreational land uses, the proposed project will be considered a sensitive receptor location.

## **REGULATORY SETTING**

Air quality within the Basin is addressed through the efforts of various federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies and regulations responsible for improving the air quality within the Basin are discussed below.

### **Federal**

#### **Clean Air Act**

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required the EPA to establish NAAQS with states retaining the option to adopt more stringent standards or to include other specific pollutants. These standards are the levels of air quality considered, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those “sensitive receptors” most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

Current NAAQS and area attainment status is discussed under Regional and Local Air Quality above. The CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The SIP is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The EPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA.

### **State**

CARB, a part of the California EPA (CalEPA), is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, the CARB conducts research, sets CAAQS, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. The CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. The CARB has primary responsibility for the development of California’s SIP, for which it works closely with the federal government and the local air districts.

In addition to standards set for the six criteria pollutants, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. Further, the state has established a set of episode criteria for O<sub>3</sub>, CO, NO<sub>2</sub>, SO<sub>2</sub>, and particulate matter. These criteria refer to episode levels representing periods of short-term exposure to air pollutants that actually threaten public health. The attainment status of the CAAQS for the proposed project area is discussed under Regional and Local Air Quality above.

## **Regional**

### **Sacramento Metropolitan Air Quality Management District**

The SMAQMD was created by state law to enforce local, state, and federal air pollution regulations within the Sacramento Valley Air Basin. The SMAQMD's overall mission is to achieve clean air goals by leading the Sacramento region in protecting public health and the environment through effective programs, community involvement, and public education. The SMAQMD interacts with local, state, and federal government agencies, the business community, environmental groups, and private citizens to achieve these goals. The SMAQMD regulates air pollutant emissions from stationary sources through permit limitations and inspection programs and oversees compliance with state and federal mandates by adopting rules and regulations as necessary.

Because the Sacramento Valley Air Basin is in nonattainment for ozone, PM<sub>10</sub> and PM<sub>2.5</sub>, the SMAQMD requires the implementation of the following Basic Construction Emission Control Practices (BCECPs) regardless of the project's significance determination.

- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads;
- Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered;
- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited;
- Limit vehicle speeds on unpaved roads to 15 miles per hour (mph);
- All roadways, driveways, sidewalks, and parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used;
- Minimize idling time by either shutting equipment off when not in use or reducing time of idling to 5 minutes. Provide clear signage that posts this requirement for workers at the entrances to the site; and
- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated.

The SMAQMD issued its *2009 Triennial Report* in December of 2009, which identifies “all feasible measures” the SMAQMD would study or adopt over the ensuing three years to make progress toward attainment of state ozone standards. The measures include additional control programs for mobile and stationary sources, land use and transportation programs, community education programs, and ozone transport mitigation in order to reduce NO<sub>x</sub> and ROG emissions in order to achieve the state ozone standard. The SMAQMD anticipates an additional reduction in NO<sub>x</sub> and ROG emissions of 1.68 tons per day and 1.32 tons per day, respectively, with the implementation of the *2009 Triennial Report and Plan Revision*. In addition to the Triennial Report, CARB requires the SMAQMD to prepare an annual progress report. The *2007 Annual Progress Report*, the most recent, adopted in October 2008, provides updates for all the proposed SMAQMD control programs, the schedule for adopting control measure commitments, and the evaluation of further study measures.

## Sacramento City Code

### 15.40.050 Control of dust and mud.

- Any person who has been issued a permit for any work covered by this code shall take reasonable precautions to prevent and control the movement of dust created by work activities to adjoining public or private property. Such dust shall be immediately settled by wetting the same. Work activities shall be stopped during periods of high winds that may carry dust from the job site before it can be settled by wetting.
- The permittee shall be responsible for maintaining clean public streets, sidewalks and alleys in the immediate vicinity of the job site during and after the period of work activity. The permittee shall remove all mud and dust from any public property which was deposited there by any activity related to the work. In order to prevent mud and other material from entering any public sewer, the permittee shall properly pond any affected gutter to permit such material to settle and shall remove such material from public property. This procedure shall be in accordance with the requirements and policies of the city water and sewer division. The permittee shall obtain any necessary permits for water from the manager of said division. See Section 15.44.170 of this title for additional requirements.

## City of Sacramento 2030 General Plan

The 2030 General Plan is based on the promotion of “Smart Growth Principles” for future development and favors a more compact growth pattern for the city, emphasizing infill development and reuse of underutilized properties over expanding outward into undeveloped areas known as “greenfields.” It focuses on intensifying development near transit and mixed-use activity centers and co-locating residential and employment uses to reduce private automobile use and encourage the use of mass transit, walking, bicycling, and alternative transportation modes. This would reduce fuel consumption and thereby air pollutant emissions. The following goals and policies from the proposed 2030 General Plan are relevant to Air Quality within the entire Policy Area:<sup>2</sup>

---

2 City of Sacramento, *City of Sacramento General Plan*, 1988, pp. 8-51 – 8-52.

**Goal ER 6.1 Improved Air Quality. Improve the health and sustainability of the community through improved regional air quality and reduced greenhouse gas emissions that affect climate change.**

Policies

- ER 6.1.1 **Maintain Ambient Air Quality Standards.** The City shall work with the California Air Resources Board and the Sacramento Metropolitan Air Quality Management District (SMAQMD) to meet State and Federal ambient air quality standards.
- ER 6.1.2 **New Development.** The City shall review proposed development projects to ensure projects incorporate feasible measures that reduce construction and operational emissions for reactive organic gases, nitrogen oxides and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) through project design.
- ER 6.1.3 **Emissions Reduction.** The City shall require development projects that exceed SMAQMD ROG and NO<sub>x</sub> operational thresholds to incorporate design or operational features that reduce emissions equal to 15 percent from the level that would be produced by an unmitigated project.
- ER 6.1.5 **Development near TAC Sources.** The City shall ensure that new development with sensitive uses located adjacent to toxic air contaminant sources, as identified by the California Air Resources Board (CARB), minimizes potential health risks. In its review of these new development projects, the City shall consider current guidance provided by and consult with CARB and SMAQMD.
- ER 6.1.6 **Sensitive Uses.** The City shall require new development with sensitive uses located adjacent to mobile and stationary toxic air contaminants (TAC) be designed with consideration of site and building orientation, location of trees, and incorporation of appropriate technology for improved air quality (i.e., ventilation and filtration) to lessen any potential health risks. In addition, the City shall require preparation of a health risk assessment, if recommended by Sacramento Metropolitan Air Quality Management District, to identify health issues, reduce exposure to sensitive receptors, and/or to implement alternative approached to development that reduces exposure to TAC sources.
- ER 6.1.11 **Coordination with SMAQMD.** The City shall coordinate with SMAQMD to ensure projects incorporate feasible mitigation measures if not already provided for through project design.
- ER 6.1.14 **Zero-Emission and Low-Emission Vehicle Use.** The City shall encourage the use of zero-emission vehicles, low-emission vehicles, bicycles and other non-motorized vehicles, and car-sharing programs by requiring sufficient and convenient infrastructure and parking facilities in residential developments and employment centers to accommodate these vehicles.

## **Applicable Mitigation Measures from the City of Sacramento 2030 General Plan**

No applicable mitigation measures were required or available with respect to Air Quality as evaluated in the 2030 General Plan Master EIR.

---

## IMPACTS AND MITIGATION MEASURES

### Methods of Analysis

The analysis in this section focuses on the nature and magnitude of the change in the air quality environment due to implementation of the proposed project. The proposed project would allow for development of 968 residential units, 15,000 square feet (sf) of commercial-retail development, a 17,000 sf of a neighborhood center, as well as 4.5 acres of open space to be used as public and private parks. Air quality impacts are estimated with respect to regional air quality standards and localized sensitive receptors such as school and residential land uses. The health of people using these properties (including residents of the proposed project) may be adversely impacted if air emissions exceed a level deemed significant by federal or state agencies. The net increase in site emissions generated by the proposed project has been qualitatively and quantitatively evaluated and is compared to thresholds of significance recommended by the SMAQMD.

### **Construction Impact Methodology**

#### Determination of Construction NO<sub>x</sub> impacts

Emissions of NO<sub>x</sub> from construction activities are generated from the operation of the heavy equipment. Proposed project-generated construction emissions of NO<sub>x</sub> from were calculated through URBEMIS2007, using the construction phasing and equipment schedule provided by the project applicant and following the methodologies included in the SMAQMD's *Guide to Air Quality Assessment in Sacramento County*. For projects that exceed NO<sub>x</sub> thresholds with the inclusion of the BCECP, SMAQMD recommends the implementation of the Enhanced Exhaust Control Practices (EECPs) summarized below (a full account of these measures is included in Appendix C):

- The project shall ensure that all heavy-duty (50 hp or more) off-road vehicles to be used in the construction project will achieve a project wide fleet-average 20 percent NO<sub>x</sub> reduction and 45 percent particulate reduction compared to the most recent CARB fleet average. Documentation of the fleet-average reductions in NO<sub>x</sub> and particulates will be provided to SMAQMD;
- The project shall ensure that emissions from all off-road diesel powered equipment on the project site do not exceed 40 percent opacity for more than three minutes in any one hour; and
- The project shall comply with all applicable construction emission regulations.

#### Determination of Construction PM<sub>10</sub> and PM<sub>2.5</sub> impacts

The SMAQMD recommends that construction emissions of PM<sub>10</sub> be addressed as a localized pollutant. Further, because PM<sub>2.5</sub> is a subset of PM<sub>10</sub>, the District assumes that construction projects not exceeding thresholds for PM<sub>10</sub> would also not exceed thresholds for PM<sub>2.5</sub>.

The SMAQMD recommends that lead agencies use a dispersion model to determine the PM<sub>10</sub> emissions for construction activities of projects that do not meet the following conditions screening criteria:

- The project would implement all Basic Construction Emission Control Practices (BCECP), and
- The maximum daily disturbed area would not exceed 15 acres.

The proposed project was evaluated using the above screening criteria and the project specific construction information provided by the project applicant.

## Operational Impact Methodology

### Determination of Operational NO<sub>x</sub> and ROG Emissions

Most of the ozone precursor emissions from the proposed project result from mobile and area sources. Mobile sources include motor vehicle traffic, while area sources include pollutants generated from furnaces, water heaters/boilers, facility maintenance equipment, and consumer products. Proposed project generated NO<sub>x</sub> and ROG emissions were calculated through URBEMIS 2007, with the model estimates adjusted to reflect the trip rates defined by the project specific traffic and circulation study.<sup>3</sup> Emissions reductions were accomplished through the production of an Air Quality Mitigation Plan (AQMP)<sup>4</sup> under the direction of the SMAQMD. The AQMP is included as Appendix D.

### Determination of Operational CO Emissions

Emissions and ambient concentrations of CO have decreased dramatically with the increase in vehicle efficiencies and emission control feature effectiveness. Although the Basin is designated as an attainment area by both CARB and the EPA, elevated localized concentrations of CO still warrant consideration with respect to environmental analysis. Occurrences of localized “hot spots” are typically associated with heavy traffic congestion occurring at signalized intersections of high volume roadways. The SMAQMD recommends two methods for analyzing CO concentrations, a screening level analysis and dispersion modeling. The proposed project was evaluated using the above screening criteria and the traffic and Level of Service (LOS) information used in this evaluation was obtained from the City of Sacramento.<sup>5</sup>

---

3 City of Sacramento, *Transportation and Circulation study for the Northwest Land Park Draft Environmental Impact Report*. Prepared for the City of Sacramento Department of Transportation by Fehr & Peers, Roseville, California. 2010.

4 Cardno WRG, *Air Quality Mitigation Plan for the Northwest Land Park Project*. Prepared for Northwest Land Park, LLC. 2010.

5 City of Sacramento, *Transportation and Circulation study for the Northwest Land Park Draft Environmental Impact Report*. Prepared for the City of Sacramento Department of Transportation by Fehr & Peers, Roseville, California. 2010.

### *Screening Criteria for Carbon Monoxide Hotspots*

The SMAQMD screening criteria is divided into two tiers and have been developed to help lead agencies analyze potential CO impacts when site-specific CO dispersion modeling may not be warranted. This two-tiered approach provides a conservative indication of the potential for project-generated vehicle trips to result in the exceedance of significance thresholds. According to the First Tier of the SMAQMD Screening Criteria, a project would be less than significant for local CO emissions if:

- Traffic generated by the proposed project would not result in deterioration of intersection LOS to LOS E or F; or
- The project would not contribute additional traffic to an intersection that already operates at LOS E or F.

If the first screening level tier is not met, the proposed project would be considered less than significant if it meets all of the following:

- The project would not result in an affected intersection experience more than 31,600 vehicles per hour;
- The project would not contribute traffic to a tunnel, parking garage, bridge underpass, urban street canyon, or below-grade roadway, or other locations where horizontal or vertical mixing of air would be substantially limited; and
- The mix of vehicle types at the intersection is not anticipated to be substantially different from the County average.

### **Toxic Air Contaminants**

Cancer and non-cancer risks for diesel particulate matter (DPM) were determined using the SMAQMD's *Recommended Protocol for Evaluating the Location of Sensitive Land Uses Adjacent to Major Roadways*' guidance and guidance from the *Air Toxics Hot Spots Program Risk Assessment Guidelines* published by the California Office of Environmental Health Hazard Assessment (OEHHA). Concentrations of DPM were calculated using the EPA CAL3QHCR Line Source Dispersion Model. See Appendix E, Health Risk Assessment.

The primary focus of discussions regarding exposure of people to mobile sources of toxic air contaminants has been on residential development within 500 feet of a freeway or major roadway. Phases 1 and 2 of the proposed project would construct residences more than 500 feet from the freeway. Since the exact location of the future residential units within Phases 3 and 4 of the proposed project site is not known at this time, the HRA focuses on a conservative analysis that assumes residential units may be placed adjacent to the site boundary adjacent to I-5. Three receptor groups were modeled with receptors in each group analyzed at varying intervals between the site border and 500 feet from the edge of the freeway. The analysis takes into account the impacts from traffic on both the I-5 freeway directly west of the proposed project, and the SR-50/I-80 Business Route located approximately a block north of the project site.

## Greenhouse Gas

A discussion of greenhouse gases related impacts is discussed in Section 5.4, Global Climate Change.

### Standards of Significance

The City's standards of significance for air quality are based on SMAQMD's *Guide to Air Quality Assessment in Sacramento County*, as the regulatory agency with jurisdiction over the proposed project area. For the purposes of this DEIR, impacts on air quality are considered significant if the proposed project would:

- Conflict with or obstruct implementation of an applicable air quality plan.

According to the SMAQMD, development projects that exceed the following standards for ozone precursor emissions (NO<sub>x</sub> and ROG) would obstruct the success of the regional ozone attainment plans and therefore would be considered significant.

- Short-term (construction) emissions of NO<sub>x</sub> above 85 pounds per day;
- Long-term (operational) emissions of NO<sub>x</sub> or ROG above 65 pounds per day; or
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

The Sacramento area is currently in violation of the state PM<sub>10</sub> standards and there is evidence that the federal and state CO standards have the potential to be violated in the Sacramento area. Therefore, the SMAQMD considers that development projects that exceed the following concentrations of PM<sub>10</sub> and CO would represent a significant violation of these AAQS:

- PM<sub>10</sub> concentrations equal to or greater than five percent of the state ambient air quality standard (i.e., 50 micrograms/cubic meter (µg/m<sup>3</sup>) for 24 hours). The SMAQMD holds that if project emissions of NO<sub>x</sub> and ROG are below the emission thresholds given above, then the project would not threaten violations of the PM<sub>10</sub> AAQS;
- CO concentrations that exceed the 1-hour state ambient air quality standard (i.e., 20.0 ppm) or the 8-hour state ambient standard (i.e., 9.0 ppm); or
- Expose sensitive receptors to substantial pollutant concentrations.

AAQS have not been established for TACs. TAC exposure is deemed to be significant ~~by the SMAQMD~~ if:

- TAC exposures create a risk of 10 in 1 million for stationary sources (as indicated by the SMAQMD); or
- The project sSubstantially increases the risk of exposure to TACs for from mobile sources.

## **Project-Specific Impacts and Mitigation Measures**

### **5.1-1 Implementation of the proposed project could conflict with or obstruct implementation of the Sacramento area air quality plans.**

Regional air quality plans in effect for the City of Sacramento are the SMAQMD's *State of Progress Plan*, and *2011 Reasonable Further Progress Plan*, both of which address attainment of the federal 8-hour ozone standard. The *2008 Triennial Report* and the *2007 Annual Progress Report* address the attainment of the state ozone standard.

All of the City of Sacramento 2030 General Plan policies included under Goal ER 6.1 (Improved Air Quality) directly promote improvements in regional air quality. This goal and accompanying policies are detailed in the Regulatory Environment section above. Because the 2030 General Plan promotes the goals of the regional air quality plans, the Master EIR concluded that the impact to be less than significant.

The proposed project would develop a residential/mixed-use community on approximately 31.7 acres within the Land Park Community Plan Area of the City of Sacramento, and a portion of the site is adjacent to the Central City Community Plan area. These community plan areas are within the boundaries of the SMAQMD and therefore would be required to comply with the regulatory plans of the district with respect to air quality. Because the Land Park Community Plan Area and Central City Community Plan areas were included under the conditions of the City of Sacramento 2030 General Plan, any projects, including the proposed project, which would be developed within these areas would be required to comply with the 2030 General Plan goals and policies. As discussed in Chapter 2, Project Description, the land uses proposed for the project are consistent with the land uses assumed for the project site in the 2030 General Plan. The 2030 General Plan Policies were written to ensure City compliance with the regulatory requirements of the SMAQMD, and the proposed project would be required to comply with these policies and would not conflict with the Sacramento area air quality plans. Project compliance with the 2030 General Plan and SMAQMD regulatory requirements are demonstrated in the evaluation of Impacts 5.1-2 through 5.1-6 below. Therefore, the proposed project would not conflict with any existing air quality plans, and the project would not have any additional significant effect not addressed as a significant effect in the Master EIR.

### **Mitigation Measure**

*None required.*

### **5.1-2 Implementation of the proposed project could result in construction activities that would increase NO<sub>x</sub> levels above 85 pounds per day.**

Construction activities require the use of various combinations and types of construction equipment. Much of this equipment is likely to be diesel-fueled and would emit NO<sub>x</sub> as part of the fuel combustion process. The City of Sacramento 2030 General Plan Master EIR took into account construction of the entire Policy Area when estimating emissions for the purposes of CEQA. The

Master EIR concluded that because of the low regulatory threshold (85 pounds per day within the SMAQMD) total daily emissions of NO<sub>x</sub> from standard development projects could exceed the threshold on most days.

The City of Sacramento 2030 General Plan incorporates several policies for the monitoring and reduction of construction phase NO<sub>x</sub> emissions. These policies are detailed in the Regulatory Environment section above, and include: Policy E.R. 6.1.1 (Maintain Ambient Air Quality Standards); Policy E.R. 6.1.2 (New Development); Policy E.R. 6.1.11 (Coordinate with the SMAQMD); and E.R. 6.1.15 (Preference for Reduced Emission Equipment). Even with adherence to these policies, which require implementation of SMAQMD's standard measures, the construction of a large project or the concurrent construction of smaller projects could exceed the NO<sub>x</sub> standard. The only mitigation identified in the General Plan for air quality is compliance with SMAQMD regulations and the general plan policies. There are no additional feasible mitigation measures beyond what is required by the SMAQMD and the proposed policies that can ensure NO<sub>x</sub> emissions from construction would not exceed the regulatory threshold. Therefore, impacts with respect to NO<sub>x</sub> emissions associated with construction under the 2030 General Plan Master EIR were considered to be significant and unavoidable. However, the Master EIR evaluated buildout of the 2030 General Plan as a whole, and, while construction and operation of all development within the planning area may as a whole result in significant and unavoidable impacts, each project taken individually may be able to reduce NO<sub>x</sub> emission impacts to a less-than-significant level. The following discussion evaluates the proposed project's impacts from NO<sub>x</sub> emissions.

During construction of the proposed project, emissions of NO<sub>x</sub> would occur from the operation of equipment necessary to complete the development. These emissions were estimated through the URBEMIS2007 model using the project-specific construction phasing and equipment information. Without any reduction features, NO<sub>x</sub> emissions would exceed the 85 pounds per day regulatory threshold. Table 5.1-2 summarizes the maximum daily emissions during each of the development years for the unmitigated scenario, including BCECP and EECP. Construction specifications and URBEMIS output are included as Appendix C.

Year	Unreduced	BCECP/EECP <sup>2</sup>
2011	96.76	84.30
2012	25.32	23.18
2013	92.69	76.46
2014	84.52	69.65
2015	76.19	62.76
2016	68.36	56.30
2017	61.24	52.95
2018	54.90	45.22
2019	16.41	14.29

Source: PBS&J 2010.

The General Plan policies listed above (see pages 5.1-9 to 5.1-10) include compliance with all of SMAQMD's latest standard construction mitigation measures. The incorporation of the SMAQMD's BCECP would not successfully reduce all construction activity phases to below the 85 pounds per day threshold; therefore, the proposed project would be required to implement the SMAQMD's EECF measures. With the inclusion of the BCECP and EECF measures, identified on page 5.1-8 and in Appendix C, the proposed project would be below the 85 pounds per day threshold for all phases. Reductions afforded to the construction scenario for the implementation of the control features followed the guidelines provided by the SMAQMD.<sup>6</sup>

With the incorporation of the 2030 General Plan policies, and implementation of SMAQMD's BCECP and EECF measures, construction of the proposed project would result in less than significant NO<sub>x</sub> emissions for each individual phase of construction. However, if construction phases overlap (i.e. Phase 1 is still ongoing when Phase 2 begins), or where two or more projects within the project area are concurrently undergoing construction activities where the sum construction emissions exceed the daily emission threshold, there is the potential for emissions to exceed the 85 pounds per day regulatory threshold, which would result in a *potentially significant impact*.

### Mitigation Measure

With the incorporation of Mitigation Measures 5.1-2(a & b) that requires phases to be constructed independent of each other, unless payment of the off-site construction mitigation fee be applied, the proposed project would remain under the 85 pounds per day threshold and the impact would be considered ***less than significant*** with respect to construction emissions of NO<sub>x</sub>.

5.1-2 a) *In order to ensure that emissions of NO<sub>x</sub> do not exceed the regulatory threshold of 85 pounds per day, construction of project phases shall not be conducted concurrently nor shall any portion of construction from one phase overlap that of another phase unless the applicant demonstrates to the satisfaction of the City and SMAQMD that the threshold of 85 pounds per day will not be exceeded. Written confirmation to the file from the City's Community Development Department that confirms satisfaction with this mitigation measure and confirms SMAQMD agreement is sufficient.*

b) *The following shall be incorporated into all construction plans for projects that estimated construction related NO<sub>x</sub> emissions could exceed 85 lbs/day:*

*If projected construction related emissions for a project are not reduced below the 85 lbs/day by application of MM 5.1-2(a), then an off-site construction mitigation fee shall be applied. The construction mitigation fee shall be calculated based upon the SMAQMD's current construction mitigation fee at the time of project specific evaluation. Verification of payment of the mitigation fee shall be provided to the City prior to the issuance of any grading permit.*

---

6 Sacramento Metropolitan Air Quality Management District, *Guide to Air Quality Assessment in Sacramento County*, December 2009.

### 5.1-3 Implementation of the proposed project could result in operational emissions that would increase ozone precursors (NO<sub>x</sub> or ROG) to above 65 pounds per day.

Sacramento County is currently in nonattainment of the federal and state ozone standards. During the City of Sacramento 2030 General Plan timeline, operational emissions of NO<sub>x</sub> and ROG will be emitted from new development as well as existing land uses. Most of these precursor emissions would come from area wide or mobile source emissions. Net emissions of NO<sub>x</sub> and ROG from growth within the General Plan Policy Area are estimated at approximately 240 and 500 pounds per day, respectively, well over the 65 pounds per day threshold.

The City of Sacramento 2030 General Plan contains several policies that would reduce emissions from new development under the Plan. These policies are detailed in the Regulatory Environment section above and include: Policy ER 6.1.2 (New Development), Policy ER 6.1.3 (Emissions Reductions); and Policy ER 6.1.11 (Coordination with the SMAQMD). Even with the implementation of these policies, the precursor emissions from the development included in the 2030 General Plan would exceed the 65 pounds per day threshold. The only mitigation implemented for air quality is compliance with the general plan policies as there is no further mitigation that would reduce NO<sub>x</sub> and ROG emissions to below regulatory thresholds. Therefore, the 2030 General Plan Master EIR considered impacts with respect to NO<sub>x</sub> and ROG emissions to be significant and unavoidable.

During operation of the proposed project, emissions of NO<sub>x</sub> and ROG would be generated through area as well as mobile sources. Emissions from the proposed project were estimated using the URBEMIS 2007 model for two scenarios. The first does not take into account the emission reductions from the trip reduction features outlined in the traffic modeling completed for the proposed project, while the second shows the reductions by incorporating these features into the project. The project design features that were accounted for in the trip reductions are described in detail in the Transportation and Circulation section of this EIR (Section 5.9) and URBEMIS2007 data is included as Appendix C. Table 5.1-3 summarizes the emissions anticipated from the operation of the proposed project in 2019 after full buildout of the project. As shown, NO<sub>x</sub> emissions fall below the 65 pounds per day threshold; however, even with the incorporation of the project design features to reduce vehicle trips, ROG remains above the regulatory threshold.

<b>PROJECT NO<sub>x</sub> AND ROG OPERATIONAL EMISSIONS AT BUILDOUT (LBS/DAY)</b>			
	<b>Without Project Design Features<sup>1</sup></b>	<b>With Project Design Features<sup>1</sup></b>	<b>With incorporation of the AQMP<sup>2</sup></b>
NO <sub>x</sub>	53.37	46.85	42.70
ROG	75.12	70.96	60.10
Sources:			
1. PBS&J 2010.			
2. Cardno WRG, 2010, Air Quality Mitigation Plan for the Northwest Land Park Project. Prepared for Northwest Land Park, LLC. Included as Appendix D.			

General Plan Policy ER 6.1.3 requires that projects that exceed the SMAQMD ROG threshold incorporate design or operational features that reduce emissions equal to 15 percent as compared to

baseline (or without project design features). The SMAQMD recommends the implementation of an AQMP for all projects that exceed the operational threshold of 65 pounds for ROG or NO<sub>x</sub> to clearly demonstrate that emissions are reduced by a minimum of 15 percent from baseline. In compliance with both the 2030 General Plan policies and the SMAQMD regulations, the proposed project has developed an AQMP to define the processes by which emissions of ROG would be reduced by 15 percent or more. The full text of the AQMP is included as Appendix D and is summarized herein. Through design features detailed in the AQMP, the proposed project would implement the following measures to actively reduce ROG emissions by 19.99 percent:

- AQMP Measure M4 – Proximity of the project to bike path/lane;
- AQMP Measure M5 – Pedestrian network;
- AQMP Measure M6 – Pedestrian barriers minimized;
- AQMP Measure M7 – Bus shelter for existing transit service;
- AQMP Measure M13 – Pedestrian pathway through parking;
- AQMP Measure M14 – Off street parking;
- AQMP Measure M18 – Residential density;
- AQMP Measure M23 – Suburban mixed-use;
- AQMP Measure M25 – No fireplace;
- AQMP Measure M28 – Onsite renewable energy system;
- AQMP Measure M31 – Non-roof surfaces; and
- AQMP Measure M99 – Other – Synthetic turf.

With the incorporation of the design features included in the transportation section as well as those reduction measures outlined in the AQMP, the proposed project would reduce NO<sub>x</sub> and ROG emissions by 19.99 percent. This reduction would reduce ROG levels from the operation of the proposed project to below the 65 pounds per day threshold. The project would not have any additional significant effect related to operational emissions of NO<sub>x</sub> and ROG contaminants not addressed as a significant effect in the Master EIR.

### Mitigation Measure

*None required.*

#### **5.1-4 Implementation of the proposed project could result in PM<sub>10</sub> concentrations associated with construction activities that are at a level equal to or greater than five percent of the state ambient air quality standard (5 µg/m<sup>3</sup> over 24-hrs).**

Most construction sites in the City of Sacramento 2030 General Plan Policy Area will require grading and the use of heavy equipment such as scrapers, bulldozers, and backhoes. Additionally, many of these areas would require demolition of existing structures. Fugitive dust is generated by these

ground disturbing activities, and the larger the area and the time taken to grade it will determine the amount of PM<sub>10</sub> generated. The SMAQMD recommends a PM<sub>10</sub> threshold of significance that is less than or equal to 5 µg/m<sup>3</sup> over a 24-hour averaging time. Typically, if a project area is larger than 15 acres, the recommended mitigation included within the SMAQMD Guide would not be sufficient to reduce the impact to less than significant.

The 2030 General Plan includes numerous policies designed to reduce the impacts of PM<sub>10</sub> from construction activities. These policies are detailed in the Regulatory Environment section above and include: Policy ER 6.1.1 (Maintain Ambient Air Quality Standards); ER 6.1.2 (New Development); and ER 6.1.11 (Coordination with SMAQMD). Even with compliance with these policies, which require implementation of SMAQMD's standard measures, the PM<sub>10</sub> standard could be exceeded either by the construction of a large project or from the concurrent construction of smaller projects. The only mitigation implemented for air quality is compliance with the general plan policies as there are no additional feasible mitigation measures beyond what is required by the SMAQMD. Since the proposed policies cannot ensure PM<sub>10</sub> emissions from construction do not exceed regulatory thresholds, impacts with respect to PM<sub>10</sub> emissions associated with the 2030 General Plan Master EIR are considered to be significant and unavoidable.

The SMAQMD has also developed Enhanced Fugitive PM Dust Control Measures for development projects. These measures would be applied to the proposed project:

### **Soil Disturbance Areas**

- Water exposed soil with adequate frequency for continued moist soil. However, do not overwater to the extent that sediment flows off the site.
- Suspend excavation, grading, and/or demolition activity when wind speeds exceed 20 mph.
- Install wind breaks (e.g., plant trees, solid fencing) on windward side (s) of construction areas.
- Plant vegetative ground cover (fast-germinating native grass seed) in disturbed areas as soon as possible. Water appropriately until vegetation is established.

### **Unpaved Roads (Entrained Road Dust)**

- Install wheel washers for all exiting trucks, or wash off all trucks and equipment leaving the site.
- Treat site accesses to a distance of 100 feet from the paved road with a 6 to 12 inch layer of wood chips, mulch, or gravel to reduce generation of road dust carryout onto public roads.
- Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The phone number of the District shall also be visible to ensure compliance.

The proposed project would require the disturbance of up to approximately 32 acres over a consecutive four phase development schedule, with no single phase exceeding 10 acres.

Implementation of the 2030 General Plan policies (specifically ER 6.1.1 and ER 6.1.2) requires coordination with SMAQMD to ensure that projects incorporate feasible mitigation measures, if not already provided in project design. As discussed in under Construction Impact Methodology above (pages 5.1-11 and 5.11-12), with the implementation of the Basic Construction Emission Control Practices, Enhanced Fugitive PM Dust Control Measure, and maximum disturbance of less than 15 acres per day, construction of the proposed project would not have any additional significant effect with respect to localized PM<sub>10</sub> emissions not addressed as a significant effect in the Master EIR.

### Mitigation Measure

*None required.*

#### **5.1-5 Implementation of the proposed project could result in operational CO concentrations that exceed the 1-hour state ambient air quality standard of 20.0 ppm or the 8-hr state ambient standard of 9 ppm.**

Motor vehicle usage is the primary source of CO, a primary air pollutant that concentrates near congested intersections. Development under the City of Sacramento 2030 General Plan would add traffic and change traffic flows on the City's road network. CO emissions are anticipated to increase with the increased traffic volumes and reduction in LOS at busy intersections. CO emission rates in Sacramento are relatively low (see Table 6.1-1 in the Master EIR) and are anticipated to decrease with the increase in vehicle efficiencies.

There are several policies outlined within the 2030 General Plan Master EIR that would help maintain acceptable air quality levels as well as reduce vehicle trips and roadway congestion, as it pertains to the proposed project. 2030 General Plan Policies that would help to relieve CO emissions include: Policy ER 6.1.1 (Maintain Ambient Air Quality Standards); ER 6.1.14 (Zero-Emission and Low-Emission Vehicle Use). The only mitigation implemented for air quality is compliance with the general plan policies. With the implementation of these 2030 General Plan Policies, CO concentrations would not exceed state or federal standards and, therefore, impacts from the 2030 General Plan Master EIR would be considered less than significant.

The proposed project would result in a net increase in traffic within the City of Sacramento. According to the project specific traffic study,<sup>7</sup> with the incorporation of the appropriate General Plan Policies, at buildout, only one intersection, W Street and 6<sup>th</sup> Street, would result in the LOS being degraded to a level of LOS F. This intersection would result in a PM peak hour traffic volume of 1,604 vehicles. The intersection is not in a location where vertical or horizontal mixing would be limited. Therefore, based on SMAQMD screening methodology as described above, the proposed project the project would not have any additional significant effect with respect to local CO emissions not addressed as a significant effect in the Master EIR. Details of the screening level analysis are included as Appendix C.

---

<sup>7</sup> City of Sacramento. *Transportation and Circulation study for the Northwest Land Park Draft Environmental Impact Report*. Prepared for the City of Sacramento Department of Transportation by Fehr & Peers, Roseville, California. 2010.

---

### Mitigation Measure

*None required.*

#### **5.1-6 Implementation of the proposed project would result in TAC emissions that could adversely affect sensitive receptors or could be located in an area that could expose the proposed project to TAC emissions.**

The California Air Resources Board (CARB) indicates that one of the highest public health priorities is the reduction of DPM generated by vehicles on California's highways, as it is one of the primary TACs. Other potential TAC generators within City of Sacramento 2030 General Plan area are associated with specific types of facilities such as dry cleaners, gas stations, and chrome plating facilities, and are the focus of CARB's control efforts. CARB has made specific recommendations with respect to considering existing sensitive uses when siting new TAC-emitting facilities or with respect to TAC-emitting sources when siting sensitive receptors.

The proposed project would not develop land uses that have the potential to emit TAC such that there would be adverse health impacts to existing sensitive land uses in the area, and the proposed project would not generate TACs that would affect the residential and school uses to the south of the site. Therefore, the site was not evaluated as a TAC source.

CARB has issued a guidance document on air quality and land use entitled *Air Quality and Land Use Handbook: A Community Health Perspective*, which recommends that sensitive land uses not be located within 500 feet of a freeway unless a site-specific health risk assessment (HRA) is performed as a way to more accurately evaluate potential risk. In response to this document, SMAQMD has developed a methodology to assist local land use jurisdictions in assessing the potential cancer risk of siting sensitive land uses adjacent to major roadways. This methodology is contained in SMAQMD's *Recommended Protocol for Evaluating the Location of Sensitive Land Uses Adjacent to Major Roadways, V2.3* January 2010 (Protocol). The methodology also provides a disclosure mechanism for those risks intended to show the relationship between potential cancer risk from DPM exposure and distance from a major roadway. According to the SMAQMD evaluation criteria, a site specific HRA is recommended when cancer risks meet or exceed 281 cases per million.

The proposed project is located downwind of the I-5 freeway, so pollutants from I-5 would be blown towards the site. Sensitive land uses associated with the proposed project would be developed in four construction phases. Phases 1 and 2 would be located beyond the 500-foot area identified by CARB as the distance at which health risks could be significant, so a health risk assessment is not required for Phases 1 and 2. Phases 3 and 4 would include sensitive residential land uses within 500 feet of the freeway. Therefore, the SMAQMD's conservative screening analysis was prepared, which indicated that the potential cancer risk at the site would be up to 922 cases per million, thus requiring that an HRA be conducted to determine a project-specific risk. Responding to General Plan Policy ER 6.1.6 and the SMAQMD's Protocol, a site-specific Health Risk Assessment was performed to quantify the potential risk to onsite residents. The HRA is included as Appendix E to this DEIR and is summarized here.

The HRA prepared for the project identified the maximum potential cancer risks from DPM, without including the existing background risk, as 261 per million persons. The 261 per million risk represents a conservative estimate of exposure on the project site: 261 per million would be the risk for receptors located within 50 feet of I-5; the risk diminishes with greater distance from the freeway. According to the SMAQMD, the existing background cancer risk due to DPM for Sacramento County is 360 per million. The sum of the background risk and the highest modeled onsite risk, (621 per million) is the total potential project-associated risk.

A determination as to whether the increase in exposure to mobile-source toxic air contaminants is substantially increased by the project includes evaluation of a number of factors:

- The background cancer risk for exposure to diesel particulate matter (the level of exposure for all residents) in Sacramento County is 360 cases per million;<sup>8</sup> the exposure level statewide is 540 cases per million.<sup>9</sup> The additional exposure calculated for the project is over and above this risk.
- The risk identified for the project in the HRA (i.e., 261 cases per million) is a conservative estimate because it is the maximum level for the project site. The risk level constitutes the risk encountered by a person on the site for 70 years located 50 feet from the nearest travel lane of Interstate 5. The residential units on the site, constructed in Phases 3 and 4, would be located at varying distances from the freeway with only a minimum number of units potentially within the maximum risk area, and this would reduce the risk level encountered by residents.
- ~~The housing constructed at the project site would be multi-family, and would not result in the exposure typically encountered in single-family residential development including adjacent outdoor recreational space. While multi-family development may include outdoor recreational areas, residents of multi-family developments are more likely to utilize either interior recreation space or outdoor recreation areas off-site.~~
- The proposed project would incorporate tiered planting of vegetation and would incorporate redwood and/or deodar cedar trees into the landscape areas adjacent to the freeway in order to reduce toxic exposure. In order to maximize effectiveness, trees would be planted early during development. While the reduction in TAC exposure that results from planting of such vegetation cannot be quantified, it has been demonstrated that some reduction does occur with planting of these types of trees.<sup>10</sup>
- The proposed project would install a mini-split sealed HVAC system in conjunction with MERVE 8 or higher rated filters for all residential development within Phases 3 and 4 of the proposed project that are less than 500 feet from the freeway. The sealed air system would be designed so that all ambient air introduced into the interior living space would be filtered through MERVE 8 or higher rated filters to remove DPM and other particulate matter. The

8 Sacramento Metropolitan Air Quality Management District, *Recommended Protocol for Evaluating the Location of Sensitive Land Use Receptors Adjacent to Major Roadways*. January 2010.

9 California Air Resources Board. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October 2000.

10 Sacramento Metropolitan Air Quality Management District, *Recommended Protocol for Evaluating the Location of Sensitive Land Use Receptors Adjacent to Major Roadways*. January 2010.

MERVE 8 or higher rated filter is designed to remove up to 70 percent of particulates of 3 microns or larger in size from the ambient air that is introduced to the system.<sup>11</sup>

- TAC exposure due to diesel particulate matter will be reduced as regulatory improvements in diesel emissions are implemented. The Diesel Risk Reduction Plan, for example, was adopted by CARB in September 2000. The Plan measures were developed with the goal of achieving a reduction in DPM of 75 percent by 2010 and 85 percent by 2020.

With the implementation of the MERV 8 (or better) filters, the anticipated overall cancer risk would be reduced from 621 per million to 352 per million. The planting of vegetation, the location of the residential buildings greater than 50 feet from the I-5 freeway, as well as the state-implemented reduction plan, would further reduce the anticipated risk to residents of the proposed project. There are several policies in the 2030 General Plan that would reduce TAC exposure including Policy ER 6.1.5 (Development near TAC Sources); ER 6.1.6 (Sensitive Uses); and E.R. 6.1.11 (Coordination with SMAQMD). These policies are included above in the Regulatory Environment for the City of Sacramento.

The proposed project is consistent with the general plan land use designations for the project site as adopted by the Sacramento City Council in March 2009. The designations reflect the commitment of the City of Sacramento to a development approach that includes encouragement of full utilization of land areas within the existing City limits, and promotion of development that encourages pedestrian and bicycle transportation. The Master EIR, certified as part of the general plan approval process, acknowledged potential TAC exposure that could result from development under the general plan.

All residents of Sacramento County are exposed to some risk of cancer due to diesel particulate matter. While the project would result in some residents being exposed to increased risk of cancer, the increase is not substantial. Development of the project site in residential uses was contemplated in the 2030 General Plan, and the Master EIR, while finding the risk to be significant, concluded that with implementation of the applicable general plan policies the risk would be less than significant.

Implementation of the project design features would substantially reduce the anticipated risk on the project site related to exposure to mobile-source toxic air contaminants. The City and project applicant considered applicable General Plan policies related to exposure to mobile-source toxic air contaminants and included measures in the project design to reduce future residents' potential exposure to toxic air contaminants to ensure that the project would not have any additional significant effect related to exposure to mobile-source toxic air contaminants not addressed as a significant effect in the Master EIR.

### Mitigation Measure

*None required.*

---

11 National Air Filtration Association. *User Guide for ANSI/ASHRAE Standard 52.2 – 1999 Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size*. [http://www.filtera-b2b.com/businessfilters/PDFfiles/NAFA\\_Filter\\_Guide.pdf](http://www.filtera-b2b.com/businessfilters/PDFfiles/NAFA_Filter_Guide.pdf), accessed July 15, 2010.

## **Cumulative Impacts**

The Master EIR evaluated the cumulative effects of development that would occur under the 2030 General Plan. The proposed project is included within the development anticipated within then 2030 General Plan and, therefore, was evaluated as part of the Master EIR. The Master EIR determined that some of the cumulative air quality impacts addressed in the 2030 General Plan would be significant and unavoidable; however, the proposed project would not contribute to cumulative impacts beyond those addressed in the Master EIR.

## **5.2 Biological Resources**

---

---

## 5.2 BIOLOGICAL RESOURCES

---

### INTRODUCTION

This section identifies the biotic communities and special status species that could be affected by implementation of the Northwest Land Park project (proposed project). Included in the discussion is a summary of applicable laws and regulations related to biological resources and agencies responsible for their implementation.

The Master EIR certified in connection with adoption of the 2030 General Plan in March 2009 included an extensive analysis of biological resources. The Master EIR evaluated the effects of development that could occur under the new general plan, and identified and evaluated the effects of the project and future development, including analysis of growth-inducing effects and irreversible environmental effects. The discussion of biological resources in the Master EIR (see Chapter 6.3) is incorporated here by reference pursuant to CEQA Guidelines section 15050. The Master EIR may be reviewed at [www.sacgp.org](http://www.sacgp.org).

No comments were received in response to the Notice of Preparation that addressed biological resources.

Information contained in this section is based on reconnaissance-level field surveys; queries of the United States Fish and Wildlife Service (USFWS) Endangered and Threatened Species List,<sup>1</sup> California Department of Fish and Game's (CDFG) Natural Diversity Database<sup>2</sup> (CNDDDB) and California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California;<sup>3</sup> project plans and graphic renderings; the City's 2030 General Plan, the Sacramento 2030 General Plan Master EIR; and other relevant data sources as identified throughout this section.

### ENVIRONMENTAL SETTING

#### Project Location

The project site is located in Township 8 North, Range 4 East, in an unnumbered section of the Sacramento West U.S. Geological Survey 7.5 minute quadrangle map. The project site consists of 31.7 acres located in the Land Park Community Plan Area of the City of Sacramento (see Figure 2-2 in Chapter 2, Project Description). The project site is bounded by Broadway on the north, 5th Street

- 
- 1 U.S. Fish and Wildlife Service. Federal Endangered and Threatened Species List, <[www.fws.gov/sacramento/es/spp\\_list.htm](http://www.fws.gov/sacramento/es/spp_list.htm)>, accessed April 22, 2010.
  - 2 California Natural Diversity Database, Biogeographic Data Branch, Department of Fish and Game, February 28, 2010. Accessed April 22, 2010.
  - 3 California Native Plant Society. Electronic Inventory of Rare and Endangered Plants v7-10B April 21, 2010. <<http://cnps.site.aplus.net/cgi-bin/inv/inventory.cgi>>, accessed April 22, 2010.
-

on the east, McClatchy Way on the south, and an elevated section of Interstate 5 (I-5) on the west (see Figure 2-3 in Chapter 2, Project Description).

### **Existing Land Cover Types**

Existing uses on the project site include light industrial and commercial uses, including the Setzer Forest Products plant and various produce storage and distribution facilities associated with the Sacramento Farmer's Market. The majority of the property is covered with impervious surfaces (buildings, concrete, or asphalt) while the southeast portion of the property is largely bare ground, supporting only weedy plants.

### **Habitat Types**

There are two habitat types present in the project site: urban and ruderal habitat. The urban habitat occupies the entire project site. The ruderal habitat is found in a patch of vegetation in the southeastern corner of the project site.

#### **Urban Habitat**

Urban habitat exists within developed areas where pre-development vegetation has been removed and new species of plants introduced, intentionally (ornamental species) or inadvertently (weeds). Urban habitat accounts for most of the habitat acreage present within the project site. Urban vegetation within the project site consists of a mixture of native and non-native ornamental vegetation. The ornamental vegetation is found surrounding buildings in the form of lawns or box planters.

The shoulder of I-5 comprises the western border of the project site. The shoulder area is outside of the project site and the project does not propose removal of any trees occurring in this area. Trees found in this area include cottonwood (*Populus fremontii*), valley oak (*Quercus lobata*), oleander (*Nerium oleander*), Canary Island date palm (*Phoenix canariensis*), pine trees (*Pinus* sp.), and others that have been planted as landscape vegetation. While this vegetation occurs primarily outside of the project site, some of the landscape vegetation has crept into the project site. Specifically, some 'tree volunteers' are growing within the property line or have grown within the existing boundary fence.

#### **Ruderal Habitat**

Ruderal habitat is defined as a habitat where disturbance is sustained but where there is no intentional substitution of vegetation. Most areas of urban vegetation are relatively static in species composition because of maintenance. Unmaintained areas are often invaded by non-native species.

#### ***Vegetation***

The project site supports a ruderal plant community such as wild oats (*Avena fatua*), ripgut brome (*Bromus diandrus*), hairy vetch (*Vicia villosa*), field bindweed (*Convolvulus arvensis*), fireweed (*Epilobium angustifolium*), yellow star thistle (*Centuria solstitialis*), birds rape mustard (*Brassica*

*rapa*), Bermuda grass (*Cynodon dactylon*), wild radish (*Raphanus sativus*), prickly lettuce (*Lactuca serriola*), lamb's quarters (*Chenopodium album*), asthmaweed (*Conyza* sp.), bur-clover (*Medicago polymorpha*), Italian thistle (*Carduus pycnocephalus*), Russian thistle (*Salsola kali*), fiddleneck (*Amsinckia menziesii* var. *intermedia*), annual blue grass (*Poa annua*), blessed milk thistle (*Silybum marianum*), and wild pea (*Lathyrus* sp.). These non-native plant species are commonly associated with areas that have been highly disturbed.

Trees within the project site consist of coast redwood (*Sequoia sempervirens*), London plane tree (*Platanus acerifolia*), valley oak, sweet gum (*Liquidambar styraciflua*), Canary Island date palm, Tree-of-Heaven (*Ailanthus altissima*), red oak (*Quercus rubra*), Italian alder (*Alnus cordata*), Chinese pistache (*Pistacia chinensis*), Chinese hackberry (*Celtis sinensis*), and saucer magnolia (*Magnolia x soulangeana*). A total of 33 trees were observed within the project site, 6 of which fall under the category of heritage trees (see Appendix G).

### Wildlife

Underdeveloped areas within city limits support common birds and mammals that are tolerant of human activity, and have adapted to this habitat type. Wildlife species that are expected to occur in the project site are western scrub jay (*Aphelocoma californica*), American crow (*Corvus brachyrhynchos*), northern mocking bird (*Mimus polyglottos*), Brewer's blackbird (*Euphagus cyanocephalus*), yellow-billed magpie (*Pica nuttalli*), house finch (*Carpodacus mexicanus*), house sparrow (*Passer domesticus*), European starling (*Sturnus vulgaris*), rock pigeon (*Columba livia*), mourning dove (*Zenaida macroura*), house mouse (*Mus musculus*), black rat (*Rattus rattus*), feral cat (*Felis silvestris catus*), raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), and striped skunk (*Mephitis mephitis*).

### Wildlife Movement

Terms such as habitat corridors, linkages, crossings, and travel routes, are used to describe physical connections that allow wildlife to move between patches of suitable habitat in undisturbed landscapes as well as environments fragmented by urban development. The project site provides minimal wildlife movement due to its location (within an urban environment) adjacent urban activities (i.e. I-5), and lacks access to suitable habitat areas.

### Special-Status Species

The following section addresses special-status biological resources observed, reported, or having the potential to occur on the project site. These resources include plant, habitat, and wildlife species that have been afforded special status and/or recognition by federal and state resource agencies, as well as private conservation organizations and special interest groups such as the CNPS. In general, the principal reason an individual taxon (species, subspecies, or variety) is given such recognition is the documented or expected decline or limitation of its population size or geographical extent and/or distribution that results, in most cases, from habitat loss.

Information on sensitive species and habitats occurring in the vicinity of the project was obtained from the CNDDDB, the CNPS's Electronic Inventory of Rare and Endangered Vascular Plants of California, and the USFWS Endangered and Threatened Species List for the U.S. Geological Survey's 7.5-minute Sacramento East and Sacramento West quadrangle maps, and the Northwest Land Park Biological Resources Assessment Report by PBS&J (see Appendix F).

The CNDDDB and the USFWS Endangered and Threatened Species List revealed that there are 17 special-status wildlife species with recorded occurrences within the USGS 7.5 minute West Sacramento and East Sacramento quadrangles. Based on a literature review, project site survey, and available habitat, only three species have the potential to occur on or within the project site. These three species are: Cooper's hawk (*Accipiter cooperii*), Swainson's hawk (*Buteo swainsoni*), and white-tailed kite (*Elanus leucurus*). There are no recorded occurrences in the CNDDDB of these species within the project site and these species were not observed during the survey.

Table 5.2-1 is a list of species likely to occur in and/or be affected by the proposed project. This list represents those species identified in the review as having the highest likelihood to occur in the project site (i.e. within the known range, or within potential habitat present). Those species identified in the review as having low to none likelihood to occur are not discussed further in this section, but are discussed in the Northwest Land Park Biological Resources Assessment Report (see Appendix F).

<b>SENSITIVE PLANT AND WILDLIFE SPECIES<sup>1</sup> POTENTIALLY OCCURRING WITHIN THE STUDY AREA</b>				
Common Name	Scientific Name	Status <sup>2</sup>	Habitat and Seasonal Distribution in California <sup>3</sup>	Likelihood of Occurrence Within the Study Area <sup>4</sup>
<b>Wildlife</b>				
<b>Birds</b>				
Cooper's hawk	<i>Accipiter cooperii</i>	<b>Fed:</b> none <b>CA:</b> none <b>Other:</b> CNDDDB: G5/S3	<b>General:</b> typically found in woodlands, chiefly of open, interrupted or marginal type. <b>Micro:</b> nest sites mainly in riparian growths of deciduous trees; however, it has been recorded nesting in the urban areas of the City of Sacramento.	<b>Moderate:</b> Trees within the I-5 shoulder could provide suitable nesting habitat.
Swainson's hawk	<i>Buteo swainsoni</i>	<b>Fed:</b> none <b>CA:</b> ST <b>Other:</b> CNDDDB: G5/S2	<b>General:</b> breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch. <b>Micro:</b> requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	<b>Moderate:</b> No previously recorded occurrences of Swainson's hawk nests within the Study Area, however, there are recorded occurrences along the Sacramento River 1.5 miles to the west.
White-tailed kite	<i>Elanus leucurus</i>	<b>Fed:</b> none <b>CA:</b> SFP <b>Other:</b> CNDDDB: G5/S3	<b>General:</b> rolling foothills and valley margins with scattered oaks, and river bottomlands or marshes next to deciduous woodland. <b>Micro:</b> open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	<b>Moderate:</b> Although no recorded occurrences have been reported to the CNDDDB, suitable nesting and foraging habitat exists within the study area. Suitable nesting habitat occurs along the I-5 shoulder.

TABLE 5.2-1

SENSITIVE PLANT AND WILDLIFE SPECIES<sup>1</sup> POTENTIALLY OCCURRING WITHIN THE STUDY AREA

Common Name	Scientific Name	Status <sup>2</sup>	Habitat and Seasonal Distribution in California <sup>3</sup>	Likelihood of Occurrence Within the Study Area <sup>4</sup>
-------------	-----------------	---------------------	--	---

## NOTES:

## 1. Status:

Federal

FE Federally listed as "Endangered"

FT Federally listed as "Threatened"

State

SE State listed as "Endangered"

ST State listed as "Threatened"

SFP State designated "Fully Protected" or "Protected"

SSC State designated "Species of Special Concern"

Other

## CNPS:

B.1 Plants rare, threatened, or endangered in California and elsewhere; seriously threatened in California

1B.2 Plants rare, threatened, or endangered in California and elsewhere, fairly threatened in California

## CNDDB:

Global

G1 Less than 6 viable element occurrences (EOs) OR less than 1,000 individuals OR less than 2,000 acres.

G2 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres.

G3 21-100 EOs OR 3,000-10,000 individuals OR 10,000-50,000 acres.

G4 Apparently secure; this rank is clearly lower than G3 but factors exist to cause some concern; i.e., there is some threat, or somewhat narrow habitat.

G5 Population or stand demonstrably secure to ineradicable due to being commonly found in the world.

State

S1 Less than 6 EOs OR less than 1,000 individuals OR less than 2,000 acres

S1.1 very threatened

S1.2 threatened

S2 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres

S2.1 very threatened

S2.2 threatened

S3 21-100 EOs or 3,000-10,000 individuals OR 10,000-50,000 acres

S3.1 very threatened

S3.2 threatened

2. Unless otherwise noted, "Habitat and Seasonal Distribution in California" is derived from the "General" and "Micro" habitat requirements provided by the CNDDB (April, 2010). Blooming period for plant species is derived from the CNPS Online Inventory; note, moss life forms do not include a blooming period. (April, 2010).

3. Likelihood of occurrence evaluations:

A rating of "present" indicates that the species has been observed in the study area.

A rating of "moderate" indicates that it is not known if the species is present, but suitable habitat exists in the study area.

Source: California Natural Diversity Database, 2010.

### Cooper's Hawk

The Cooper's hawk is a breeding resident throughout most of the wooded portion of the state. This species ranges from sea level to above 2,700 meters (0-9,000 feet) and nests in dense stands of live oak, riparian deciduous or other forest habitats, typically near water. It is seldom found in areas without dense tree stands, or patchy woodland habitat. The Cooper's hawk can occasionally be observed foraging in or near oak and riparian woodlands throughout the Sacramento area, but breeding sites are primarily located in the riparian corridors along the Sacramento and American rivers.

### *Swainson's Hawk*

The Swainson's hawk is typically found in open country, foraging in grasslands and agricultural fields, especially after disking or harvest. They use tall riparian trees (typically oaks or cottonwoods) for nesting, but will occasionally nest in large eucalyptus or other large ornamental trees if there is suitable foraging habitat nearby. The species has lost much of its former nesting habitat as a result of the significant reduction in riparian woodland and forest habitat throughout the state over the last 100 years, and is increasingly losing foraging habitat to urban development. Swainson's hawks can forage as far as 20 miles from the nest, but nests are generally more successful if suitable foraging habitat is present within an approximate 10-mile radius. Suitable foraging habitat is defined as annual grasslands, fallow fields, dry and irrigated pasture, and a variety of croplands including alfalfa, beet, tomato and other low growing row or field crops, rice (when not flooded), and cereal grain crops (including corn after harvest). When forced to travel greater distances from the nest, the adults must expend much more time and energy gathering food, leaving the eggs and young in the nests much more vulnerable to predation and the elements. The greatest concentration of nesting records for Swainson's hawks within the city of Sacramento occurs along the Sacramento River.

Swainson's hawks have been recorded multiple times less than one mile of the project site, including occurrences along the Sacramento River approximately 0.4 miles west of the project site. Based on past occurrence records, the likelihood of prey being present on the project site, and the presence of multiple large trees adjacent to the site, Swainson's hawk has a moderate potential for occurring in the immediate area surrounding the project site.

### *White-Tailed Kite*

The white-tailed Kite is a "fully protected" raptor under the California Fish and Game code. White-tailed kites feed on rodents, small reptiles, and large insects in fresh emergent wetlands, annual grasslands, pastures, and ruderal vegetation. They breed between February and October. Although, like other raptors, kites build solitary nests, they often roost, and occasionally nest communally. Therefore, disturbance of a relatively small roost or nesting area could affect a large number of birds. The white-tailed kite can commonly be observed foraging in large open fields throughout the Sacramento area, but breeding sites are primarily located near riparian corridors along the Sacramento and American rivers, although some nests have been reported in urban trees in the city approximately three miles to the northeast of the project site.

## **REGULATORY SETTING**

### **Federal Regulations**

#### *Endangered Species Act (FESA)*

The FESA of 1973 provides legal protection for threatened and endangered plant and animal species and requires definitions of critical habitat and development of recovery plans for specific species. Section 7 of the FESA requires federal agencies to make a finding on the potential to jeopardize the continued existence of any listed species potentially impacted by all federal actions,

including the approval of a public or private action, such as the issuance of a permit pursuant to Sections 10 and 404 of the U.S. Clean Water Act (CWA). Section 9 of the FESA prohibits the take of any member of an endangered species. Take is defined by the FESA as "...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Section 10(a) of the FESA permits the incidental take of listed species if the take is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity.

Projects adversely affecting federally-listed threatened or endangered species are required to obtain take permission from the USFWS prior to project implementation. If a federal agency is involved (i.e., if a wetlands permit is required, project has federal funding, etc.), take permission can be obtained through FESA Section 7 consultation with the USFWS. Consultation will determine whether the project would adversely impact a protected species or designated critical habitat and identify mitigation measures that would be required to avoid or reduce impacts on the species or its habitat. Following this consultation, the USFWS issues a Biological Opinion (BO), which dictates the conditions of take that are allowed for the project. If no federal agency is involved, project applicants are required to obtain an Incidental Take Permit through Section 10 of the FESA, which requires preparation of a Habitat Conservation Plan (HCP) and results in the issuance of an Incidental Take Permit.

### *Federal Clean Water Act (CWA)*

#### Section 404

The objective of the CWA is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. Section 401 prohibits the discharge of any pollutant into the Nation's waters without a permit, and Section 402 establishes the permit program. Section 404 of the CWA regulates activities that result in discharge of dredged or fill material into waters of the United States. The United States Army Corps of Engineers (Corps) is responsible for permitting certain types of activities affecting wetlands and other waters of the United States. Under Section 404 of the CWA, the Corps has the authority to regulate activity that could discharge fill or dredge material or otherwise adversely modify wetlands or other waters of the U.S. The Corps implements the federal policy embodied in Executive Order 11990, which, when implemented, is intended to result in no net loss of wetland values or acres.

#### Section 401

The State Water Resources Control Board (SWRCB) has authority over wetlands through Section 401 of the CWA, as well as the Porter-Cologne Act, California Code of Regulations Section 3831(k), and California Wetlands Conservation Policy. The CWA requires that an applicant for a Section 404 permit (to discharge dredged or fill material into waters of the United States) first obtain a certificate from the appropriate state agency stating that the fill is consistent with the State's water quality standards and criteria. In California, the authority to either grant certification or waive the requirement for permits is delegated by the SWRCB to the nine regional boards. A request for certification is submitted to the regional board at the same time that an application is filed with the

Corps. The regional board has 60 days to review the application and act on it. Because no Corps permit is valid under the CWA unless “certified” by the state, these boards may effectively veto or add conditions to any Corps permit.

### *Federal Migratory Bird Treaty Act (MBTA)*

Pursuant to the MBTA of 1918, as amended in 1972, federal law prohibits the taking of migratory birds or their nests or eggs (16 U.S.C. Section 703). The MBTA covers the taking of any nests or eggs of migratory birds, except as allowed by permit pursuant to 50 CFR, Part 21. Disturbances causing nest abandonment and/or loss of reproductive effort (i.e., killing or abandonment of eggs or young) may also be considered a “take.” This regulation seeks to protect migratory birds and active nests. In 1972, the MBTA was amended to include protection for migratory birds of prey (e.g., raptors). The MBTA protects over 800 species including geese, ducks, shorebirds, raptors, songbirds, and many relatively common species, including all species that were observed within the Study area (i.e., white-crowned sparrow, mourning dove, and Brewer’s blackbird).

## **State Regulations**

### *California Endangered Species Act (CESA)*

The CDFG administers a number of laws and programs designed to protect fish and wildlife resources. Principal among these is the California Endangered Species Act of 1984 (Fish and Game Code, Section 2050), which regulates the listing and take of state-endangered and state-threatened species. The CESA declares that deserving species will be given protection by the state because they are of ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the state. The CESA established that it is state policy to conserve, protect, restore, and enhance endangered species and their habitats.

Species listed under the CESA cannot be “taken” without adequate mitigation and compensation. The definition of take under CESA is the same as described above for the FESA. However, based on findings of the California Attorney General’s Office, take under CESA does not prohibit indirect harm by way of habitat modification. Typically, the CDFG implements endangered species protection and take determinations by entering into management agreements (California Fish and Game Code, Section 2081 Management Agreements) with project applicants.

### *California Environmental Quality Act (CEQA)*

Although threatened and endangered species are protected by specific federal and State statutes, Section 15380(b) of the CEQA Guidelines provides that a species not listed on the federal or State list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after definitions in the FESA and the section of the California Fish and Game Code dealing with rare or endangered plants and animals. CEQA Guidelines Section 15380(b) requires public agencies to undertake reviews to determine if projects would result in significant effects on species that are not listed by either the USFWS or CDFG (i.e., candidate species). Thus, CEQA provides an agency with the ability to protect a

species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

### *California Fish and Game Code Sections 3503, 3503.5, and 3513*

Fish and Game Code Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Fish and Game Code Section 3503.5 protects all birds-of-prey (raptors) and their eggs and nests. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA. These regulations could require that elements of the proposed project (particularly vegetation removal or construction near nest trees) be reduced or eliminated during critical phases of the nesting cycle unless surveys by a qualified biologist demonstrate that nests, eggs, or nesting birds will not be disturbed, subject to approval by CDFG and/or USFWS.

### *California Fish and Game Code Sections 3511, 4700, 5050, and 5515*

Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the California Fish and Game Code designate certain species as "fully protected." Fully protected species, or parts thereof, may not be taken or possessed at any time. The California Fish and Game Commission may authorize the collecting of such species for necessary scientific research. Legally imported and fully protected species or parts thereof may be possessed under a permit issued by CDFG.

### *Native Plant Protection Act*

The California Native Plant Protection Act (California Fish and Game Code sections 1900-1913) prohibits the taking, possession, or sale within the state of any rare, threatened, or endangered plants as defined by CDFG. Under this act, landowners with rare plants on their property must provide CDFG ten days notice to salvage (remove for transplant) the plants before destruction occurs. Project impacts on these species would be considered "significant" if the species are known to occur within the area of disturbance associated with construction of the project, or "potentially significant" if the species has a high potential to occur within the area of disturbance.

## **Local Regulations**

### **City of Sacramento 2030 General Plan**

The following goals and policies from the 2030 General Plan are relevant to biological resources within the project area.

#### **ENVIRONMENTAL RESOURCES (ER)**

**Goal ER 2.1 Natural and Open Space Protection. Protect and enhance open space, natural areas, and significant wildlife and vegetation in the city as integral parts of a sustainable environment within a larger regional ecosystem.**

Policies

- ER 2.1.1 **Resource Preservation.** The City shall encourage new development to preserve on-site natural elements that contribute to the community's native plant and wildlife species value and to its aesthetic character.
- ER 2.1.8 **Oak Woodlands.** The City shall preserve and protect oak woodlands, and/or significant stands of oak trees in the city that provide habitat for common native, and special-status wildlife species. If not feasible, the mitigation of all adverse impacts on oak woodlands shall comply with the standards of the *Oak Woodlands Conservation Act*.
- ER 2.1.10 **Habitat Assessments.** The City shall consider the potential impact on sensitive plants for each project requiring discretionary approval and shall require pre-construction surveys and/or habitat assessments for sensitive plant and wildlife species. If the preconstruction survey and/or habitat assessment determines that suitable habitat for sensitive plant and/or wildlife species is present, then either (1) protocol-level or industry-recognized (if no protocol has been established) surveys shall be conducted; or (2) presence of the species shall be assumed to occur in suitable habitat on the project site. Survey Reports shall be prepared and submitted to the City and the CDFG or USFWS (depending on the species) for further consultation and development of avoidance and/or mitigation measures consistent with state and federal law.
- ER 2.1.11 **Agency Coordination.** The City shall coordinate with State and Federal resource agencies (e.g., California Department of Fish and Game (CDFG), U.S. Army Corps of Engineers, and United States Fish and Wildlife Service (USFWS)) to protect areas containing rare or endangered species of plants and animals.
- ER 3.1.3 **Trees of Significance.** The City shall require the retention of trees of significance (such as heritage trees) by promoting stewardship of such trees and ensuring that the design of development projects provides for the retention of these trees wherever possible. Where tree removal cannot be avoided, the City shall require tree replacement or suitable mitigation.

**Applicable Mitigation Measures from the City of Sacramento 2030 General Plan**

No applicable mitigation measures.

**City of Sacramento Tree Protection and Preservation Ordinance**

The City of Sacramento has adopted an ordinance to protect trees as a significant resource to the community. It is the City's policy to retain trees when possible regardless of their size. When circumstances will not allow for retention, permits are required to remove trees that are within City jurisdiction. Removal of, or construction around, trees that are protected by the tree ordinance are subject to permission and inspection by City arborists. The City of Sacramento Tree Service Division reviews project plans and works with City of Sacramento Public Works during the construction process to minimize impacts on street trees in the City.

The Sacramento City Code includes the following provisions to protect City trees:

**12.56.020 Definitions.**

"City street tree" means and includes any tree growing on a public street right-of-way. City street trees are maintained by the city.

"Maintenance easement private street tree" means and includes any tree growing within a maintenance easement. No parcel contains more than one maintenance easement private street tree per forty (40) feet of street frontage. If there is more than one tree in the maintenance easement per forty (40) feet of street frontage, only the one closest to the street is a maintenance easement private street tree, and the other(s) are private trees.

"Street tree" means and includes both city street trees and maintenance easement private trees (Prior code §45.01.002)

**12.56.60.1 Protection of trees.**

(a) *No person shall remove, trim, prune, cut or otherwise perform maintenance on any city street tree without first obtaining a permit from the director pursuant to Chapter 12.56.070. (Prior Code Section 45.01.006).*

**12.64.020 Definitions.**

"Circumference" means circumference measured four and one-half feet above ground level.

"Director" means the director of the department of transportation or the director's authorized representative.

"Drip line area" means the area measured from the trunk of the tree outward to a point at the perimeter of the outermost branch structure of the tree.

"Heritage tree" means:

1. Any tree of any species with a trunk circumference of one hundred (100) inches or more, which is of good quality in terms of health, vigor of growth and conformity to generally accepted horticultural standards of shape and location for its species.
2. Any native *Quercus* species, *Aesculus California* or *Platanus Racemosa*, having a circumference of thirty-six (36) inches or greater when a single trunk, or a cumulative circumference of thirty-six (36) inches or greater when a multi-trunk, which is of good quality in terms of health, vigor of growth and conformity to generally accepted horticultural standards of shape and location for its species.
3. Any tree thirty-six (36) inches in circumference or greater in a riparian zone. The riparian zone is measured from the centerline of the water course to thirty (30) feet beyond the high water line.
4. Any tree, grove of trees or woodland trees designated by resolution of the city council to be of special historical or environmental value or of significant community benefit. (Ord. 2008-018 § 3; prior code § 45.04.211)

**12.64.040 Protection of heritage trees during construction activity.**

During construction activity on any property upon which is located a heritage tree, the following rules shall apply. Unless the express written permission of the director is first obtained, no person shall:

- (a) Change the amount of irrigation provided to any heritage tree from that which was provided prior to the commencement of construction activity;
- (b) Trench, grade or pave into the drip line area of a heritage tree;
- (c) Change, by more than two (2) feet, grade elevations within thirty (30) feet of the drip line area of a heritage tree;
- (d) Park or operate any motor vehicle within the drip line area of any heritage tree;
- (e) Place or store any equipment or construction materials within the drip line area of any heritage tree;
- (f) Attach any signs, ropes, cables or any other items to any heritage tree;
- (g) Cut or trim any branch of a heritage tree for temporary construction purposes;
- (h) Place or allow to flow into or over the drip line area of any heritage tree any oil, fuel, concrete mix or other deleterious substance.

Where written permission of the director [director of the department of transportation or the director's authorized representative] is sought under this section, the director may grant such permission with such reasonable conditions as may be necessary to effectuate the intent and purpose of this chapter. (Prior code Section 45.04.216)

## **Non-Governmental Organization**

### **California Native Plant Society (CNPS)**

CNPS maintains an inventory of special-status plant species. CNPS maintains four species lists of varying rarity. Vascular plants listed as rare or endangered by the CNPS,<sup>4</sup> but which have no designated status or protection under federal or state-endangered species legislation, are defined as follows:

- List 1A Plants Believed Extinct.
- List 1B Plants Rare, Threatened, or Endangered in California and elsewhere.
- List 2 Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere.
- List 3 Plants About Which More Information is Needed - A Review List.
- List 4 Plants of Limited Distribution - A Watch List.

Threat Code Extension—CNPS has modified their ranking system to describe how endangered plants are in California. The extension code descriptions are as follows:

- 1) Species seriously endangered in California,
- 2) Species fairly endangered in California,
- 3) Species not very endangered in California.

<sup>4</sup> California Native Plant Society, *California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California* (sixth edition), Sacramento, CA, 2001.

In general, plants appearing on CNPS List 1 or 2 are considered to meet CEQA Guidelines Section 15380 criteria.

## **IMPACTS AND MITIGATION MEASURES**

### **Methods of Analysis**

The analysis of potential project impacts to biological resources is based on a review of background data bases and a reconnaissance level visit to the project site. Background research included use of the CNDDDB, a species list from the USFWS Quad Species List website, and a review of the CNPS's Electronic Inventory to determine what special-status plant or wildlife species are expected to occur in the vicinity of the project site.

The reconnaissance level site visit was conducted on April 9, 2010, to determine the habitat types that are present on the project site. Using that information, the list of species that was derived from the background research was analyzed to determine which of those species were likely to occur on the project site. The Biological Technical Report prepared for the project, the CNDDDB query results, the USFWS Quad Species List, and the CNPS Rare and Endangered Plants List are included in Appendix F.

### **Standards of Significance**

For the purposes of this EIR, an impact would be considered significant if the proposed project would:

- result in substantial degradation of the quality of the environment or reduction of habitat or population below self-sustaining levels of threatened or endangered species of plant or animal;
- affect other species of special concern to agencies or natural resource organizations (such as regulatory waters and wetlands); or
- violate the City's Heritage Tree Ordinance (City Code 12.64.040).

### **Project-Specific Impacts and Mitigation Measures**

#### **5.2-1 Implementation of the proposed project could result in substantial degradation of the quality of the environment or reduction of habitat or population below self-sustaining levels of special-status birds, through the loss of both nesting and foraging habitat.**

Impact 6.3-4 of Section 6.3, *Environmental Resources*, of the 2030 General Plan Master EIR states that a variety of special-status birds are present throughout the city; some are resident species and some are migratory species that breed within the city area. The majority of the development within the city under the General Plan would consist of infill and redevelopment of already developed areas, which do not support a wide diversity of biological resources. As with most urbanized environments, landscape features within the city such as trees, shrubs, herbaceous plants, and parklands, could serve as temporary habitats or foraging grounds for special-status birds.

Development under the proposed General Plan could also result in the removal of mature trees in both developed and undeveloped areas, which may serve as perching or nesting sites for migratory birds, including raptors. During the non-breeding season, it is anticipated that any migratory birds or raptors using mature trees as perching sites would vacate the site upon the initiation of construction activities. During the breeding season, however, it would be expected that significant increases in noise and activity levels could disturb breeding behavior.

The General Plan contains policies that would prevent or eliminate impacts on special-status bird species. Policy ER 2.1.10 requires that pre-construction surveys and/or habitat assessments for sensitive species be conducted for any project requiring discretionary approval and that a protocol-level survey be performed if sensitive species are present. Policy ER 2.1.11 requires that the City coordinate closely with state and federal resource agencies to protect areas containing rare or endangered species.

According to the City's standards of significance, a significant impact would occur if a substantial degradation in the quality of the environment or reduction of habitat would occur. A substantial degradation would occur if increased mortality or reduced reproductive success that would lead to the local extirpation of, or reduction in the population below self-sustaining levels of any species identified or published as an endangered, threatened, rare, candidate, sensitive, or special-status species by CDFG or USFWS, and meets the definition of section 15380 (b), (c) or (d) of the CEQA guidelines would occur.

The trees within the project site do not provide suitable nesting habitat, due to their location (within highly noisy areas, open canopy or small size); however, suitable nesting habitat is located in the shoulder of the elevated section of I-5 which is immediately adjacent to the site. Although demolition and/or construction activities would not directly impact the trees on the I-5 shoulder, these activities could impact nesting birds. Special-status bird species that could potentially occur in the immediate vicinity of the project area are Swainson's hawk, white-tailed kite, and Cooper's hawk. While Swainson's hawk has not been observed on the project site, this species has several recorded occurrences within 1.5 miles of the project site, including occurrences along the Sacramento River approximately 0.4 miles west of the project site. For projects within a mile from a nest that has been active at least once during the past five years, the recommended mitigation would typically be at a ratio of one conserved acre to one acre of potential foraging land planned for development. However, because the land has been developed with industrial uses, the site is not considered foraging habitat.

As mentioned previously, the majority of the project site is covered with impervious surfaces (buildings, concrete, or asphalt) while the southeast portion contains gravel-covered ground and weedy plants. This area is approximately 4.2 acres and appears to be under a weed abatement program. No burrowing mammals or burrows were observed during the site visit. Due to the impervious surfaces covering the project site and the current conditions (lack of prey species) of the southwest portion, the project site does not provide suitable foraging habitat for special-status bird species.

The City of Sacramento has established standards that require analysis of project impacts on threatened, endangered, or special-status species, as described above. Compliance with CESA, the MBTA and CEQA, as well as implementation of proposed 2030 General Plan goals and policies discussed above would mitigate for potential direct and indirect impacts on sensitive bird species within the project area. Implementation of the regulatory processes would provide and/or require measures to mitigate for impacts on special-status birds, which would include, but not be limited to, pre-construction surveys for nesting MBTA-protected bird species, no-construction buffer areas surrounding any identified MBTA nest, consultation with CDFG, and/or construction monitoring. Therefore, the project would not have any additional significant effect on special-status bird species not addressed as a significant effect in the Master EIR.

#### Mitigation Measure

*None required.*

#### **5.2-2 Implementation of the proposed project could affect plant species of special concern or regulatory water or wetlands.**

No special status plant species were found during April 9, 2010 survey of the project site. Additionally, although the project site supports ruderal habitat, this habitat is unsuitable for special-status plant species with the potential to occur in the Sacramento area. In addition, based on the site surveys and the Biological Resources Report the project site does not support wetlands or regulatory waters. Therefore, the project would not have any additional significant effect on plant species of special concern or wetlands not addressed as a significant effect in the Master EIR.

#### Mitigation Measure

*None required.*

#### **5.2-3 Implementation of the proposed project could result in violation of the City's Heritage Tree Ordinance (City Code 12.64.040).**

The City of Sacramento adopted its Tree Preservation Ordinance (which includes the Heritage Tree Ordinance) as a way to protect trees, which it considers a significant resource in the city. It is the City's policy to retain trees, whenever possible, regardless of their size. However, when circumstances do not allow for retention, permits are required to remove heritage trees or trees that are within the City's jurisdiction. Removal of, or construction around, trees that are protected by the heritage tree ordinance requires permission and inspection by City arborists. The City works with project proponents to minimize impacts to trees during the construction process.

The Initial Arborist Report for the Northwest Land Park Project (see Appendix G) identified 33 trees, six of which are protected under the Sacramento City Code as heritage trees. All trees within the project site would be removed as part of the project. As part of project design, the project applicant would retain a certified arborist to survey trees in the project area, including potential laydown areas, and identify and evaluate trees that would be removed. If protected trees (or their canopy) are

identified within the affected area, measures would be taken to avoid impacts on protected trees, as detailed in the City's tree ordinance. Protected trees that are lost as a result of the project would be replaced according to the provisions of the ordinance (Section 12.64.040), which generally requires a 1-inch-diameter replacement for each inch lost. Tree replacement would occur after project construction and would be monitored by qualified arborists.

The project would include dispersed private recreational and open space areas within some of the residential blocks. Urban landscaping would be an integral element of the project. Street trees would be planted throughout the project consistent with City requirements, and extensive landscaping is proposed to keep the project in character with the surrounding established communities. Common areas would be landscaped to provide community recreation space. Because the project includes the planting of trees and would be required to comply with the City Ordinances that protect trees, and permit requirements as set by the City's Urban Forestry Manager, typically inch-for-inch replacement and/or in-lieu fees,<sup>5</sup> the project would not have any additional significant effect on protected trees not addressed as a significant effect in the Master EIR.

### Mitigation Measure

*None required.*

### Cumulative Impacts

The proposed project would result in no impacts on special-status species, or wetlands; therefore, the cumulative analysis focuses only on potential cumulative impacts to the loss of trees. The proposed project is located within the General Plan Policy Area and is consistent with the land use assumptions of the Master EIR. The Master EIR identifies the cumulative context for biological resources as the areas contained within the greater Central Valley from Oroville down to the Merced River and from the western Sierra Nevada foothills to the eastern foothills of the Coast Ranges. The primary effects of the implementation of the General Plan, when considered with other projects within the cumulative context, would be the cumulative direct loss of open space, vegetation associations important to raptors, loss of sensitive or special-status wildlife species, and the loss of sensitive habitat such as riparian and wetlands. The cumulative loss of trees was generally addressed in the loss of habitat for special-status species. Impact 6.3-11 in Section 6.3, Biological Resources of the Master EIR, states that the City of Sacramento adopted its Tree Preservation Ordinance (which includes the Heritage Tree Ordinance) as a way to protect trees, which it considers a significant resource in the city. It is the City's policy to retain trees, whenever possible, regardless of their size. However, when circumstances do not allow for retention, permits are required to remove heritage trees or trees that are within the City's jurisdiction. Removal of, or construction around, trees that are protected by the tree ordinance requires permission, replacement, and inspection by the City Urban Forestry Manager.

The proposed project and other projects, within the city limits, would be subject to the permit requirements as set by the City's Urban Forestry Manager, which could include, but not be limited to,

---

5 Benassini, Joe. City of Sacramento Urban Forestry Manager. E-mail communication. July 6, 2010.

replacement of trees lost on an inch-by-inch basis. Future development within the city would be required to abide by the city's policy regarding heritage trees and the city's Heritage Tree Ordinance. As noted above, the proposed project includes the planting of new trees and would replace the heritage trees removed at the ratio set by the City's Urban Forestry Manager. The Master EIR determined that cumulative impacts on loss of special-status habitat addressed in the 2030 General Plan would be less than significant. The proposed project would not contribute to cumulative impacts beyond those already addressed in the Master EIR.

## **5.3 Cultural Resources**

---

## 5.3 CULTURAL RESOURCES

---

### INTRODUCTION

This section discusses potential adverse impacts on cultural resources that could result from the proposed project. Cultural resources are defined as properties that are listed or have been determined eligible for listing on the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), or the City of Sacramento's Register of Historic and Cultural Resources (Sacramento Register). This section also assesses potential adverse impacts on paleontological resources that could result from the proposed project.

The primary sources of information referenced for this section are the *Northwest Land Park Cultural Resources Inventory and Evaluation Report* prepared by PBS&J (Appendix H);<sup>1</sup> the *Setzer Forest Products Property Draft Historic Resource Evaluation Report* prepared by Carey & Co. Inc. Architecture (Appendix I);<sup>2</sup> and the *Peer Review of Setzer Forest Products Property Draft Historic Resource Evaluation Report* prepared by PBS&J (Appendix J).<sup>3</sup>

The report titled *Setzer Forest Products Property Draft Historic Resource Evaluation Report* prepared by Carey & Co. Inc. Architecture was prepared in connection with a development application submitted by Signature Properties in 2006 (the application was withdrawn in 2007). The property evaluated in the Carey & Co. report includes the built environment that comprises Northwest Land Park project site evaluated in this EIR, including the currently active Setzer Forest Products plant and various produce storage and distribution facilities associated with the Sacramento Farmer's Market. The Carey & Co. report determined that certain historic-age structures on the Setzer property associated with the former Setzer Box Factory and the Sacramento Farmer's Market appear to be eligible for listing on the CRHR due to their direct and significant roles in the development and expansion of California's pre-World War II agricultural economy.

In May 2010, Northwest Land Park, LLC contracted PBS&J to peer review the Carey & Co. report as part of an environmental constraints analysis for potential development of the current project site. Based on a review of the Carey & Co. report, archival research, interviews with Setzer Forest Products personnel, and a reconnaissance-level survey of built environment on the project site, PBS&J cultural resources staff prepared a peer review report that concluded that the findings of historical significance in the Carey & Co. report were insufficiently supported. Specifically, PBS&J found that the Carey & Co. report failed to establish that the historic-age built environment on the

- 
- 1 PBS&J. 2010. *Northwest Land Park Cultural Resources Inventory and Evaluation Report*. Prepared for Northwest Land Park, LLC.
  - 2 Carey & Co. Inc. Architecture. August, 2006. *Setzer Forest Products Property Draft Historic Resource Evaluation Report*. Prepared for Signature Properties, Inc.
  - 3 PBS&J. 2010. *Peer Review of Setzer Forest Products Property Draft Historic Resource Evaluation Report Carey & Co. Inc. Architecture* (2006). Prepared for the City of Sacramento.

proposed Northwest Land Park project site is associated with events that have made a significant contribution to the broad patterns of Sacramento's, the region's, the state's, or the nation's history.

Subsequent to preparation of the peer review of the Carey & Company report, PBS&J prepared the *Northwest Land Park Cultural Resources Inventory and Evaluation Report*, which is the principal source for this section of the EIR and is based on a comprehensive cultural resources investigation of the project site, including a records search of the North Central Information Center of the California Historical Resource Information System, Native American consultation, additional archival and background research, a pedestrian archaeological survey of the project site, and an intensive-level built-environment survey of the project site by a PBS&J architectural historian and historian. PBS&J found no evidence of significant or unique archaeological resources on the project site or immediate vicinity and determined that none of the buildings or structures on the Northwest Land Park project site appears to meet the criteria for listing on the NRHP, the CRHR, or the Sacramento Register. Each of the reports are appended to this EIR.

The Master EIR certified in connection with adoption of the 2030 General Plan in March 2009 analyzed project impacts on prehistoric and historic resources. The Master EIR evaluated the effects of development that could occur under the new general plan, and identified and evaluated the effects of the project and future development, including analysis of growth-inducing effects and irreversible environmental effects. The discussion of cultural resources in the Master EIR (see Chapter 6.4) is incorporated here by reference pursuant to CEQA Guidelines section 15050. The Master EIR may be reviewed at [www.sacgp.org](http://www.sacgp.org).

No comments concerning cultural resources were received in response to the Notice of Preparation (see Appendix A).

## **ENVIRONMENTAL SETTING**

### **Early Sacramento**

Native American settlement in the Sacramento area began roughly 12,000 years ago. The Nisenan were attracted to the area by its year-round water supply and the food sources it provided, including game, fish, seeds, and nuts. The Nisenan hunting and gathering culture survived longer than other California tribes because of their relative isolation from the Spanish mission system along the coast. Significant contact with non-natives eventually occurred in the early nineteenth century as Spanish, Mexican, and American explorers began to investigate the Sacramento valley. Those Nisenan who were not killed by the diseases carried by the Europeans were forced from their lands by intimidation and violence. American trappers and settlers arrived in the area in the 1830s, encouraged by the fur trade and Mexican government land grants. John A. Sutter arrived in 1839 and established a fort and trading post, forming the core of the settlement that became Sacramento.

In 1848, Sutter hired William Warner to conduct a survey, which imposed a grid pattern on the land east of the riverfront with north-south streets designated by numbers and east-west streets by letters of the alphabet. This original grid, which survives today, extended east from the Sacramento River

(Front Street) to just beyond the Fort and south from Sutter's Slough (at approximately 6th and I streets) to where Broadway is today. After the discovery of gold in January 1848, Sacramento became a primary supply point for the influx of gold seekers. The Sacramento River allowed the city to serve as the main port for shipping gold bound for San Francisco. The city was founded in 1849 and is the oldest incorporated city in California. California attained statehood on September 9, 1850, and in 1854, Sacramento became the state capitol.

The climate, soil conditions, and ample supply of irrigated water that developed around Sacramento during the late-nineteenth century, as well as its location as a river and railroad transportation hub, led to the area's importance as one of California's leading agricultural regions. With successful diversification of produce, technical innovations, and growing national and international demand for California-grown fruits and vegetables, Sacramento flourished, becoming a leading canning center and shipping hub for farm products. Box manufacturing, an ancillary industry to California agriculture, appears to have benefited from this industrial boom, and Sacramento became home to at least six wood box factories that primarily served Sacramento Valley agriculture.

In the late nineteenth and early twentieth centuries urban development began to spread beyond Sacramento's original city limits. The commuter suburb of Oak Park was established in the 1880s and was formally annexed in 1911. A spate of annexations continued, most notably with the incorporation of the large swath of land that now comprises the East Sacramento section of the city. According to a 1927 *Sacramento Bee* article, in the late 1920s development increased in the southern section of the city. New industrial and residential developments appeared along and beyond Y Street (now Broadway), which marked the city's original southern limit. The Wright and Kimbrough Industrial Tract, a large collection of former agricultural plots located south of Y Street and just east of the Sacramento River, opened to development in the 1927. The Setzer Box Factory was the first of several industrial and warehouse ventures established on the tract.

### **Box Factories in Sacramento (1859–1958)**

Sacramento's wooden box industry originated in the 1850s in connection with the area's emergence as one of the largest agricultural production, processing, and shipping centers in California. In the period 1859 through 1958, Sacramento was home to at least six wood box factories that assembled packing containers primarily for the region's agricultural produce. Local newspaper accounts suggest that at its peak in 1928 the local box making industry provided approximately 400 jobs. As of 1951, *Sacramento Union* articles indicate, the industry employed at least 265 in Sacramento. As the local box manufacturing industry declined in the postwar period, two of Sacramento's largest box making firms, Sacramento Box and Lumber Company and Setzer Box Factory, diversified their output, supplying boxes and wood products to the construction, defense, and automobile industries.

Capital Box Factory was the first and longest-lived of Sacramento's six box manufacturing firms. The company built its original facility at 2<sup>nd</sup> and Q streets in 1859. By 1920 a second box factory had opened when California Pine Box Distributors, a statewide cooperative, established its Sacramento affiliate. The Sacramento plant remained in business at least as late as 1928, but appears to have

gone out of business by 1951, when the *Sacramento Union* published a profile of local box manufacturers that did not mention the cooperative.

Established by box manufacturing entrepreneur Curt Setzer and a group of co-investors in 1923, Sacramento Box and Lumber Company was, by all appearances, the largest and most successful of Sacramento's box manufacturing operations. The company built its factory at 65<sup>th</sup> and R streets, then just outside the city limits. A 1926 fire completely destroyed the company's structures and equipment, as well as most of its lumber. Sacramento Box and Lumber Company rebuilt and subsequently expanded its operations to include a logging camp at Kyburz and, later, satellite offices in New York, Chicago, Detroit, and Los Angeles. Woodleaf Timber Company purchased Sacramento Box and Lumber Company in July 1958 and shuttered the Sacramento facility six weeks later.

There were two additional, and apparently minor, Sacramento box-manufacturing operations founded in the 1940s. The *Sacramento Union* reported that the State Box Factory opened in 1941 at a location near the riverfront south of the Sacramento River. Central Box Factory operated in an unspecified Sacramento location. These facilities continued to operate as late as 1951, at which point the local box making had begun to decline.

Native Curt Setzer moved his family from Klamathon, California, to Sacramento in 1923. Following the 1926 fire at Sacramento Box and Lumber Company, Setzer divested himself of his interest in the company and began plans for his own box factory. In 1927, Setzer Box Factory opened at its 3<sup>rd</sup> and Y streets location. Owned entirely by Setzer, who claimed to have made his start in the box manufacturing industry as an eleven-year-old boy, the Setzer facility was the first of several industrial operations constructed on the newly subdivided Wright and Kimbrough tract. A 1927 *Sacramento Bee* article indicates that Setzer Box Factory was just one of several development projects that appeared near the city's southern limits in the late 1920s. Setzer announced in March 1927 that he expected to open with around 50 employees on his payroll, but, according to the *Sacramento Bee*, the factory employed nearly 100 as of September of that year.

The Great Depression did little to check the growth of the Setzer operation. In 1934, Setzer expanded his facility to include a sawmill as well a lumber pond measuring the equivalent of nearly one city block. This expansion allowed the Setzer operation to circumvent the ill effects of government price controls on processed timber.

In the following years Setzer continued to expand and diversify his plant's output. In the 1930s the factory acquired a license and purchased the machinery necessary to compress the waste materials from its box manufacturing into Presto Logs. By the time a 1951 *Sacramento Union* article on the company was published, Setzer's outfit, now named Setzer Forest Products, continued to produce boxes, but also supplied wood to Detroit auto makers, Wisconsin door manufacturers, and producers of "high quality wood manufactured products" in Maine. According to Carey & Company, in the postwar years, cheaper cardboard boxes gained favor over wood ones, leading Setzer Forest

Products to discontinue producing crates. Starting in the 1960s, the company's output was limited mostly to fabricating wood moldings for houses.<sup>4</sup>

As was the case with the broader agricultural economy in the region, rail transport was critical to the success of the Setzer operation, particularly during the operation's heyday during the 1930s, 1940s, and 1950s. Raw materials (primarily logs) were transported to the facility via the Southern Pacific line that extended to the northwest corner of property until the removal of these tracks for the construction of I-5 in the 1960s. This same line was used to export finished wood products (mainly wooden boxes) from the Setzer plant. The construction of I-5 through the property in the 1960s and the concurrent decline of the box-making operations led to a substantial decline in the role of rail in the Setzer business. Today less than six cars per year bring materials to the property via a rail tunnel under I-5, adjacent to the western boundary of the project site. The carrier service is provided by the California State Railroad Museum.<sup>5</sup>

### **Sacramento Farmers Market**

Farmers markets are markets typically held outdoors in public spaces where farmers can sell produce to the public. Historical evidence indicates that Depression-era Sacramento was home to at least three farmers markets. At least two of these markets preceded the Sacramento Farmers Market that occupied the Northwest Land Park project site: Tong Sung Farmers Market at Third and I streets and Levi Zentner Market at 16<sup>th</sup> and North B streets. According to a 1999 article for *Pocket News*, the 16<sup>th</sup> Street market was notable for its owner's insistence on establishing the prices at which the merchants renting his stalls could sell their goods.<sup>6</sup>

The City of Sacramento operated a market on a leased parcel near the intersection of Eighth and T streets, known as the 'city free market.' However, as the money generated by leasing stalls to farmers did not cover the expense of leasing the land, the City Council canceled its contract with the property's owner, Herman Davis. The recommendation that the city close its market coincided with Davis' founding of his own market on the eastern half of the block on which the city's market was situated. The *Sacramento Union* reported that, as a result, several of the city's former tenants elected to establish a separate institution, Farmers Free Market, on the block bound by 30<sup>th</sup> Street, Alhambra Boulevard, R Street, and S Street sometime after April 1938. This block remained the site of a farmers market until 1986.

In 1932 several farmers and distributors who had previously operated stalls at the Levi Zentner Market bristled at the price controls in place at that market and decided to establish their own venue on a 6.85-acre lot in the Wright and Kimbrough industrial tract. A corporate venture organized by Sigeichi Masuhara, Elder Cecchettini, and Caesar Viglioni, the Sacramento Farmers Market generated funding for the business by selling shares to ethnic Japanese, Italian, and Chinese dealers. The new business used the money generated by their initial offering to pay for the

4 Carey & Co. Inc. Architecture. August, 2006. *Setzer Forest Products Property Draft Historic Resource Evaluation Report*. Prepared for Signature Properties, Inc., p. 5.

5 Kable, Mark, CEO Setzer Forest Products, personal communication, December 9, 2010.

6 Watanabe, Roy, "Long Ago Veggies Came from Local Dirt," *Pocket News*, March 4, 1999.

construction of the facility's first two structures, and the market officially opened in 1933. In its first years of business, the market was successful enough to expand its facilities. In 1935, Sacramento Farmers Market erected a third building, which included storage areas and the Market Club restaurant.

The farmers and produce distributors operating out of Sacramento Farmers Market were a mix of shareholders and non-shareholding tenants. In addition to fruits and vegetables, these dealers offered fish, poultry, and eggs to the grocery stores and individual shoppers who patronized the market. Some of the farming families and produce distributors who operated stalls at Sacramento Farmers Market remain active in the local produce distribution business.

During the 1940s and 1950s Sacramento Farmers Market underwent major changes. Under the directive of Executive Order 9066, the ethnic Japanese majority of Sacramento Farmers Market shareholders spent the duration of World War II in federal internment camps. While many returned to Sacramento Farmers Market after the war, the farmers market ceased selling directly to consumers and operated primarily as a wholesale distributor serving grocery stores. However, by the late 1990s it had lost its share of the market in produce distribution to Sacramento grocery stores and instead sold mostly to ethnic restaurants, specialty restaurants, and stores located in towns and cities outside Sacramento. The market continues as to rent space to distributors, including Chick's Produce, a company operated by the Cecchetti family.

### **NCIC Records Search**

PBS&J archaeologist Jesse Martinez conducted a confidential records search for the project site and a surrounding one-quarter-mile radius at the Northern California Information Center (NCIC) on April 20, 2010 (NCIC Records Search Number SAC-09-92). The search included a review of the NRHP, the California Historic Resources Inventory, records of previously recorded cultural resources, records of previous field studies, and other historic maps and documents. The records search did not identify any previously recorded prehistoric or historic-era cultural resources on the project site. The records search identified two previous archaeological studies that were conducted on the project site (Johnson 1978 and Smith 1998) and six studies that were conducted within one quarter mile of the project site. Both previous studies had negative results for archaeological resources.

### **Native American Consultation**

PBS&J requested a search of the Native American Heritage Commission (NAHC) sacred lands database on May 11, 2010 to determine if any Native American cultural resources are present in or near the vicinity of the proposed project site. The NAHC response letter stated that the sacred lands database failed to indicate the presence of Native American resources in the immediate project area. The NAHC letter included a list of Native American organizations and individuals who may have knowledge of cultural resources in the project area. The NAHC identified five Native American contacts for the project.

As requested by the NAHC, letters that included a brief description of the project and a project map were sent to each organization/individual identified on the NAHC list on May 21, 2010. The NAHC also requests that follow-up contact be made to the Native Americans if no response is given. Follow-up contact was conducted on July 16, 2010. As of the date of the publication of this DEIR, there have been two responses from organizations or individuals identified on the NAHC list in response to either inquiry. A descendant of the Nisenan (South Maidu), Konkow, and Washoe peoples responded by stating environs located near the Sacramento River are culturally rich areas that were heavily developed prior to modern environmental laws. As such, she asked that any inadvertent discoveries be reported to the appropriate agencies. She also recommended archaeological monitoring for all ground disturbing activities and that a Native American monitor be retained if discoveries warrant such an action. In addition, the Cultural Resources Director for the Shingle Springs Band of Miwok Indians, stated in a letter that the Shingle Springs Band of Miwok Indians are not aware of any known cultural resources on the project site, but they have a process to protect such resources if they are discovered. He also requested a copy of the survey report for the project. Records of Native American Correspondence are included in the *Northwest Land Park Cultural Resources Inventory and Evaluation Report*, which is included as Appendix H of this EIR.

### **Pedestrian Archaeological Survey**

On April 29, 2010, PBS&J archaeologist Emilie Zelazo conducted a pedestrian archaeological survey of the project site to determine if any unique archaeological resources were present within the proposed project boundary. The majority of the project site is covered with impervious surfaces (buildings, concrete, or asphalt), leaving only approximately one-half of an acre of undeveloped land located in the southeastern section of the project site along 5th Street and McClatchy Way. Ms. Zelazo walked a series of parallel transects spaced 20 meters apart across the undeveloped surface. Heavy weedy vegetation and gravel, some containing red brick fragments, covered the greater part of the area surveyed, rendering surface visibility at ten percent or less. Probing and deep tire tracks in this disturbed earth revealed the gravel extends at least ten centimeters (four inches) or more below the surface. The gravels were more sparse and the vegetation more thick in the western portion of the survey area. Despite these factors, several discrete patches of rodent disturbance and bare ground were visible. Some of these rodent back-dirt piles and patches of native soil were shallowly probed with a trowel for further assessment. No evidence of anthropogenic soils (i.e., midden), prehistoric artifacts, or prehistoric features were observed in the project site that would indicate the presence of Native American resources.

A small sparse surface scatter of historic-era refuse was identified at the corner of 5th Street and McClatchy Way in the extreme southeast corner of the project site. This scatter is widely dispersed, consists of less than twenty items, and appears to be entirely surficial in nature. The scatter included non-diagnostic fragments of white ceramic earthenware, rusted metal scrap, red brick, and thick green, brown, and clear glass; modern trash (such as plastic bottles, food wrappers, and thin green, clear, and brown glass) was also observed in this area. One shard of sun-colored amethyst glass was also observed; sun-colored amethyst glass is indicative of clear glass produced prior to 1921. This shard represented the base fragment of what appears to be a glass insulator. A utility pole line

abuts the property along McClatchy Avenue. Thus, it is most likely the insulator is related to the history of the utility pole line and not associated with either the trash scatter or the occupation of the property by Setzer Box Company.

### **Built Environment Survey**

PBS&J architectural historians conducted an intensive-level survey of the buildings present on project site on April 29, 2010. The surveyors took extensive exterior and interior photographs of the buildings and structures formerly associated with the Setzer Box Factory and the Sacramento Farmers Market, where accessible. During the survey of the Setzer Forest Products plant, the surveyors were accompanied by Setzer Forest Products CEO, Mark Kable, who provided detailed information on the history and physical evolution of the Setzer Forest Products plant. Follow-up site visits were conducted in on June 17, 2010 and July 6, 2010 to investigate the Farmers Market 3 Building in more detail, including the interior of the Market Club Restaurant within the Farmers Market 3 Building, which was not accessible during the April 2010 visit.

### **Description of Built Environment**

The project site includes 25 buildings/structures. Thirteen of these structures are of historic age (i.e., 45 years old or older). All of the structures are associated with either the former Setzer Box Factory or the Sacramento Farmers Market. Each building has been assigned a number that corresponds to the Built Environment Map (see Figure 5.3-1). The building or structure's date of construction is identified in parentheses.

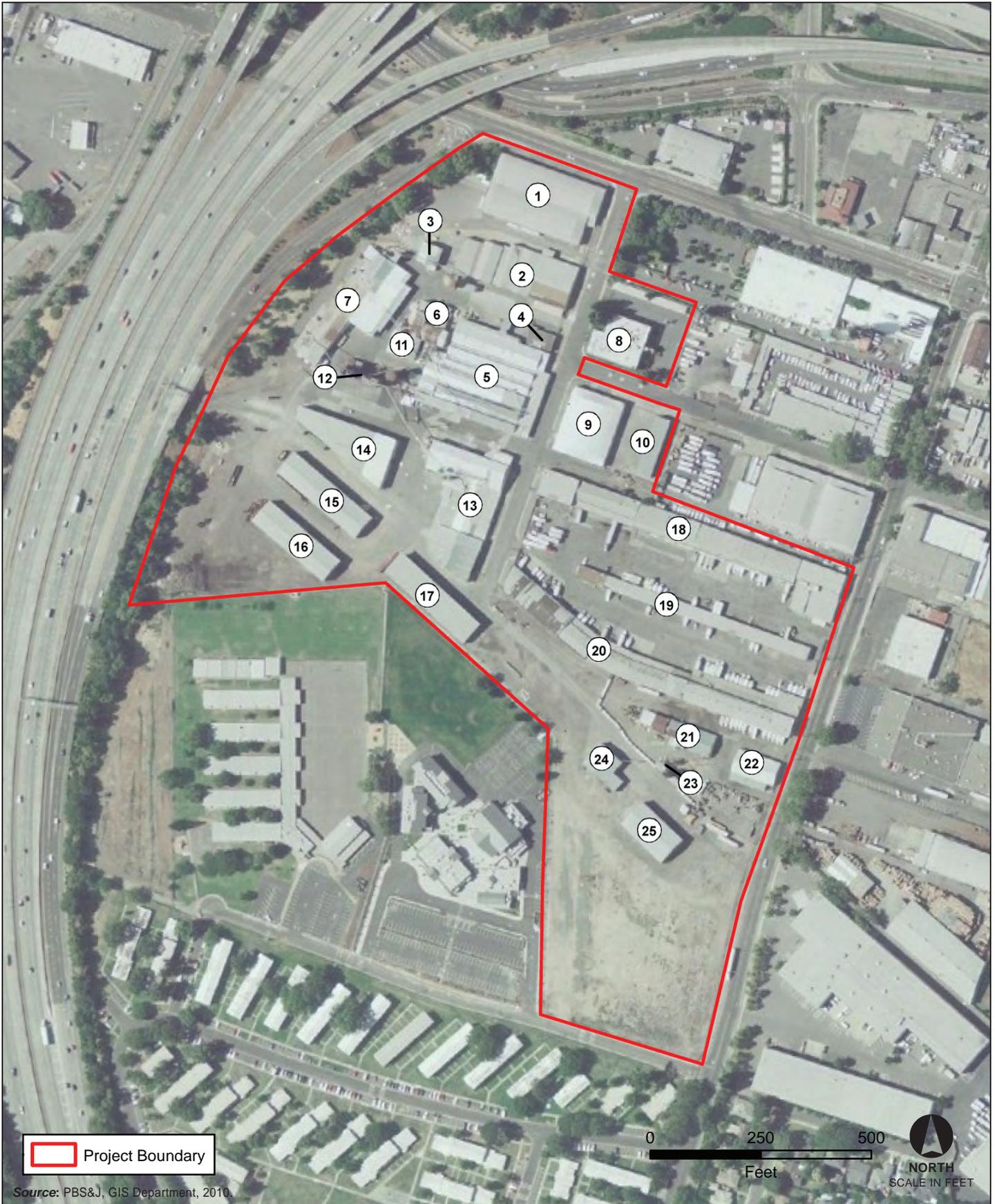
### **Historic-Age Buildings**

#### **Building 1—Warehouse (1953)**

The building is constructed of cinder-block and sits on a raised concrete foundation. The Setzer family purchased this building from the Arata brothers, who owned Bonnie Dog Food. Setzer used the building for storage. The exteriors of the north and south walls are clad in metal. The building has a wood roof with a double arch and wood-truss wood framing. Wooden posts run down the center of the interior. Large metal sliding doors and loading docks line the south side of the building, where railroad tracks were formerly located.

#### **Building 2—Box Warehouse (built c. 1934)**

This building, which is now used to store medium-density fiberboard (MDF), was historically used as a lumber shed. A 1942 Sanborn Map identifies Cal. Pine Distributors as the lessee. This large wood-frame building is currently covered primarily with corrugated metal, with some vertical board siding remaining. Originally the sides of the building were open. The same Sanborn map identifies the warehouse as a frame building, with the third of the building closest to 3rd Street being metal-clad. The building is an extended warehouse space with three gables, asphalt shingles, and metal flashing. Remnants of the railroad tracks that previously ran along the north side of the warehouse are still visible.



**FIGURE 5.3-1**  
**Built Environment**

100013515

Northwest Land Park



### Building 3—Kiln (1946)

This kiln was originally used to dry green lumber before turning it into boxes. This kiln is smaller than the sawmill kilns that were on the portion of the Setzer property now occupied by I-5. The kiln is composed of a combination of poured concrete and concrete blocks. It has two bays separated by a hollow brick partition lined with terra cotta. The building was originally three bays; the third bay was removed. The bays were heated by and adjacent to a natural gas-fired boiler that is no longer present. The kiln includes a second-level control room, which was used to control the release of steam from the kilns in order to cool them.

### Building 4—Box Factory Office (1927)

This wood-frame structure, situated along the north side of the main box factory building, was part of the original box factory operation. Over time, large sections of the building have been significantly altered. The interior has been completely remodeled with new wood finishes. The exterior is clad in T1-11 siding and the primary window type is aluminum, fixed-sash with mirror glass. Neither the exterior cladding nor the windows are original. The box factory office has been so extensively modified over time as to be unrecognizable.

### Building 5—Box Factory (1927)

This is the oldest Setzer Box Factory building. The building consists of a wood frame with corrugated metal siding and roof. A 1942 Sanborn map identifies the building factory as a metal clad frame building. Much of the wood used in the construction of this building is western pine, the same type of wood Setzer made into boxes. The building has five truss sections, which, in places, support a saw tooth roof. The building's roofing, beams, and columns have been patched or replaced over time as needed to maintain structural soundness and keep out the rain. The doors on the south side of the box factory are now covered; historically, they served rail lines that ran along the building. A central interior structure consisting of a bathroom and office were added after the period of significance. Railroad tracks once entered the building on the west side and ended approximately where this interior structure now stands. The building houses the oldest remaining machinery on the Setzer property, which dates from the 1960s. None of the machinery from the 1920s operation remains in this building or anywhere on the site.

### Building 6—Shop (1927)

This building was originally used for the construction of, and repairs to, machinery from the box factory. The shop consists of six different structures that have been attached to form a single building. Four of these structures date from 1927. The building is complex in plan and roof form as a result of the successive additions. The window type is varied and includes large multi-pane steel casement windows and 6/6 wood, horizontal sliding windows. Two major additions have been made to the building. The first addition, located on the west side of the building, was constructed to accommodate Setzer's production of Presto Logs. In recent years, an additional wood frame structure with a gabled roof was added to the south side of the shop building.

---

### Building 9 — Cal. Pine Warehouse (1951)

The warehouse is similar to Building 1. It is of concrete block construction with an arched roof of dark red wood. Steel windows that swing out from the middle line the west side of the building, and large door openings faced the old railroad tracks to the south.

### Building 11 (Burner - 1942) and Building 12—Wood Hog and Hoppers (between 1942 and 1952)

Several industrial structures stand just beyond the west side of the box factory. They include a burner, a wood hog (a large rotor that processes log debris), and a series of hoppers (bins for collecting wood chips). These structures, which previously connected to the box factory and several other buildings via large metal ducts, were used to remove and burn residual sawdust and wood fragments from the box factory. While some connections remain many have been removed or modified. The burner is a circular metal silo approximately 50 feet high. The original domed cinder catcher is not longer present. A 1942 Sanborn map shows the burner in its current location. The hoppers are wood-frame bins set atop a network of wood columns and crossbeams. A 1952 Sanborn map show the hoppers in their current location.

### Building 13—Sawmill (1934)

This facility was used historically to cut logs into boards. Specifically, logs were fed into the building from an adjacent pond, which formerly abutted the west side of the building. The pond no longer exists. The building, which was later converted into Setzer's primary molding plant, exhibits somewhat heavier construction techniques than the box factory buildings. The building has a single gable with wood truss work. The building has undergone two major additions that have extended the building southward. These additions are clearly visible from the building's exterior. Sanborn maps indicate that the first addition was completed prior to 1942.

### Buildings 18, 19 and 20—Sacramento Farmers Market 1, 2, and 3, respectively (before 1942)

Building 20 is a brick building, while Buildings 18 and 19 are wood frame buildings clad in corrugated sheet metal. These linear buildings have a series of loading docks for produce trucks. Building 19, located between Buildings 18 and 20, and is shown in a 1937 photo as an open car port structure. It is unknown when the building was enclosed, but various modifications have been made to all three buildings over the years. Building records indicate various construction activities at the Farmers Market in 1933, 1935, 1937, 1939, 1941, 1942, 1944, 1951, 1966, and 1968. In 1933 records show the construction of a warehouse with a concrete slab, an office, a service station, and a restaurant. The warehouse and restaurant are noted as being frame buildings with concrete floors. The warehouse the record refers to is presumably Building 18 since Building 19 was constructed as an open car port/shed structure and Building 20 is brick. Subsequent construction on site included an addition in 1935, erecting a "produce building" in 1937, a brick wall in 1939, a new restaurant in 1941, a storage shed in 1942, rebuilding a portion of the market building damaged by fire in 1944, a truck shed in 1951, an office and warehouse in 1966. A building record in 1968 notes the purpose

as “wreck commercial building.” Unfortunately the building records are not specific enough to provide definitive answers as to what modification occurred to which buildings; however, the visual inspection confirmed that all three of these buildings have undergone significant modifications. Setzer acquired these buildings in 2001, and they are currently leased to various distributors.

### Building 21 (Laminating Plant - 1944) and Building 22 (Slicing Plant - 1946)

Setzer acquired these two buildings in the 1970s. They formerly housed the McKuen Molding Plant. The buildings are wood frame structures with corrugated metal sheathing. A 1952 Sanborn map indicates that the buildings were not historically clad in metal, except for the south and west walls of the slicing plant.

### Buildings less than 45 years old

This category includes several buildings:

- Building 7—Former Rip Saw (1968)
- Building 8—Office Building (1981)
- Building 10—Cal. Pine Adjacent (after 1952)
- Building 14—Molding Shed 1 (1970)
- Building 15—Lumber Shed 1 (1975)
- Building 16—Lumber Shed 2 (1975)
- Building 17—Molding Shed 2 (1988)
- Building 23—Hoppers (after 1956)
- Building 24—Laminating Warehouse (1981)
- Building 25—Laminating Shed (1974)

None of these buildings is more than 50 years old, or constitutes an exceptional achievement in architecture or engineering. Thus none of the buildings are potentially eligible for either the NRHP, the CRHR, or the Sacramento Register.

## **Historic Evaluation**

### **Evaluation Criteria**

PBS&J used the NRHP and CRHR criteria to evaluate the historic significance of the buildings and structures on the Northwest Land Park project site. PBS&J also evaluated the properties under the criteria established in Sacramento City Code Chapter 17.134, Historic Preservation, which is similar to the CRHR. The CRHR criteria and the City of Sacramento criteria for eligibility for listing on the Sacramento Register are largely based on the NRHP which are codified in 36 CFR Part 60 and explained in guidelines published by the Keeper of the NRHP.

Eligibility for listing on the NRHP, CRHR, and the Sacramento Register rests on twin factors of significance and integrity. A property must have both significance and integrity to be considered eligible. Loss of integrity, if sufficiently great, will overwhelm historical significance a property may possess and render it ineligible. Likewise, a property can have complete integrity, but if it lacks significance, it must also be considered ineligible.

The evaluations below use the letter/number criterion references from the NRHP and CRHR, respectively, which capture the categories of Sacramento Register criteria 1–7. The evaluations are also informed by the U.S. Department of the Interior, National Park Service Bulletin 15, How to Apply the National Register Criteria for Evaluation, which is the recognized national standard for evaluation of historic significance.<sup>7</sup>

### **Setzer Forest Products Plant (Buildings 1, 2, 3, 4, 5, 6, 9, 11, 12, 13, 21, and 22)**

Under Criterion A (1), the Setzer Forest Products Plant does not appear to be associated with events that have made a significant contribution to the broad patterns of Sacramento's, the region's, the State's, or the nation's history. As stated in National Park Service Bulletin 15, to be considered for listing under Criterion A (and for the purposes of this report, Criterion 1 of the CRHR), a property must:

be associated with one or more events important in the defined historic context. Criterion A recognizes properties associated with single events, such as the founding of a town, or with a pattern of events, repeated activities, or historic trends, such as the gradual rise of city's prominence in trade and commerce. The event or trends, however, must clearly be important within the associated context: settlement, in the case of the town, or development of a maritime economy, in the case of the port city. Moreover, the property must have an important association with the event or historic trends, and it must retain historic integrity.

With regard to significance of the association, Bulletin 15 further states:

Mere association with historic events or trends is not enough, in and of itself, to qualify under Criterion A: the property's specific association must be considered important as well. For example, a building historically in commercial use must be shown to have been significant in commercial history.

While many of the buildings and structures within the Setzer Forest Products Plant are of historic age, there is no substantial documentary evidence that they are associated with events that have made a significant contribution to the broad patterns of Sacramento's, the region's, the State's, or the nation's history. The buildings and structures are historically associated with the former Setzer Box Factory and, by extension, the local and statewide agricultural economy. While there is no doubt that agriculture was an integral part of the local and statewide economy, there is no substantial evidence that the Setzer Box Factory made a significant contribution to either of these economies or, for that matter, to the social, political, or cultural fabric of the nation, state, or city.

---

<sup>7</sup> U.S. Department of the Interior, National Park Service Bulletin 15, How to Apply the National Register Criteria for Evaluation <<http://www.nps.gov/history/nr/publications/bulletins/nrb15/>>, Accessed July 9, 2010.

To the contrary, based on the archival record and personal accounts, including the individual with arguably the most knowledge of historic operations on the Setzer property, Setzer Forest Products CEO, Mark Kable, the Setzer Box Factory was one of many box-making operations that existed locally, regionally, and nationally before the decline of the wooden box industry in the mid-twentieth century. Unlike, for instance, the local canning industry, which employed thousands of individuals and played a foundational role in the growth and development of Sacramento and the region for much of the twentieth century, the local box-making industry employed only a few hundred individuals. No evidence was found that the box-making industry as a whole or through one or more of the individual companies, such as the Setzer Box Factory, which employed roughly 100 individuals at its peak, made a significant impact on the state or local economy or any other facet of the city or region.

An extensive search was conducted of the pertinent local archival repositories and secondary literature to seek information on the property. Materials consulted at the California History Room included historic-era interior and exterior photographs of the Setzer Box Factory and the newspaper articles cited in this report. A search of the pamphlet files, periodical articles catalog, and photograph index at the Sacramento Public Library's Sacramento Room yielded no information on the Setzer property. A search of the Center for Sacramento History's online catalog uncovered one photograph of the exterior of the Setzer Box Factory taken in 1934. During subsequent telephone conversations, Center for Sacramento History senior archivist Patricia Johnson suggested that, other than building permits, the repository had no further information that would be of use. A search of the holdings at the California State Archives, conducted with the assistance of a California History Room reference librarian, yielded no relevant information on the Setzer property.

The lack of primary documentation and references to the property in the secondary literature are strong indicators of the property's lack of historical significance. As stated above, mere association with historic events or trends is not enough, in and of itself, to qualify under Criterion A (1). A property's specific association must be considered important as well. The available evidence supports the conclusion that the Setzer Forest Products Plant is not associated with events that have made a significant contribution to the broad patterns of Sacramento's, the region's, the State's, or the nation's history, and therefore does not meet Criterion A (1).

Under Criterion B (2), the evidence indicates that the Setzer Forest Products Plant does not represent a property associated with the life of a person important to local, California, or national history. Properties that meet this criterion are associated with specific individuals who made important contributions to a community, the state, or the nation in their field of endeavor or in some specific documented manner. The Setzer Forest Products Plant is most directly associated with Curt Setzer, who successfully managed box-making and forest products operation from 1927 until his retirement in 1951. Although Setzer was a successful businessman and prominent citizen in Sacramento, the historic record does not indicate a level of significance to meet the eligibility standards under Criterion B (2).

Under Criterion C (3), the Setzer Box Factory does not appear to be significant because it does not represent an important example of a type, period or method of construction, nor does it appear to be

the work of a master artist or craftsman or possess high artistic values. As stated in National Park Service Bulletin 15:

The first requirement, that properties "embody the distinctive characteristics of a type, period, or method of construction," refers to the way in which a property was conceived, designed, or fabricated by a people or culture in past periods of history. "The work of a master" refers to the technical or aesthetic achievements of an architect or craftsman. "High artistic values" concerns the expression of aesthetic ideals or preferences and applies to aesthetic achievement.

The design of the utilitarian buildings suggests their functions; however, they lack any specific architectural style. In addition, the Setzer Box Factory does not constitute a significant historical district, which comprises a significant concentration, linkage, or continuity of sites, buildings, structures, or objects. As stated in National Park Service Bulletin 15:

A district must be significant, as well as being an identifiable entity. It must be important for historical, architectural, archeological, engineering, or cultural values.

As discussed above, the Setzer Box Factory does not possess important historical associations or architectural merit and therefore does not qualify as significant historical district.

The property's individual buildings and its overall industrial complex do not represent technical innovations of the box making industry from the 1920s through the 1940s and their architectural design does not represent important examples of these types of buildings from this period.

The Setzer Forest Products Plant does not appear to be significant under Criterion D (4) because this criterion is usually used to evaluate historic sites and archaeological resources. Although buildings and structures can occasionally be recognized for the important information they might yield regarding historic construction or technologies, the Setzer Forest Products Plant buildings are building types that are well documented and are not a principal source of important information in this regard.

### **Sacramento Farmers Market (Buildings 18,19, and 20)**

Under Criterion A (1), the Sacramento Farmers Market is not associated with events that have made a significant contribution to the broad patterns of Sacramento's, the region's, the State's, or the nation's history.

As was the case with the Setzer Forest Products Plant, no substantial evidence was found that the historic-age Sacramento Farmers Market buildings are associated with events that have made a significant contribution to the broad patterns of Sacramento's, the region's, the State's, or the nation's history. The Sacramento Farmers Market was one of hundreds of businesses that operated in Sacramento in the first half of the twentieth century. No evidence was found that the Farmers Market was a major employer or in any significant way influenced the economic, social, political, or cultural life of Sacramento, the state, or the nation.

A finding of historical significance must be based on substantial evidence. A thorough search of the pertinent local archival repositories and secondary literature yielded a few newspaper articles and

two non-scholarly sources that include no credible support for a finding of national, state, or local significance as established in the recognized standards of the profession.

Under Criterion B (2), the Sacramento Farmers Market does not represent a property associated with the life of a person important to local, California or national history. Properties that meet this criterion are associated with specific individuals who made important contributions to a community, the state, or the nation in their field of endeavor or in some specific documented manner. The Sacramento Farmers Market is most directly associated with the organizers of the business, Sigeichi Masuhara, Elder Cecchettini, and Caesar Viglioni. Although these were successful businessmen in Sacramento, the historic record does not indicate a level of significance to meet the eligibility standards under Criterion B (2).

Under Criterion C (3), the Farmers Market does not appear to be significant because it does not represent an important example of a type, period, or method of construction, nor does it appear to be the work of a master artist or craftsman or possess high artistic values. The design of the utilitarian buildings suggests their functions as distribution warehouses; however, they lack any specific architectural style. After the initial construction in 1933 the building records show additions and modifications in 1935, 1937, 1939, 1941, 1942, 1944, 1951, 1966, and 1968. The property's individual buildings and its overall industrial complex do not represent technical innovations in the produce distribution business and their architectural design does not represent important examples of these types of buildings from this period. One and two-story brick buildings were commonly constructed for a variety of uses in the 1930s including warehouses, industrial businesses, homes, and schools. Examples of brick warehouses used for a variety of light industrial uses can still be found along R Street in downtown Sacramento as well as the Richards Boulevard area particularly along 16th between A and Baster streets.

The Sacramento Farmers Market does not appear to be significant under Criterion D (4) because this criterion is usually used to evaluate historic sites and archaeological resources. Although buildings and structures can occasionally be recognized for the important information they might yield regarding historic construction or technologies, the Sacramento Farmers Market buildings are building types that are well documented and are not a principal source of important information in this regard.

### **Paleontological Resources**

Paleontological resources include fossil remains, as well as fossil localities and rock or soil formations that have produced fossil material. Fossils are the remains or traces of prehistoric animals and plants. Fossils are important scientific and educational resources because of their use in: (1) documenting the presence and evolutionary history of particular groups of now extinct organisms, (2) reconstructing the environments in which these organisms lived, and (3) determining the relative ages of the strata in which they occur and of the geologic events that resulted in the deposition of the sediments that formed these strata and in their subsequent deformation. CEQA requires that these resources be addressed during the EIR process.

Paleontological resources are classified as non-renewable scientific resources and are protected by federal and state statutes, most notably by the 1906 Federal Antiquities Act. Professional standards for assessment and mitigation of adverse impacts on paleontological resources have been established by the Society of Vertebrate Paleontology (SVP).

The project site is located in what is known as the Great Valley, which consists of Quaternary sedimentary deposits. Quaternary sediments are gravels laid down by large river systems throughout the state. These types of deposits contain well-preserved vertebrate and plant fossils, similar to the flora and fauna we see today. Glaciers developed in the Sierra Nevada during colder climate intervals, and large lakes formed in the Great Valley, Owens Valley, and the Salton Sea.

## **REGULATORY SETTING**

Federal, State, and local governments have developed laws and regulations designed to protect significant cultural resources that could be affected by actions that they undertake or regulate. The National History Preservation Act of 1966 (NHPA) and California Environmental Quality Act (CEQA) are the principal federal and State laws governing preservation of historic and archaeological resources of national, regional, State, and local significance.

### **State**

Under CEQA, public agencies must consider the effects of their actions on both “historical resources” and “unique archaeological resources.” Pursuant to Public Resources Code section 21084.1, a “project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.” Section 21083.2 requires agencies to determine whether proposed projects would have effects on “unique archaeological resources.”

“Historical resource” is a term of art with a defined statutory meaning (see Public Resources Code, section 21084.1 and CEQA Guidelines, section 15064.5). The term embraces any resource listed in or determined to be eligible for listing in the CRHR. The CRHR includes resources listed in or formally determined eligible for listing in the NRHP, as well as some California State Landmarks and Points of Historical Interest.

Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be “historical resources” for purposes of CEQA unless a preponderance of evidence indicates otherwise (Public Resources Code, section 5024.1 and California Code of Regulations, Title 14, section 4850). Unless a resource listed in a survey has been demolished, lost substantial integrity, or there is a preponderance of evidence indicating that it is otherwise not eligible for listing, a lead agency should consider the resource to be potentially eligible for the CRHR.

In addition to assessing whether historical resources potentially impacted by a proposed project are listed or have been identified in a survey process, lead agencies have a responsibility to evaluate them against the CRHR criteria prior to making a finding as to a proposed project's impacts to historical resources (Public Resources Code, section 21084.1 and CEQA Guidelines, section 15064.5, subdivision (a)(3)). In general, an historical resource, under this approach, is defined as any object, building, structure, site, area, place, record, or manuscript that:

- (a) Is historically or archeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political or cultural annals of California; and
- (b) Meets any of the following criteria:
  - 1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
  - 2) Is associated with the lives of persons important in our past;
  - 3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
  - 4) Has yielded, or may be likely to yield, information important in prehistory or history.

(CEQA Guidelines, section 15064.5 (a)(3))

As noted above, CEQA also requires lead agencies to consider whether projects will impact "unique archaeological resources." Public Resources Code, Section 21083.2 states that "unique archaeological resource" means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- 1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
- 2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- 3. Is directly associated with a scientifically recognized important prehistoric or historic event or person" (Public Resources Code, Section 21083.2 (g)).

## **Local**

### **Sacramento City Code**

Sacramento City Code Chapter 17.134, Historic Preservation, establishes the city's program, procedures, criteria, and standards for identifying, protecting, and assisting in the preservation of historic and cultural resources.

### **Historic Preservation Ordinance**

The City of Sacramento's historic preservation program began in 1975 with the enactment of the City's first Historic Preservation Ordinance. The current Historic Preservation Ordinance (No. 2006-063) was enacted in October 2006. The purpose of the Historic Preservation Ordinance is to

identify, protect, and encourage the preservation of significant resources; maintain an inventory and ensure the preservation of these resources; encourage maintenance and rehabilitation of the resources; encourage retention, preservation, and re-use of the resources; safeguard city resources; provide consistency with state and federal regulations; protect and enhance the city's attraction to tourists; foster civic pride in the city's resources; and encourage new development to be aesthetically compatible.

### **City of Sacramento Historic Resources**

All properties that are listed in the Sacramento Register of Historic & Cultural Resources (Sacramento Register) are included in the City of Sacramento Historic Resources document (September 2010) which can be obtained on-line from the City of Sacramento's website or from the City's Community Development Department. Included in the City of Sacramento Historic Resources document are the current listings in the Sacramento Register, the NRHP, and the CRHR for Sacramento.

### **Sacramento Register**

The City Code provides for the compilation of Landmarks, Contributing Resources, and Historic Districts into the Sacramento Register of Historic and Cultural Resources (Sacramento Register). The Sacramento Register includes all City-designated Landmarks, Historic Districts, and Contributing Resources in Historic Districts. The Sacramento Register also includes listings or maps of the properties within the City's Special Planning Districts that have been afforded preservation protection by ordinance. There are five factors to be considered in determining whether to place a nominated resource on the Sacramento Register as a landmark. These factors, as stated in the Historic Preservation code (17.134.170 A.2), are:

- a) A structure removed from its original location is eligible if it is significant primarily for its architectural value or it is the most important surviving structure associated with a historic person or event.
- b) A birthplace or grave is eligible if it is that of a historical figure of outstanding importance and there is no other appropriate site or structure directly associated with his or her productive life.
- c) A reconstructed building is eligible if the reconstruction is historically accurate, if the structure is presented in a dignified manner as part of a restoration master plan; and if no other original structure survives that has the same association.
- d) Properties that are primarily commemorative in intent are eligible if design, age, tradition or symbolic value invests such properties with their own historical significance.
- e) Properties achieving significance within the past fifty (50) years are eligible if such properties are of exceptional importance.

Resources that can be listed in Sacramento's Register include buildings, structures, sites, areas, places, features, characteristics, appurtenances, landscapes, landscape plans, or improvements. The City has established the following criteria in order to determine whether or not a building is historically significant:

- (1) It is associated with events that have made a significant contribution to the broad patterns of Sacramento's, the region's, the State's, or the nation's history.
- (2) It is associated with the lives of persons significant in Sacramento's, the region's, the State's, or the nation's history.
- (3) It embodies the distinctive characteristics of a type, period, or method of construction.
- (4) It represents the work of a master.
- (5) It possesses high artistic values.
- (6) It represents a significant and distinguishable entity whose components may lack individual distinction.
- (7) It has yielded, or may be likely to yield, information important in Sacramento's, the region's, the State's, or the nation's prehistory or history.

## **City of Sacramento 2030 General Plan**

The following goals and policies from the 2030 General Plan are relevant to cultural resources.

### **HISTORIC AND CULTURAL RESOURCES (HCR)**

**Goal HCR 2.1 Identification and Preservation of Historic and Cultural Resources. Identify and preserve the city's historic and cultural resources to enrich our sense of place and our understanding of the city's prehistory and history.**

HCR 2.1.2 **Applicable Laws and Regulations.** The City shall ensure that City, State, and Federal historic preservation laws, regulations, and codes are implemented, including the California Historical Building Code and State laws related to archaeological resources, to ensure the adequate protection of these resources.

HCR 2.2.15 **Archeological Resources.** The City shall develop or ensure compliance with protocols that protect or mitigate impacts to archaeological, historic, and cultural resources including prehistoric resources.

## **Applicable Mitigation Measures from the City of Sacramento 2030 General Plan**

No applicable mitigation measures.

## **IMPACTS AND MITIGATION MEASURES**

### **Methods of Analysis**

Research and field methods employed for the cultural resources analysis included a records search of the NCIC of the California Historical Resource Information System, Native American consultation, archival and background research, a pedestrian archaeological survey of the project site by a PBS&J archaeologist, and a built-environment survey of the project site by a PBS&J architectural historian and historian.

PBS&J used the NRHP and the CRHR criteria to evaluate the historic significance of the historic-age buildings and structures associated with the Setzer Forest Products plant the Sacramento Farmers

Market. PBS&J also evaluated the properties under the criteria established in Sacramento City Code Chapter 17.134, Historic Preservation.

### **Standards of Significance**

For the purposes of this EIR, an impact would be considered significant if the proposed project would:

- cause a substantial change in the significance of historical or archaeological resource as defined in CEQA Guidelines section 15064.5.
- directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

### **Project-Specific Impacts and Mitigation Measures**

#### **5.3-1 Implementation of the proposed project could cause a substantial change in the significance of a historical resource as defined in CEQA Guidelines section 15064.5.**

Impact 6.4-1 of section 6.4, *Cultural Resources*, of the 2030 General Plan Master EIR states that the City of Sacramento is the site of a variety of historical resources, including federal, state, and locally recognized resources. Known historical resources are located primarily in the Central City because this is where the development of the city began in the mid-1800s and this is where the most intensive surveys have been focused. The February 2007 publication of historical resources within the Sacramento Register notes that there are 302 resources listed on the NRHP, including National Historic Landmarks and State Historic Landmarks.

As discussed in the Master EIR, the growth projected to occur within the General Plan Policy Area would occur both through infill development and build out of currently undeveloped areas. Increased maximum density allowances in the urban area could lead to the demolition of historically significant buildings and structures and/or damage to subsurface historic-period resources. Additionally, infrastructure or other public works improvements could result in damage to or demolition of other prehistoric resources or historic resources.

As detailed in the Master EIR and in the Regulatory Setting above, there are a number of federal, state, and local regulations in place to protect historical resources in the city. The City's Historic Preservation Ordinance (No. 2006-063) is in place to identify, protect, and encourage the preservation of significant resources; maintain an inventory and ensure the preservation of these resources; encourage maintenance and rehabilitation of the resources; encourage retention, preservation, and re-use of the resources; safeguard city resources; provide consistency with state and federal regulations; protect and enhance the city's attraction to tourists; foster civic pride in the city's resources; and encourage new development to be aesthetically compatible. However, because the 2030 General Plan does not propose policies that would prevent the demolition of any historic-age building that could eventually be eligible (when it meets the 50-year mark) for state or federal listing, the Master EIR states that impacts on historical resources are considered significant and unavoidable.

Development of the proposed project would include demolition of all existing industrial, warehouse, and commercial buildings and structures on the project site over four phases. None of the buildings or structures on the project site are listed on the Sacramento Register, the NRHP, or the CRHR. The project would not have any additional significant effect on historical resources not addressed as a significant effect in the Master EIR.

### Mitigation Measure

*None required.*

### **5.3-2 Implementation of the proposed project could cause a substantial change in the significance of an archaeological resource as defined in CEQA Guidelines section 15064.5.**

Impact 6.4-2 of section 6.4, *Cultural Resources*, of the General Plan Master EIR states that the City of Sacramento and the surrounding area have had a long cultural history and are known to have been occupied by Native American groups for thousands of years prior to settlement by non-Native peoples. Archaeological materials, including human burials, have been found throughout the city. Human burials outside of formal cemeteries often occur in prehistoric contexts. Areas of high sensitivity for archaeological resources are located within close proximity to the Sacramento and American rivers and other watercourses. The growth projected to occur within the General Plan Policy Area would occur both through infill development and build out of currently undeveloped areas. Increased maximum density allowances in the urban area could result in development that damages prehistoric- and historic-period archaeological resources located at or near ground surface. Additionally, infrastructure or other public works improvements which require subsurface ground-disturbance could result in damage to or destruction of archaeological resources buried below the surface. Archaeological sites have the potential to contain intact deposits of artifacts, associated features, and dietary remains that could contribute to the regional prehistoric or historic record.

Historical resources, as defined in section 15064.5(a)(3)(D) of the CEQA Guidelines include resources which have "...yielded, or may be likely to yield, information important in history or prehistory." In addition to the status of archaeological resources as historical resources, an archaeological site may also be a "unique archaeological resource," as defined in section 21083.2(g)(1)-(3) of the Public Resources Code. Further, archaeological resources are often of cultural or religious importance to Native American groups, particularly if the resource includes human and/or animal burials. Human burials, in addition to being potential archaeological resources, have specific provisions for treatment in section 5097 of the California Public Resources Code. Disturbing human remains would destroy the resources and could potentially violate the health code. The California Health and Safety Code (sections 7050.5, 7051, and 7054) has specific provisions for the protection of human burial remains. Existing regulations address the illegality of interfering with human burial remains, protect them from disturbance, vandalism, or destruction, and establish procedures to be implemented if Native American skeletal remains are discovered. Public Resources Code section 5097.98 also addresses the disposition of Native American burials, protects

such remains, and establishes the Native American Heritage Commission to resolve any related disputes.

General Plan Policies HCR 2.1.2 and HCR 2.1.15 are in place to protect archaeological resources by requiring surveys, research and testing prior to excavation in high-sensitivity areas and the proper handling of discovered resources and enforcement of applicable laws and regulations.

The Northwest Land Park project site is located within an area of high previous disturbance. No evidence of archaeological resources was identified within project site during the pedestrian survey conducted for the proposed project. Follow-up Native American consultation conducted on July 16, 2010, resulted in the recommendation by one individual that archeological monitoring be performed for all ground disturbing activities in the project area due to the fact that areas within the vicinity of the Sacramento River are known to be potentially rich in cultural resources. The individual further asked if there are any inadvertent discoveries that the appropriate agencies be informed and a Native American monitor be retained if the type of discovery warranted such an action. Given the extent of previous disturbance that has occurred on the project site for the construction of existing commercial and industrial uses and the negative results of the records search and pedestrian archaeological survey, the potential for impacts on significant intact archaeological resources appears to be low and a construction-monitoring program is not recommended. However, previous disturbance and the lack of previously recorded archaeological resources and the lack of surface indications does not preclude the possibility that significant subsurface cultural resources could be discovered during project construction. Project impacts on previously undocumented significant archaeological resources or human remains are therefore considered *potentially significant*.

### Mitigation Measure

Implementation of the following mitigation measure would require the performance of professionally accepted and legally compliant procedures for the discovery of previously undocumented significant archaeological resources and human remains and would, therefore, reduce this impact to a **less-than-significant level**.

- 5.3-2 a) *In the event that any prehistoric or historic-era subsurface archaeological features or deposits, including locally darkened soil ("midden"), that could conceal cultural deposits, are discovered during construction-related earth-moving activities, all ground-disturbing activity within 100 feet of the resources shall be halted and the City of Sacramento Community Development Department shall be notified. The City shall consult with a qualified archeologist retained at the applicant's expense to assess the significance of the find. If the find is determined to be significant by the qualified archaeologist (i.e., because the find is determined to constitute either an historical resource or a unique archaeological resource), representatives of the City and the qualified archaeologist shall meet to determine the appropriate course of action, with the City making the final decision. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and a report shall be prepared by the qualified archaeologist according to current professional standards.*

*If the archaeologist determines that some or all of the affected property qualifies as a Native American Cultural Place, including a Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine (Public Resources Code §5097.9) or a Native American historic, cultural, or sacred site, that is listed or may be eligible for listing in the California Register of Historical Resources pursuant to Public Resources Code §5024.1, including any historic or prehistoric ruins, any burial ground, any archaeological or historic site (Public Resources Code §5097.993), the archaeologist shall recommend to the City potentially feasible mitigation measures that would preserve the integrity of the site or minimize impacts on it, including any or a combination of the following:*

- *Avoidance, preservation, and/or enhancement of all or a portion of the Native American Cultural Place as open space or habitat, with a conservation easement dedicated to the most interested and appropriate tribal organization. If such an organization is willing to accept and maintain such an easement, or alternatively, a cultural resource organization that holds conservation easements;*
  - *An agreement with any such tribal or cultural resource organization to maintain the confidentiality of the location of the site so as to minimize the danger of vandalism to the site or other damage to its integrity; or*
  - *Other measures, short of full or partial avoidance or preservation, intended to minimize impacts on the Native American Cultural Place consistent with land use assumptions and the proposed design and footprint of the development project for which the requested grading permit has been approved.*
  - *After receiving such recommendations, the City shall assess the feasibility of the recommendations and impose the most protective mitigation feasible in light of land use assumptions and the proposed design and footprint of the development project. The City shall, in reaching conclusions with respect to these recommendations, consult with both the project applicant and the most appropriate and interested tribal organization.*
- b) *If human remains are discovered at any project construction sites during any phase of construction, all ground-disturbing activity within 50 feet of the remains shall be halted immediately, and the City of Sacramento Community Development Department and the County coroner shall be notified immediately. If the remains are determined by the County coroner to be Native American, the Native American Heritage Commission (NAHC) shall be notified within 24 hours, and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. The project applicant shall also retain a professional archaeologist with Native American burial experience to conduct a field investigation of the specific site and consult with the Most Likely Descendant, if any, identified by the NAHC. As necessary, the archaeologist may provide professional assistance to the Most Likely Descendant, including the excavation and removal of the human remains. The City shall be responsible for approval of recommended mitigation as it deems appropriate, taking account of the provisions of state law, as set forth in CEQA Guidelines section 15064.5(e) and Public Resources*

---

*Code section 5097.98. The project applicant shall implement approved mitigation, to be verified by the City, before the resumption of ground-disturbing activities within 50 feet of where the remains were discovered.*

**5.3-3 Implementation of the proposed project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.**

Impact 6.4-2 of section 6.5, *Geology, Soils, And Mineral Resources*, of the General Plan Master EIR states that paleontological resources may be present in fossil-bearing soils and rock formations below the ground surface. General Plan Policy HCR 2.1.15 requires that if paleontological resources are discovered during excavation or construction, proper protocols shall be adhered to. The City of Sacramento and surrounding area is not highly sensitive for these types of resources although some discoveries have been made in the past. Earth-disturbing activities in fossil-bearing soils and rock formations have the potential to damage or destroy paleontological resources that may be present below the ground surface. Therefore, any earth-disturbing activities resulting from implementation of the proposed project could damage or destroy fossils in these rock units. While the project site is not considered sensitive for paleontological resources and the likelihood of encountering paleontological resources is very low, project-related earth-disturbing activities could affect the integrity of a paleontological site, thereby causing a substantial change in the significance of the resource. Project impacts on paleontological resources are therefore considered *potentially significant*.

**Mitigation Measure**

Implementation of the following mitigation measure would require the performance of professionally accepted and legally compliant procedures for the discovery of paleontological resources and would reduce this impact to a ***less-than-significant level***.

5.3-3 *Should paleontological resources be identified at any project construction sites during any phase of construction, the construction manager shall cease operation at the site of the discovery and immediately notify the City of Sacramento Community Development Department. The project applicant shall retain a qualified paleontologist to provide an evaluation of the find and to prescribe mitigation measures to reduce impacts to a less-than-significant level. In considering any suggested mitigation proposed by the consulting paleontologist, the Community Development Department shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, land use assumptions, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while mitigation for paleontological resources is carried out.*

## **Cumulative Impacts**

Because the proposed project would result in no impacts on historically significant buildings or structures, the cumulative analysis focuses on only on potential cumulative impacts on archaeological and paleontological resources.

The 2030 General Plan Master EIR identifies the cumulative context for archaeological resources as the known territory of the local Native American population, which includes portions of seven counties. The Master EIR states that future development in the General Plan Policy Area as well as within the larger region could include excavation and grading that could potentially impact archaeological resources and human remains that may be present. The cumulative effect of this future development is the continued loss of prehistoric cultural remains. Excavations in the city have uncovered evidence of Native American culture dating back to 3000 B.C. The data derived from these studies have provided archaeologists the opportunity to reconstruct a framework of indigenous subsistence and settlement patterns from 6000 B.C. to the time of contact with Euro-American settlers.

Although other parts of California have yielded evidence of earlier occupations, the current regional archaeological records lack sites that can be attributed to the region's earliest inhabitants. Potential future development increases the likelihood that archaeological sites that date prior to 6000 B.C. could be uncovered. The Master EIR states that it is therefore possible that cumulative development could result in the destruction of unique archaeological resources or human remains, which could contribute to the erosion of the prehistoric record of the city. The Master EIR concluded that the cumulative impact of development under the proposed 2030 General Plan would, therefore, be considerable and would result in a significant cumulative impact. The proposed project is located within the General Plan Policy Area and is consistent with the land use assumptions of the 2030 General Plan and Master EIR. Although the Master EIR determined that cumulative impacts on archaeological resources addressed in the 2030 General Plan would be significant and unavoidable, the proposed project would not contribute to cumulative impacts beyond those already addressed in the Master EIR.

The Master EIR states that future development in the General Plan Policy Area under the 2030 General Plan as well as within the larger Central Valley could include excavation and grading that could potentially impact paleontological resources. The loss of these resources would result in a potentially significant cumulative impact. It is possible that project-related earth-disturbing activities could result in the demolition or destruction of unique paleontological resources, which could contribute to the erosion of the prehistoric record of the city. Assuming compliance with Policy HCR 2.1.15; federal, state and local regulations protecting paleontological resources; and the implementation Mitigation Measure 5.3-3 in this DEIR, the project would not contribute to cumulative impacts beyond those already addressed in the Master EIR.

## **5.4 Global Climate Change**

---

---

## 5.4 GLOBAL CLIMATE CHANGE

---

### INTRODUCTION

This section discusses climate change and the potential for development under the proposed Northwest Land Park Project (proposed project) to produce greenhouse gases (GHG), which are associated with global climate change. This section considers emissions related to a variety of sources including construction, vehicular traffic, energy and water consumption, as well as waste water and solid waste generation.

The Master EIR certified in connection with adoption of the 2030 General Plan in March 2009 included an extensive analysis of climate change. Global climate change, as the phrase suggests, is something that occurs on a world-wide basis. The phenomenon is, therefore, inherently a cumulative effect. The Master EIR evaluated the effects of development that could occur under the new general plan as part of a cumulative scenario that considered activities around the globe. The discussion of climate change in the Master EIR (see Chapter 8.0) is incorporated here by reference pursuant to CEQA Guidelines section 15050. The Master EIR may be reviewed at [www.sacgp.org](http://www.sacgp.org).

One comment pertaining to climate change was received during the Notice of Preparation comment period. The Sacramento Metropolitan Air District (SMAQMD) stated that although no district thresholds have been adopted, global climate change should be addressed in the EIR and should clearly describe and quantify the GHG emissions projected to be generated from the project, discuss whether or not the emissions are significant, and include specific alternatives and mitigation measures to reduce GHG emissions. No other comments pertaining to global climate change were received during the public review period for the NOP.

The analysis included in this section was developed based on data on construction activities, utility consumption, traffic volumes, and waste generated during the construction and operation of the proposed project. Information to prepare this section is based on the City of Sacramento 2030 General Plan Master Environmental Impact Report (Master EIR), traffic information provided by the traffic consultant, utility consumption and waste generation provided in Section 5.11 of this DEIR, and emissions estimates provided from the URBEMIS 2007 model.

### ENVIRONMENTAL SETTING

#### **Background on Climate Change and Greenhouse Gases**

Parts of the Earth's atmosphere act as an insulating blanket of just the right thickness, trapping sufficient solar energy to keep the global average temperature in a suitable range. The 'blanket' is a collection of atmospheric gases called 'greenhouse gases' (GHGs) based on the idea that the gases 'trap' heat similar to the glass walls of a greenhouse. These gases, mainly water vapor, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), ozone (O<sub>3</sub>), and chlorofluorocarbons (CFCs), act as global insulators, reflecting visible light and infrared radiation back to the Earth.

The role of water vapor and O<sub>3</sub> as GHGs is poorly understood. It is unclear the extent to which water vapor acts as a GHG. The uncertainty is due to the fact that water vapor can also produce cloud cover, which reflects sunlight away from the Earth and can counteract its effect, if any, as a GHG. Also, water vapor tends to increase as the Earth warms, so it is not well understood whether an increase in water vapor is contributing to, or rather a reaction to, climate change. Likewise, O<sub>3</sub> tends to break down in the presence of solar radiation but the mechanism is not well understood. For these reasons methodologies approved by the Intergovernmental Panel on Climate Change (IPCC), EPA, and the California Air Resources Board (CARB) focus on CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, CFCs, and hydrofluorcarbons (HFCs) as GHGs. A brief description of each of these gases is provided below.

**Carbon Dioxide (CO<sub>2</sub>)** enters the atmosphere through the burning of fossil fuels (e.g., oil, natural gas, and coal), solid waste, and trees and wood products, and as a result of other chemical reactions, such as those required to manufacture cement. Globally, the largest source of CO<sub>2</sub> emissions is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities, and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production, and the use of petroleum-based products can also lead to CO<sub>2</sub> emissions. Carbon dioxide is also removed from the atmosphere (or “sequestered”) when it is absorbed by plants as part of the biological carbon cycle. When in balance, the total CO<sub>2</sub> emissions and removals from the entire carbon cycle are roughly equal. Since the Industrial Revolution in the 1700s, human activities, including burning of oil, coal, and gas, and deforestation, have increased CO<sub>2</sub> concentrations in the atmosphere. In 2005, global atmospheric concentrations of CO<sub>2</sub> were 35 percent higher than they were before the Industrial Revolution.<sup>1</sup>

**Methane (CH<sub>4</sub>)** is emitted from a variety of both human-related and natural sources. Human-related activities include fossil fuel production, animal husbandry, rice cultivation, biomass burning, and waste management. CH<sub>4</sub> is emitted during the production and transport of coal, natural gas, and oil. CH<sub>4</sub> emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills. It is estimated that 60 percent of global CH<sub>4</sub> emissions are due to human-related activities. Natural sources of CH<sub>4</sub> include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources, such as wildfires. Methane emission levels from a particular source can vary significantly from one country or region to another, depending on many factors such as climate, industrial and agricultural production characteristics, energy types and usage, and waste management practices. For example, temperature and moisture have a significant effect on the anaerobic digestion process, which is one of the key biological processes that cause CH<sub>4</sub> emissions in both human-related and natural sources. Also, the implementation of technologies to capture and utilize CH<sub>4</sub> from sources such as landfills, coal mines, and manure management systems affects the emission levels from these sources.<sup>2</sup>

---

1 U.S. Environmental Protection Agency, Greenhouse Gas Emissions, last updated on April 30 2010, <<http://epa.gov/climatechange/emissions/index.html#ggo>>, accessed July 2010.

2 *Ibid.*

**Nitrous oxide (N<sub>2</sub>O)**, more commonly known as “laughing gas,” is produced naturally by microbial processes in soil and water. In addition to agricultural sources, some industrial processes, such as fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions, also contribute to its atmospheric load. It is used in rocket engines, racecars, and as an aerosol spray propellant. Global concentration of N<sub>2</sub>O in 1998 was 314 parts per billion (ppb).<sup>3</sup>

**Chlorofluorocarbons (CFCs)** have no natural source, but were synthesized for uses as refrigerants, aerosol propellants, and cleaning solvents. Since their creation in 1928, the concentrations of CFCs in the atmosphere have been rising. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and has successfully reduced or stopped the increase in the levels of the major CFCs. However, due to the long atmospheric lifetimes, CFCs will remain in the atmosphere for over 100 years.

**Hydrofluorocarbons (HFCs)** are another set of synthesized compounds. HFCs are also considered GHGs, though they are less stable in the atmosphere and therefore have a shorter lifetime and less of an impact than CFCs.

CFCs, Tetrafluoromethane (CF<sub>4</sub>), sulfur hexafluoride (SF<sub>6</sub>), and HFCs have been banned and are no longer commercially available. Therefore, they are not considered further in this analysis.

### **Potential Effects of Global Climate Change**

Global climate change may cause harm to human health and the environment. There is ongoing discussion regarding exactly what effects global climate change may cause. For example, it has recently been reported that coral reefs are bleaching due to increased water temperatures. This bleaching is, in fact, a result of a changing relationship between polyps and algae, and could eventually affect the global fish populations.<sup>4</sup> Even as this information is reported, however, there is a scientific discussion that is ongoing regarding the exact effect of climate change on the phenomenon.

Even minor changes in the temperatures we encounter on Earth can have major consequences. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21<sup>st</sup> century than were observed during the 20<sup>th</sup> century. A warming of about 0.2°C (0.36°F) per decade is projected, and there are identifiable signs that global warming is taking place, including substantial loss of ice in the Arctic.<sup>5</sup>

Greenhouse gas emissions that result from human activities have a wide variety of sources: future population growth and the locations of that growth; the amount, type, and locations of economic development; the amount, type, and locations of technological advancement; adoption of alternative energy sources; legislative and public initiatives to curb emissions; and public awareness and

---

3 *Ibid.*

4 Sacramento Bee, September 21, 2010.

5 International Panel on Climate Change, *Special Report on Emissions Scenarios, 2000*, <[www.grida.no/climate/ipcc/emission/002.htm](http://www.grida.no/climate/ipcc/emission/002.htm)>, accessed July 24, 2007.

acceptance of methods for reducing emissions. The projected effects of global warming on weather and climate are likely to vary regionally, but are expected to include the following direct effects:<sup>6</sup>

- Snow cover would be reduced, and areas with permafrost could thaw;
- Sea ice would shrink in both the Arctic and Antarctic;
- Hot extremes, heat waves, and heavy precipitation events would increase in frequency;
- Future tropical cyclones (typhoons and hurricanes) would become more intense;

Non-tropical storm tracks would move poleward, with resulting changes in wind, precipitation, and temperature patterns. Increases in the amount of precipitation are very likely in high-latitudes, while decreases are likely in most subtropical regions. Potential secondary effects from global warming include global rise in sea level, impacts on agriculture, changes in disease vectors such as mosquitoes, and changes in habitat and biodiversity.

Below is a summary of studies of some of the potential effects that could be experienced in California as a result of global warming and climate change:

- *Air Quality.* Higher temperatures, conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level O<sub>3</sub>, but the magnitude of the effect, and therefore its indirect effects, are uncertain. For other pollutants, the effects of climate change and/or weather are less well studied, and even less well understood. If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality. However, if higher temperatures are accompanied by wetter weather, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thus ameliorating the pollution associated with wildfires. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the State.<sup>7</sup>
- *Water Supply.* Uncertainty remains with respect to the overall impact of global climate change on future water supplies in California. For example, models that predict drier conditions (i.e., parallel climate model (PCM)) suggest decreased reservoir inflows and storage and decreased river flows relative to current conditions. By comparison, models that predict wetter conditions (i.e., HadCM2) project increased reservoir inflows and storage, and increased river flows.<sup>8</sup> A July 2006 technical report prepared by the California Department of Water Resources (DWR) addresses the State Water Project (SWP), the Central Valley Project, and the Sacramento-San Joaquin Delta. Although the report projects that “[c]limate change will likely have a significant effect on California’s future water resources . . . [and] future water demand,” it also reports that “much uncertainty about future water demand [remains], especially [for] those aspects of future demand that will be directly affected by

6 *Ibid.*

7 California Climate Change Center, *Our Changing Climate: Assessing the Risks to California*, CEC-500-2006-077, <[http://meteora.ucsd.edu/cap/pdf/files/CA\\_climate\\_Scenarios.pdf](http://meteora.ucsd.edu/cap/pdf/files/CA_climate_Scenarios.pdf)>, July, 2006.

8 Brekke, Levi D., Norman L. Miller, Kathy E. Bashford, Nigel W.T. Quinn, and John A. Dracup. “Climate Change Impacts Uncertainty for Water Resources in the San Joaquin River Basin, California.” *Journal of the American Water Resources Association*. 40(2): 149–164. Malden, MA, Blackwell Synergy for AWRA. 2004.

climate change and warming. While climate change is expected to continue through at least the end of this century, the magnitude and, in some cases, the nature of future changes is uncertain. This uncertainty serves to complicate the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood.<sup>9</sup> DWR adds that “[i]t is unlikely that this level of uncertainty will diminish significantly in the foreseeable future.”<sup>10</sup> Still, changes in water supply are expected to occur, and many regional studies have shown that large changes in the reliability of water yields from reservoirs could result from only small changes in inflows.<sup>11</sup>

- The DWR 2005 SWP Delivery Reliability Report presents information from computer simulations of the SWP operations based on historical data over a 73-year period (1922–1994). The DWR notes that the results of those model studies “represent the best available assessment of the delivery capability of the SWP.” In addition, the DWR is continuing to update its studies and analysis of water supplies.
- *Hydrology.* As discussed above, climate change could potentially affect the amount of snowfall, rainfall and snow pack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for salt water intrusion. Sea level rise can be a product of global warming through two main processes -- expansion of sea water as the oceans warm and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion and could also jeopardize California’s water supply. In particular, saltwater intrusion would threaten the quality and reliability of the state’s major fresh water supply that is pumped from the southern portion of the Sacramento/San Joaquin River Delta. Increased storm intensity and frequency could affect the ability of flood control facilities, including levees, to handle storm events.
- *Agriculture.* California has a \$30 billion agricultural industry that produces half the country’s fruits and vegetables. The California Climate Change Center (CCCC) notes that higher CO<sub>2</sub> levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase, crop-yield could be threatened by a less reliable water supply, and greater O<sub>3</sub> pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year that certain crops, such as wine grapes, bloom or ripen, and thus affect their quality.<sup>12</sup>

9 California Department of Water Resources, *Progress on Incorporating Climate Change into Management of California Water Resources*, <<http://baydeltaoffice.water.ca.gov/climatechange/DWRClimateChangeJuly06.pdf>>. July 2006.

10 *Ibid.*

11 Kiparsky, M. and P.H. Gleick, *Climate Change and California Water Resources: A Survey and Summary of the Literature*. Oakland, CA: Pacific Institute for Studies in Development. July 2003; California Department of Water Resources, *Progress on Incorporating Climate Change into Management of California Water Resources*, <<http://baydeltaoffice.water.ca.gov/climatechange/DWRClimateChangeJuly06.pdf>>. July 2006; Cayan, Dan, Amy Lynn Lueres, Michael Hanemann, and Guido Franco, *Scenarios of Climate Change in California: An Overview (White Paper, CEC-500-2005-186-SF)*, <<http://www.energy.ca.gov/2005publications/CEC-500-2005-186/CEC-500-2005-186-SF.PDF>>. February 2006.

12 California Climate Change Center, *Our Changing Climate: Assessing the Risks to California*, CEC-500-2006-077, <[http://meteora.ucsd.edu/cap/pdffiles/CA\\_climate\\_Scenarios.pdf](http://meteora.ucsd.edu/cap/pdffiles/CA_climate_Scenarios.pdf)>. July, 2006.

- *Ecosystems and Wildlife.* Increases in global temperatures and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. In 2004, the Pew Center on Global Climate Change released a report examining the possible impacts of climate change on ecosystems and wildlife.<sup>13</sup> The report outlines four major ways in which it is thought that climate change could affect plants and animals: (1) timing of ecological events; (2) geographic range; (3) species' composition within communities; and (4) ecosystem processes such as carbon cycling and storage.

### **Potential Effects of Human Activity on Greenhouse Gas Emission**

The burning of fossil fuels, such as coal and oil, especially for the generation of electricity and powering of motor vehicles, has led to substantial increases in CO<sub>2</sub> emissions (and thus substantial increases in atmospheric concentrations). In 1994, atmospheric CO<sub>2</sub> concentrations were found to have increased by nearly 30 percent above pre-industrial (c.1860) concentrations.

The effect each GHG has on climate change is measured as a combination of the volume of its emissions, and its global warming potential (GWP), and is expressed as a function of how much warming would be caused by the same mass of CO<sub>2</sub>.<sup>14</sup> Thus, GHG emissions are typically measured in terms of pounds or tons of CO<sub>2</sub> equivalents (CO<sub>2</sub>e), and are often expressed in millions of metric tons of CO<sub>2</sub> equivalents (MMT CO<sub>2</sub>e).

- *Global Emissions.* Worldwide emissions of GHGs in 2004 were nearly 30 billion tons of CO<sub>2</sub>e per year (including both ongoing emissions from industrial and agricultural sources, but excluding emissions from land-use changes).<sup>15</sup>
- *U.S. Emissions.* In 2004, the United States emitted 7 billion tons of CO<sub>2</sub>e. Of the four major sectors nationwide — residential, commercial, industrial and transportation — transportation accounts for the highest fraction of GHG emissions (approximately 35 to 40 percent); these emissions are entirely generated from direct fossil fuel combustion.<sup>16</sup> In 2008, the United States emitted 6.9 billion tons of CO<sub>2</sub>e, with transportation accounting for the highest fraction of GHG emissions of approximately 32 percent.<sup>17</sup>
- *State of California Emissions.* In 2004, California emitted approximately 483 million tons of CO<sub>2</sub>e, or about 6 percent of the U.S. emissions. This large number is due primarily to the sheer size of California compared to other states. By contrast, California has one of the fourth lowest per capita GHG emission rates in the country, due to the success of its energy-efficiency and renewable energy programs and commitments that have lowered the State's

13 Parmesan, C. and H. Galbraith, *Observed Impacts of Global Climate Change in the U.S.*, Arlington, VA: Pew Center on Global Climate Change, <[www.pewclimate.org/docUploads/final\\_ObsImpact.pdf](http://www.pewclimate.org/docUploads/final_ObsImpact.pdf)>, November 2004.

14 The potential of a gas or aerosol to trap heat in the atmosphere.

15 United Nations Framework Convention on Climate Change, *Sum of Annex I and Non-Annex I Countries Without Counting Land-Use, Land-Use Change and Forestry (LULUCF). Predefined Queries: GHG total without LULUCF (Annex I Parties)*. Bonn, Germany, <[http://unfccc.int/ghg\\_emissions\\_data/predefined\\_queries/items/3814.php](http://unfccc.int/ghg_emissions_data/predefined_queries/items/3814.php)>, accessed May 2, 2007.

16 US EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2004*. USEPA #430-R-06-002 <[www.epa.gov/climatechange/emissions/usgginv\\_archive.html](http://www.epa.gov/climatechange/emissions/usgginv_archive.html)>, April, 2006.

17 US EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2008*. USEPA# 430-R-10-006, <[www.epa.gov/climatechange/emissions/usinventoryreport.html](http://www.epa.gov/climatechange/emissions/usinventoryreport.html)>, April 2010.

GHG emissions rate of growth by more than half of what it would have been otherwise. Another factor that has reduced California's fuel use and GHG emissions is its mild climate compared to that of many other states. In 2008, California's GHG emissions were approximately 478 million metric tons CO<sub>2</sub>e, generally attributed to the reduced travel and therefore transportation emissions.<sup>18</sup>

- The California EPA (CalEPA) Climate Action Team stated in its March 2006 report that the composition of gross climate change pollutant emissions in California in 2002 (expressed in terms of CO<sub>2</sub>e) were as follows:<sup>19</sup>
  - Carbon dioxide accounted for 83.3 percent;
  - Methane accounted for 6.4 percent;
  - Nitrous oxide accounted for 6.8 percent; and
  - Fluorinated gases accounted for 3.5 percent.
- The California Energy Commission found that transportation is the source of approximately 41 percent of the State's GHG emissions, followed by electricity generation (both in-state and out-of-state) at 23 percent, and industrial sources at 20 percent. Agriculture and forestry is the source of approximately 8.3 percent, as is the source categorized as "other," which includes residential and commercial activities.<sup>20</sup>
- *Sacramento County Emissions.* In the County of Sacramento, fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source GHG emissions, accounting for just over half (53.9%) of the County's 13 million metric tons of GHG emissions in 2005. Residential (e.g., energy use, home water heaters, furnaces, etc.) sources were the second largest contributors of GHG emissions with about 17 percent of total emissions. Industrial and commercial sources account for about 16 percent of the County's GHG emissions, followed by waste at 5.3 percent, high global warming potential GHG's at 4.1 percent, and agricultural and water-related emissions at 1.5 percent of the total County GHG emissions.<sup>21</sup>
- *Sacramento Emissions.* This citywide GHG emissions inventory reflects all the energy used and waste produced within the Sacramento city limits. The total emissions from Sacramento in 2005 equal approximately 4.5 million metric tons CO<sub>2</sub>e. When emissions from highway transportation are considered in this total, approximately 46.9 percent of Sacramento's annual GHG emissions are associated with the transportation sector. Commercial and Industrial emissions are the second largest for the City at 22.1 percent, while residential emissions make up 16.5 percent of the total of Sacramento's emissions. Waste emissions,

18 California Energy Commission, Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004 - Final Staff Report, publication # CEC-600-2006-013-SF, <http://www.energy.ca.gov/2006publications/CEC-600-2006-013/CEC-600-2006-013-SF.PDF>, December 22, 2006; and January 23, 2007 update.

19 California Environmental Protection Agency, California Climate Action Team Report to Governor Schwarzenegger and the Legislature, <[http://www.climatechange.ca.gov/climate\\_action\\_team/reports/index.html#2006](http://www.climatechange.ca.gov/climate_action_team/reports/index.html#2006)>, March 2006, p. 32.

20 California Energy Commission, Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004 - Final Staff Report, publication # CEC-600-2006-013-SF, <http://www.energy.ca.gov/2006publications/CEC-600-2006-013/CEC-600-2006-013-SF.PDF>, December 22, 2006; and January 23, 2007 update.

21 ICF Jones & Stokes, 2009. *Greenhouse Gas Emissions Inventory for Sacramento County.* <[http://www.airquality.org/climatechange/SAC\\_GHG\\_InventoryJune09.pdf](http://www.airquality.org/climatechange/SAC_GHG_InventoryJune09.pdf)>, June 2009.

high GWP and water related emissions comprise 8, 4.1, and 1.6 percent of emissions respectively.

Various aspects of constructing, operating, and eventually discontinuing the use of commercial and residential development will result in GHG emissions. Operational phase GHG emissions result from energy use associated with heating, lighting and powering buildings (typically through natural gas and electricity consumption), pumping and processing water (which consumes electricity), as well as fuel used for transportation and decomposition of waste associated with building occupants. New development can also create GHG emissions in its construction and demolition phases in connection with the use of fuels in construction equipment, creation and decomposition of building materials, vegetation clearing, and other activities. However, it is noted that new development does not necessarily create entirely new GHG emissions. Occupants of new buildings are often relocating and shifting their operational phase emissions from other locations.

## REGULATORY SETTING

Global climate change is addressed through the efforts of various federal, State, regional, and local government agencies as well as national and international scientific and governmental conventions and programs. These agencies work jointly, as well as individually, to understand and regulate the effects of GHG emissions and resulting climate change through legislation, regulations, planning, policy-making, education, and a variety of programs. The significant agencies, conventions, and programs focused on global climate change are discussed below.

### International

#### **Kyoto Protocol**

The United States participated in the United Nations Framework Convention on Climate Change (UNFCCC) (signed on March 21, 1994). The Kyoto Protocol is a treaty made under the UNFCCC and was the first international agreement to regulate GHG emissions. It has been estimated that if the commitments outlined in the Kyoto Protocol are met, global GHG emissions could be reduced by an estimated 5 percent from 1990 levels during the first commitment period of 2008–2012. It should be noted that although the United States is a signatory to the Kyoto Protocol, Congress has not ratified the Protocol and the United States is not bound by the Protocol's commitments.

In anticipation of providing an updated international treaty for the reduction of GHG emissions, representatives from 170 countries met in Copenhagen in December 2009 to ratify an updated UNFCCC agreement (Copenhagen Accord). The Copenhagen Accord, a voluntary agreement between the United States, China, India, and Brazil, recognizes the need to keep global temperature rise to below 2°C and obliges signatories to establish measures to reduce GHG emissions and to prepare to provide help to poorer countries in adapting to Climate Change. It is anticipated that the Copenhagen Accord will be finalized and signed by representatives of the participating governments by the end of 2010.

## **Climate Change Technology Program**

The United States has opted for a voluntary and incentive-based approach toward emissions reductions in lieu of the Kyoto Protocol's mandatory framework. The Climate Change Technology Program is a multi-agency research and development coordination effort (which is led by the Secretaries of Energy and Commerce) that is charged with carrying out the President's National Climate Change Technology Initiative.

### **Federal**

#### **U.S. Environmental Protection Agency (EPA)**

The U.S. EPA is responsible for implementing federal policy to address global climate change. The Federal government administers a wide array of public-private partnerships to reduce GHG intensity generated by the United States. These programs focus on energy efficiency, renewable energy, CH<sub>4</sub>, and other non-CO<sub>2</sub> gases, agricultural practices, and implementation of technologies to achieve GHG reductions. The EPA implements several voluntary programs that substantially contribute to the reduction of GHG emissions.

In *Massachusetts v. Environmental Protection Agency* (Docket No. 05–1120), argued November 29, 2006 and decided April 2, 2007, the U.S. Supreme Court held that the EPA has authority to regulate GHGs, and the EPA's reasons for not regulating this area did not fit the statutory requirements. As such, the U.S. Supreme Court ruled that the EPA should be required to regulate CO<sub>2</sub> and other GHGs as pollutants under Section 202(a)(1) of the federal Clean Air Act (CAA).

The EPA issued a Final Rule for mandatory reporting of GHG emissions in October of 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufactures of heavy-duty and off-road vehicles and vehicle engines, and requires annual reporting of emissions. The Final Rule was effective December 29, 2009 with data collection to begin on January 1, 2010 and the first annual reports due in March of 2011. This rule does not regulate the emission of GHGs; it only requires the monitoring and reporting of GHG emissions for those sources above certain thresholds. EPA adopted a Final Endangerment Finding for the six defined GHGs on December 7, 2009. The Endangerment Finding is required before EPA can regulate GHG emissions under Section 202(a)(1) of the CAA in fulfillment of the U.S. Supreme Court decision.

On May 13, 2010, the EPA issued a final rule that establishes a common sense approach to addressing GHG emissions from stationary sources under the CAA permitting programs. This final rule sets a threshold of 75,000 tons per year for GHG emissions. New and existing industrial facilities that meet or exceed that threshold will require a permit under the New Source Review Prevention of Significant Deterioration (PSD) and title V Operating Permit programs. This rule will take effect on January 2, 2011.

## **State**

CARB, a part of the CalEPA is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, CARB conducts research, sets state ambient air quality standards (California Ambient Air Quality Standards (CAAQS)), compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts.

### **Executive Order S-3-05**

California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following GHG emission reduction targets:

- By 2010, California shall reduce GHG emissions to 2000 levels;
- By 2020, California shall reduce GHG emissions to 1990 levels; and
- By 2050, California shall reduce GHG emissions to 80 percent below 1990 levels.

The first California Climate Action Team (CCAT) Report to the Governor in 2006 contained recommendations and strategies to help meet the targets in Executive Order S-3-05. In April 2010, the Draft California Action Team (CAT) Biennial Report expanded on the policy oriented 2006 assessment. The new information detailed in the CAT Assessment Report includes development of new climate and sea-level projections using new information and tools that have become available in the last two years; and evaluation of climate change within the context of broader social changes, such as land-use changes and demographic shifts.<sup>22</sup> The action items in the report focus on the preparation of the Climate Change Adaptation Strategy, required by Executive Order S-13-08, described below.

### **Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006**

In 2006, the California State Legislature adopted AB 32, the California *Global Warming Solutions Act of 2006*. AB 32 focuses on reducing GHG in California. GHGs as defined under AB 32 include CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, hydrofluorocarbons, perfluorocarbons, and SF<sub>6</sub>. AB 32 required CARB to adopt rules and regulations that would achieve GHG emissions equivalent to 1990 statewide levels by 2020. On or before June 30, 2007, CARB was required to publish a list of discrete early action GHG emission reduction measures that would be implemented by 2010. The law further required that such measures achieve the maximum technologically feasible and cost effective reductions in GHGs from sources or categories of sources to achieve the statewide GHG emissions limit for 2020.

---

22 California Climate Action Team, *California Action Team Biennial Report*, <<http://www.energy.ca.gov/2010publications/CAT-1000-2010-004/CAT-1000-2010-004.PDF>>, April 2010.

CARB published its final report for Proposed Early Actions to Mitigate Climate Change in California in October 2007. This report described recommendations for discrete early action measures to reduce GHG emissions. The measures included are part of California's strategy for achieving GHG reductions under AB 32. Three new regulations are proposed to meet the definition of "discrete early action greenhouse gas reduction measures," which include the following: a low carbon fuel standard; reduction of HFC-134a emissions from non-professional servicing of motor vehicle air conditioning systems; and improved landfill CH<sub>4</sub> capture. CARB estimates that by 2020, the reductions from those three measures would be approximately 13-26 MMT CO<sub>2</sub>e.

Under AB 32, CARB has the primary responsibility for reducing GHG emissions. CARB has published a staff report titled California 1990 GHG Emissions Level and 2020 Emissions Limit that determined the statewide levels of GHG emissions in 1990 to be 427 MMT CO<sub>2</sub>e. Additionally, in December 2008, CARB adopted the Climate Change Scoping Plan, which outlines the State's strategy to achieve the 2020 GHG limit. This Scoping Plan proposes a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify energy sources, save energy, create new jobs, and enhance public health. The plan emphasizes a cap-and-trade program, but also includes the discrete early actions.

### **Senate Bill 97**

SB 97, enacted in 2007, amends the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. It directed the California Office of Planning and Research (OPR) to develop draft State CEQA Guidelines "for the mitigation of GHG emissions or the effects of GHG emissions" and directed the Resources Agency to certify and adopt the State CEQA Guidelines.

On April 13, 2009, OPR submitted the proposed amendments to the Secretary for Natural Resources. The Natural Resources Agency conducted formal rulemaking in 2009, certified and adopted the amendments in December 2009. The California Office of Administrative Law codified into law the amendments in March 2010. The amendments became effective in June 2010 and provide regulatory guidance with respect to the analysis and mitigation of the potential effects of GHG emissions.

### **Executive Order S-13-08**

On November 14, 2008, Governor Schwarzenegger issued Executive Order S-13-08, the Climate Adaptation and Sea Level Rise Planning Directive, which provides clear direction for how the State should plan for future climate impacts. Executive Order S-13-08 calls for the implementation of four key actions to reduce the vulnerability of California to climate change:

- i. Initiate California's first statewide Climate Change Adaptation Strategy (CAS) that will assess the State's expected climate change impacts, identify where California is most vulnerable and recommend climate adaptation policies;

- ii. Request that the National Academy of Sciences establish an expert panel to report on sea level rise impacts in California in order to inform State planning and development efforts;
- iii. Issue interim guidance to State agencies for how to plan for sea level rise in designated coastal and floodplain areas for new and existing projects; and
- iv. Initiate studies on critical infrastructure projects and land-use policies vulnerable to sea level rise.

The 2009 CAS report summarizes the best known science on climate change impacts in the state to assess vulnerability and outlines possible solutions that can be implemented within and across state agencies to promote resiliency. This is the first step in an ongoing, evolving process to reduce California's vulnerability to climate impacts.<sup>23</sup>

### **California Code of Regulations (CCR) Title 24, Part 6**

CCR Title 24, Part 6: *California's Energy Efficiency Standards for Residential and Nonresidential Buildings* (Title 24) were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions.

The Energy Commission adopted 2008 Standards on April 23, 2008 and the Building Standards Commission approved them for publication on September 11, 2008. The 2008 updates became effective on August 1, 2009. The Energy Commission adopted the 2008 changes to the Building Energy Efficiency Standards for several reasons:

- i. To provide California with an adequate, reasonably priced, and environmentally sound supply of energy;
- ii. To respond to AB 32, the Global Warming Solutions Act of 2006, which mandates that California must reduce its GHG emissions to 1990 levels by 2020;
- iii. To pursue California energy policy that energy efficiency is the resource of first choice for meeting California's energy needs;
- iv. To act on the findings of California's Integrated Energy Policy Report (IEPR) that concludes that the Standards are the most cost effective means to achieve energy efficiency, expects the Building Energy Efficiency Standards to continue to be upgraded over time to reduce electricity and peak demand, and recognizes the role of the

---

23 California Natural Resources Agency. *2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008*. <<http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF>>, 2009.

- Standards in reducing energy related to meeting California's water needs and in reducing GHG emissions;
- v. To meet the West Coast Governors' Global Warming Initiative commitment to include aggressive energy efficiency measures into updates of state building codes; and
  - vi. To meet the Executive Order in the Green Building Initiative to improve the energy efficiency of nonresidential buildings through aggressive standards.

## **CEQA Guidelines**

In response to SB 97, OPR released draft CEQA guideline amendments for GHG emissions to the Natural Resources Agency on April 14, 2009. On December 30, 2009, the Natural Resources Agency adopted the CEQA Guidelines Amendments addressing GHG emissions. OPR does not identify a threshold of significance for GHG emissions, nor has it prescribed assessment methodologies or specific mitigation measures. The amendments encourage lead agencies to consider many factors in performing a CEQA analysis, but preserve the discretion granted by CEQA to lead agencies in making their own determinations based on substantial evidence. The amendments also encourage public agencies to make use of programmatic mitigation plans and programs from which to tier when they perform individual project analyses.

The technical advisory suggests three components for CEQA disclosure: quantification of GHG emissions from a project's construction and operation, determination of significance of the project's impact to climate change, and if the project is found to be significant, the identification of suitable alternatives and mitigation measures. The analysis contained herein follows this guidance.

The California Air Pollution Control Officers Association (CAPCOA) released a white paper, entitled *CEQA and Climate Change*, in January 2008. The white paper contains the disclaimer that it is "intended as a resource, not a guidance document," and examines various threshold approaches available to air districts and lead agencies for determining whether GHG emissions are significant.

## **Senate Bill 375 (SB 375)**

Signed in September 2008 (Chapter 728, Statutes of 2008), SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires metropolitan planning organizations (MPOs) such as the Southern California Council of Governments (SCAG) to adopt a sustainable communities strategy (SCS) or alternative planning strategy (APS), as defined, in their upcoming, updated regional transportation plans (RTPs) for the purpose of reducing GHG emissions. SB 375 also aligns planning for transportation and housing, and creates specified incentives for the implementation of the strategies. ARB, in consultation with MPOs, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every 8 years but can be updated every 4 years if advancements in emissions technologies affect the reduction strategies to achieve the targets. ARB is also charged with reviewing each MPO's SCS

or APS for consistency with its assigned targets. If MPOs do not meet the GHG reduction targets, transportation projects will not be eligible for funding programmed after January 1, 2012.

This law also extends the minimum time period for the regional housing needs allocation cycle from 5 years to 8 years for local governments located within an MPO that meets certain requirements. City or county land use policies (including general plans) are not required to be consistent with the regional transportation plan (and associated SCS or APS). However, new provisions of CEQA would incentivize (through streamlining and other provisions) qualified projects that are consistent with an approved SCS or APS, categorized as “transit priority projects.”

CARB prepared a Scoping Plan to develop programs and measures to address the remaining 107 MMT of CO<sub>2</sub>e in order to reach the total of 173 MMT by the year 2020. The Scoping Plan was submitted to CARB in November of 2008 and was approved by CARB on December 11, 2008. The Scoping Plan contains the main strategies California will implement to reduce CO<sub>2</sub>e emissions by 169 MMT, or approximately 29 percent, from the state’s projected 2020 emissions level of 596 MMT of CO<sub>2</sub>e under a business-as-usual (BAU) scenario. (This is a reduction of 42 MMT CO<sub>2</sub>e, or almost 10 percent, from 2002–2004 average emissions, but requires the reductions in the face of population and economic growth through 2020.) The Scoping Plan also breaks down the amount of GHG emissions reductions ARB recommends for each emissions sector of the state’s GHG inventory. The Scoping Plan calls for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards:

- Improved emissions standards for light-duty vehicles (estimated reductions of 31.7 MMT CO<sub>2</sub>e)
- The Low-Carbon Fuel Standard (15.0 MMT CO<sub>2</sub>e)
- Energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 MMT CO<sub>2</sub>e)
- A renewable portfolio standard for electricity production (21.3 MMT CO<sub>2</sub>e)

The Scoping Plan identifies the role of local governments with the following language:

Local Government Targets: In recognition of the critical role local governments will play in the successful implementation of AB 32, ARB added a section describing this role. In addition, ARB recommended a greenhouse gas reduction goal for local governments of 15 percent below today’s levels by 2020 to ensure that their municipal and community-wide emissions match the State’s reduction target.

## **CAPCOA**

In August of 2010, the California air Pollution Control Officers Association published a resource for local governments to assess emissions reductions from GHG mitigation measures. This document, *Quantifying Greenhouse Gas Mitigation Measures*, is a compendium of mitigation measures selected because they are frequently considered as mitigation for GHG impacts. The purpose of this document is to provide standard methods for quantifying the emission reductions afforded to the commonly used mitigation measures.

The majority of the measures discussed in the CAPCOA document were previously discussed in a previous CAPCOA report, *CEQA and Climate Change, and Model Policies for Greenhouse Gases in General Plans*. While the measures covered in this document are extensive, they are not exhaustive of the potential mitigation measures that could be incorporated at a project level to reduce GHG emissions.

## **Regional**

### **Sacramento Metropolitan Air Quality Management District**

The SMAQMD was created by state law to enforce local, state, and federal air pollution regulations within the Sacramento Valley Air Basin. The SMAQMD's overall mission is to achieve clean air goals by leading the Sacramento region in protecting public health and the environment through effective programs, community involvement, and public education. The SMAQMD interacts with local, state, and federal government agencies, the business community, environmental groups, and private citizens to achieve these goals. The District regulates air pollutant emissions from stationary sources through permit limitations and inspection programs. The District oversees compliance with state and federal mandates by adopting rules and regulations as necessary. The SMAQMD supports incorporation of alternative and clean fuel vehicles within the activities of the planning and transportation entities thereby indirectly regulating mobile source emissions.

SMAQMD establishes air quality standards for application by development projects in the Sacramento to quantify and evaluate project air quality impacts. To date, neither the state, federal government, nor SMAQMD have developed GHG thresholds of significance for analyzing projects under CEQA. Despite lack of a GHG threshold, the District recommends that CEQA documents include a quantified discussion of anticipated GHG emissions along with reduction measures during both construction and operational phases of the project.<sup>24</sup>

### **SACOG Blueprint**

Sacramento Area Council of Governments (SACOG) Preferred Blueprint Scenario (or Blueprint), is a transportation and land use analysis suggesting how cities and counties should grow based on smart growth principles. Although the Blueprint is not intended to be applied or implemented in a literal, parcel-level manner, the Blueprint is intended to provide guidance as to how each jurisdiction can make land use decisions based on smart growth principles and how these decisions would impact the greater Sacramento region.

Land use policies adopted by SACOG as the Blueprint for regional growth would guide regional development in Sacramento to mitigate for regional transportation congestion as a result of modeled future growth without the Blueprint. The proposed 2030 General Plan incorporates the following principles that reflect the Blueprint adopted by SACOG: 1) making great places, 2) emphasis on smart growth with infill development and deferring expansion into Special Studies Areas until appropriate, 3) maintaining a vibrant economy, 4) creating a healthy city, 5) living lightly by creating

---

24 SMAQMD, *Guide to Air Quality Assessment in Sacramento County*. December 2009.

pedestrian, bicycle, and transit oriented development and, thus, reducing the carbon footprint, and 6) developing a sustainable future. Incorporation of the Blueprint principles would help mitigate for potential traffic congestion in the region, which will also mitigate GHG emissions associated with increased vehicle miles traveled (VMT).

## City of Sacramento

The City of Sacramento amended its General Plan in 2001 to incorporate Smart Growth Principles to change urban development patterns to reduce vehicle miles traveled and minimize air pollutant emissions. These principals include increasing density and mix of land uses, transportation management, infrastructure design and construction, discourage urban sprawl and promote infill development. These development principals informed the guiding principles for the 2030 General Plan.

To move the City towards sustainability, the City has adopted a Sustainability Master Plan and a Sustainability Implementation Plan. Together, these documents provide targets, goals, and implementation measures to achieve a sustainable City. The areas on which these documents focus are targets and goals relating to energy independence; climate protection; air quality; material resources; public health and nutrition; urban design, land use, green building and transportation; and parks, open space and habitat protection; water resources and flood protection; and public involvement and personal responsibility.

The Sustainability Master Plan includes the following Goals and Targets pertinent to this discussion as follows:

### Goals:

- Meet the intent of the Global Warming Solutions Act (AB32) (or subsequent laws) for:
  - *City operations.*
  - *The community of Sacramento.*
  - *The SACOG region by working with community partners.*
  - *Develop a climate adaptation plan for the region by working with community partners.*

### Targets (Selected)

- By 2015, the SACOG region will have a climate adaptation plan in place.
- By 2020, the SACOG planning region will have reduced CO<sub>2</sub> emissions to 1990 levels.
- By 2050, the SACOG planning region will have reduced CO<sub>2</sub> emissions by 80% relative to 1990 level emissions (or per subsequent State law).

The 2030 General Plan recognizes global climate change as a legitimate issue and substantial challenge for the community. The General Plan addresses the issue in two ways. In the first case, the General Plan recognizes that climate change could affect the community, and the General Plan

establishes policies that are intended to prepare for climate change and reduce the effects of climate change on the community, such as urban heat island minimization. In the second case, the General Plan includes policies addressing climate change through GHG emission reduction, such as open space and agricultural land preservation, energy efficiency, waste management and recycling, and water management and supply.

The following summarizes how the 2030 General Plan addresses climate change, both directly and indirectly:<sup>25</sup>

#### **Land Use and Urban Design**

**Sustainable Development Patterns:** Land use designations, urban form guidelines, and development standards promote more compact, mixed-use, and higher intensity development patterns. These patterns use land more efficiently, conserve energy, reduce GHG emissions and air pollution, and reduce expansion of the urban footprint.

**Sustainable Building Practices:** City wide land use and urban design policy promotes sustainable building practices that consume less energy, water, and other resources and use building materials more efficiently and sustainably; is healthier, safer, more durable and more comfortable.

**Green Infrastructure:** Policies to promote and maintain a comprehensive network of parks, open spaces and urban forests including both urban and non-urban open space.

#### **Mobility**

**Reduced Dependence on the Automobile:** Provides for a decrease in single-occupant vehicle use through Transportation Demand Management, parking supply disincentives, and changes in LOS standards.

**Viability of Pedestrian, Bicycle, and Public Transit Modes:** Improves modal choices by providing for better system connectivity, complete streets, pedestrian safety, and public transit connections and support.

**Increased Transit Ridership:** Flexible level of service standards allow for increased density and intensity in multi-modal districts.

#### **Utilities**

**Water Conservation:** Advances water conservation through conservation programs and landscaping requirements.

**Reduced Waste to Landfills:** Continues improvements in recycling, composting and diversion of solid waste from landfills.

**Energy Conservation:** Reduces consumption of non-renewable energy through policies, programs, and standards that encourage renewable energy, energy conservation, energy efficient technology, and education.

#### **Public Health & Human Services**

**Healthy Community Design:** Encourages new development and revitalization that is more walkable, reduces air pollution, and reduces our collective carbon footprint.

---

25 City of Sacramento, *City of Sacramento General Plan*, 1988, pp. 8-51 – 8-52.

### Environmental Resources

**Protection of Resources:** Contains policies to protect important environmental resources such as air quality, wildlife habitat, open space corridors, and agricultural lands.

**Urban Forest:** Provides policies for the management of our urban forest, which helps to mitigate the urban heat island effect, and absorb pollution and GHGs.

A complete list of 2030 General Plan goals and policies as well as implementation programs that address climate change and GHG emissions are included as Appendix K of the General Plan Master EIR. The analysis of the proposed project's consistency with City climate change policies is included as Appendix K of this Draft EIR.

### Climate Action Plan

The City of Sacramento is currently developing a Climate Action Plan for the purpose of determining the existing City emissions and ways the City and surrounding areas can reduce GHG emissions and beneficially affect global climate change. The Climate Action Plan is currently in the planning process and will ultimately provide: a GHG reduction target; community and municipal strategies for reducing GHG emissions; and what investment opportunities are most appropriate for furthering the goal of the Climate Action Plan.

### **Applicable Mitigation Measures from the City of Sacramento 2030 General Plan**

No applicable mitigation measures.

## **IMPACTS AND MITIGATION MEASURES**

### Methods of Analysis

For projects that cannot be categorically or statutorily exempt under CEQA's provisions (Articles 18 and 19 of the CCR, Title 14), the SMAQMD recommends that lead agencies quantify the GHG emissions anticipated to be generated by the project. Direct and indirect emissions should be quantified and disclosed in the CEQA document in accordance with the OPR's *Technical Advisory on CEQA and Climate Change* which states that "Lead agencies should make a good faith effort, based on available information, to calculate, model, or estimate the amount of CO<sub>2</sub> and other GHG emissions from a project, including the emissions associated with vehicular traffic, energy consumption, water usage, and construction activities." The SMAQMD recommends quantification of emissions associated with construction, area source, mobile source, energy production, and water consumption.

### **Construction Impact Methodology**

Construction equipment typically utilizes fossil fuels, such as diesel fuel and gasoline, which generate GHGs such as CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O. Methane may also be emitted during the fueling of heavy equipment. The net removal of vegetation for construction results in a loss of carbon

sequestration in plants (a negative effect), while a net increase in vegetation would result in additional carbon sequestration (a positive effect).

The raw materials used to construct new buildings can sequester carbon; however, demolition of structures can result in the gradual release of the carbon stored in waste building materials into the atmosphere as those materials decompose in landfills. Since the exact nature of the origin or make-up of the construction materials is unknown, construction related emissions in this analysis are solely based on the operation of vehicles and equipment during construction.

GHG emissions from construction were calculated using the URBEMIS2007 model. Construction is expected to be phased over nine years with construction beginning in 2011 and continuing until 2019. Construction was divided into four phases based on the four phases of buildout for the proposed project.

Construction is a temporary source of emissions necessary to facilitate the proposed project. Although these emissions are temporary, they must be accounted for as the impact from the emissions of GHGs is cumulative. Based on current methodology, all of the GHGs emitted during construction are amortized over an estimated 40 year lifetime of the proposed project.<sup>26</sup> The amortized emissions are then combined with the operational emissions to provide a cumulative estimate of annual GHG emissions for the project.

## Operational Impact Methodology

The proposed project is a phased development of residential and mixed-use development. However, as GHG emissions are cumulative and will have lasting impacts beyond the initial year of construction, this analysis estimates the impacts associated with the full buildout of the proposed project. The following operational activities are typically associated with residential and mixed use land uses and contribute to the generation of GHGs.

**Vehicular trips.** Vehicle trips (such as personal automobiles) generated by the proposed project would result in GHG emissions through combustion of fossil fuels. CO<sub>2</sub> emissions were determined based on the annual trip rates provided in the traffic analysis<sup>27</sup> and average trip lengths as defined in the URBEMIS model. Methane and N<sub>2</sub>O emissions were estimated using EPA emission factors for on-road vehicles.

**Natural gas and other fuels.** Natural gas would be used by the proposed project for heating and other domestic activities resulting in a direct release of GHGs. The use of landscaping equipment such as lawn mowers would also result in GHG emissions. Estimated emissions from the combustion of natural gas and other fuels from the operation of the proposed project is based on the number of residential units and the square footage of commercial use and was estimated by the URBEMIS 2007 model. ~~The default energy efficiency of buildings and resulting natural gas use~~

---

26 SMAQMD, *Guide to Air Quality Assessments in Sacramento County*. December 2009.

27 City of Sacramento, Department of Transportation, *Transportation and Circulation Study for the Northwest Land Park Draft Environmental Impact Report*. Prepared by Fehr & Peers, Roseville, CA. 2010.

~~assumed in the URBEMIS 2007 model uses the 2005 Title 24 building standards, which over-predicts emissions, as more stringent requirements for natural gas consumption were adopted in 2008. To compensate for this, proposed project emissions are reduced by 15 percent to account for the increased efficiency requirements.~~

**Electricity use.** Public utility providers use a variety of methods to generate electricity, including burning coal and oil. By using electricity, the proposed development would contribute to the indirect emissions associated with its production. ~~Estimated emissions for the consumption of electricity were was based on the total number of residential units and the total square footage of commercial space and associated consumption rates.<sup>28</sup> The annual consumption of electricity is then multiplied by the appropriate emission factors for CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O to estimate emissions from electrical consumption. ~~The Sacramento Municipal Utilities District supplies 15 percent of the City's electrical demand through hydroelectric generation. Since the generation of electricity through hydroelectric plants is considered to be renewable, there are no emissions associated with this type of electrical generation. Therefore, a 15 percent reduction in emissions from electricity is included in the emissions inventory.~~~~

**Water use and wastewater generation.** California's water conveyance system is energy-intensive, with electricity used to pump and treat water. The proposed residential and mixed-use development would contribute to indirect emissions by consuming water and generating wastewater. Estimated emissions for water use and waste water generation are based on the project specific data included in the Section 5.11 (Utilities and Service Systems) of this DEIR.

**Solid waste.** Disposal of organic waste in landfills can lead to the generation of CH<sub>4</sub>, a potent GHG. By generating solid wastes, the proposed project would contribute to the emission of fugitive CH<sub>4</sub> from landfills, as well as CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O from the operation of trash collection vehicles. Estimated emissions for the generation of solid waste was based on the total tons per year of waste generation as estimated in Section 5.11 (Utilities and Service Systems) of this DEIR.

### **Standards of Significance**

The Master EIR evaluated the potential effects of GHGs that could be generated by development that is consistent with the 2030 General Plan. See Chapter 8. The Master EIR concluded that the effects of such emissions would be significant and unavoidable.

The CEQA Guidelines provide that projects that are consistent with the general plan should be reviewed to determine if such projects would result in any "additional significant environmental effect." (See, for example, CEQA Guidelines section 15177(b)) This analysis reviews the project to identify any project-specific effects that were not identified and evaluated in the Master EIR. If such effects are identified, the analysis proceeds to determine whether there are mitigation measures, or alternatives, that could reduce such effects to a less-than-significant level.

---

28 For consistency, electrical consumption rates utilized in Sacramento's 2030 General Plan were utilized.

The proposed project would not generate enough GHG emissions to influence global climate change on its own. However, the proposed project participates in the global impact by its incremental contribution combined with the cumulative increase of all other anthropogenic sources of GHGs. As indicated in Section 15064(i)(1) of the CEQA Guidelines, “cumulatively considerable” is defined to mean “that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.”

In order to determine whether the proposed project would cause a significant effect on the environment, the impact of the project must be determined by examining the types and levels of GHG emissions generated. In accordance with CEQA Guidelines (Section 15064 (h)(3)), “A lead agency may determine that a project’s incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program which provides specific requirements that will avoid or substantially lessen the cumulative problem (e.g., water quality control plan, air quality plan, integrated waste management plan) within the geographic area in which the project is located. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency...”

To assess the cumulative impacts of emissions generated by the proposed project, a context for comparison needs to be established. However, because climate change is considered to be a global impact, comparing the emissions of an individual project to global or even regional or city wide emissions will understate the potential impact. AB 32 provides a common metric by which to compare project emissions, by fixing emission reductions to a specific benchmark year (1990). In order to achieve the state reduction goals, emissions will need to be reduced despite the continued economic and population growth. Therefore, future land use development projects that do not achieve their fair share of reductions in GHG emissions would be considered to conflict with the spirit of the policy decisions.

The SMAQMD recommends that the threshold of significance for GHG emissions be tied to the AB 32 threshold. For the purposes of this analysis, the proposed project would be judged to produce a significant or potentially significant effect on the environment if the project were to:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

## **Project-Specific Impacts and Mitigation Measures**

### **5.4-1 Construction and operation of the proposed project would generate greenhouse gas emissions that may have a significant impact on the environment.**

The construction and operation of the Northwest Land Park project and all aspects of the growth proposed under the City of Sacramento 2030 General Plan would result in the emission of GHGs. As indicated in the 2030 General Plan Master EIR, without implementing policies that reduce emissions, the City of Sacramento will emit 7.57 million metric tons per year, an increase of 1.76 million metric tons from 2005 levels. Future development within the City of Sacramento will be required to comply with AB 32, and with the SACOG 2035 Metropolitan Transportation Plan (MTP). To that end, Appendix K of this EIR shows a complete list of 2030 General Plan goals and policies as well as implementation programs that address climate change and GHG emissions. The following 2030 General Plan policies are specifically outlined here because they are used to quantify emissions reductions for the proposed project.

#### Policies

- U6.1.5 **Energy Consumption Per Capita.** The City shall encourage residents and businesses to consume 25 percent less energy by 2030 compared to baseline year or 2005.
- ER 6.1.7 **Greenhouse Gas Reduction Goal.** The City shall work with the California Air Resources Board to comply with statewide greenhouse gas reduction goals as established in the Global Warming Solutions Act of 2006 for 2020 and any subsequent targets.
- ER 6.1.9 **Greenhouse Gas Reduction in New Development.** The City shall reduce greenhouse gas emissions from new development by discouraging auto-dependent sprawl and dependence on the private automobile; promoting water conservation and recycling; promoting development that is compact, mixed use, pedestrian friendly, and transit oriented; promoting energy-efficient building design and site planning; improving the jobs/housing ratio in each community; and other methods of reducing emissions.
- ER 6.1.17 **Wood Stove/Fireplace Replacement.** The City shall promote the replacement of non-EPA certified fireplaces and woodstoves and encourage city residents to participate in SMAQMD's Wood Stove and Wood Fireplace Change Out Incentive Program.
- ER 6.1.18 **Employer Education Programs.** The City shall encourage employers to participate in SMAQMD public education programs.
- ER 6.1.19 **Air Quality Education.** The City shall educate the public about air quality standards, health effects, and efforts they can make to improve air quality and reduce greenhouse gas emissions in the Sacramento region.

The 2035 MTP is anticipated to meet the AB 32 goal of reaching 1990 emissions by 2020; however, the City will need to reduce emissions in other planning areas for the City as a whole to meet the AB 32 goals. There are a number of measures currently in place within the City that are helping to

reduce the City's emissions. The following is a partial list of those programs as presented in the 2030 General Plan Master EIR:

- The City is participating in the countywide GHG inventory for the incorporated cities within Sacramento County using ICLEI's software;
- Five municipal buildings either in the design phase or under construction are registered for LEED certification.
- The City has already implemented: 1) a parking lot shading ordinance and 2) a requirement for cool roofs on all new City owned construction of flat roofs;
- The City captures CH<sub>4</sub> from landfills (60% used for electric generation and 40% is flared);
- The City has adopted a Sustainability Master Plan (2007) and a Sustainability Implementation Plan (2008), both of which address public involvement and education;
- A six-county elected officials discussion on climate change was held in January 2008;
- The City has created mixed-use land use zoning designations, planned for urban development at light rail stations and adopted a City wide commercial corridor revitalization strategy;
- The City has created and is in the process of designing more transit village plans and mixed use corridors throughout the City.
- The City has adopted both a Bikeway Master Plan and a Pedestrian Master Plan; and
- The City has adopted an Urban Forest Management Program and has a designated Urban Forester to manage this program.

As discussed in the Regulatory Context section under the City of Sacramento (pp. 5.6-16 - 5.6-18), the City of Sacramento is addressing Climate Change through the various goals and policies incorporated in the 2030 General Plan. These policies are intended to prepare for climate change and reduce the effects on the community as well as providing for effective means of emissions reductions such as energy efficiency, waste management, recycling, and water management. The 2030 General Plan Master EIR concluded that because the actual effectiveness of all of the feasible policies and programs included in the 2030 General Plan to avoid and reduce GHG emissions is unknown, the cumulative impact remains *significant and unavoidable*.

The project proponents have developed Planned Unit Development Guidelines (PUD Guidelines) with the purpose of defining the project vision and ensuring quality development within the Northwest Land Park community. These PUD Guidelines establish development styles and development standards specific to the Northwest Land Park community. The following summarize the development styles and standards that are specific to GHG emission reductions while the full PUD Guidelines text is included as Appendix B of this Draft EIR.

PUD Development Guidelines supporting GHG emission reductions include:

- Choice of Mobility – The community shall allow for multiple modes of transportation including private automobiles, bicycles, ~~mass transit~~, and pedestrian mobility.

- Street Connectivity – The community streets shall be designed on a modified grid with multiple connections to the surrounding roadway network.
- Pedestrian and Bicycle Connectivity – The community shall provide sidewalks on both sides along all streets, and a defined multi-use trail network. The community shall develop private pathways that provide pedestrian linkages within individual blocks and between community uses.
- Safe Environment – Streets shall be designed to be safe in terms of traffic mobility, diversity in users, and crime prevention. Climate Appropriate Plants – Trees, shrubs, and grasses shall be conducive to the Northern California environment in terms of water use, drought tolerance, maintenance, and durability. Synthetic Turf should be use for active play areas and small gathering lawns.
- Low Maintenance & Cost Effectiveness – Landscape material including trees, plants, turf, and hardscape should require minimal maintenance as compared to other varieties and material choices. Synthetic turf shall be used to the extent possible in lieu of natural turf and grasses. Materials should be cost effective to lessen the initial expenditure, periodic replacement, and long-term maintenance. Turf may be synthetic to lessen irrigation demands and long term maintenance.
- Standard Streetscape – The plantings along streets and the community trails shall consist mainly of species that at maturity will act as large canopy shade trees and colorful understory plantings. Nothing in this section shall be construed to require an initial planting larger than a 24" box tree.
- Alternative Local Streetscape - Landscaping along internal local streets shall be more lush and generous in plant coverage including primarily canopy shade trees to create a dynamic streetscape.
- Stormwater Management – The project will redevelop with smaller residential buildings interlaced within green courtyards, large central park and meandering greenbelt, and utilizing decorative permeable materials for private driveways and courts. The pervious to impervious ratio for Phase 1 (4740% permeable to 5360% Impermeable) will be used as a minimum guideline for the build-out of the entire site through Phase 4.
- Water Efficiency – All project landscaping shall be climate appropriate for the area and irrigated with moisture sensor driven systems to provide drought ~~resistance~~ tolerance and maximum efficiency of water use in irrigation. Synthetic turf shall be used, to the greatest extent possible, for private grassed areas within the development.
- Vegetation & Forestation – Vegetation and tree planting plans shall be designed to provide shading for streets, hardscape surfaces, buildings, and recreation areas during summer months. In contrast, said plans shall include landscape varieties that lose their leaves during winter months to promote passive sunlight within the community, thus reducing energy use relating to heating and lighting.
- ~~Pavement Reduction – Community roadways shall be designed with a smaller urban street section (41' wide) to reduce heat absorbing surfaces, to lessen excessive impervious surfaces, to use less petroleum based products on site, and to allow for more set-back space for planting large street trees.~~
- Air Quality – The project proposes that all buildings, units, and facilities, indoors and out, are free of devices designated to facilitate the combustion of wood or wood products to eliminate emissions generally associated with traditional fireplaces.
- ~~Solar Orientation – The majority of the project's buildings shall be designed to orient the roof tops with strong solar capture opportunities for photovoltaic panels throughout the community. The orientation of at least 40% of the roof area of at least 80% of the buildings shall be west, southwest, or south.~~

- Reuse and Recycling - The project shall re-use at least 50% of the salvageable materials in the existing ~~buildings~~ improvements on-site, as measured by weight. This can take the form of re-use of entire structures, re-use or repurposing of significant elements, such as beams or trusses, and recycling materials within the new project such as grinding paving and asphalt for use as base material at the site. These activities will increase the sustainability of the site through reduced waste materials from demolition, reduced need for new materials on-site, and reduction of the ancillary transportation impacts from off-haul and delivery of materials to the site. Additionally, the project will evaluate brick, wood, metal, and masonry materials from the demolition to be re-manufactured into a “heritage” line of finishes to be offered as upgrades to the units. As an example, wood ~~members~~ timbers would be converted into flooring material to provide the character and cache of “distressed” lumber underfoot. These efforts will increase the amount of on-site materials reused sustainably within the project.
- Efficient Floor Plans - The Northwest Land Park community will be developed with compact efficient floor plans ~~with units averaging approximately 1,000 square feet of living space~~. In addition the ~~vast~~ majority of units will share wall/floor space, and thus thermal mass, with at least one other unit.
- Insulation – Building shall be designed with a high-efficiency thermal shell for the units with exterior walls at or above R25 for walls and R40 for ceilings.
- Climatization – Residential buildings shall use ~~mini-splits~~ small high efficiency ductless heating and cooling units ~~that provide climatization control for individual rooms and occupied spaces~~.
- ~~Appliances – All kitchen and laundry appliances shall be Energy Star rated.~~
- Lighting - Buildings shall use a ~~low voltage pre-wired~~ LED or fluorescent lighting system throughout the units, allowing for energy efficient lighting. ~~The~~
- Exterior Lighting. Exterior HOA maintained lighting, systems may only accommodate LED including pathway lights and cannot be converted to higher energy usage through replacing efficient bulbs with inefficient bulbs, accent/landscaping lights, motor-court lights, and private street lights shall use LED lighting technologies.
- Water Heaters - The project shall ~~require~~ provide high efficiency tank-less hot water heaters ~~mounted to the exterior of the units to provide for the most energy efficient delivery of hot water, avoid heat gain from an internal~~. Nothing in this provision shall preclude installation of high efficiency alternative energy source hot water tank, minimize thermal loss experienced when venting internal gas-fired systems, and to minimize heating and storage units.
- Electrical vehicle accommodations – The project shall incorporate 110v electrical outlets in the garage units such that they are readily accessible for use with electric vehicles.
- Renewable Energy Commitment - The project shall incorporate a 400 KW renewable energy system to reduce the amount of energy purchased by the Project. The renewable energy will be incorporated over the life of the project such that a minimum of 100 KW will be incorporated into phase 1 with an aggregate total of 100 KWs per phase through the buildout of phase 4. The 400 KW system will result in an annual reduction of 730,000 kWh of purchased electricity at full project buildout. This is equivalent to the emissions from electrical consumption of approximately 188 dwelling units. The renewable energy system may include solar, wind, fuel cells, or other new technology that becomes available over the implementation of the project. The following are the commitments already made by the project to foster this renewable commitment:
- Photovoltaic Design - The project shall be planned to orient at least 40% of the roof area of a minimum of ~~80~~ 50% of the buildings to the west, south or southwest so that photovoltaic panels and collector systems can provide maximum benefit when installed. The project shall work with the local utility and, through an aggressive sales program, encourage and provide solar systems and/or alternative energy systems as an option ~~with every unit~~.

- The orientation of at least 40% of the roof area of at least 50% of the buildings shall be west, southwest, or south.
- Solar Energy – As indicated in the AQMP (measure M28), the NWLP Project has committed to the implementation of a solar energy system that will offset a minimum of 2.5% of the residential needs of the project.

The proposed project would, through its construction and operation, emit GHGs based on the extent of development and types of land uses proposed (Table 5.4-1). The proposed project would replace existing light industrial land uses that are currently in operation. The existing light industrial land uses currently emit GHGs. The net impact from the implementation of the proposed project is equal to the project emissions reduced by the emissions replaced by converting the current uses. Because the property in Phase 1 of the development is not currently operating, the analysis does not include any emissions from these buildings. A full account of the assumptions and calculations are included as Appendix L.

	Existing Industrial	BAU <sup>1</sup>	Net BAU Emissions	With Project Design	% Reduction from 2010 BAU <sup>3</sup>	% Reduction
Amortized Construction	-	415	415	415	0.00%	0.00%
Vehicular Use	2,525	<del>7,932</del> 6,502	5,407	3,434	30.02%	<del>36.40</del> 47.19%
Electricity	<del>0.15</del> 0.19	4,015-1,223	4,015	747-761	41.99%	<del>26.40</del> 37.80%
Natural Gas and Other Fuels	161	2,643	2,482	1,862-1,982	31.93%	<del>24.08</del> 25.01%
Solid Waste	21	145-118	124	124-118	0.00%	0.00%
Water Use	<del>43</del> 16	122-117	109	108-117	0.00%	0.00%
<i>Gross Total</i>	<del>2,720</del>	<del>12,271</del> 12,477	<del>9,551</del> 11,029	<del>6,690</del> 8,850		<del>29.95</del> %
<i>CEQA Baseline<sup>4</sup></i>	-	(2723)	(2723)	(2723)		
<i>Sub Total</i>	-	9,765	8,306	6,127	37.25%	26.23%
<i>Additional Reductions<sup>5</sup></i>	-	-	-	(321)		
<b>Total</b>	<del>2,720</del> 2,723	<del>12,271</del> 11,019	<del>9,551</del>	<del>6,690</del> 6,827	<b>40.54%</b>	<b>29.95</b> <b>38.04%</b>

Note:

1. BAU stands for business as usual which 2010 BAU is an indication of emissions without the incorporation of proposed federal, state, local reduction measures, and project specific features that would reduce emissions in comparison to typical construction and design. the net project without accounting for emission reductions from project design features, mitigation, or state mobile reductions such as Pavley I and II, and the Low Carbon Fuel standard.
2. 2019 BAU is the net project implemented in 2019 under the laws and regulations currently in place but without the incorporation of the project design features or mitigation.
3. In both instances the % reduction for each source category represents the reduction from the net Project including the additional design features. These values are not shown in this table but are included in Appendix L.
4. CEQA Baseline is the emissions from the industrial land uses currently operating at the NWLP site.
5. The additional reductions are the design features added between the DEIR and the FEIR to increase emission reductions from the Project.

Source: PBS&J 2010<sup>1</sup>. Detailed calculations are included as Appendix L

Table 5.4-1 shows emissions from the proposed project without the incorporation of PUD guidelines or project design features. ~~any reductions, as well as with project design features and reductions quantified in the AQMP.~~ As shown, the proposed project would result in a net increase of 9,542

~~8,308~~ metric tons CO<sub>2</sub>e annually ~~over as compared to~~ the existing land uses without incorporated project features ~~or reductions~~. After the incorporation of all appropriate project features and reductions, the proposed project would result in an increase of ~~6,690~~ 5,806 metric tons CO<sub>2</sub>e annually, or a reduction of ~~29.95~~ 30.10 percent from 2019 BAU. Business-As-Usual (BAU) is defined as the emissions generated without the incorporation of proposed federal, state, and local reductions that may be proposed but are not currently in place. BAU further does not take into account any design features beyond current laws and regulations that a project implements. The only 2030 General Plan measures with a specified reduction, Policy U 6.1.5, requires the reduction of energy usage by 25 percent;<sup>3</sup> The project achieves a reduction of 30 percent as accounted for in the emissions inventories. Detailed calculations of emissions inventories and reductions are included as Appendix L.

The proposed project is required to comply with all policies and feasible reduction measures as incorporated in the 2030 General Plan (see Appendix K of this EIR). Policy ER 6.1.7 states that the City shall work with CARB to comply with AB 32 reductions to 1990 emission levels by 2020. In order for the state to accomplish that, the State must reduce emissions by approximately 29 percent from 2020 BAU levels. As can be seen in Table 5.4-1 with incorporation of state and local reduction measures and project design features, the proposed project is anticipated to reduce GHG emissions by more than 29 percent compared with 2020 BAU. Although emissions from the proposed project are anticipated to be reduced by the incorporation of the remainder of the feasible policies and measures, the remainder of these reductions cannot be quantified. While the project designs as currently available do not provide enough detail to show the individual design reductions under CAPCOA, the proposed project is required by the General Plan policies to reduce energy consumption by 25 percent. The analysis assumed the design features were developed in compliance with this reduction criterion.

The land uses that would be developed under the proposed project would not change from those land uses assumed for the project site in the 2030 General Plan. Therefore, the GHG emissions generated by the proposed project have already been accounted for in the Master EIR analysis. While the proposed project would result in a net increase of GHG emissions on the project site due to the replacement of existing uses, the proposed project would not result in GHG emissions beyond those already considered in the Master EIR. Further, the incorporation of the project design features, the proposed project will reduce emissions by more than 29 percent and therefore are in compliance with the AB 32 reduction requirements.

Greenhouse gas emissions that could be generated by development consistent with the 2030 General Plan were identified and considered in detail in the Master EIR. The proposed project would generate GHGs, but any contribution of the project was considered and included in the Master EIR analysis. The proposed project is consistent with the long range planning for the urban environment in the City, which emphasizes the importance of infill development and reduction of vehicle miles traveled, and includes specific features that will reduce GHGs. The proposed project would not have any additional significant effect related to global climate change that was not addressed as a significant effect in the Master EIR. To ensure that the project design features included in the project

PUD Guidelines are implemented and GHG reductions are achieved, the following mitigation measure is required.

### Mitigation Measure

~~None required.~~

5.4-1 The following PUD Guidelines shall be incorporated into project design, as verified by City staff during design review:

- Choice of Mobility – The applicant shall allow for multiple modes of transportation including private automobiles, bicycles, and pedestrian mobility.
- Street Connectivity – The streets shall be designed on a modified grid with multiple connections to the surrounding roadway network.
- Pedestrian and Bicycle Connectivity – The applicant shall provide sidewalks on both sides along all streets, and a defined multi-use trail network. The applicant shall develop private pathways that provide pedestrian linkages within individual blocks and between community uses.
- Safe Environment – Streets shall be designed to be safe in terms of traffic mobility, diversity in users, and crime prevention. Climate Appropriate Plants – Trees, shrubs, and grasses shall be conducive to the Northern California environment in terms of water use, drought tolerance, maintenance, and durability. Synthetic Turf should be used for active play areas and small gathering lawns.
- Low Maintenance & Cost Effectiveness – Landscape material including trees, plants, turf, and hardscape should require minimal maintenance as compared to other varieties and material choices. Synthetic turf shall be used to the extent possible in lieu of natural turf and grasses. Materials should be cost effective to lessen the initial expenditure, periodic replacement, and long-term maintenance. Turf may be synthetic to lessen irrigation demands and long term maintenance.
- Standard Streetscape – The plantings along streets and the community trails shall consist mainly of species that at maturity will act as large canopy shade trees and colorful understory plantings. Nothing in this section shall be construed to require an initial planting larger than a 24” box tree.
- Alternative Local Streetscape - Landscaping along internal local streets shall be more lush and generous in plant coverage including primarily canopy shade trees to create a dynamic streetscape.
- Stormwater Management – The project will redevelop with smaller residential buildings interlaced within green courtyards, large central park and meandering greenbelt, and utilizing decorative permeable materials for private driveways and courts. The pervious to impervious ratio for Phase 1 (40% permeable to 60% Impermeable) will be used as a minimum guideline for the build-out of the entire site through Phase 4.
- Water Efficiency – All project landscaping shall be climate appropriate for the area and irrigated with moisture sensor driven systems to provide drought tolerance and

maximum efficiency of water use in irrigation. Synthetic turf shall be used, to the greatest extent possible, for private grassed areas within the development.

- Vegetation & Forestation – Vegetation and tree planting plans shall be designed to provide shading for streets, hardscape surfaces, buildings, and recreation areas during summer months. In contrast, said plans shall include landscape varieties that lose their leaves during winter months to promote passive sunlight within the community, thus reducing energy use relating to heating and lighting.
- Air Quality – The project proposes that all buildings, units, and facilities, indoors and out, are free of devices designated to facilitate the combustion of wood or wood products to eliminate emissions generally associated with traditional fireplaces.
- Reuse and Recycling - The project shall re-use at least 50% of the salvageable materials in the existing improvements on-site, as measured by weight. This can take the form of re-use of entire structures, re-use or repurposing of significant elements, such as beams or trusses, and recycling materials within the new project such as grinding paving and asphalt for use as base material at the site. These activities will increase the sustainability of the site through reduced waste materials from demolition, reduced need for new materials on-site, and reduction of the ancillary transportation impacts from off-haul and delivery of materials to the site. Additionally, the project will evaluate brick, wood, metal, and masonry materials from the demolition to be re-manufactured into a “heritage” line of finishes to be offered as upgrades to the units. As an example, wood timbers would be converted into flooring material to provide the character and cache of “distressed” lumber underfoot. These efforts will increase the amount of on-site materials reused sustainably within the project.
- Efficient Floor Plans - The Northwest Land Park community will be developed with compact efficient floor plans. In addition the majority of units will share wall/floor space, and thus thermal mass, with at least one other unit.
- Insulation – Building shall be designed with a high-efficiency thermal shell for the units with exterior walls at or above R25 for walls and R40 for ceilings.
- Climatization – Residential buildings shall use small high efficiency heating and cooling units.
- Lighting - Buildings shall use a LED or fluorescent lighting system throughout the units, allowing for energy efficient lighting.
- Exterior Lighting – Exterior HOA maintained lighting, including pathway lights, accent/landscaping lights, motor-court lights, and private street lights shall use LED lighting technologies.
- Water Heaters - The project shall provide high efficiency tank-less hot water heaters to provide for the most energy efficient delivery of hot water. Nothing in this provision shall preclude installation of high efficiency alternative energy source hot water heating and storage units.

- Electrical vehicle accommodations – The project shall incorporate 110v electrical outlets in the garage units such that they are readily accessible for use with electric vehicles.
- Renewable Energy Commitment - The project shall incorporate a 400 KW renewable energy system to reduce the amount of energy purchased by the Project. The 400 KW renewable energy will be incorporated over the life of the project such that a minimum of 100 KW will be incorporated into phase 1 with an aggregate total of 100 KWs per phase through the buildout of phase 4. The 400 KW system will result in an annual reduction of 730,000 kWh of purchased electricity at full project buildout. This is equivalent to the emissions from electrical consumption of approximately 188 dwelling units. The renewable energy system may include solar, wind, fuel cells, or other new technology that becomes available over the implementation of the project. The following are the commitments already made by the project to foster this renewable commitment:
  - Photovoltaic Design - The project shall be planned to orient at least 40% of the roof area of a minimum of 50% of the buildings to the west, south or southwest so that photovoltaic panels and collector systems can provide maximum benefit when installed. The project shall work with the local utility and, through an aggressive sales program, encourage and provide solar systems and/or alternative energy systems as an option.
  - Solar Orientation – The majority of the project’s buildings shall be designed to orient the roof tops with strong solar capture opportunities for photovoltaic panels throughout the community. The orientation of at least 40% of the roof area of at least 50% of the buildings shall be west, southwest, or south.
  - Solar Energy – As indicated in the AQMP (measure M28), the NWLP Project has committed to the implementation of a solar energy system that will offset a minimum of 2.5% of the residential needs of the project.

**5.4-2 Construction and operation of the proposed project may conflict with applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.**

The construction and operation of the Northwest Land Park and all aspects of the growth proposed under the City of Sacramento 2030 General Plan will result in the emission of GHGs. As indicated in the 2030 General Plan Master EIR, future development within the City of Sacramento will be required to comply with AB 32, and with the SACOG 2035 MTP.

The 2035 MTP is anticipated to meet the AB 32 goal of reaching 1990 emissions by 2020; however, the City will need to reduce emissions in other planning areas for the City as a whole to meet the AB 32 goals. As discussed previously, the City of Sacramento is anticipating an increase in GHG emissions without the incorporation of reduction measures. The 2030 General Plan Master EIR concluded that because the actual effectiveness of all of the feasible policies and programs included in the 2030 General Plan to avoid and reduce GHG emissions is unknown, the City, under the 2030

General Plan may not comply with AB 32. Therefore the cumulative impact remains *significant and unavoidable*.

The proposed project is required to comply with the 2030 General Plan policies and measures for the reduction of GHGs and to comply with the 2030 MTP and AB 32. Because the traffic from the proposed project was incorporated into the 2035 MTP, and the 2035 MTP is anticipated to meet the goals of AB 32, the proposed project would comply with the 2035 MTP. Appendix K, 2030 General Plan Climate Change Policies Table 5-6-2 details how the proposed project incorporates the applicable policies and measures identified in the 2030 General Plan for the reduction of GHG emissions and is, therefore, compliant with the 2030 General Plan.

As discussed previously, AB 32 requires an approximate 29 percent reduction from existing emissions on a state-wide level in order to achieve the goal of reducing GHG emission to 1990 levels by 2030. In order for this to occur, the existing and future operations of the City as well as individual sites must reduce their emissions accordingly.

The proposed project was addressed in the Master EIR for the 2030 General Plan therefore the increase in GHG emissions seen with the implementation of the proposed project was accounted for. Because the proposed project results in a reduction of 29.95 percent the proposed project will meet the AB 32 goal as well as the City's General Plan Goals. Therefore the proposed project will not conflict with applicable plans, policies and regulations adopted by the City of Sacramento and the State of California for the purpose of reducing GHG emissions. The project would not have any additional significant environmental effect not addressed as a significant effect in the Master EIR.

### Mitigation Measure

*None required.*

### Cumulative Impacts

Although the Master EIR determined that greenhouse gas emissions generated by the development under the 2030 General Plan would be cumulatively considerable, the proposed project would not contribute to cumulative impacts beyond those already addressed in the City of Sacramento General Plan Master EIR.

## **5.5 Hazards and Hazardous Materials**

---

## 5.5 HAZARDS AND HAZARDOUS MATERIALS

---

### INTRODUCTION

This section describes hazards and hazardous materials on the proposed project site; provides a review of regulatory controls pertaining to the use, storage, disposal, transportation, and management of hazardous materials; and evaluates the potential exposure of people to construction and operational hazards and hazardous materials. Issues related to the potential for the proposed project to affect the existing groundwater quality or quantity are discussed in Section 5.11, Hydrology and Water Quality.

The Master EIR certified in connection with adoption of the 2030 General Plan in March 2009 included an extensive analysis of hazards and hazardous materials. The Master EIR evaluated the effects of development that could occur under the new general plan, and identified and evaluated the effects of the project and future development, including analysis of growth-inducing effects and irreversible environmental effects. The discussion of hazards and hazardous materials in the Master EIR (see Section 6.6) is incorporated here by reference pursuant to CEQA Guidelines section 15050. The Master EIR may be reviewed at [www.sacgp.org](http://www.sacgp.org).

No comment letters addressing hazards and hazardous materials were received in response to the Notice of Preparation (NOP).

Information to prepare this section is based on technical studies and reports prepared for the Setzer Forest Products and Sacramento Farmers Market sites including two *Phase I Environmental Site Assessment* (ESA) reports (Wallace Kuhl & Associates, 2005 and PES Environmental, Inc., 2006; see Appendices M and N), *Building Materials Survey for Asbestos and Lead-based Paint* (PES Environmental, Inc., 2006), *Phase II or Subsurface Investigation Report* (PES Environmental, Inc., 2006, see Appendix O), *Site investigation Workplan* (ERM-West, Inc., 2007, see Appendix P), *Investigation Summary Report* (ERM-West, Inc., 2008), *Baseline Human Health Risk Assessment Report* (see Appendix E), and draft *Remedial Action Workplan* (see Appendix Q). Copies of these technical documents are available for review at the City of Sacramento's Community Development Department, Planning Division, Environmental Planning Services.

The California Department of Toxic Substances Control (DTSC) EnviroStor database<sup>1</sup> and the State Water Resources Control Board (SWRCB) GeoTracker database<sup>2</sup> were also referenced for the preparation of this section, in addition to correspondence from and among DTSC, the Sacramento County Environmental Management Department (SCEMD), the Central Valley Regional Water Quality Control Board (CVRWQCB), Setzer Forest Products, and ERM-West, Inc.

---

1 California Department of Toxic Substances Control (DTSC) EnviroStor database <<http://www.envirostor.dtsc.ca.gov/public>>.

2 State Water Resources Control Board GeoTracker database <<http://www.geotracker.swrcb.ca.gov>>.

## **Definitions**

The term “hazardous materials” is defined in different ways for different regulatory programs. For purposes of this DEIR, the definition of “hazardous materials” is generally consistent with the definition in California Health and Safety Code, Section 25501, which includes a broad range of regulated substances that “...because of their quantity, concentration, or physical or chemical characteristics, pose a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment.”

“Hazardous waste” is included as a hazardous material. For the purposes of this DEIR, the definition of “hazardous waste” is set forth in California Health and Safety Code, Section 25517, and the California Code of Regulations (CCR), Title 22, Section 66261.2.

## **ENVIRONMENTAL SETTING**

### **Background**

The Setzer Forest Products and Sacramento Farmers Market site (project site) includes 25 buildings and/or structures associated with either the former Setzer Box Factory or the Sacramento Farmers Market. Setzer Forest Products has been the primary operator and dominant use on the project site since 1927 with lumber processing activities occupying approximately 24.9 acres or 80 percent of the area. The Setzer sawmill building was constructed in 1933, shut down in 1968, and by 1972 the building was used to produce Presto Logs and molded wood products. A log pond formerly present in the southwest portion of the site was used to wash and transport logs. Additional buildings were constructed through the 1970s. The Setzer main office building was constructed in 1988. Other former site users included a Safeway Stores Maintenance Shop from 1958 through 1966 and Bonnie Dog Food Company/Cal Pet Foods in the 1950s.

The Sacramento Farmers Market has operated at the project site since 1933 occupying approximately 6.8 acres or 20 percent of the project site area and has historically been in use for produce storage and distribution. A gas station was present at the site until the 1970s (see Appendix O).

Historical chemical use at the Setzer Forest Products site was reportedly limited to a borax-based anti-stain product and small quantities of mineral spirits (see Appendix O). Typical wood preservative compounds such as creosote, pentachlorophenol, or arsenicals were not used at the site as a regular part of plant operations.<sup>3</sup>

Four diesel and gasoline underground storage tanks (USTs) were removed from the Setzer site in 1987 and 1997. Two unused USTs remain at the site. Three USTs and one waste-oil UST were removed from the former gas station in 1979 and 1990 at the Sacramento Farmers Market site (see Appendix O). In 1997, the unused USTs were approved for abandonment in-place in accordance with regulations and case closure was issued by SCEMD (see Appendix P).

---

3       ERM-West, Inc., Draft *Remedial Action Workplan for the Setzer Forest Products Property and Sacramento Farmers Market, Sacramento, California*, January 9, 2009, p. 2.

At present, the 31.7-acre Northwest Land Park Project site is predominantly developed with structures and impervious surfaces. Current existing active uses include the Setzer Forest Products processing plant producing cut stock, finger joint, molded wood products, and box shoo (see Appendix M) and the commercial food storage and distribution facility associated with the Sacramento Farmers Market, which also includes a restaurant. Adjacent land uses include commercial and industrial uses, the City of Sacramento's Miller Park, and the Sacramento Marina on the west side of Interstate-5 (I-5). Jedediah Smith Elementary School, Arthur A. Benjamin Health Professions High School, and properties owned by the Sacramento Housing and Redevelopment Agency are to the south of the project site. Commercial uses are also located north of the site (e.g., ABC News 10 local affiliate) and to the east. Light-industrial uses are found to the east. An existing rail spur connects the site, via a tunnel under I-5, to Front Street and Miller Park.

Four unused water wells are located at the site, two each on the Setzer and Sacramento Farmers Market sites. Three of the unused wells were closed in 2006 leaving only one operating well at the Sacramento Farmers market site. Vent pipes are present at the Setzer site in an area that contains two unused and former USTs (see Appendix O).

Current hazardous materials use at the Setzer Forest Products Plant is reportedly limited to gasoline, diesel, water-based primer, paints, and oils. There is no significant hazardous material use at the Sacramento Farmers Market (see Appendix N).

### **Summary of Technical Studies and Reports Prepared**

Technical studies and other related specialized reports and correspondence including ESAs, subsurface investigations, and baseline human health risk assessments are used to identify the presence or likelihood of soil and groundwater contamination at a site and to evaluate the potential for risks to human health associated with any chemical substances detected in the soil and/or groundwater. For example, the American Society for Testing and Materials (ASTM) has developed standards for Phase I ESAs (ASTM 1527-00). The ASTM standards are used routinely in preparation of Phase I ESAs to determine the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products, onto the surface or into the ground, groundwater, or surface water of the property. If a Phase I ESA finds that hazardous materials found on the property may have been released, then a Phase II ESA is usually recommended. A Phase II (subsurface) investigation typically includes collection and analysis of soil and groundwater samples.

The following describes the technical studies, reports, and letter correspondence prepared for the project site including the Setzer Forest Products Plant and Sacramento Farmers Market. PES Environmental, Inc. prepared a *Phase I ESA* in June 2006 that included a database review, site investigation, interviews, and a review of a previous *Phase I ESA* prepared for the site by Wallace Kuhl & Associates in 2005. In August 2006, PES prepared a *Phase II or Subsurface Investigation Report* that included field preparation activities, geophysical surveys, and collection and analysis of soil and groundwater samples. The subsurface investigation was conducted to assess soil and

groundwater conditions at and around 16 potential areas of environmental concern identified in the *Phase I ESA* (2006) and also in some areas where historical activities had not been identified. Copies of the 2005 and 2006 *Phase I ESA* reports and the *Phase II* report are included as Appendix M, Appendix N, and Appendix O, respectively.

A *Building Materials Survey* for asbestos and lead-based paint (LBP) was prepared in August 2006 by PES in conformance with standard U.S. Environmental Protection Agency (EPA) and Occupational Health and Safety Administration (OSHA) protocols.

In late 2006, the project applicant submitted an application to the California Environmental Protection Agency (Cal EPA) under the authority of Assembly Bill 2061 requesting that the Site Designation Committee designate SCEMD as the administering agency (or lead agency) to oversee the site investigations and remedial actions for the Setzer Forest Products and Sacramento Farmers Market site. The lead agency for a hazardous materials site supervises all aspects of site cleanup and has sole jurisdiction over all activities necessary to respond to a hazardous materials release. The lead agency is also responsible for maintaining communication with State and local regulatory agencies for appropriate consultation. In spring 2007 at the determination of the Site Designation Committee, SCEMD became the official lead agency for the Setzer Forest Products and Sacramento Farmers Market site.<sup>4</sup>

In June 2007, a *Site Investigation Workplan* was prepared by ERM-West, Inc. for Setzer Forest Products and Sacramento Farmers Market (see Appendix P) that described the proposed scope of fieldwork and additional site investigation activities resulting from the recommendations made in the *Phase I and II ESAs* to be conducted in accordance with SCEMD guidance and oversight. SCEMD approved the *Workplan* in correspondence to ERM dated August 27, 2007.

During October 2007 through February 2008, a supplemental site investigation was undertaken at the project site by ERM in accordance with the *Site Investigation Workplan* that included soil boring installation, monitoring well installation, soil sampling, soil gas sampling, and groundwater sampling and several subsequent memo workplans submitted to SCEMD. The results of these sampling activities are summarized in the *Investigation Summary Report* prepared by ERM in April 2008.

In accordance with SCEMD's regulatory process, the next step for the project site was to conduct a *Baseline Human Health Risk Assessment (BHHRA)*. In July 2008, ERM prepared a *BHHRA* (see Appendix E) in accordance with the SCEMD-approved *Site Investigation Workplan* (see Appendix P). The purpose of the *BHHRA* is to identify areas within the project site that may pose an unacceptable risk to future human receptors that may reside or work on the property after redevelopment. For purposes of analysis, the *BHHRA* broke up the project site into four areas or "option parcels" that correspond to the proposed project's four project phases (see Figure 2-3, Proposed Land Uses in Chapter 2.0, Project Description).

---

4 David Von Aspern, Environmental Specialist III, Sacramento County, Environmental Management Department, Environmental Compliance, Division, personal communication, August 5, 2010.

DTSC entered into a Voluntary Cleanup Agreement with Setzer Forest Products on July 3, 2008, under which DTSC agreed to review key milestone documents pertaining to the characterization, *BHHRA*, and cleanup of the project site. Subsequently, DTSC sent a letter to SCEMD and Setzer dated July 9, 2008 outlining their review of the *Investigation Summary Report* (ERM, 2008). The letter stated the report accurately identified the chemical concerns associated with the project site and characterized the extent of the chemical concerns sufficiently to render an adequate risk assessment, with the exception of a few minor comments that should be addressed as part of the remediation effort.

On October 1, 2008, DTSC provided a letter to SCEMD and Setzer after reviewing the *BHHRA*. DTSC agreed with the risks identified in the *BHHRA*, which are identified by project phase or “option parcel” and concluded that three of the four option parcels exceeded *de minimus* risk targets for one or more of the receptors. Option Parcel 1 was the only area tested that had concentrations below residential risk levels. The other three options require remediation to meet the acceptable risk-based levels for residential uses. The highest incremental lifetime cancer risk (ILCR) and location-specific hazard indices (HIs) for future residents were within Option Parcel 4.

Based on the results of the *BHHRA*, ERM prepared a draft *Remedial Action Workplan* in January 2009 that outlined the proposed remedial actions required to mitigate potential risks to human health and the environment posed by chemicals of potential concern (COPCs) in soil, soil vapor, and groundwater at the project site. In a letter dated February 18, 2009, DTSC provided their review of the draft *Remedial Action Workplan* (see Appendix Q). The Environmental Compliance Division of SCEMD, in coordination with DTSC and CVRWQCB, has reviewed and accepted as adequate the *BHHRA* and the draft *Remedial Action Workplan* prepared for the project site.

Because the draft *Remedial Action Workplan* identified Option Parcel 1 as requiring no further action (NFA) or mitigation, ERM submitted a letter to SCEMD dated May 26, 2009, requesting closure of Option Parcel 1 with justification and documentation under the option-based closure strategy to facilitate the property ownership and redevelopment process. SCEMD responded with letters dated June 19, 2009 and June 26, 2009 to Setzer that confirm a NFA status for Option Parcel 1 within the larger project site. In a letter dated June 15, 2009, the CVRWQCB commented on the NFA, recommending to SCEMD that an informal consultation work group comprising staff from SCEMD, DTSC, and CVRWQCB, along with other responsible parties, be formed to ensure ongoing coordination, collaboration, and information sharing between agencies.<sup>5</sup> A consultation work group was subsequently formed and meets on an occasional basis to discuss site investigations and remedial actions.<sup>6</sup> Remediation of Option Parcel 1 is complete and the parcel has been purchased, according to the project applicant.

---

5 Central Valley Regional Water Quality Control Board, Letter entitled *Finding of No Further Action, Option Parcel 1, Setzer Forest Products and Sacramento Farmers Market, 2570 Third Street & 2630 Fifth Street, Sacramento, Sacramento County*, June 15, 2009.

6 David Von Aspern, Environmental Specialist III, Sacramento County, Environmental Management Department, Environmental Compliance, Division, personal communication, August 5, 2010.

Remediation of contaminated soils located in Option Parcels (or Phases) 2, 3, and 4 (an all parcels therein) is ongoing. Upon completion of remediation directed and contained within the *BHHRA* and draft *Remedial Action Workplan* to meet the acceptable risk-based levels for residential uses, the project applicant anticipates that SCEMD would approve the closure of each remaining option parcel and confirm a NFA status through the issuance of a letter to the project applicant. Upon receipt of the NFA status letters for each option parcel or phase of the project, the project applicant would be permitted to remove the unrestricted soils and reuse such soils anywhere on the project site. In the event SCEMD later determines that Option Parcel 2, 3, or 4 has not been remediated to meet the acceptable risk-based levels for residential uses, appropriate measures would be implemented to remediate the soils to unrestricted standards prior grading of any parcel.

Specific information, conclusions, and remedial actions contained in the technical studies, reports, and letter correspondence prepared for the proposed project site are discussed further below.

### **Hazardous Materials, Soil, and Groundwater Contamination**

The *Phase I ESA* prepared in 2005 by Wallace Kuhl & Associates (Appendix M) noted several areas as having environmental conditions related to former petroleum use at the project site, and as a result, a Phase II investigation was recommended. In June 2006, a second *Phase I ESA* was prepared by PES (Appendix N) that reached conclusions similar to the 2005 investigation, also recommending a Phase II because of the potential presence of petroleum hydrocarbons.

Subsequently, a *Phase II or Subsurface Investigation Report* was prepared by PES in August 2006 to assess soil and groundwater conditions, and is included as Appendix O. Fifty soil borings were taken at the 16 previously identified areas of potential environmental concern by the *Phase I ESAs* and soil and/or groundwater samples were selectively collected from the borings at varying depths below ground surface (bgs) and analyzed for the following substances:

- Total petroleum hydrocarbons (TPH) as gasoline (TPH-G);
- TPH as diesel (TPH-D);
- TPH as motor oil (TPH-MO);
- TPH as mineral spirits (TPH-ms);
- TPH as kerosene (TPH-K);
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX);
- Volatile organic compounds (VOCs);
- Semivolatile organic compounds (SVOCs);
- Pesticides;
- Polychlorinated biphenyls (PCBs);
- Polynuclear aromatic hydrocarbons (PAHs); and

- Metals.<sup>7</sup>

The findings of the subsurface investigation concluded that suspect soil and groundwater conditions were present at the project site, including groundwater and soil samples containing substances including but not limited to THP-D, THP-MO, THP-G, BTEX, VOCs, and metals in excess of environmental screening levels (see Appendix O). These conditions require additional site investigations.

Building on the *Phase II ESA* findings, ERM prepared a *Site Investigation Workplan* (see Appendix P) that described the proposed scope of fieldwork and additional site investigation activities resulting from the recommendations. ERM concluded that 11 of the 16 areas of potential environmental concern warranted additional soil investigation and that the installation of groundwater monitoring wells was necessary for the purposes of additional groundwater sampling and monitoring (see Appendix O).

Within the *Site Investigation Workplan*, ERM proposed to address the impacted soil in the 11 areas of potential environmental concern to mitigate potential risks to human health and the environment to concentrations below residential risk levels in one of two possible ways: (1) Remedial Action, which is the excavation and removal of soil found to be hazardous from the site, or (2) Risk-Based closure, which must demonstrate no unacceptable human health risks to future receptors exist in the area of potential concern based on anticipated future land use. (see Appendix P) Three of the 11 areas were targeted for Remedial Action and the other eight were targeted for Risk-Based closure. The overall objective of the proposed remedial actions to address the impacted soils is to prepare the site for unrestricted redevelopment such that no engineered controls or deed restrictions are imposed on redevelopment activities.<sup>8</sup>

As stated in Chapter 2.0, Project Description, the project would include development of an approximately 4.3-acre neighborhood park within the central portion of the project site. The proposed area of the neighborhood park boundary includes/transects portions, but not all of, Option Parcels 1, 2, and 3. No areas of the proposed neighborhood park site were identified in the *Site Investigation Workplan* as investigation areas targeted for Remedial Action or Risk-Based closure (see Appendix P, Figure 3). In a letter dated December 1, 2010, ERM confirmed to the project applicant, according to the *BHHRA*, no evidence of contamination has been discovered with the proposed neighborhood park footprint that requires mitigation to date and/or subsequently that would prevent unrestricted (residential) development on the area proposed for the park dedication.<sup>9</sup>

Proposed actions included the installation of five groundwater monitoring wells (MW-1 through MW-5) located around the perimeter of the site and two groundwater monitoring wells (MW-6 through MW-7) centrally located (see Figure 5.5-1). Groundwater monitoring and sampling for all seven wells would be conducted on an annual basis as follows until project construction

7 ERM-West, Inc., Draft *Remedial Action Workplan for the Setzer Forest Products Property and Sacramento Farmers Market, Sacramento, California*, January 9, 2009, p. 3.

8 *Ibid.*, p. 8.

9 ERM-West, Inc., Letter entitled *Northwest Land Park Development, Proposed Park Site*, December 1, 2010.

commences<sup>10</sup> At that point all of the wells will be decommissioned with the exception of MW-3, which will be used for long term monitoring.

- MW-1, MW-2, MW-4, MW-6, and MW-7: TPH-G and arsenic;
- MW-3: TPH-G, THP-D, and arsenic; and
- MW-5: TPH-G only.

SCEMD and DTSC concurred with ERM in their conclusion that the site has been adequately characterized in order to complete a *BHHRA*. The purpose of the *BHHRA* was to evaluate potential risks to human health associated with COPCs in soil, soil vapor, and groundwater at the site and to perform these evaluations for anticipated future land uses (i.e., commercial-retail and residential). In assessing the amount of COPCs future residents, construction workers, indoor workers, and outdoor workers could potentially intake during their daily activities, a series of conservative exposure assumptions were developed. The concentrations of COPCs in soil, soil vapor, and groundwater to which receptors could potentially be exposed were based on available measured data. To ensure that human health is adequately protected, conservative concentrations, exposure parameters, and toxicity assumptions were used in estimating exposure potential and subsequent risks.

Theoretical risks to future residents, indoor commercial worker's, outdoor commercial worker's and construction worker's health predicted by this assessment are unlikely to be underestimated and, in fact, likely overestimate the actual risk (see Appendix E).

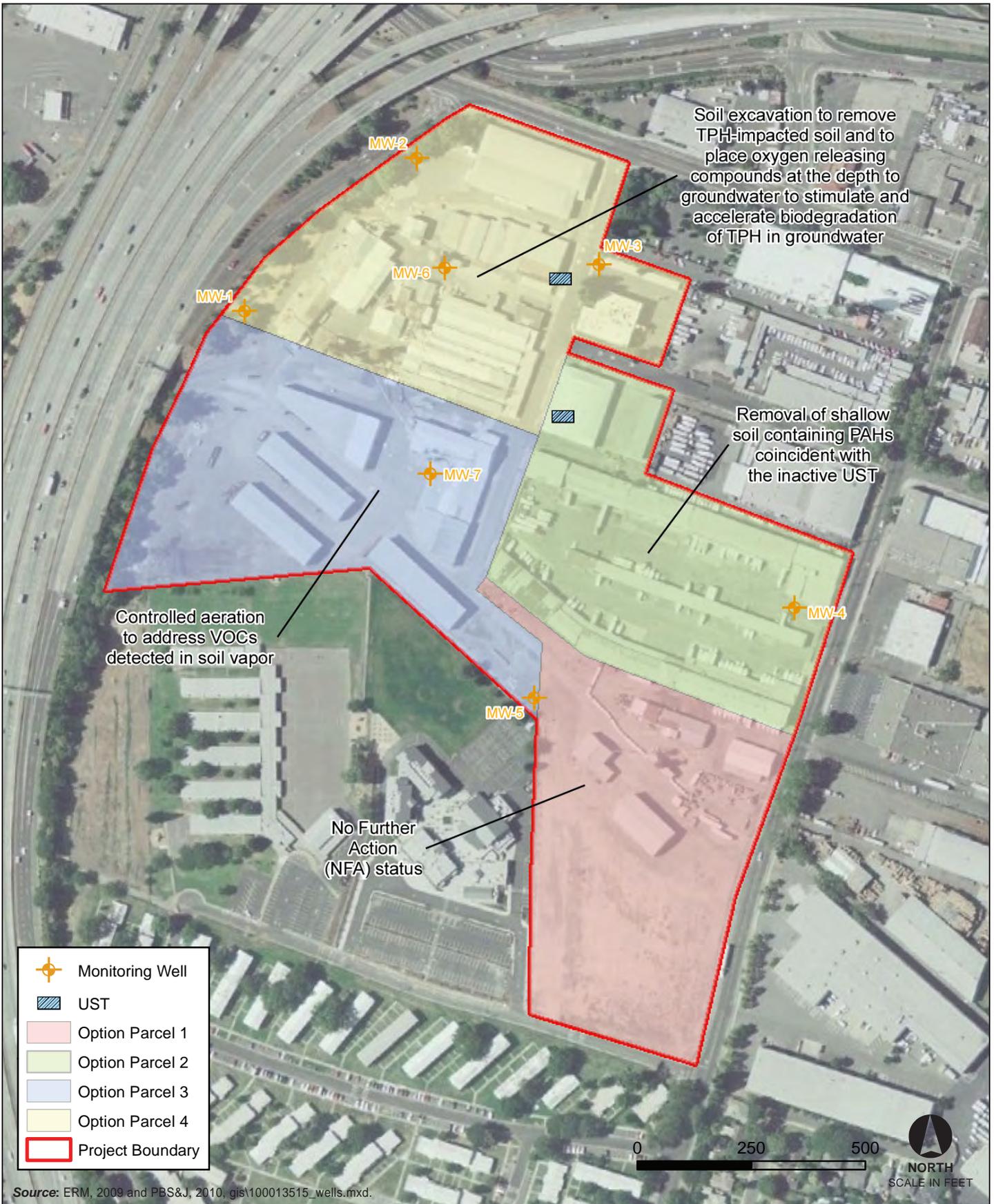
Because the progression of the project site development is anticipated to occur in four phases, or "Option Parcels," the analyses, results, and conclusions of the *BHHRA* were presented on an "Option Parcel" basis. The following results were obtained based upon calculated risk and hazard estimates (see Appendix E):

- Option Parcel 1:<sup>11</sup> All estimated HIs, ILCRs and blood lead levels for all assessed samples were within acceptable metrics for all receptors.
- Option Parcel 2: Although an ILCR marginally greater than the *de minimis* cancer risk was calculated at only one location, it is near the most conservative end of the acceptable risk range. All other estimates are less than target levels.
- Option Parcel 3: All ILCRs associated with COPCs in soil and groundwater are less than *de minimis* risks; no soil noncancer HIs or blood lead levels were above target levels; several soil vapor and one groundwater samples under and proximal to the old saw mill and green chain new molding building slab exceeded target risk levels.
- Option Parcel 4: Two locations exceeded target risks for soil polyaromatic hydrocarbons (PAHs) and TPH. Two screening level groundwater locations exceeded target risks.

---

10 ERM-West, Inc., Letter entitled *Proposed Revised Groundwater Monitoring Program Setzer Forest Products and Sacramento Farmers Market Site Investigation*, March 4, 2009.

11 Note: Option Parcel 1 has been purchased.



**FIGURE 5.5-1**  
**Soil Remediation Areas and Groundwater Monitoring Well Locations**

In addition, the *BHHRA* concluded that measured methane concentrations in soil vapor do not pose a significant risk of creating hazardous conditions based on the modeling conditions.

## Remedial Actions

ERM prepared a draft *Remedial Action Workplan* (see Appendix Q) based on the results of the *BHHRA* that described the proposed remedial actions to mitigate potential risks to human health and the environment at the project site. Option Parcels 2, 3, and 4 have remedial action objectives and Option Parcel 1 requires NFA or mitigation.<sup>12</sup>

The remedial action objectives for COPC in soil, soil vapor, and groundwater were established using California Human Health Screening Levels (CHHSF), risk-based cleanup levels developed by the *BHHRA*, and water quality objectives based on the protection of groundwater and Maximum Contaminant Levels (MCLs) and are as follows (see Appendix Q):

- Removal of two inactive USTs located in Option Parcel 2 and Option Parcel 4 (see Figure 5.5-1) following County protocol for UST removal and associated soil confirmation sampling. To-date, the inactive tanks have been approved for abandonment in-place in accordance with regulations and SCEMD approvals.<sup>13</sup>
- Removal of shallow soil containing PAHs coincident with the inactive UST at the west end of Option Parcel 2.
- Controlled aeration to address VOCs detected in soil vapor in an area beneath the concrete slab of the former Wood Molding Plant in Option Parcel 3. Additional measures would be taken if controlled aeration is not adequate. Groundwater samples would be collected from beneath the aerated soils using HydroPunch sampling methods as part of the confirmation sampling.
- Soil excavation at two locations in Option Parcel 4: (1) near the northwest corner of the existing Office Building; and (2) near the Shook Warehouse to remove TPH-impacted soil and to place oxygen releasing compounds at the depth to groundwater to stimulate and accelerate biodegradation of TPH in groundwater.

As stated previously, remediation of contaminated soils located in Option Parcels 2, 3, and 4 (an all parcels therein) is ongoing to meet the acceptable risk-based levels for residential uses. Upon determination of a NFA status for each remaining option parcel or phase, the project applicant would be permitted to move and reuse the unrestricted soils anywhere on the project site.

No remedial actions are proposed for site groundwater with the exception of the placement of oxygen releasing compounds at two excavation locations in Option Parcel 4 (as described above). Groundwater monitoring and sampling for all seven wells would continue on an annual basis. For six of the seven wells (i.e., MW-1, MW-2, and MW-4 through MW-7), monitoring is anticipated not to

---

12 Sacramento County Environmental Management Department (SCEMD). Letter entitled *Setzer Forest Products & Sacramento Farmers Market Site Designation Committee Resolution 08-01 "Option Parcel 1."* June 19 and June 26, 2009.

13 David Von Aspern, Environmental Specialist III, Sacramento County, Environmental Management Department, Environmental Compliance, Division, personal communication, August 5, 2010.

be long-term.<sup>14</sup> According to the project applicant, all of the monitoring wells with the exception of MW-3 would be decommissioned prior to construction activities. The seventh well, or MW-3, would have continued long-term annual groundwater monitoring until such time that the remedial action proposed for this area has been implemented (see Appendix Q). A replacement monitoring well would be installed, if required, to collect groundwater data after impacted soils have been removed and oxygen releasing compounds have been placed in the backfill. This post-remediation groundwater data should confirm that the source removal and addition of oxygen releasing compounds are addressing any concerns regarding impacts to ground water in this area (see Appendix Q). Lastly, SCEMD requested a post-remediation risk assessment be conducted to confirm that residual concentrations of COPC in soil, soil vapor, and groundwater do not pose an unacceptable risk to future receptors at the project site.

DTSC provided their review of the draft *Remedial Action Workplan* (Appendix Q) in letter correspondence (dated February 18, 2009) to SCEMD and Setzer that confirmed the Draft *Workplan* has identified the areas of the project site that require remediation. DTSC concurs that the proposed cleanup efforts, remedial action objectives, and post-remediation risk assessment should ensure that acceptable risk-based levels for residential uses would be achieved on the site.<sup>15</sup>

### **Asbestos and Lead Hazards**

Under the EPA National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations no visible emissions are allowed during building demolition or renovation activities that involve regulated asbestos-containing materials (ACMs). Because demolition of the proposed project site is anticipated as part of the redevelopment, PES conducted a *Building Materials Survey* of asbestos and lead in building materials of approximately 17 of the 20 structures on the Setzer Forest Products and Sacramento Farmers Market sites. The asbestos inspection consisted of a visual assessment of accessible building materials and bulk sampling of suspect ACMs in accordance with EPA sampling protocols, and the lead inspection consisted of a visual assessment consistent with OSHA standard practices for pre-demolition surveys and, when necessary, suspect LBP bulk chip samples were taken for testing.<sup>16</sup>

The results of PES' sampling of the site buildings for asbestos concluded positive asbestos containing construction material (ACCM) identified as "white window putty" at the Plant Office Building and the Arata Warehouse. In addition, certain materials that were visually surveyed were assumed by PES to contain asbestos based on material type and age including roof field and parapet walls at the Main Office Building and materials-sheet and tar roofing materials at the Plant

---

14 ERM-West, Inc., Letter entitled *Proposed Revised Groundwater Monitoring Program Setzer Forest Products and Sacramento Farmers Market Site Investigation*, March 4, 2009.

15 California Department of Toxic Substances Control, Letter entitled *Review of the Draft Remedial Action Workplan for the Setzer Forest Products Property and Sacramento Farmers Market, Sacramento, California*, February 18, 2009.

16 PES Environmental, Inc., Draft *Building Materials Survey for Asbestos and Lead-Based Paint for the Setzer Forest Products Property and Sacramento Farmers Market, Sacramento, California*, August 21, 2006, p. 1-6.

Office Building.<sup>17</sup> OSHA asbestos and air quality regulations under the Sacramento Metropolitan Air Quality Management District (SMAQMD) require abatement of ACMs prior to demolition.

The results of PES' sampling of the site structures for lead-based and lead-containing paints were positive in several buildings and leaded material coating was found on ceramic wall tiles in the Old Saw Mill.<sup>18</sup> California OSHA (Cal-OSHA) regulations require that all flaking and peeling LBP must be removed prior to demolition activities and must be handled, packaged, and disposed of as hazardous waste. The leaded material would also need to be removed and disposed as hazardous waste. Building components with intact paint can be disposed of as non-hazardous waste in California.

## Remedial Actions

Additional sampling and surveys would be required by SMAQMD prior to demolition activities because several areas on the site were inaccessible at the time of the survey. ACM and ACCM removal would be required to be completed in accordance with all applicable regulations (e.g., Cal-OSHA and Title 8, CCR Section 1526) using engineering controls, trained personnel, and work methods that reduce impact to the environment.<sup>19</sup> All demolition work that disturbs lead-based and lead-containing paint should be performed by a licensed LBP contractor using engineering controls and work practices (e.g., wet methods and High Efficiency Particulate Air filtration units).<sup>20</sup> The *Building Materials Survey* also recommended a hazardous material abatement work-specification be prepared for the ACM and LBP material prior to demolition that includes provisions for monitoring and inspection for compliance throughout the demolition process to document proper abatement and disposal procedures.<sup>21</sup>

## REGULATORY SETTING

### Federal

Several federal agencies regulate hazardous materials and substances including the U.S. EPA, the U.S. Department of Housing and Urban Development (HUD), the U.S. Postal Service (USPS), OSHA, and the Department of Transportation (DOT). Applicable federal regulations are contained primarily in Titles 10, 29, 40, and 49 of the Code of Federal Regulations (CFR). Lead exposure guidelines are provided by HUD.

The DOT has regulations in Titles 10 and 49 of the CFR pertaining to the transport of hazardous substances and hazardous wastes by all modes of transportation and packaging requirements for different types of materials. The USPS has additional regulations for the transport of hazardous materials and substances by mail. The EPA also has more stringent requirements and regulations

---

17 *Ibid.*, p. 9.

18 *Ibid.*, p. 9-11.

19 *Ibid.*, p. 12.

20 *Ibid.*, p. 13.

21 *Ibid.*, p. 13.

for the transport of hazardous wastes that include tracking shipments with manifests to ensure that wastes are delivered to their intended destinations.

Federal EPA laws governing the use, storage, disposal, and management of hazardous substances are included below. Specific requirements for implementation of these statutes are codified in Title 40 of the CFR.

- Hazardous Waste Management
  - Resources Conservation and Recovery Act (RCRA)
  - Hazardous and Solid Waste Amendments Act (HSWA)
- Cleanup of Contamination
  - Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
  - Superfund Amendments and Reauthorization Act (SARA)
- Business Inventories and Emergency Response Planning
  - Emergency Planning and Community Right-to-Know (SARA Title III)
- Tracking and Screening of Industrial Chemicals
  - Toxic Substances Control Act (TSCA)
- Pesticide Distribution, Sale, and Use
  - Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

Title 29, Part 1910 of the CFR describes the Hazard Communication Standard, which requires that workers be informed of the hazards associated with the materials they handle. Training in chemical work practices must include methods in the safe handling of hazardous substances, use of emergency response equipment, and an explanation of the building emergency response plan and procedures. Material Safety Data Sheets (MSDS) must be available in the workplace, and containers must be appropriately labeled.

### **State**

Primary state agencies with jurisdiction over hazardous chemical materials management are the California DTSC and the California Resource Water Quality Control Board (RWQCB). Other State agencies involved in hazardous materials management are the Department of Industrial Relations (State OSHA implementation), Office of Emergency Services (OES) (California Accidental Release Prevention implementation), Department of Fish and Game (DFG), Air Resources Board (ARB), Caltrans, State Office of Environmental Health Hazard Assessment (OEHHA—Proposition 65 implementation) and California Integrated Waste Management Board (CIWMB). The enforcement agencies for hazardous materials transportation regulations are the California Highway Patrol (CHP) and Caltrans.

Additional state regulations and agencies pertaining to hazardous materials management and worker safety include the Cal EPA, California Accidental Release Prevention Program (Cal ARP),

and Cal-OSHA. State regulations applicable to hazardous materials are contained in the CCR. Title 22 and 26 of the CCR pertain to hazardous materials and the management of hazardous materials, and Title 8 contains Construction Safety Orders pertaining to hazardous materials including regulations and guidelines pertain to abatement of and protection from exposure to LBP. In California, LBP abatement must be performed and monitored by contractors with appropriate certification from the California Department of Health Services.

Within Cal EPA, the DTSC has primary regulatory responsibility for hazardous waste management and cleanup. DTSC also regulates hazardous waste under the authority of the federal Resource Conservation and Recovery Act (RCRA) of 1972 and the California Health and Safety Code, as well as implements the Hazardous Waste Control Law of 1972. The Cal EPA is also responsible for implementing the “Unified Hazardous Waste and Hazardous Materials Management Regulatory Program” (Unified Program), which includes six program elements (hazardous waste generators and hazardous waste on-site treatment, USTs, above-ground storage tanks, hazardous material release response plans and inventories, risk management and prevention program, and Uniform Fire Code hazardous materials management plans and inventories) that are implemented at a local level by a local agency known as the Certified Unified Program Agency (CUPA). The SCEMD is the CUPA with jurisdiction over the city of Sacramento.

Cal-OSHA is responsible for developing and enforcing workplace standards and assuring worker safety in the handling and use of hazardous materials. Under Cal-OSHA, some businesses may be required to prepare Injury and Illness Prevention Plans or Chemical Hygiene Plans to meet standards and prevent potential worker incidents with hazardous materials and/or situations.

Under the Cal ARP, certain businesses handling larger quantities of certain regulation substances are required to meet certain regulations under the program to prevent accidental releases of the substances that might harm the surrounding environment and community. The Cal ARP requires that these businesses prepare a Risk Management Plan (RMP) to decrease the risk of on- or off-site release of the regulated substance in question.

The California Education Code section 17210 et seq. also provides regulations for siting of school near known or suspected hazardous materials sites, or near facilities that emit or handle hazardous materials or waste.

Hazardous materials and waste transporters are responsible for complying with all applicable packaging, labeling, and shipping regulations. Requirements place “cradle-to-grave” responsibility for hazardous waste disposal on the shoulders of hazardous waste generators. Generators must ensure that its wastes are disposed of properly.

Hazardous chemical and biohazardous materials management laws in California include, but are not limited to, the following statutes:

- Hazardous Materials Management Act,
- Hazardous Waste Control Act,

- Safe Drinking Water and Toxic Enforcement Act of 1986,
- Hazardous Substances Act,
- Hazardous Waste Management Planning and Facility Siting (Tanner Act),
- Hazardous Materials Storage and Emergency Response, and
- California Medical Waste Management Act.

### **Local**

The SCEMD is responsible for promoting a safe and healthy environment and enforcing hazardous waste laws and regulations at a local level. As the local CUPA, the SCEMD monitors the proper use, storage, and cleanup of hazardous materials, monitoring wells, removal of leaky underground storage tanks, and permits for the collection, transport, use, or disposal of refuse. The SCEMD developed the Area Plan for Emergency Response to Hazardous Materials Incidents in Sacramento County (Area Plan). The Area Plan provides information for agencies involved in hazardous materials response within Sacramento County, including, but not limited to, the Sacramento County Sheriff's Department, Sacramento City Fire Department, State OES, Sacramento County Health Department, Public Works, and the CHP, if needed to respond to a hazardous materials incident. Under Emergency Response for Hazardous Materials, the SCEMD works with the Sacramento City Fire Department to form the HAZMAT Program to locally respond to hazardous materials incidents.

Other local regulations or regulating agencies that are relevant to hazardous materials in the city include the City Department of Utilities, which monitors all groundwater discharges to ensure they are free of contamination through enforcement of the Department of Utilities Engineering Services Policy No. 0001 (adopted as Resolution No. 92-439 by the Sacramento City Council). Groundwater discharges to the City's sewer system are defined as construction dewatering discharges, foundation or basement dewatering discharges, treated or untreated contaminated groundwater cleanup, discharges, and uncontaminated groundwater discharges.

The City requires that any short-term discharge be permitted, or an approved Memorandum of Understanding (MOU) for long-term discharges be established, between the discharger and the City. Short-term limited discharges of seven days duration or less must be approved through the City Department of Utilities by acceptance letter. Long-term discharges of greater duration than seven days must be approved through the City Department of Utilities and the Director of the Department of Utilities through a MOU process. The MOU must specify the type of groundwater discharge, flow rates, discharge system design, a City-approved contaminant assessment of the proposed groundwater discharge indicating tested levels of constituents, and a City-approved effluent monitoring plan to ensure contaminant levels remain in compliance with State standards or Sacramento Regional County Sanitation District (SRCSD) and CVRWQCB approved levels. All groundwater discharges to the sewer must be granted a SRCSD discharge permit. If the discharge is part of a groundwater cleanup or contains excessive contaminants, CVRWQCB approval is also required.

The SMAQMD Rule 902 also protects the public from exposure to asbestos, in the event of a release during demolition and construction activities. The work practices and administrative requirements of Rule 902 apply to all commercial renovations and demolitions where the amount of Regulated ACM is greater than:

- 260 lineal feet of Regulated ACM on pipes, or
- 160 square feet of Regulated ACM on other facility components, or
- 35 cubic feet of Regulated ACM that could not be measured otherwise.

The administrative requirements of Rule 902 apply to any demolition of commercial structures, regardless of the amount of Regulated ACM. To determine the amount of Regulated ACM in a structure, Rule 902 requires that a survey be conducted prior to demolition or renovation unless:

- the structure is otherwise exempt from the rule, or
- any material that has a propensity to contain asbestos (so-called "suspect material") is treated as if it is Regulated ACM.

Surveys must be completed by a licensed asbestos consultant and require laboratory analysis. Large industrial facilities may use non-licensed employees if those employees are trained by the U.S. EPA. If the survey shows that there are asbestos-containing materials present, the SMAQMD recommends leaving it in place. If it is necessary to disturb the asbestos as part of a renovation, remodel, repair, or demolition, Cal-OSHA and the Contractors State License Board require a licensed asbestos abatement contractor be used to remove the asbestos-containing material. There are specific disposal requirements in Rule 902 for friable asbestos-containing material, including disposal at a licensed landfill. If the material is non-friable asbestos, any landfill willing to accept asbestos-containing material may be used to dispose of the material.

## City of Sacramento 2030 General Plan

The goals and policies from the 2030 General Plan directly relevant to hazards and hazardous materials within the project area are listed below.

### **PUBLIC HEALTH AND SAFETY (PHS)**

#### **HAZARDOUS MATERIALS**

**Goal PHS 3.1 Reduce Exposure to Hazardous Materials and Waste. Protect and maintain the safety of residents, businesses, and visitors by reducing, and where possible, eliminating exposure to hazardous materials and waste.**

#### Policies

**PHS 3.1.1 Investigate Sites for Contamination.** The City shall ensure buildings and sites are investigated for the presence of hazardous materials and/or waste contamination before development for which City discretionary approval is required. The City shall ensure appropriate measures are taken to protect the health and safety of all possible users and adjacent properties.

PHS 3.1.4 **Transportation Routes.** The City shall restrict transport of hazardous materials within Sacramento to designated routes.

## **Applicable Mitigation Measures from the City of Sacramento 2030 General Plan**

There are no applicable mitigation measures.

## **IMPACTS AND MITIGATION MEASURES**

### **Methods of Analysis**

The impacts associated with hazards and hazardous materials are analyzed in relation to existing conditions and are based on published information contained in technical studies and reports that pertain to the proposed project site and the potential hazards that exist or may exist within the site, agency correspondence, and applicable regulatory requirements. In determining the level of significance, the analysis assumes the proposed project would comply with all applicable laws, ordinances, regulations, standards, and plans. The City monitors and enforces such compliance.

### **Standards of Significance**

For the purposes of this EIR, an impact would be considered significant if the proposed project would:

- expose people (e.g., residents, pedestrians, construction workers) to existing contaminated soil during construction activities;
- expose people (e.g., residents, pedestrians, construction workers) to asbestos-containing materials, or other hazardous materials or situations; or
- expose people (e.g., residents, pedestrians, construction workers) to existing contaminated groundwater during construction or dewatering activities.

### **Project-Specific Impacts and Mitigation Measures**

#### **5.5-1 Implementation of the proposed project could result in the exposure of people to hazards and hazardous materials during construction activities.**

The proposed project would demolish and replace existing light industrial and commercial uses on the project site with commercial-retail and residential uses. Students and other employees at the nearby Jedediah Smith Elementary School and Arthur A. Benjamin Health Professions High School could be exposed to hazards and hazardous materials as a result of construction activities that include demolition of existing structures, site preparation that could encounter potential contaminated soil and/or groundwater, and installation of underground utilities. Site preparation activities during construction could also have the potential to unearth existing remediation monitoring wells. General Plan Policy 3.1.1 requires that buildings and sites be investigated for contamination prior to development in order to ensure proper steps are taken to protect the health and safety of adjacent properties and construction personnel.

## Demolition of Existing Structures

Demolition of existing industrial, warehouse, and commercial buildings and structures; site improvements; and infrastructure would occur as required for each of the four project phases. As described in the Environmental Setting above, buildings on the project site include materials that contain asbestos and lead. As a result, the demolition of existing structures on the project site could result in exposure of construction personnel and the public, including those at nearby schools, to hazardous substances. Exposure pathways by which receptors could be exposed to asbestos or LBPs include direct dermal contact with hazardous materials, incidental ingestion of hazardous materials, or inhalation of airborne dust released from dried hazardous materials.

Various regulations and guidelines pertaining to abatement of, and protection from, exposure to asbestos and lead have been adopted for demolition activities. These requirements include: SMAQMD Rule 902 pertaining to asbestos abatement, Construction Safety Orders 1529 (pertaining to asbestos) and 1532.1 (pertaining to lead) from Title 8 of the CCR, Part 61, Subpart M of the CFR (pertaining to asbestos), and lead exposure guidelines provided by HUD. In California, asbestos and lead abatement must be performed and monitored by contractors with appropriate certifications from the State Department of Health Services using proper engineering controls and work practices (e.g., wet methods and High Efficiency Particulate Air filtration units).

All demolition that could result in the release of lead and/or asbestos must be conducted according to Cal-OSHA standards and regulations, which require that all flaking and peeling lead based paint must be removed prior to demolition activities and must be handled, packaged, and disposed of as hazardous waste. The leaded material would also need to be removed and disposed as hazardous waste. Building components with intact paint can be disposed of as non-hazardous waste in California.

Additional sampling and surveys would be required by SMAQMD prior to demolition activities because several areas on the site were inaccessible at the time of the survey. The *Building Materials Survey* prepared for the project site recommended a hazardous material abatement work-specification be prepared for the asbestos containing and lead based paint materials prior to demolition that includes provisions for monitoring and inspection for compliance throughout the demolition process to document proper abatement and disposal procedures.

Compliance with all applicable laws, rules and regulations pertaining to asbestos and lead abatement and the recommendations made within the *Building Materials Survey* prepared for the project site, along with implementation of the General Plan Policy PHS 3.1.1 that requires building investigations for the presence of hazardous materials and/or waste contamination would ensure that construction workers and the public would not be exposed to any unusual or excessive risks related to hazardous materials during demolition activities at the proposed project site. Therefore, impacts related to the exposure of construction workers and the public to asbestos and lead hazards during demolition of existing structures on the proposed project site would be *less than significant*.

## Contaminated Soil and Groundwater

As discussed above, the draft *Remedial Action Workplan* identified Option Parcel 1 as requiring NFA or mitigation, ERM submitted a letter to SCEMD dated May 26, 2009, requesting closure of Option Parcel 1 with justification and documentation under the option-based closure strategy to facilitate the property ownership and redevelopment process. SCEMD responded with letters dated June 19, 2009 and June 26, 2009 to Setzer that confirm NFA status for Option Parcel 1 within the larger project site. Remediation of Option Parcel (or Phase) 1 is complete and the parcel has been purchased, according to the project applicant.

The remainder of the proposed project site (Option Parcels (or Phases) 2, 3, and 4), in accordance with the draft *Remedial Action Workplan*, is required to undergo remediation and cleanup under the oversight of the lead agency, SCEMD, before construction activities could begin. As defined in the draft *Remedial Action Workplan*, the remediation activities remaining to be completed at the site include:<sup>22</sup>

- Removal of two inactive USTs located in Option Parcel 2 and Option Parcel 4. As described in the Environmental Setting above, the inactive tanks have been approved for abandonment in-place in accordance with regulations and SCEMD approvals.<sup>23</sup>
- Removal of shallow soil containing PAHs coincident with the inactive UST at the west end of Option Parcel 2.
- Controlled aeration to address VOCs detected in soil vapor in an area beneath the concrete slab of the former Wood Molding Plant in Option Parcel 3.<sup>24</sup>
- Soil excavation at two locations in Option Parcel 4: (1) near the northwest corner of the existing Office Building; and (2) near the Shook Warehouse to remove TPH-impacted soil and to place oxygen releasing compounds at the depth to groundwater to stimulate and accelerate biodegradation of TPH in groundwater.
- Remedial activities for contaminated soil would generate excavated and stockpiled soils prior to offsite disposal or reuse as backfill on the project site. Remediation of contaminated soils would be required to meet the acceptable risk-based levels for residential uses. In no event would onsite grading of any parcel occur prior to the issuance of a NFA determination with the clarification supporting unrestricted (residential) land use without mitigation for the option parcel in which the soils at issue are located.

None of the three soil remedial actions have been completed to-date and the schedule for implementation of the actions would be timed to facilitate redevelopment of the site. It is anticipated that Option Parcel 1 (phase one) would be the first parcel to be redeveloped and Option Parcel 4 (phase four), the last, with the understanding that redevelopment plans and priorities may change.

22 ERM-West, Inc., Draft *Remedial Action Workplan for the Setzer Forest Products Property and Sacramento Farmers Market, Sacramento, California*, January 9, 2009, p. ES-3.

23 David Von Aspern, Environmental Specialist III, Sacramento County, Environmental Management Department, Environmental Compliance, Division, personal communication, August 5, 2010.

24 Additional measures would be taken if controlled aeration is not adequate. Groundwater samples would be collected from beneath the aerated soils using HydroPunch sampling methods as part of the confirmation sampling.

No remedial actions are proposed for site groundwater with the exception of the placement of oxygen-releasing compounds at two excavation locations in Option Parcel 4 (as described above). As described in the Environmental Setting above, groundwater monitoring and sampling for all seven wells would continue on an annual basis as follows:<sup>25</sup>

- MW-1, MW-2, MW-4, MW-6, and MW-7: TPH-G and arsenic;
- MW-3: TPH-G, THP-D, and arsenic; and
- MW-5: TPH-G only.

For six of the seven wells (i.e., MW-1, MW-2, and MW-4 through MW-7), monitoring is anticipated not to be long-term.<sup>26</sup> The seventh well, or MW-3, would have continued long-term annual groundwater monitoring until such time that the remedial action proposed for this area has been implemented.<sup>27</sup> A replacement monitoring well would be installed, if required, to collect groundwater data after impacted soils have been removed and oxygen releasing compounds have been placed in the backfill. This post-remediation groundwater data should confirm that the source removal and addition of oxygen releasing compounds are addressing any concerns regarding impacts to ground water in this area.<sup>28</sup> In addition, SCEMD requested a post-remediation risk assessment be conducted to confirm that residual concentrations of COPC in soil, soil vapor, and groundwater do not pose an unacceptable risk to future receptors at the project site.

To prevent potential health hazards to construction workers and the public from exposure to previously unknown soil contamination, Policy PHS 3.1.1 of the 2030 General Plan would require that buildings and sites under consideration for new development or redevelopment are investigated for the presence of hazardous materials prior to development activities. Similarly, Policy PHS 3.1.2 requires that property owners of contaminated sites develop plans to investigate and manage hazardous material contamination to prevent risk to human health or the environment. Upon identification of the contamination, a remediation plan pursuant to section 25401.05 (a)(1) of the California Health and Safety Code and approved by the appropriate agency or authority must be implemented at the site.

To date, the project site owner's hazardous materials consultant has conducted numerous soil sampling and testing throughout the project site and does not anticipate finding any new hazardous substances. However, soil remediation has not been completed and would occur prior to each phase of development. Site preparation activities (e.g., grading and trenching) should not result in the exposure of construction workers and the public to known hazardous substances. While construction work is ongoing, the contractors and hazardous materials consultant will be looking for potentially unknown hazardous substances present in the soil, and will take appropriate measure to

---

25 ERM-West, Inc., Letter entitled *Proposed Revised Groundwater Monitoring Program Setzer Forest Products and Sacramento Farmers Market Site Investigation*, March 4, 2009.

26 *Ibid.*

27 ERM-West, Inc., *Draft Remedial Action Workplan for the Setzer Forest Products Property and Sacramento Farmers Market, Sacramento, California*, January 9, 2009, p. ES-3.

28 *Ibid.*

limit exposure of workers and the public as necessary. This is considered a *potentially significant impact*.

### Installation of Underground Utilities

Construction at the project site would involve the modification and/or installation of underground utilities (e.g., water, sewer, storm water, electrical, cable). Site preparation would include raising the existing ground surface by an average of one to three feet to provide adequate site drainage, generally in the southeasterly direction. Site grading would be designed to minimize import of fill material and approach a balanced site to the extent possible. A few localized areas may require remedial grading and engineered backfill due to previous placement of unsuitable material onsite or the removal of sub-surface structures during demolition.

The geotechnical study prepared for the proposed project states that groundwater has been encountered at approximately four feet below the existing ground surface on the project site, including the proposed neighborhood park site, and groundwater monitoring performed at monitoring wells in 2006 indicates fluctuations in groundwater depths from approximately four to 12 feet below ground surface. The study states that fluctuations in the groundwater level can occur due to variations in seasonal rainfall, flow in the Sacramento River, and changing uses on the project site.<sup>29</sup> Shallow groundwater in the area may require dewatering during excavation and utility construction. Utility trenches are anticipated to range in depth from three feet to 10 feet.

Because of the shallow depth to groundwater, there is the potential to encounter hazardous materials in groundwater during trenching that, if encountered, could potentially expose workers or the environment to hazardous materials. Utility trenches also have the potential to create a horizontal conduit for chemical contaminants contained in soil vapors or shallow groundwater to migrate along permeable soils that would be placed as trench backfill. Creating a horizontal conduit has the potential to cause a change in groundwater flow direction, which could shift contaminant plumes and/or concentrations that could, in turn, cause additional environmental degradation or expose people to hazardous materials. This is considered a *potentially significant impact*.

### Site Preparation Activities

Site preparation activities during construction (e.g., trenching, grading, over-excavation for fill placement) have the potential to unearth and damage or destroy existing remediation monitoring wells. There are seven groundwater monitoring wells (MW-1 through MW-7) at the project site (see Figure 5.5-1). These wells are part of an established ongoing groundwater monitoring network for the purposes of sampling groundwater for the substances reported in the *Phase II ESA* and for monitoring the groundwater flows onto and off of the project site (see Appendix O). One well (MW-3), in particular, would be used for long-term monitoring. It is anticipated that all of the monitoring wells with the exception of MW-3 would be decommissioned prior to construction

---

29 RMA Group of Northern California. *Geotechnical Investigation for Setzer Forest Products Property Development 2555 3rd Street, Sacramento, California*. Prepared for Northwest Land Park, LLC, July 2010, p. 7.

activities. However, if the decommissioning of the wells did not occur or was delayed, construction activities could damage or otherwise render any of the wells inoperable, potentially resulting in the loss of important data that may be useful in determining the characteristics of known groundwater contaminant plumes. For example, excavation could crack the wellhead or casing, or new landscaping or pervious surfaces could obstruct access to the wellhead. Access to the monitoring wells would need to be maintained, as quarterly monitoring would need to continue until otherwise directed by SCEMD. Absent monitoring data, if there were a change in groundwater flow characteristics that could alter groundwater contaminant extent, and that change is not observed, this could affect assumptions about environmental conditions in groundwater. This is considered a *potentially significant impact*.

### **Other Hazards During Construction**

In addition to the impacts associated with hazardous materials during construction, it may be necessary to restrict travel on certain roadways adjacent to the project site to facilitate construction activities such as demolition, material hauling, construction staging, and modifications to existing infrastructure. Such restrictions could include lane closures, lane narrowing, and detours, which would be temporary but could continue for extended periods of time. Lane restrictions, closures, and/or detours could cause an increase in traffic volumes on adjacent roadways. In the event of an emergency, emergency response access or response times could be adversely affected. To prevent interference with emergency response, the City requires all development projects to prepare Traffic Management Plans for construction activities, as required by sections 12.20.020 and 12.20.030 of the Sacramento City Code. The code requires that acceptable operating conditions are maintained, which includes street closure procedures and practices (e.g., duration, advance warning and posted signage, safe and efficient access routes for emergency vehicles, and use of manual traffic control). Compliance would ensure that construction impacts interfering with emergency response are minimized. Refer to section 5.9, *Transportation and Circulation*, for more information on the project site's construction traffic and parking management plan.

### Mitigation Measures

#### *Contaminated Soil and Groundwater*

As discussed above, remediation of Option Parcel (Phase) 1 is complete. The following mitigation measure would prohibit grading on parcels within Phases 2, 3, or 4 until SCEMD issues an NFA letter for Phases 2, 3 and 4, respectively. Implementation of this measure would reduce potential impacts associated with contaminated soil and groundwater to ***less than significant***.

- 5.5-1 a) *No grading may occur on the parcels within Phases 2, 3 or 4 until SCEMD issues a no further action letter for Phases 2, 3 and 4, respectively. In the event a no further action letter is issued for only certain parcels within a Phase, grading may only occur on the parcels for which a no further action letter was issued. The applicant shall be responsible for providing written confirmation of SCEMD action prior to the issuance of a grading permit for any affected project phase.*

### *Installation of Underground Utilities*

The following mitigation measure requires that all utility installation and any dewatering activities are conducted according to a City-approved groundwater management plan, which would include measures to prevent any contaminated groundwater discharges. Implementation of this mitigation measure would reduce potential impacts associated with installation of underground utilities to **less than significant**.

- 5.5-1 b) *Prior to issuance of a grading permit that would include installation of underground utility trenches, the City shall ensure a groundwater management plan has been prepared by a qualified environmental professional registered in California. The plan shall be submitted to the City for review and approval.*

*The groundwater management plan shall identify the locations and depths of underground utility trenches relative to known contaminated groundwater. If it is determined trenches could intercept contaminated groundwater during construction, the plan shall identify measures to be implemented to properly remove and dispose of contaminated groundwater in accordance with best management practices and City requirements. Such measures could include, but not be limited to, the use of a pump to extract the contaminated groundwater out of the trench and then store the water onsite in a sump or storage tank until properly discharged into the City sewer system per City regulations described below.*

*All dewatering activities shall be subject to the requirements of the City's Department of Utilities Engineering Services Policy No. 0001 (adopted as Resolution No. 92-439 by the Sacramento City Council), which protects water quality by monitoring dewatering activities and ensuring that all groundwater discharges are free of contamination.*

*The groundwater management plan shall also identify specific measures (e.g., design features, construction methods) to ensure underground utilities do not create a horizontal conduit for contaminant migration. The plan shall include provisions for monitoring the effectiveness of the construction methods in minimizing horizontal contaminated groundwater migration along utility trenches.*

### *Site Preparation Activities*

The following measure requires documentation from SCEMD that construction activities would not affect the operation of any of the existing on-site monitoring wells. Implementation of the following mitigation measure would reduce potential impacts associated with site preparation activities to **less than significant**.

- 5.5-1 c) *Prior to site preparation (i.e., grading, clearing), the project applicant shall consult with SCEMD to determine whether there are any construction activities that could damage or otherwise interfere with use of on-site monitoring wells, specifically MW-3 for ongoing groundwater monitoring. If SCEMD determines the wells would not be affected by project*

*activities, the project applicant shall obtain written documentation from SCEMD to that effect. If it is determined that well relocation or protective measures are necessary, the project applicant shall coordinate with SCEMD in advance of any site preparation activities during construction to identify the appropriate measures and to obtain regulatory approval of such measures. Site preparation activities that could affect the monitoring wells shall not be implemented until SCEMD has inspected any modifications and provided written notification to the City that it has reviewed and approved the protective measures.*

*The City shall not issue a grading permit to the project applicant until written documentation from SCEMD is provided to the City that determines the groundwater monitoring wells would not be affected by site preparation project activities, or, if it is determined that well relocation or protective measures are necessary, SCEMD has inspected any modifications and provided written notification to the City that it has reviewed and approved the protective measures.*

#### **5.5-2 Implementation of the proposed project could result in the exposure of people to hazards and hazardous materials during project operation/occupancy.**

The proposed project would consist of commercial-retail and residential development, in which only a few types and limited quantities of hazardous materials would be used. Most household and general commercial uses of hazardous materials within the project site would be very minor and would not result in a substantial increase in the risk of a hazardous materials incident. While small amounts of materials could be delivered to the commercial uses, General Plan Policy PHS 3.1.4 restricts transportation of hazardous materials to designated routes within the city to protect public safety.

Compliance with all applicable regulations and hazardous waste management plans monitored and enforced by the SCEMD, along with implementation of the 2030 General Plan policies, would ensure that the public would not be exposed to any unusual or excessive operations impacts or risks related to hazardous materials. Therefore, the proposed project would have no additional significant environmental effect not addressed as a significant effect in the Master EIR.

#### **Mitigation Measure**

*None required.*

#### **Cumulative Impacts**

The cumulative context for the analysis of potential hazardous materials impacts related to soil and groundwater contamination is generally site-specific and not cumulative in nature. No adjacent construction activities to the proposed project site that could combine with project effects are occurring or planned. The project would minimally increase household-type hazardous materials use. As stated in the cumulative impact analysis in Section 6.6, Hazards and Hazardous Materials, of the General Plan Master EIR, compliance with all applicable federal, state, and local regulations

related to hazards and hazardous materials would be required on a project-by-project basis and site-specific investigations would be conducted for all projects within the Policy Area including the proposed project site to determine potential impacts and mitigation. The project would not contribute to cumulative impacts beyond those already addressed in the Master EIR.

## **5.6 Noise and Vibration**

---

---

## 5.6 NOISE AND VIBRATION

---

### INTRODUCTION

This section evaluates the potential for the proposed Northwest Land Park Project (proposed project) to increase noise and vibration levels due to implementation either through increased population and new development or subject proposed uses to noise and vibration in excess of City standards. In addition, this chapter describes the potential noise impacts due to construction. This section considers effects related to a variety of noise sources in the proposed project area, including vehicular traffic on roads, freeways and highways, and stationary sources.

The Master EIR certified in connection with adoption of the 2030 General Plan in March 2009 included an extensive analysis of noise and vibration. The Master EIR analysis considered effects related to a variety of noise sources including vehicular traffic on roads, freeways and highways, aircraft, light rail and stationary sources. The Master EIR evaluated the effects of development that could occur under the new general plan, and identified and evaluated the effects of the project and future development, including analysis of growth-inducing effects and irreversible environmental effects. The discussion of noise and vibration in the Master EIR (see Chapter 6.8) is incorporated here by reference pursuant to CEQA Guidelines section 15050. The Master EIR may be reviewed at [www.sacgp.org](http://www.sacgp.org).

One comment pertaining to noise and/or vibration was received during the public scoping meeting. It raised concerns about existing loading and unloading operations in the project area that might affect/be affected by the proposed residential uses of the project. This concern is addressed in this section. No other comments pertaining to noise and/or vibration were received during the public review period for the NOP.

The analysis included in this section was developed based on data on ambient noise levels taken in various locations throughout the proposed project area, and modeled changes in those levels based on predicted increases in vehicular and other activities. Information to prepare this section is based on the City of Sacramento 2030 General Plan, City of Sacramento 2030 General Plan Master Environmental Impact Report (Master EIR), noise standards included in the Sacramento City Code, the Federal Highway Administration (FHWA) Highway Traffic Noise Model (TNM), and the Federal Transit Administration's *Transit Noise and Impact Assessment* document. Traffic inputs for the noise prediction model were provided by the transportation consultant.

### ENVIRONMENTAL SETTING

#### Background on Environmental Noise and Vibration

##### Fundamentals of Environmental Sound and Noise

Sound can be described in terms of amplitude (loudness) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB). The dB scale is a logarithmic scale that

describes the intensity of the pressure vibrations that make up a sound. The pitch of the sound is correlated to the frequency of the sound's pressure vibration. Because humans are not equally sensitive to a given sound level at all frequencies, a scale, the A-weighted decibel scale (dBA), has been devised to specifically relate noise to human sensitivity. The dBA scale does this by placing more importance on frequencies that are more noticeable to the human ear.<sup>1</sup>

Noise is usually defined as unwanted sound. Typically, noise in any environment consists of a base of steady "background" noise made up of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These sources can vary from an occasional aircraft or train passing by to virtually continuous noise from traffic on a major highway. Table 5.6-1 lists some representative environmental noise levels.

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	--110--	Rock Band
Jet Fly-over at 100 feet		
	--100--	
Gas Lawnmower at 3 feet		
	--90--	
		Food Blender at 3 feet
Diesel Truck going 50 mph at 50 feet	--80--	Garbage Disposal at 3 feet
Noisy Urban Area during Daytime		
Gas Lawnmower at 100 feet	--70--	Vacuum Cleaner at 10 feet
Commercial Area		Normal Speech at 3 feet
Heavy Traffic at 300 feet	--60--	
		Large Business Office
Quiet Urban Area during Daytime	--50--	Dishwasher in Next Room
Quiet Urban Area during Nighttime	--40--	Theater, Large Conference Room (background)
Quiet Suburban Area during Nighttime		
	--30--	Library
Quiet Rural Area during Nighttime		Bedroom at Night, Concert Hall (background)
	--20--	
		Broadcast/Recording Studio
	--10--	
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

Source: California Department of Transportation, Technical Noise Supplement, A Technical Supplement to the Traffic Noise Analysis Protocol. <<http://www.dot.ca.gov/hq/env/noise/pub/Technical%20Noise%20Supplement.pdf>>, October 1998, p. 18.

Several rating scales have been developed to analyze the adverse effect of noise on people. Since environmental noise fluctuates over time, these scales consider that the effect of noise upon people is largely dependent upon the volume of the noise, as well as the time of day when the noise occurs. Those that are applicable to this analysis are as follows:<sup>2</sup>

1 California Department of Transportation, *Technical Noise Supplement, A Technical Supplement to the Traffic Noise Analysis Protocol*. <<http://www.dot.ca.gov/hq/env/noise/pub/Technical%20Noise%20Supplement.pdf>>, October 1998, pp. 40-41.

2 *Ibid*, p. 45.

- $L_{eq}$ , the equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the  $L_{eq}$  of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
- $L_{dn}$ , the Day Night Average Level, is a 24-hour average  $L_{eq}$  with a 10 dBA “weighting” added to noise during the hours of 10:00 P.M. to 7:00 A.M. to account for noise sensitivity in the nighttime.
- $L_{min}$ , the minimum instantaneous noise level experienced during a given period of time.
- $L_{max}$ , the maximum instantaneous noise level experienced during a given period of time.

Noise caused by natural sources and human activities is usually well represented by median noise levels during the day, night, or over a 24-hour period. Environmental noise levels are generally considered low when the  $L_{eq}$  is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA. Examples of settings with low daytime background noise levels are isolated, natural settings that can provide noise levels as low as 20 dBA and quiet, suburban, residential streets that can provide noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise settings are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most people living or working in urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA) accept the higher noise levels commonly associated with these land uses. When evaluating changes in 24-hour community noise levels, a difference of 3 dBA is a barely perceptible increase to most people.

Noise levels from a particular source decline as distance to a receptor increases. Other factors, such as the weather and reflecting or shielding, also help intensify or reduce noise levels at any given location. A commonly used rule of thumb for roadway noise is that for every doubling of distance from the source, the noise level is reduced by about 3 dBA at acoustically “hard” locations (i.e., the area between the noise source and the receptor is nearly complete asphalt, concrete, hard-packed soil, or other solid materials) and 4.5 dBA at acoustically “soft” locations (i.e., the area between the source and receptor is normal earth or has vegetation, including grass). Noise from stationary or point sources is reduced by about 6 to 7.5 dBA for every doubling of distance at acoustically hard and soft locations, respectively.<sup>3</sup> Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid noise barrier such as a wall or berm can reduce noise levels by 5 to 10 dBA on average, but reductions of up to 30 dBA or more can be achieved depending on the material and placement of the barrier.<sup>4</sup> The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer residential units is generally 30 dBA or more.

---

3 *Ibid*, pp. 24-27.

4 *Ibid*, p. 35.

## Fundamentals of Ground-borne Noise and Vibration

Ground-borne vibration is sound radiated through the ground and is measured in the U.S. as vibration decibels (VdB). In contrast to air-borne noise, ground-borne vibration is not a phenomenon that most people experience every day. The background vibration velocity level in residential areas is usually 50 VdB or lower, well below the threshold of perception for humans, which is around 65 VdB. Most perceptible indoor vibration is caused by sources within buildings such as operation of mechanical equipment, movement of people, or slamming of doors. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If the roadway is smooth, the vibration from traffic is rarely perceptible. Common vibration sources and the human and structural response to ground-borne vibration are illustrated in Table 5.6-2. The range of interest is from approximately 50 VdB to 100 VdB. Background vibration is usually well below the threshold of human perception and is of concern only when the vibration affects very sensitive manufacturing or research equipment, such as electron microscopes and high resolution photo lithography equipment.<sup>5</sup>

Human/Structural Response	Velocity Level	Typical Sources (50 feet from Source)
Threshold, minor cosmetic damage fragile buildings	—100—	Blasting from construction projects
	—95—	Bulldozers and other heavy tracked construction equipment
Difficulty with tasks such as reading a VDT screen	—90—	
	—85—	High Speed Rail, upper range
Residential annoyance infrequent events (e.g. commuter rail)	—80—	Rapid transit, upper range
	—75—	High Speed Rail, typical
Residential annoyance frequent events (e.g. rapid transit)		Bus or truck over bump
	—70—	
Limit for vibration sensitive equipment. Approx. threshold for human perception of vibration	—65—	Bus or truck, typical
	—60—	
	—55—	
	—50—	Typical background vibration

Source: U.S. Department of Transportation, Federal Railroad Administration, *High-Speed Ground Transportation Noise and Vibration Impact Assessment*. <[www.fra.dot.gov/downloads/RRDev/final\\_nv.pdf](http://www.fra.dot.gov/downloads/RRDev/final_nv.pdf)>. October 2005, pp. 6-6.

Accurate estimates of ground-borne vibration are complicated due to the many factors that influence vibration levels at potential receivers. The main factors that have significant effects on levels of ground-borne vibration are:

**Geology:** Soil conditions are known to have a strong influence on the levels of ground-borne vibration. Among the most important factors are the stiffness and internal damping of the soil and the depth to bedrock. Experience has shown that vibration propagation is more efficient

5 U.S. Department of Transportation Federal Railroad Administration, *High-Speed Ground Transportation Noise and Vibration Impact Assessment*. <[www.fra.dot.gov/downloads/RRDev/final\\_nv.pdf](http://www.fra.dot.gov/downloads/RRDev/final_nv.pdf)>. October 2005, pp. 6-5.

in clay soils as well as areas with shallow bedrock. The latter condition seems to channel or concentrate the vibration energy close to the surface, resulting in ground-borne vibration problems at large distances from the source. Factors such as layering of the soil and depth to water table can also have significant effects on the propagation of ground-borne vibration.

**Receiving Building:** Ground-borne vibration problems occur almost exclusively inside buildings. Therefore, the characteristics of the receiving building are a key component in the evaluation of ground-borne vibration. Vibration may be perceptible to people who are outdoors, but it is very rare for outdoor vibration to cause complaints. The vibration levels inside a building depend on the vibration energy that reaches the building foundation, the coupling of the building foundation to the soil, and the propagation of the vibration through the building structure. The general guideline is that the more massive a building is, the lower its response to incident vibration energy in the ground.<sup>6</sup>

The human response to different levels of ground-borne noise and vibration is described in Table 5.6-3. The first column lists vibration velocity levels, and the subsequent two columns list the corresponding noise levels assuming that the vibration spectrum peaks at either 30 hertz or 60 hertz. A hertz (Hz) is a measurement for the frequency of any periodic (repeating) event meaning “one per second.” For instance, the ticking of a clock could be expressed as 1 Hz or one tick per second. Similarly, the human heart might be said to beat at 1.2 Hz or 1.2 beats per second. Generally, the A-weighted noise level will be approximately 40 dB less than the vibration velocity level if the spectrum peak is around 30 Hz, and 25 dB lower if the spectrum peak is around 60 Hz. Achieving either the acceptable vibration or acceptable noise levels does not guarantee that the other will be acceptable. For example, the noise caused by vibrating structural components may be very annoying even though the vibration cannot be felt.<sup>7</sup>

<b>HUMAN RESPONSE TO DIFFERENT LEVELS OF GROUND-BORNE NOISE AND VIBRATION</b>			
<b>Vibration Level</b>	<b>Noise Level</b>		<b>Human Response</b>
	<b>Low-Frequency<sup>1</sup></b>	<b>Mid-Frequency<sup>2</sup></b>	
65 VdB	25 dBA	40 dBA	Approximate threshold of perception for many humans. Low-frequency sound usually inaudible, mid-frequency sound excessive for quiet sleeping areas.
75 VdB	35 dBA	50 dBA	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find vibration at this level unacceptable. Low-frequency noise acceptable for sleeping areas, mid-frequency noise annoying in most quiet occupied areas.
85 VdB	45 dBA	60 dBA	Vibration acceptable only if there are an infrequent number of events per day. Low-frequency noise unacceptable for sleeping areas, mid-frequency noise unacceptable even for infrequent events with institutional land uses such as schools and churches.
Notes: 1. Approximate noise level when vibration spectrum peak is near 30 Hz. 2. Approximate noise level when vibration spectrum peak is near 60 Hz. Source: U.S. Department of Transportation, Federal Railroad Administration, <i>High-Speed Ground Transportation Noise and Vibration Impact Assessment</i> , < <a href="http://www.fra.dot.gov/downloads/RRDev/final_nv.pdf">www.fra.dot.gov/downloads/RRDev/final_nv.pdf</a> >, October 2005, p. 6-8.			

6 *Ibid*, p. 6-7.

7 *Ibid*, p. 6-8.

## Physiological Effects

### Hearing Impairment/Loss

Prolonged exposure to high levels of noise can cause hearing impairment, though most cases of hearing impairment tend to be related to occupational, rather than environmental, noise exposure. Outside of occupational noise exposure, deterioration of the hearing capability is caused by diseases, head trauma, hereditary factors, and aging.

### Sleep Disturbance

It is estimated that only 10 to 20 percent of the reported cases of sleep disturbance are for reasons relating to transportation noise. Most studies focus on investigating possible secondary effects of sleep disturbance, including reduced perceived sleep quality, increased fatigue, depressed mood or well being, and decreased performance.<sup>8,9,10,11</sup> Although no specific long-term health effects have been clearly linked with sleep disturbance, sleep disturbance is recognized as intrinsically undesirable and, thus, is considered an adverse noise impact in and of itself. Sleep disturbance studies have developed predictive models of awakenings caused by transportation noise sources. Predicted awakening percentages as a function of indoor sound exposure level (SELs) are shown in Table 5.6-4.

<b>SLEEP DISTURBANCE AS A FUNCTION OF SINGLE-EVENT NOISE EXPOSURE</b>	
Indoor SEL	Average Percent Awakened <sup>1</sup>
45 dBA	0.8%
50 dBA	1.0%
55 dBA	1.2%
60 dBA	1.5%
65 dBA	1.8%
70 dBA	2.2%
75 dBA	2.8%
80 dBA	3.4%
85 dBA	4.2%

Notes:  
 1. Average Percent Awakened =  $0.58 + (4.30 * 10^{-8}) * SEL^{4.11}$   
 Source: Finegold and Bartholomew, "A Predictive Model of Noise Induced Awakenings from Transportation Noise Sources," In *Noise Control Engineering Journal*, 2001; pp. 331-338, PBS&J, 2006.

- 8 N.L. Carter, *Transportation Noise, Sleep, and Possible After-Effects*, Environmental International, Volume 22:1, pp. 105-116, January 1, 1996.
- 9 INRETS - Institut National de Recherche sur les Transports et leur Securite. "*Research on Noise and Sleep Since 1988: Present State.*" In *Noise as a Public Health Problem*, Vol. 3, pp. 331-338, Arcueil, France. 1993.
- 10 W. Passchier-Vermeer. In: *Noise and Health*, No. A93/02E, Leiden, Netherlands: Health Council of the Netherlands, TNO Institute of Preventative Health Care, 1993.
- 11 K.S. Pearsons, Barber, D.S., Tabachnick, B.G., Fidell, S. *Predicting Noise-Induced Sleep Disturbance*, Journal of the Acoustical Society of America Vol. 97:1, pp. 331-338, 1995,.

## **Existing Conditions**

The noise environment in and around the project area is dominated by traffic and on-street activity. The majority of existing ambient noise is attributable to traffic along Broadway and Interstate 5 (I-5). Additional periodic noise in the project area is associated with the commercial distribution uses located along 1<sup>st</sup> Avenue and 5<sup>th</sup> Street, immediately north and east of the project site, respectively. It should be noted that trains run periodically along the existing tracks located to the west of I-5, at least 500 feet from the project site.

Noise monitoring was conducted on June 15, 2010, to quantify existing conditions in and around the project site. The noise levels were measured using a Larson-Davis Model 720 precision sound level meter, which satisfies the American National Standards Institute (ANSI) for general environmental noise measurement instrumentation. The average noise levels and sources of noise measured at each location are identified in Table 5.6-5. According to the *Technical Noise Supplement* (Caltrans 1998), a noise measurement representing an hourly  $L_{eq}$ , does not need to last the entire hour. As long as noise levels do not change significantly, a shorter time period will suffice. Therefore, 15-minute measurements were used to determine the hourly  $L_{eq}$ . Existing ambient daytime noise levels were established by measuring four selected locations over 15-minute periods in and around the project site. These locations are identified in Figure 5.6-1. As shown in Table 5.6-5, existing noise levels in the residential neighborhood to the south were measured at 61.0  $L_{eq}$ .

## **Sensitive Receptors**

Some land uses are more sensitive to noise than others (“sensitive receptors”), and normally include residences, hospitals, churches, libraries, schools, and retirement homes. These uses are considered sensitive because they either depend on a quiet environment to serve their intended purpose, serve as a living space for people, or are institutional facilities with daytime and evening use. Uses such as schools, cemeteries, and places of worship would fall into the last category. Most commercial or industrial land uses are not considered sensitive because the activities taking place in and around these buildings are compatible with higher noise levels.<sup>12</sup>

Nearby sensitive receptors include multi-family residential buildings along McClatchy Way, and the Jedediah Smith Elementary School and Arthur Benjamin High School located immediately to the south and west of the project site.

---

12 U.S. Dept. of Transportation, Federal Railroad Administration, *High-Speed Ground Transportation Noise and Vibration Impact Assessment*. <[www.fra.dot.gov/downloads/RRDev/final\\_nv.pdf](http://www.fra.dot.gov/downloads/RRDev/final_nv.pdf)>. October 2005, p. 3-7.



**FIGURE 5.6-1**  
**Noise Monitoring Locations**



100013515

Northwest Land Park

Noise Measurement Location	Primary Noise Sources	Noise Level Statistics		
		L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>
1 – South of intersection of Broadway and 3 <sup>rd</sup> Street	I-5 and SR-50 traffic, local traffic, birds	64.0	52.0	83.8
2 – Along 1 <sup>st</sup> Avenue	Local traffic, birds, background I-5 traffic	56.6	52.6	70.8
3 – Parking lot of Arthur Benjamin High School	I-5 traffic, local traffic, school children	58.7	55.6	69.1
4 – Within Phase 2 Area	HVAC system, truck traffic, background I-5 traffic	62.0	57.5	77.4
5 – Southern boundary of site, north of Arthur Benjamin High School	Truck traffic, birds, background I-5 traffic	61.0	57.2	68.6
6 – NW corner of project site	Truck traffic, HVAC system, background I-5 traffic	69.3	67.5	72.5
7 – Western boundary of project site	Truck traffic, HVAC, operating saws, background I-5 traffic	66.3	61.9	71.2
8 – Southwestern corner of project site	I-5 traffic	67.7	63.8	76.1
9 – Corner of McClatchy Way and 5 <sup>th</sup> Street	Local traffic, plant horn, background I-5 traffic	60.3	56.9	71.8
10 – Along 5 <sup>th</sup> Street	Local traffic, truck traffic	70.7	56.2	92.0
11 – Park, northeast of project site	Local traffic, SR-50 traffic	66.0	62.8	69.8
12 – Multi-family residences south of project site	Local traffic, birds, background I-5 traffic	61.0	57.1	74.7

Source: PBS&J, 2010.

## REGULATORY SETTING

### Federal

#### Federal Noise Control Act of 1972

The basic motivating legislation for noise control in the U.S. was provided by the Federal Noise Control Act (1972), which addressed the issue of noise as a threat to human health and welfare, particularly in urban areas. In response to the Noise Control Act, the U.S. Environmental Protection Agency (EPA) published *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* (EPA 1974). In summary, EPA findings were that sleep, speech, and other types of essential activity interference could be avoided in residential areas if the L<sub>dn</sub> did not exceed 55 dBA outdoors and 45 dBA indoors. The EPA intent was not that these findings necessarily be considered as mandatory standards, criteria, or regulatory goals, but as advisory exposure levels below which there is no reason to suspect that the general population would be at risk from any of the identified health or welfare effects of noise. The EPA *Levels* report also identified 5 dBA as an adequate margin of safety before an increase in noise level would produce a significant increase in the severity of community reaction (i.e., increased complaint frequency, annoyance percentages, etc.) provided that the existing baseline noise exposure did not exceed 55 dBA L<sub>dn</sub>.

Table 5.6-6 provides examples of protective noise levels recommended by the EPA. The Occupational Safety and Health Administration (OSHA) regulations protect the hearing of workers exposed to occupational noise.<sup>13</sup>

<b>TABLE 5.6-6</b>		
<b>SUMMARY OF NOISE LEVELS IDENTIFIED AS REQUISITE TO PROTECT PUBLIC HEALTH AND WELFARE WITH AN ADEQUATE MARGIN OF SAFETY</b>		
<b>Effect</b>	<b>Level</b>	<b>Area</b>
Hearing Loss	$L_{eq(24)} > 70$ dB	All areas.
Outdoor Activity Interference and Annoyance	$L_{dn} > 55$ dB	Outdoors in residential areas and farms and other areas where people spend widely varying amounts of time and other places in which quiet is a basis for use.
	$L_{dn(24)} > 55$ dB	Outdoor areas where people spend limited amounts of time, such as school yards, playgrounds.
Indoor Activity Interference and Annoyance	$L_{dn} > 45$ dB	Indoor residential areas.
	$L_{eq(24)} > 45$ dB	Other indoor areas with human activities such as schools.
Note: 1. $L_{eq(24)}$ represents the sound energy averaged over a 24-hour period. Source: U.S. Environmental Protection Agency, Office of Noise Abatement and Control, <i>Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety</i> , < <a href="http://www.nonoise.org/library/levels74/levels74.htm">www.nonoise.org/library/levels74/levels74.htm</a> >, March 1974.		

## Federal Transit Administration

The Federal Transit Administration (FTA) has developed an extensive methodology and significance criteria to evaluate noise impacts from surface transportation modes (i.e., private motor vehicles, trucks, buses, and rail), as presented in *Transit Noise Impact and Vibration Assessment* (May 2006). The scientific rationale for FTA's criteria is clearly explained and is widely accepted by acoustic scientists. The FTA incremental noise impact criteria are essentially those presented in Table EC-2, as referenced in General Plan Policy EC 3.1.2, below. These criteria are based on findings in EPA Levels and subsequent studies of annoyance in communities affected by transportation noise. Starting from the EPA's definition of minimal noise impact as a 5 dBA change from a "safe" ambient level of 50 dBA (using  $L_{dn}$  or peak hour  $L_{eq}$ , depending on land use), the FTA extended the incremental impact criteria to higher baseline ambient levels by requiring that increased adverse community reaction be kept below a defined minimal level (i.e., a 2 percent increase the number of residents reporting a "high" level of annoyance, as measured by the survey). As baseline ambient levels increase, it takes a smaller and smaller increment to produce the same increase in annoyance (e.g., in residential areas with a baseline ambient noise level of 50 dBA  $L_{dn}$ , a 5 dBA increase in noise levels would be expected to increase community annoyance by 2 percent, but at a baseline ambient noise level of 70 dBA  $L_{dn}$ , a 1 dBA increase in noise levels would be expected to have the same effect on community annoyance levels).

The FTA has also developed criteria for judging the significance of ground-borne vibration, as shown in Table 5.6-7. Vibration magnitude is measured in VdB relative to a reference level of 1 micro-inch per second, the human threshold of perception.

13 Occupational Safety and Health Administration (OSHA), 29 CFR Section 1910.95 <[www.osha.gov/pls/oshaweb/owadispl.show\\_document?p\\_table=STANDARDS&p\\_id=9735](http://www.osha.gov/pls/oshaweb/owadispl.show_document?p_table=STANDARDS&p_id=9735)>.

TABLE 5.6-7			
GROUND-BORNE VIBRATION (GBV) IMPACT CRITERIA FOR GENERAL ASSESSMENT			
Land Use Category	GBV Impact Levels (VdB re 1 micro-inch/second)		
	Frequent Events <sup>1</sup>	Occasional Events <sup>2</sup>	Infrequent Events <sup>3</sup>
Category 1: Buildings where vibration would interfere with interior operations.	65 <sup>4</sup>	65 <sup>4</sup>	65 <sup>4</sup>
Category 2: Residences and buildings where people normally sleep.	72	75	80
Category 3: Institutional land uses with primarily daytime uses.	75	78	83

Notes:

1. "Frequent Events" is defined as more than 70 vibration events of the same source per day.
2. "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day.
3. "Infrequent Events" is defined as fewer than 30 vibration events of the same source per day.
4. This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels.

Source: Federal Transit Administration, *Transit Noise Impact and Vibration Assessment*, <[www.fta.dot.gov/documents/FTA\\_Noise\\_and\\_Vibration\\_Manual.pdf](http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf)>, May 2006.

## State

### California Standards for Noise-Compatible Land Uses

The State of California *General Plan Guidelines 2003 (Guidelines)* promotes use of  $L_{dn}$  or CNEL for evaluating noise compatibility of various land uses with the expected degree of noise exposure. The designation of a level of noise exposure as "normally acceptable" for a given land use category implies that the expected interior noise would be acceptable to the occupants without the need for any special structural acoustic treatment. The *Guidelines* identify the suitability of various types of building construction relative to the range of customary outdoor noise exposures. The *Guidelines* provide each local community some leeway in setting local noise standards that allow for the variability in individual perceptions of noise in that community. Findings presented in EPA's 1974 information paper, as described above, have had an obvious influence on the content of the State *Guidelines*, most importantly in the latter's choice of noise exposure metrics and in the upper limits for the "normally acceptable" exposure of noise-sensitive uses (i.e., no higher than 60 dBA  $L_{dn}$  or CNEL for low-density residential, which is just at the upper limit of the 5 dBA "margin of safety" defined by the EPA for noise-sensitive land use categories).

## Local

### City of Sacramento 2030 General Plan

The California Government Code<sup>14</sup> requires that a noise element be included in the general plan of each county and city in the state. The purpose of the noise element is to ensure that noise control is incorporated into the planning process. The noise element guides decision makers and city planners to achieve and maintain appropriate noise levels for existing and proposed land uses.

14 California Government Code Section 65300, <<http://codes.lp.findlaw.com/cacode/GOV/17/d1/3/5/s65300>>.

The City of Sacramento 2030 General Plan contains the following goals, policies, and guidance related to noise.<sup>15</sup>

**Goal EC 3.1 Noise Reduction. Minimize noise impacts on land uses and human activity to ensure the health and safety of the community.**

Policies

EC 3.1.1 **Exterior Noise Standards.** The City shall require noise mitigation for all development where the exterior noise standards exceed those shown in Table EC 1, to the extent feasible.

<b>TABLE EC 1</b>	
<b>EXTERIOR NOISE COMPATIBILITY STANDARDS FOR VARIOUS LAND USES</b>	
<b>Land Use Type</b>	<b>Highest Level of Noise Exposure that is Regarded as "Normally Acceptable"<sup>1</sup> (<math>L_{dn}</math><sup>2</sup> or CNEL<sup>3,8</sup>)</b>
Residential – Low Density Single Family, Duplex, Mobile Homes	60 dBA <sup>4,5</sup>
Residential – Multi-family	65 dBA
Urban Residential Infill <sup>6</sup> and Mixed-use Projects <sup>7</sup>	70 dBA
Transient Lodging – Motels, Hotels	65 dBA
Schools, Libraries, Churches, Hospitals, Nursing Homes	70 dBA
Auditoriums, Concert Halls, Amphitheaters	Mitigation based on site-specific study
Sports Arena, Outdoor Spectator Sports	Mitigation based on site-specific study
Playgrounds, Neighborhood Parks	70 dBA
Golf Courses, Riding Stables, Water Recreation, Cemeteries	75 dBA
Office Buildings – Business, Commercial and Professional	70 dBA
Industrial, Manufacturing, Utilities, Agriculture	75 dBA
Notes: 1. As defined in the <i>Guidelines</i> , "Normally Acceptable" means that the "specified land use is satisfactory, based upon the assumption that any building involved is of normal conventional construction, without any special noise insulation requirements." 2. $L_{dn}$ or Day Night Average Level is an average 24-hour noise measurement that factors in day and night noise levels. 3. CNEL or Community Noise Equivalent Level measurements are a weighted average of sound levels gathered throughout a 24-hour period. 4. dBA or A-weighted decibel, a measure of noise intensity. 5. The exterior noise standard for the residential area west of McClellan Airport known as McClellan Heights/Parker Homes is 65 dBA. 6. With land use designations of Central Business District, Urban Neighborhood (Low, Medium, or High), Urban Center (Low or High), Urban Corridor (Low or High). 7. All mixed-use projects located anywhere in the City of Sacramento. 8. These standards shall not apply to balconies or small attached patios in multi-stories multi-family structures. Source: City of Sacramento, <i>Sacramento 2030 General Plan Master Environmental Impact Report</i> . Certified March 3, 2009.	

EC 3.1.2 **Exterior Incremental Noise Standards.** The City shall require mitigation for all development that increases existing noise levels by more than the allowable increment as shown in Table EC 2, to the extent feasible.

15 City of Sacramento, *City of Sacramento General Plan*, 1988, pp. 8-29, 8-45 – 8-47.

TABLE EC 2			
ALLOWABLE INCREMENTAL NOISE INCREASES			
Residences and buildings where people normally sleep <sup>1</sup>		Institutional land uses with primarily daytime and evening uses <sup>2</sup>	
Existing L <sub>dn</sub>	Allowable Noise Increment	Existing Peak Hour L <sub>eq</sub>	Allowable Noise Increment
45	8	45	12
50	5	50	9
55	3	55	6
60	2	60	5
65	1	65	3
70	1	70	3
75	0	75	1
80	0	80	0

Notes:  
1. This category includes homes, hospitals, and hotels where a nighttime sensitivity to noise is assumed to be of utmost importance.  
2. This category includes schools, libraries, theaters, and churches where it is important to avoid interference with such activities as speech, meditation, and concentration on reading material.  
Source: City of Sacramento, *Sacramento 2030 General Plan Master Environmental Impact Report*. Certified March 3, 2009.

- EC 3.1.3 **Interior Noise Standards.** The City shall require new development to include noise mitigation to assure acceptable interior noise levels appropriate to the land use type: 45 dBA L<sub>dn</sub> for residential, transient lodgings, hospitals, nursing homes and other uses where people normally sleep; and 45 dBA L<sub>eq</sub> (peak hour) for office buildings and similar uses.
- EC 3.1.4 **Interior Noise Review for Multiple, Loud Short-Term Events.** In cases where new development is proposed in areas subject to frequent, high-noise events (such as aircraft over-flights, or train and truck pass-bys), the City shall evaluate noise impacts on any sensitive receptors from such events when considering whether to approve the development proposal, taking into account potential for sleep disturbance, undue annoyance, and interruption in conversation, to ensure that the proposed development is compatible within the context of its surroundings.
- EC 3.1.5 **Interior Vibration Standards.** The City shall require construction projects anticipated to generate a significant amount of vibration to ensure acceptable interior vibration levels at nearby residential and commercial uses based on the current City or Federal Transit Administration (FTA) criteria.
- EC 3.1.6 **Vibration Screening Distances.** The City shall require new residential and commercial projects located adjacent to major freeways, hard rail lines, or light rail lines to follow the FTA screening distance criteria.
- EC 3.1.7 **Vibration.** The City shall require an assessment of the damage potential of vibration-induced construction activities, highways, and rail lines in close proximity to historic buildings and archaeological sites and require all feasible mitigation measures be implemented to ensure no damage would occur.
- EC 3.1.8 **Operational Noise.** The City shall require new mixed-use, commercial, and industrial development to mitigate operational noise impacts to adjoining sensitive uses when operational noise thresholds are exceeded.
- EC 3.1.9 **Compatibility with Park and Recreation Uses.** The City shall limit the hours of operation for parks and active recreation areas in residential areas to minimize disturbance to residences.

- EC 3.1.10 **Construction Noise.** The City shall require development projects subject to discretionary approval to assess potential construction noise impacts on nearby sensitive uses and to minimize impacts on these uses to the extent feasible.
- EC 3.1.11 **Alternatives to Sound Walls.** The City shall encourage the use of design strategies and other noise reduction methods along transportation corridors in lieu of sound walls to mitigate noise impacts and enhance aesthetics.
- EC 3.1.12 **Residential Streets.** The City shall discourage widening streets or converting streets to one-way in residential areas where the resulting increased traffic volumes would raise ambient noise levels.
- EC 3.1.13 **Vehicle Purchase.** The City shall purchase vehicles and equipment with low noise generation and maintain them to minimize noise.

#### Aircraft Noise

**Goal EC 3.2 Airport Noise. Minimize exposure to high noise levels in areas of the City affected by Mather, Executive, McClellan, and Sacramento International Airports.**

#### Policies

- EC 3.2.1 **Land Use Compatibility.** The City shall limit residential development within the 65 dBA CNEL airport noise contour, or in accordance with plans prepared by the Airport Land Use Commission, and shall only approve noise-compatible land uses.
- EC 3.2.2 **Hazardous Noise Protection.** The City shall discourage outdoor activities or uses in areas outside the 70 dBA CNEL airport noise contour where people could be exposed to hazardous noise levels.
- EC 3.2.3 **Cooperative Noise Reduction.** The City shall work with the Sacramento County Airport Systems (SCAS) to monitor aircraft noise, implement noise-reducing operation measures (i.e., Fly Quiet, Fly Neighborly programs), and promote pilot awareness of noise sensitive land uses.

## Sacramento City Code

For noise sources, other than transportation-related sources, the City of Sacramento Noise Ordinance is used for determining land use compatibility. Section 8.68 of the Sacramento City Code (Noise Control) states that it is unlawful for any person at any location within the city to create any noise that causes the noise levels on the affected residential property to exceed the noise standards shown in Table 5.6-8; however, the City of Sacramento Noise Ordinance also provides exemptions for construction activities. The following exemption is contained within Section 8.68.080 of the City Code:

E. Noise sources due to the erection (including excavation), demolition, alteration or repair of any building or structure between the hours of seven a.m. and six p.m. on Monday, Tuesday, Wednesday, Thursday, Friday, and Saturday, and between nine a.m. and six p.m. on Sunday; provided, however, that the operation of an internal combustion engine shall not be exempt pursuant to this subsection if such engine is not equipped with suitable exhaust and intake silencers which are in good working order. The director of building inspections may permit work to be done during the hours not exempt by this subsection in the case of urgent necessity and in the

interest of public health and welfare for a period not to exceed three days. Application for this exemption may be made in conjunction with the application for the work permit or during progress of the work.

TABLE 5.6-8

**SACRAMENTO CITY NOISE ORDINANCE STANDARDS  
APPLICABLE AT EXTERIOR SPACES OF RESIDENTIAL USES**

Cumulative Duration of Intrusive Sound	Noise Metric	Daytime, dB	Nighttime, dB
Cumulative period of 30 minutes per hour	L <sub>50</sub>	55	50
Cumulative period of 15 minutes per hour	L <sub>25</sub>	60	55
Cumulative period of 5 minutes per hour	L <sub>08</sub>	65	60
Cumulative period of 1 minute per hour	L <sub>02</sub>	70	65
Level not to be exceeded for any time during hour	L <sub>max</sub>	75	70

Notes: Daytime is defined as 7 a.m. to 10 p.m. and Nighttime is defined as 10 p.m. to 7 a.m.  
Each of the noise limits specified above shall be reduced by 5 dBA for impulsive or simple tone noises or for noises consisting of speech or music.  
If the existing ambient noise levels exceed that permitted in the first four noise-limit categories, the allowable limit shall be increased in 5 dB increments to encompass the ambient.

Source: City of Sacramento Noise Ordinance <[www.qcode.us/codes/sacramento/view.php?topic=8-8\\_68-ii&frames=off](http://www.qcode.us/codes/sacramento/view.php?topic=8-8_68-ii&frames=off)>.

## Applicable Mitigation Measures from the City of Sacramento 2030 General Plan

No applicable mitigation measures.

## IMPACTS AND MITIGATION MEASURES

### Methods of Analysis

#### Traffic Noise Impact Assessment Methodology

The major source of noise within the project area is vehicle traffic. As a result, the noise modeling conducted for the proposed project focuses on the noise resulting from traffic on roadways in the vicinity of a project. Noise modeling outputs are included as Appendix R. The method by which other operational noise in the project area is evaluated is explained below.

Modeling procedures involve the calculation of existing and future vehicular noise levels along individual roadway segments in the project vicinity. This task was accomplished using a combination of the FHWA Highway Noise Prediction Model (FHWA-RD-77-108), which calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions, and the FHWA TNM (version 2.5), which allows for a more dynamic calculation of noise levels based on receptor heights, landform, and vegetative and manmade barriers. Caltrans' *Technical Noise Supplement* shows that California automobile noise emissions are 0.8 to 1.0 dBA higher than national levels and that medium and heavy truck noise emissions are 0.3 to 3.0 dBA lower than national levels. As such, the average vehicle noise rates (energy rates) used in the FHWA Model were modified to reflect average vehicle noise rates identified for California by Caltrans.<sup>16</sup> Traffic volumes used as data inputs in the noise prediction

16 California Department of Transportation, *Technical Noise Supplement, A Technical Supplement to the Traffic Noise Analysis Protocol*. <<http://www.dot.ca.gov/hq/env/noise/pub/Technical%20Noise%20Supplement.pdf>>, October 1998, p. N-99.

model were provided by the project traffic engineer. When daily traffic volumes are available, the Noise Prediction Model allows roadway noise to be calculated in terms of  $L_{dn}$ . Since daily volumes were not available for the proposed project, roadway noise is assessed in terms of  $L_{eq}$  in this analysis.

### Construction Noise and Vibration Impact Methodology

While roadway noise is a 24-hour phenomenon that results in more-or-less constant noise levels, construction noise can be intermittent and create high noise “spikes.” Therefore, in contrast to the 24-hour noise levels examined when analyzing roadway noise, it is the maximum noise levels generated that are at issue when evaluating construction noise impacts. The FTA’s *Noise and Vibration Technical Report* (2006) lists typical maximum noise levels at 50 feet for construction equipment that is usually the noisiest on a construction site. Data from the FTA is compared to the construction equipment estimates provided by the applicant for the various demolition and construction phases of the proposed project, and the approximate distance of that equipment from the closest sensitive receptor is determined. From this information, the anticipated noise levels from the various demolition and construction activities at the closest sensitive receptors were determined. Table 5.6-9 identifies typical noise levels associated with construction equipment typically used for demolition and general construction activities. Vibration from construction was evaluated using data from the FTA that lists typical maximum VdBs at various distances for common construction equipment. While CEQA states that the potential for any excessive groundborne vibration levels must be analyzed, it does not define “excessive,” and there are no federal or state standards for groundborne vibration. However, the City of Sacramento has established thresholds for construction and transit-related vibration levels.

**TABLE 5.6-9**

**CONSTRUCTION EQUIPMENT NOISE LEVELS**

<b>Equipment Type</b>	<b>Typical Sound Level at 50 Feet in dBA <math>L_{eq}</math></b>
Air Compressors	81
Backhoe	80
Compactor (Roller)	82
Concrete Mixer	85
Concrete Pump	82
Crane, Mobile	83
Excavator	85
Forklift	55
Generator	81
Grader	85
Loader	85
Tractor	84
Truck	80
Welders	74
Welding Machine	74

Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, <[www.fta.dot.gov/documents/FTA\\_Noise\\_and\\_Vibration\\_Manual.pdf](http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf)>, 2006, p. 12-6.

## Operational Noise and Vibration

Noise associated with existing light industrial/commercial operations considers the timing and frequency of deliveries and provides typical noise levels associated with such activity. Based upon the distance to receptors and intervening structures, potential noise levels at those receptors were estimated using noise measurements at the site and from similar types of activities, as well as noise attenuation rates. In general, noise from stationary or point sources (including construction noise) is reduced by about 6 to 7.5 dBA for every doubling of distance at acoustically hard and soft locations, respectively.

Noise associated with the existing rail operations located to the west of the project site would largely be attributed to horns prior to an at-grade crossing. This is assessed in terms of a maximum noise level at the closest sensitive receptor of the proposed project. Groundborne vibration levels resulting from railway operations occurring within the project area and were estimated using data published by Harris Miller Miller & Hanson Inc. (HMMH 2006) for the FTA. Potential vibration levels are identified for on-site locations that are sensitive to vibration, including residences.

For stationary noise sources, such as HVAC units, the estimated noise level at sensitive receptors is estimated using the proposed location of the source and typical noise levels associated with that equipment. Distance to receptors and intervening structures are also considered in determining noise levels.

## Standards of Significance

The City's standards of significance for noise are generally obtained from the City's General Plan and the standards identified in the City's noise ordinance. For the purposes of this EIR, noise and vibration impacts are considered significant if the proposed project would:

- Result in exterior noise levels in the project area that are above the upper value of the normally acceptable category for various land uses due to the project's noise level increases;
- Result in residential interior noise levels of  $L_{dn}$  45 dB or greater caused by noise level increases due to the project;
- Result in construction noise levels that exceed the standards in the City of Sacramento Noise Ordinance;
- Expose existing and/or planned residential and commercial areas to vibration-peak-particle velocities greater than 0.5 inches per second due to project construction;
- Expose adjacent residential and commercial areas to vibration peak particle velocities greater than 0.5 inches per second due to highway traffic or rail operations; or
- Expose historic buildings and archaeological sites to vibration-peak-particle velocities greater than 0.25 inches per second due to project construction, highway traffic, or rail operations.

## **Project-Specific Impacts and Mitigation Measures**

### **5.6-1 Implementation of the proposed project could result in exterior noise levels at sensitive receptors in the project area (including those on the project site) that are above the upper value of the normally acceptable category for various land uses.**

The Master EIR prepared for the General Plan determined that future noise levels (predominantly roadway noise levels) could exceed exterior noise level standards as enumerated in the City's General Plan. This impact was determined to be significant and unavoidable largely due to existing noise levels in excess of the City's exterior noise standards, as defined in General Plan Table EC-1, above.

**Local Roadway Noise.** Of the roadway segments affected by and those that would affect the proposed project, the Master EIR evaluated potential noise levels along I-5 and State Route 50 (SR-50). Table 5.6-10 shows the existing  $L_{dn}$  (dBA) at four roadway segments that have or would have sensitive uses and the potential for those uses to be affected by development of the proposed project under Phase 1 and project buildout conditions. As shown in this table, operation of Phase 1 of the proposed project would not result an increase in noise levels generated by roadways in the vicinity of the site greater than the allowable incremental noise increases shown in General Plan Table EC-2, above. Furthermore, it should be noted that none of the conditions shown below in Table 5.6-10 identify noise levels in excess of the City's established noise standard for residential infill of 70 dBA  $L_{dn}$  (refer to Table EC 1 above).

<b>TABLE 5.6-10</b>						
<b>TRAFFIC NOISE LEVELS WITH AND WITHOUT THE PROPOSED PROJECT</b>						
<b>Segment</b>	<b>Noise Levels <math>L_{dn}</math><sup>1</sup></b>					
	<b>Existing</b>	<b>Existing Plus Phase 1</b>	<b>Existing Plus Buildout</b>	<b>Maximum Increase over Existing</b>	<b>Allowable Incremental Increase</b>	<b>Significant Impact?</b>
<b>Weekday</b>						
Broadway – between 3 <sup>rd</sup> Street and 5 <sup>th</sup> Street	65.5	65.7	66.1	0.6	1	No
5 <sup>th</sup> Street – between McClatchy Way and Vallejo Way	62.0	62.1	62.5	0.5	1	No
5 <sup>th</sup> Street – between 1 <sup>st</sup> Avenue and McClatchy Way	61.4	61.5	61.5	0.4	1	No
McClatchy Way – West of 5 <sup>th</sup> Street	64.8	65.5	65.3	0.7	1	No
Note: 1. Noise levels are expressed as dBA and were calculated based on peak-hour and average daily traffic volumes provided by Fehr and Peers. Source: PBS&J, 2010.						

The greatest increase in roadway noise levels would be experienced along McClatchy Way, west of 5<sup>th</sup> Street, which would increase by 0.7 dBA  $L_{dn}$  over existing noise levels. No other roadway segment would increase more than 0.2 dBA. With respect to full buildout of the project site, the maximum anticipated noise increase would be 0.6 dBA  $L_{dn}$  along Broadway between 3<sup>rd</sup> and 5<sup>th</sup> streets. It should be noted that this segment was evaluated under Master EIR conditions, and that

future noise levels along McClatchy Way would be expected to decrease under buildout conditions due to the redistribution of traffic, internal to the project site, as opposed to using McClatchy Way to access Phase 1. Because the allowable incremental increase thresholds established by the City's General Plan would not be exceeded with implementation of the proposed project, local roadway noise impacts on and by the proposed project, including impacts on the adjacent multi-family uses located to the east and south and Sacramento's Miller and O'Neil Parks, would be *less than significant*.

**Freeway Noise.** As noted in the Master EIR, certain roadways, including local freeways, could result in noise levels that exceed City exterior noise standards, as defined in the City's General Plan. Impact 6.8-1 of the Master EIR establishes I-5, between US-50 and Sutterville Road, as being one of these roadway segments. Therefore, based on the anticipated uses of the proposed project, the proposed residential uses within Phases 3 and 4 could be exposed to noise levels in excess of citywide exterior noise standards due to their proximity to I-5.

Based on the topography of the site, as well as the current average daily traffic along I-5 in this location and the potential height of receptors at the project site (up to four stories), future exterior noise levels within the project site were modeled using FHWA's TNM (version 2.5). Under Phase 1 conditions, the residential uses would not be exposed to exterior noise levels attributable to I-5 in excess of citywide exterior noise standards. However, under buildout conditions (specifically Phases 3 and 4), development of three- and four-story structures could expose exterior areas (excluding balconies) associated with multi-family uses on the third and fourth floors to noise levels in excess of citywide exterior noise standards. It should be noted that balconies are considered exempt from the General Plan noise standards established in Table EC 1 by the City. Development of one- and two-story structures would not exceed citywide standards due to the grade separation and noise attenuating features located between I-5 and the areas attributed to Phases 3 and 4 of the proposed project. Nonetheless, because of the potential to exceed citywide standards in exterior communal areas on the third and fourth floors of structures located within Phases 3 and 4, this impact would be considered *potentially significant*.

**Stationary Source Noise.** In addition to increases in vehicle noise, operation of the proposed project would introduce new stationary sources such as heating, ventilation and air conditioning (HVAC) equipment. HVAC systems would be installed to service the commercial uses on-site. Large HVAC systems can result in noise levels that average between 50 and 65 dBA  $L_{eq}$  at 50 feet from the equipment. As 24-hour  $L_{dn}$  noise levels are about 6.4 dBA greater than 24-hour  $L_{eq}$  measurements, this means that the HVAC equipment associated with the retail/commercial structures could generate noise levels between 57 to 72 dBA  $L_{dn}$  at 50 feet (with direct line of sight) when the equipment is operating constantly over a 24-hour period. Under the proposed project, it is assumed that HVAC equipment would be located on the roof of the proposed structures and a minimum of 20 feet from the building edges or in an enclosed structure on the ground-floor. As such, noise levels generated by the proposed HVAC equipment would be shielded from the existing sensitive receptors by limiting line of sight, and thereby HVAC-related noise. Further, noise levels would also be attenuated due to the distance from the sensitive receptors, so it is anticipated that

noise levels would be reduced by approximately 10-15 dBA. As such, noise levels at on-site and adjacent sensitive receptors would be approximately 62 dBA. Since the City considers 70 dBA  $L_{dn}$  to be the threshold for exterior noise levels for residential infill uses, this impact would be considered *less than significant*.

**Noise from Adjacent Uses.** As noted above, the project site is located more than 500 feet of existing railroad tracks, located to the west of I-5. Typical train noise produces a noise level of 80 dBA at 50 feet from the tracks. Per the Federal Railway Administration, noise levels associated with trains are anticipated to attenuate/reduce at a rate of 4.5 dBA per doubling of distance. Therefore, at a distance of more than 500 feet from the project site, train noise would be reduced below the City's standard of 70 dBA for infill residential development. It should also be noted that the berm for I-5 would provide additional attenuation of the rail noise to the west of the project such that train noise would not be a substantial contributor to the noise environment at the project site.

As the proposed project site is located adjacent to existing commercial/distribution facility uses that would continue to operate with implementation of the proposed project, delivery trucks would make periodic deliveries to those uses, similar to existing conditions. Based on information provided by the adjacent business owner(s), daily truck deliveries to both the beverage distribution facility and the fresh produce facility located along 1<sup>st</sup> Avenue would occur. Based on comments received on the NOP (see Appendix A), deliveries by heavy-duty trucks to and from these establishments near the project site could occur between the hours of 4 a.m. on Monday to 8 p.m. on Friday, with additional possible deliveries on Sunday. A heavy-duty truck typically generates a noise level of up to 75 dBA  $L_{eq}$  at 50 feet when in operation, including the additional noise associated with back-up beeps occurring intermittently.<sup>17</sup> It should also be noted that under California law, trucks are not permitted to idle for a period of more than 5 minutes at a time. Under the proposed project, residential uses would be constructed on-site that could be subjected to noise associated with the existing commercial operations in excess of the City's General Plan noise standards. With respect to Phase 1, the northern boundary of Phase 1 would be located no less than 450 feet from the limits of the commercial activity. Unimpeded exterior noise associated with heavy duty truck movement would attenuate to approximately 57 dBA  $L_{eq}$  at the proposed recreational and residential uses associated with Phase 1, which would not exceed citywide standards. Further, it should be noted that existing and future proposed structures (associated with Phase 2) would serve to further reduce noise levels by providing structural noise barriers. However, with respect to development of Phases 2 and 4, residential uses could be located approximately 50 feet from the continuing operations at the two commercial establishments. Based on the current operations at the two adjacent establishments, ambient noise measurements taken in this area of the project site, and the limitations established by the City of Sacramento Noise Ordinance, the 70 dBA  $L_{eq}$  threshold for

---

17 PBS&J conducted loading and unloading noise measurements of a similar type/scale facility on July 21, 2010. Measurements ranged from 50 to 75 dBA when conducted between 4:30-5:00 am, 5:25-5:45 am, and 6:25-6:40 am.

external noise levels in this case was changed to be 65 dBA  $L_{eq}$ .<sup>18</sup> Therefore, under the proposed project, the noise levels associated with deliveries to the commercial uses adjacent to the project site could exceed established City standards, and impacts would be *potentially significant*.

### Mitigation Measures

The following mitigation measures requires design features to be included in the project to ensure that exterior noise levels do not exceed City standards for use types associated with the proposed project or affected by implementation of the proposed project. The project proponent would also be required to provide written confirmation from a qualified noise consultant that the design features are effective to achieve the required reduction in noise exposure. These mitigation measures were developed consistent with General Plan policy EC 3.1.11. Impacts would be ***less than significant with mitigation***.

- 5.6-1 a) *Residential structures in the project shall be designed to avoid any exterior communal/recreational areas, excluding balconies, on the third and fourth floors with direct line-of-sight to I-5.*
- b) *Residential structures in the project shall be designed to avoid any exterior communal/recreational areas within 200 feet (direct line-of-sight) of the existing commercial operations located immediately northeast of the project site, unless subsequent design features, which may include, but are not limited to, a masonry wall, can be incorporated into the project design to reduce noise associated with truck operations to less than 65 dBA  $L_{eq}$  over a 1-hour period. The applicant shall provide written confirmation from a qualified noise consultant that any such design features are effective to achieve the required reduction in noise exposure.*

### **5.6-2 Implementation of the proposed project could result in residential interior noise levels of $L_{dn}$ 45 dB or greater at sensitive receptors in the project area (including those on the project site).**

The Master EIR determined that impacts related to residential interior noise levels as a result of implementation of the 2030 General Plan, with which the proposed project is consistent, would be significant and unavoidable. However, the Master EIR also stipulated that new development, such as the proposed project, could likely include design measures to ensure that future residential uses would not exceed the City's interior noise standards.

As noted in Impact 5.6-1 above, the proposed project (Phases 1 through 4) would not result in the development of uses that would be considered substantial noise generators. Residential uses would, in and of themselves, be considered sensitive receptors. Also, as noted in Impact 5.6-1, the proposed project would not substantially increase roadway noise levels such that interior noise

---

18 Per the City of Sacramento Noise Ordinance Section 8.68.060, "If the ambient noise level exceeds that permitted by any of the first four noise limit categories specified in subsection B of this section, the allowable noise limit shall be increased in five dBA increments in each category to encompass the ambient noise level."

levels, as well as exterior noise levels, would be impacted. The manner in which older homes in California, including those located to the south and southeast of the project site were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. Therefore, when considered in combination with the maximum 0.7 dBA  $L_{dn}$  increase in roadway noise levels associated with the proposed project, interior noise levels at adjacent sensitive receptors would not be substantially increased as a result of the proposed project.

Phase 1 would be located in the southeast corner of the project site, approximately 450 feet south of the existing commercial operations located along 1<sup>st</sup> Avenue and 1,200 feet east of I-5, the two primary noise generators in the project area. As noted above, the exterior-to-interior noise level reduction of newer residential units is generally 30 dBA or more, however, 25 dBA was used for the purposes of presenting a conservative evaluation. Based on the ambient noise level measurements taken in this location (see Table 5.6-5, noise measurement location 3 and 9, 58.7 and 60.3 dBA  $L_{eq}$ ) and taking into account a minimum 25 dBA reduction in noise levels for new homes when comparing exterior to interior, interior noise levels at residences that would be constructed as part of Phase 1 would not be anticipated to exceed 45 dBA  $L_{dn}$ .

With respect to Phases 2, 3, and 4, ambient noise associated with continuing operation of the commercial uses to the north of Phase 2 and east of Phase 4, as well as noise from I-5, could expose the residential uses associated with those phases to noise levels in excess of City standards. Based on the TNM modeling results, residences located on the third and fourth floors within Phases 3 and 4 could be subjected to exterior noise levels as high as 79.9 dBA  $L_{dn}$  at the western site boundary. It should be noted that the first two floors within Phases 3 and 4 would experience lower noise levels, ranging from 58.6 to 65.1 dBA  $L_{dn}$  due to grade separation and noise attenuating structures and vegetation. Nonetheless, taking into account a minimum 25 dBA reduction in noise levels from exterior to interior, third and fourth floor residences could be subject to interior noise levels as high as 54.9 dBA  $L_{dn}$ , which would be in excess of City standards (45 dBA  $L_{dn}$ ).

Similarly, the existing commercial activities along 1<sup>st</sup> Avenue could expose adjacent proposed sensitive receptors within the project site (Phases 2 and 4) to intermittent noise levels that could result in sleep disturbance during noise-sensitive hours. As operations associated with the loading and unloading of trucks at the nearby commercial uses would create intermittent exterior noise levels up to 75 dBA at a distance of 50 feet, as noted above, interior noise levels at the nearby residential uses could reach up to 50 dBA, assuming a minimum 25 dBA reduction from exterior to interior. Typically, for single-event or intermittent noise, 45 dBA is considered the level under which sleep disturbance would typically not occur.<sup>19</sup> Therefore, continuing commercial operations would have the potential to disturb sleep patterns of residents of the proposed project during noise sensitive hours, and this would be considered a *significant impact*.

---

19 Federal Interagency Committee on Aviation Noise (FICAN). *Effects of Aviation Noise on Awakenings from Sleep*. <[www.fican.org/pdf/Effects\\_AviationNoise\\_Sleep.pdf](http://www.fican.org/pdf/Effects_AviationNoise_Sleep.pdf)>, June 1997.

## Mitigation Measures

The following mitigation measures would ensure that the proposed project does not result in unacceptable interior noise levels at existing and proposed uses. It should be noted that these mitigation measures were developed consistent with General Plan policies EC 3.1.3 and EC 3.1.4. Impacts would be ***less than significant with mitigation***.

- 5.6-2 a) *The project applicant shall design residential structures in Phases 3 and 4 of the project to provide up to a 30 dBA reduction from exterior to interior noise levels on any third and fourth floors of proposed residential structures in accordance with City standards and the requirements of CCR Title 24 Section 1207.11.2. The project applicant shall demonstrate to the City in the form of a site-specific, design-specific acoustical analysis that no residences shall be subject to interior noise levels in excess of City standards. Measures that may be incorporated into the design of residential structures within Phases 3 and 4 may include, but are not limited to:*
- *The use of triple-paned or no windows along any western facing walls;*
  - *Limiting buildings to two stories in height;*
  - *Increasing the setback distance between residential structures and I-5;*
  - *The use of gypsum board or other sound-insulating building material; and*
  - *Providing a uniform wall or line of structures along the western boundary of the site.*
- b) *So long as existing industrial and commercial uses continue to operate, the* ~~The~~ *project applicant shall design residential structures, immediately adjacent to the existing commercial operations located along 1<sup>st</sup> Avenue in Phases 2 and 4 to achieve up to a 35 dBA reduction between exterior and interior noise levels through the use of certain design-specific measures that may include, but are not limited to:*
- *The use of triple-paned or no windows for structure walls fronting the existing commercial operations located along 1<sup>st</sup> Avenue;*
  - *Not allowing bedrooms along the outermost structure walls of the northern and eastern boundaries of Phase 2 and the eastern boundary of Phase 4;*
  - *The use of gypsum board or other sound-insulating building material; and*
  - *Providing a uniform wall or line of structures along the ~~western~~ boundary of the site where Phase 2 abuts the existing use on the south side of First Avenue and on the eastern boundary of Phase 4 where it abuts the existing use on the north side of First Avenue.*
- c) *The City shall require, through a deed restriction providing notice to purchasers that any future residents of structures adjacent to the existing commercial operations be required to acknowledge ongoing commercial activities that could result in noisy activities at the time of purchase or lease of a residential unit.*

**5.6-3 Implementation of the proposed project could result in construction noise levels that exceed the standards in the City of Sacramento Noise Ordinance.**

During construction of the proposed project, construction activities would be limited to the hours of construction (i.e., between 7 a.m. and 6 p.m. Monday through Saturday and between the hours of 9 a.m. and 6 p.m. on Sunday), as established in Section 8.68 of the City Code. The noise ordinance exempts construction noise from its noise limitations as long as construction activities adhere to these hours of operation restrictions. As noted in the Master EIR, compliance with the City's Noise Ordinance with respect to construction noise would ensure that the project would not have any additional significant effect related to construction noise not addressed as a significant effect in the Master EIR.

**Mitigation Measures**

*None required.*

**5.6-4 Implementation of the proposed project could permit existing and/or planned uses in the project area to be exposed to vibration-peak-particle velocities greater than 0.5 inches per second due to project construction.**

The Master EIR for the General Plan concluded that impacts with respect to construction vibration would be significant and unavoidable, largely due to the potential need for pile-driving and/or blasting activities during development activities. Both pile-driving and blasting activities result in considerable vibration levels in excess of normal construction activities and could result in structural damage and peak particle velocities in excess of 0.5 inches per second.

During construction activities associated with the proposed project (Phases 1 through 4), heavy construction equipment would operate around the project site, including in the immediate vicinity of the existing residences to the south and east. Groundborne vibration levels associated with construction equipment that would likely be used at the project site are shown in Table 5.6-11. The most substantial vibration levels typically experienced during construction activities are attributable to pile-driving and/or blasting activities, as noted above, but these activities are not anticipated as part of the proposed project. As shown in the table, vibration levels from certain equipment operating within approximately 10 feet of the nearby single-family residences to the east could exceed the 0.5 inches per second which the City uses as a threshold for structural damage. However, construction activities associated with the proposed project would not occur in such close proximity to existing or proposed residential structures. Therefore, the project would not have any additional significant construction vibration effects not addressed as a significant effect in the Master EIR.

**Mitigation Measure**

*None required.*

TABLE 5.6-11

## VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Construction Equipment	PPV at 10 feet (in/sec)	PPV at 25 feet (in/sec)	PPV at 50 feet (in/sec)
Vibratory Roller	0.830	0.210	0.074
Hoe Ram	0.352	0.089	0.031
Large Bulldozer	0.352	0.089	0.031
Caisson drilling	0.352	0.089	0.031
Loaded Trucks	0.300	0.076	0.027
Jackhammer	0.138	0.035	0.012
Small Bulldozer	0.011	0.003	0.001

Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, <www.fta.dot.gov/documents/FTA\_Noise\_and\_Vibration\_Manual.pdf>, May 2006, p. 12-12; PBS&J, 2008.

**5.6-5 Implementation of the proposed project could permit adjacent residential, educational, and commercial uses to be exposed to vibration peak particle velocities greater than 0.5 inches per second due to operational activities.**

As noted in Impact 6.8-5 of the Master EIR, concerns regarding operational vibration levels are normally attributed to areas where existing or proposed rail or heavy truck traffic operations occur or would occur. The proposed project would involve the replacement of existing commercial and light-industrial uses with residential and mixed-use development, neither of which are considered substantial generators of operational vibration. As noted on page 6.8-23 of the Master EIR, "it is not common for vibration from motor vehicles traveling on paved roads to cause disturbance in adjacent areas." As such, implementation of the proposed project, under Phase 1 and subsequent phases, would not be considered to substantially increase vibration levels in the area and at nearby land uses. Therefore, the project would not have any additional significant operational vibration effects not addressed as a significant effect in the Master EIR.

Mitigation Measure

*None required.*

**5.6-6 Implementation of the proposed project could permit historic buildings and archaeological sites to be exposed to vibration-peak-particle velocities greater than 0.25 inches per second due to project construction.**

The Master EIR identified potentially significant vibration impacts to historic structures or archaeological sites located in close proximity to construction activities, such as the proposed project. This impact was determined to be less than significant with the performance of site-specific mitigation. However, with respect to the proposed project, no known historic structures or archaeological sites are located in close proximity to the project site (within 100 feet) that could be potentially affected by vibration from construction. As a result, no impact is anticipated during any phase of the proposed project and the project would not have any additional significant vibration effect on historic structures not addressed as a significant effect in the Master EIR

---

### Mitigation Measure

*None required.*

### Cumulative Impacts

The geographic context for the analysis of cumulative noise impacts is the Sacramento 2030 General Plan Policy Area, Sacramento County, and the city of West Sacramento due to its close proximity. As stated in the cumulative impact analysis in Section 6.8, *Noise*, of the General Plan Master EIR, cumulative development within the Policy Area as well as in Sacramento County and neighboring West Sacramento would increase ambient noise levels throughout the Policy Area, including the project site.

The Master EIR acknowledged a significant and unavoidable cumulative impact on existing noise-sensitive land uses in excess of the City's exterior and interior standards, but stated that future development would likely be able to mitigate impacts to less than significant through specific design and building techniques. The level of development at the project site is consistent with what was assumed in the Master EIR; therefore, the cumulative analysis contained in the Master EIR would apply to the proposed project. Further, as noted above, in Table 5.6-10, the proposed project would contribute up to 0.6 dBA  $L_{dn}$  to roadway noise levels along Broadway, between 3<sup>rd</sup> and 5<sup>th</sup> streets, which was identified as a significantly impacted roadway segment in the Master EIR. Although the Master EIR determined that cumulative impacts with respect to roadway noise would be significant and unavoidable, the proposed project would not contribute to cumulative impacts beyond those already addressed in the City of Sacramento General Plan Master EIR. It should also be noted that Impacts 5.6-1 and 5.6-2, above, demonstrate that future project-related uses would not be exposed to noise levels in excess of City standards with implementation of Mitigation Measures 5.6-1(a) and (b) and 5.6-2(a) through (c). Therefore, the proposed project would not contribute to cumulative impacts beyond those already addressed in the City of Sacramento General Plan Master EIR.

As noted in the General Plan Master EIR, construction noise is largely considered site-specific and generally not evaluated on a cumulative level unless numerous, separate construction activities are being conducted within close proximity to one another. Cumulative impacts associated with construction noise and vibration were found to be less than significant in the Master EIR with adherence to General Plan policies and the City's Noise Ordinance. At present, no other projects are proposed immediately adjacent to the proposed project that could contribute to a cumulative construction-related noise impact not already discussed as part of the Master EIR. As such, the proposed project would not contribute to cumulative impacts beyond those already addressed in the City of Sacramento General Plan Master EIR.

The Master EIR concluded that potential construction vibration in the downtown area would be considered cumulatively significant and unavoidable. However, the proposed project is not located in the downtown area, nor are there any other proposed developments located in close proximity to the proposed project that could reasonably be anticipated to contribute to a cumulative construction vibration impact. As noted on page 6.8-50 of the Master EIR, for a cumulative impact to occur,

project-related construction would have to occur within 50 feet of a receptor simultaneously with construction of some other development in the area. As these conditions would not be met in the vicinity of the project site, the cumulative impact of the proposed project is considered less than significant, as opposed to the significant and unavoidable determination made in the Master EIR. Therefore, although the Master EIR determined that cumulative impacts with respect to noise generated by construction activities would be significant and unavoidable, the proposed project would not contribute to cumulative impacts beyond those already addressed in the City of Sacramento General Plan Master EIR.

## **5.7 Parks and Recreation**

---

### INTRODUCTION

This section evaluates the potential effects of implementation of the Northwest Land Park project (proposed project) on existing parks and recreation facilities. This section describes the city's existing parkland, recreational facilities, and recreational services, and identifies applicable goals and policies related to the provision and maintenance of parks and recreation.

The Master EIR certified in connection with adoption of the 2030 General Plan in March 2009 included an extensive analysis of parks and open space within the city. The Master EIR described the City's existing parkland and open space resources. The Master EIR evaluated the effects of development that could occur under the new general plan, and identified and evaluated the effects of future development, including analysis of growth-inducing effects and irreversible environmental effects. The discussion of parks and open space in the Master EIR (see Chapter 6.9) is incorporated here by reference pursuant to CEQA Guidelines section 15050. The Master EIR may be reviewed at [www.sacgp.org](http://www.sacgp.org).

No comments regarding parks and recreation were received in response to the NOP.

Information for this section is based on the City of Sacramento Department of Parks and Recreation Master Plan 2005-2010, City of Sacramento Parks Department website, 2010 City of Sacramento Bikeway Master Plan, Sacramento 2030 General Plan, and Sacramento 2030 General Plan Master EIR.

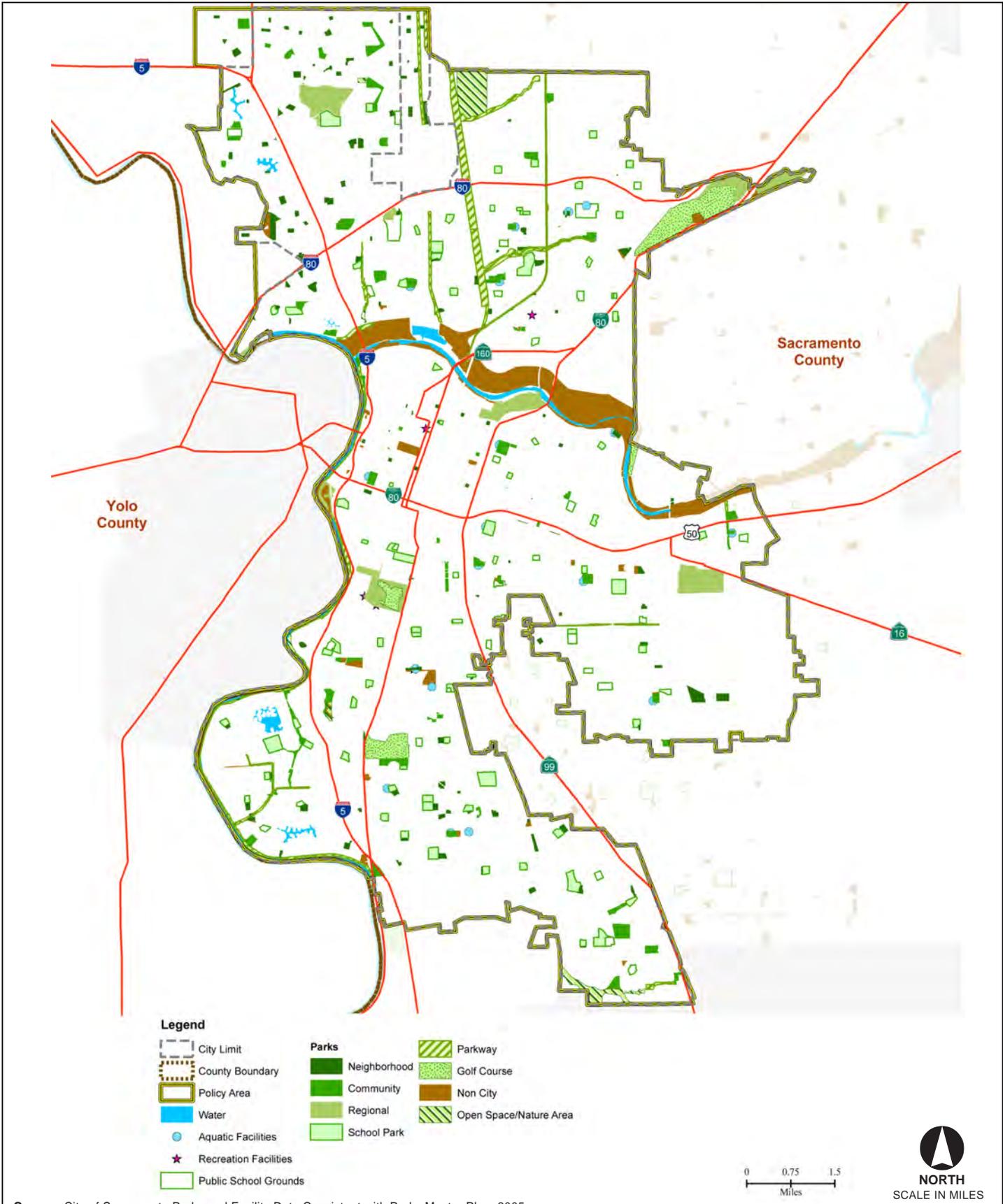
The discussion below addresses project-specific effects on parks and recreation. A discussion of cumulative effects is included at the end of this section.

### ENVIRONMENTAL SETTING

The City of Sacramento Department of Parks and Recreation (Parks Department) maintains more than 2,380 acres of developed parkland, and manages more than 200 parks, 88 miles of bikeways and trails, 21 lakes, ponds or beaches, over 20 aquatic facilities and provides park and recreation services at City-owned facilities within the city of Sacramento (see Figure 5.7-1).<sup>1</sup> The City of Sacramento Parks and Recreation Master Plan (Parks Master Plan) guides park development in the city. The Parks Master Plan identifies 10 planning areas within the city. The proposed project is primarily within Planning Area 2, Land Park; a small portion of the site adjoining Broadway is located within the Central City Planning Area.

---

1 City of Sacramento, *Parks and Recreation Master Plan 2005-2010: 2009 Technical Update*, <[www.cityofsacramento.org/parksandrecreation/masterplan/pdf/mp1-a-cover-rev-app.pdf](http://www.cityofsacramento.org/parksandrecreation/masterplan/pdf/mp1-a-cover-rev-app.pdf)>, Adopted April 2009, Overview, pp. 12-13.



Source: City of Sacramento Parks and Facility Data Consistant with Parks Master Plan, 2005.

**FIGURE 5.7-1**  
**Public Parks and Recreation Facilities**



100013515



Northwest Land Park

Parks are generally categorized into four distinct park types by the City's Parks and Recreation Department: (1) neighborhood, (2) community, (3) citywide/regional, and (4) open space.<sup>2</sup> Neighborhood parks are generally five to ten acres in size and are intended to be used primarily by residents within a half-mile radius. Community parks are generally 10 to 60 acres in size and have a service area of approximately two to three miles, which encompasses several neighborhoods and meets the requirements of a large portion of the city. Citywide/regional parks are larger sites developed with a wide range of improvements to meet the needs of the entire city population. Open space areas are natural areas that are retained to enhance the city's environmental amenities. Parkways are regional amenities that are typically linear and narrow, may be situated along an existing corridor such as an abandoned railroad line, roadway, waterway, or other common corridors and are primarily used as corridors for pedestrians and bicyclists.

The project is proposing an approximately 4-acre neighborhood park that could include amenities such as a tot lot, unlighted sports fields, or picnic areas. No parking, with the exception of on-street parking would be provided.

Table 5.7-1 shows the neighborhood/community, and regionally serving park acreages within the city. Using the total park acreage displayed in Table 5.7-1, the City maintains a service level of approximately 4.7 acres per 1,000 residents for local serving parks and 6.7 acres per 1,000 residents for city serving parks.<sup>3</sup> As identified in the City's Parks and Recreation Master Plan, the local serving park service goal is to provide 5.0 acres per 1,000 persons,<sup>4</sup> while the city serving park service goal is 8.0 acres per 1,000 persons.<sup>5</sup>

<b>2009 EXISTING PARK ACREAGE<sup>1</sup></b>	
<b>Park Type</b>	<b>2009 Existing Acreage</b>
<b>Local Serving</b>	
Neighborhood Parks	1,149
Community Parks	1,113
<b>Citywide Serving</b>	
Regional Parks	1,302
Linear Parks/Parkways/Open Space	1,934
<b>Total Acres</b>	<b>5,498</b>
Notes:	
1. Neighborhood and community park acres includes school sites accessible for public use after school hours, some portions of State/County park lands within city limits and some portions of regional parks; does not include lands that provide buffers between habitat areas and development (i.e., agricultural buffers) or lands required for environmental mitigation.	
2. Citywide / Regional Parks / Parkways / Open Space includes City operated regional parks and parkways and State / County Parks within City; does not include buffer lands (i.e. agricultural buffers) or lands required for environmental mitigation.	
Source: City of Sacramento, <i>Parks and Recreation Master Plan 2005-2010: 2009 Technical Update</i> , < <a href="http://www.cityofsacramento.org/parksandrecreation/masterplan/pdf/mp1-a-cover-rev-app.pdf">www.cityofsacramento.org/parksandrecreation/masterplan/pdf/mp1-a-cover-rev-app.pdf</a> >, Adopted April 2009, Assessment Chapter, Table 8.	

2 City of Sacramento, Department of Parks and Recreation, Park Category Descriptions <[www.cityofsacramento.org/parksandrecreation/ppdd/park\\_category.htm](http://www.cityofsacramento.org/parksandrecreation/ppdd/park_category.htm)>, accessed July 2, 2010.

3 Based on 2010 City of Sacramento estimated population of 483,195 persons.

4 The *Parks and Recreation Master Plan* combines the service goals of 2.5 acres each for neighborhood serving and community serving parks for a total of 5 acres per 1,000 population.

5 City of Sacramento, *Parks and Recreation Master Plan 2005-2010: 2009 Technical Update*, <[www.cityofsacramento.org/parksandrecreation/masterplan/pdf/mp1-a-cover-rev-app.pdf](http://www.cityofsacramento.org/parksandrecreation/masterplan/pdf/mp1-a-cover-rev-app.pdf)>, Adopted April 2009, Assessment Chapter, Table 8.

In addition to parks, Table 5.7-2 shows the city's existing trails and bikeways. With the existing trails and bikeways located throughout the city, the current service level is 0.2 miles per 1,000 residents. The current service level goal is to provide 0.5 linear miles per 1,000 residents as identified in the City's Parks and Recreation Master Plan.

<b>TABLE 5.7-2</b>	
<b>2009 EXISTING TRAILS/BIKEWAYS (OFF STREET)</b>	
<b>Type</b>	<b>2009 Existing Miles</b>
Walking/Jogging (in city parks)	13
Bicycle (throughout city)	75
<b>Total Linear Miles</b>	<b>88</b>
Source: City of Sacramento, <i>Parks and Recreation Master Plan 2005-2010: 2009 Technical Update</i> , <www.cityofsacramento.org/parksandrecreation/masterplan/pdf/mp1-a-cover-rev-app.pdf>, Adopted, April 2009, Assessment Chapter, Table 8.	

## REGULATORY SETTING

### Federal

There are no federal regulations associated with parks and open space that apply to this project.

### State

#### **State Public Park Preservation Act**

The primary instrument for protecting and preserving parkland is the State Public Park Preservation Act. Under the Public Resources Code, cities and counties may not acquire any real property that is in use as a public park for any non-park use unless compensation or land, or both, are provided to replace the parkland acquired. This provides no net loss of parkland and facilities.

#### **Quimby Act**

California Government Code section 66477, Subdivision Map Act, referred to as the Quimby Act, permits local jurisdictions to require the dedication of land and/or the payment of in-lieu fees solely for park and recreation purposes. The required dedication and/or fee are based upon the residential density, parkland cost, and other factors. Land dedication and fees collected pursuant to the Quimby Act may be used for acquisition, improvement, and expansion of parks, playgrounds, and recreational facilities or the development of recreational areas and facilities on public school grounds which provide a desirable recreation site and immediate access to a public street.

#### Government Code 65560

Government Code section 65560 defines open space as:

- (b) "Open space land" is any parcel or area of land or water which is essentially unimproved and devoted to an open space use as defined in this section, and which is designated on a local, regional or state open space plan as any of the following:

- (1) Open space for the preservation of natural resources including, but not limited to, areas required for the preservation of plant and animal life, including habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; rivers, streams, bays and estuaries; and coastal beaches, lake shores, banks of rivers and streams, and watershed lands.
- (2) Open space used for the managed production of resources, including but not limited to, forest lands, rangeland, agricultural lands and areas of economic importance for the production of food or fiber; areas required for recharge of ground water basins; bays, estuaries, marshes, rivers and streams which are important for the management of commercial fisheries; and areas containing major mineral deposits, including those in short supply.
- (3) Open space for outdoor recreation, including but not limited to, areas of outstanding scenic, historic and cultural value; areas particularly suited for park and recreation purposes, including access to lake shores, beaches, and rivers and streams; and areas which serve as links between major recreation and open space reservations, including utility easements, banks of rivers and streams, trails, and scenic highway corridors.
- (4) Open space for public health and safety, including, but not limited to, areas which require special management or regulation because of hazardous or special conditions such as earthquake fault zones, unstable soil areas, flood plains, watersheds, areas presenting high re risks, areas required for the protection of water quality and water reservoirs and areas required for the protection and enhancement of air quality.

## Local

### City of Sacramento 2030 General Plan

The following goals and policies from the 2030 General Plan are directly applicable to parks and recreation within the project area.

#### **EDUCATION, RECREATION, AND CULTURE (ERC)**

##### Policies

- ERC 2.1.1 **Complete System.** The City shall develop and maintain a complete system of parks and open space areas throughout Sacramento that provide opportunities for both passive and active recreation.
- ERC 2.2.3 **Service Level Goals.** The City shall develop and maintain parks and recreational facilities in accordance with the goals in Table ERC 1.
- ERC 2.2.4 **Meeting Service Level Goals.** The City shall require new residential development to dedicate land, pay in-lieu fees, or otherwise contribute a fair share to the acquisition and development of parks or recreation facilities to meet the service level goals in Table ERC 1. For development in urban infill areas where land dedication is not feasible, the City shall explore creative solutions in providing park and recreation facilities that reflect the unique character of the area it serves.

TABLE ERC 1	
PARKS, COMMUNITY FACILITY, AND RECREATION FACILITY SERVICE LEVEL GOALS	
Park Type	Acres per 1,000 Residents
Neighborhood Serving: urban plazas, pocket parks, and/or Neighborhood Parks	2.5 acres
Community Serving: Community Parks	2.5 acres
Citywide/Regionally Serving: Regional Parks, Parkways, and/or Open Space	8.0 acres
Linear Parks/Parkways and Trails/Bikeways	0.5 linear miles
Community Facilities	# of Units
Multi-Use Recreation Complexes (must include a building over 10,000 sq. ft.)	1 per 50,000 residents
Recreation Facilities	# of Units per Residents
Aquatic Facilities	
Play Pool/Water Spray Feature	1 per 15,000
Outdoor Complex: Swimming and Wading Pool	1 per 30,000
Off Leash Dog Parks (Neighborhood/Community)	1 per 60,000
Picnic Areas (Large Group/Class I)	1 per 30,000
Playgrounds: Tot Lots, Adventure Play Areas	1 per 2,500
Skateboard Parks (Neighborhood/Community)	1 per 35,000
Community Gardens	1 per 50,000
Nature Interpretation Centers	2 total <sup>1</sup>
Fields	
Softball, including: Adult, Youth	1 per 7,500 (total)
Lighted	1 per 45,000
Baseball, including: Adult, Youth (Little League)	1 per 7,500 (total)
Lighted	1 per 45,000
Soccer, including: Bantam, Full Size	1 per 7,500 (total)
Lighted	1 per 30,000
Courts	
Volleyball	1 per 10,000
Basketball, including Youth, High School	1 per 5,000
Tennis	1 per 10,000
Notes:	
1. One north and one south of the American River.	
Source: City of Sacramento Parks and Recreation Department, 2008.	

ERC 2.4.1 **Service Levels.** The City shall provide 0.5 linear mile of parks/parkways and trails/bikeways per 1,000 population.

ERC 2.5.4 **Capital Funding.** The City shall fund the costs of acquisition and development of City neighborhood and community parks and community and recreation facilities through land dedication, in lieu fees, and/or development impact fees.

## Applicable Mitigation Measures from the City of Sacramento 2030 General Plan

There are no applicable mitigation measures.

## City of Sacramento City Code

### Chapter 12.72 Park Buildings and Recreational Facilities

The City's Code includes regulations associated with building and park use, fund raising, permit procedures, and various miscellaneous provisions related to parks. Park use regulations include a list of activities that require permits for organized activities that include groups of 50 or more people for longer than 30 minutes; amplified sound; commercial and business activities; and fund raising activities. This code also includes a list of prohibited uses within parks such as unleashed pets; firearms of any type; and drinking alcoholic beverages, or smoking near children's playground areas.

Activities such as golfing, swimming, and horseback riding are only permitted within the appropriate designated areas.

### **Chapter 16.64 Parks and Recreational Facilities**

Chapter 16.64 of the City Code provides standards and formulas for the dedication of parkland and/or payment of in-lieu fees. These policies help the City acquire new parkland. This chapter sets forth the standard that five acres of property for each 1,000 persons residing within the city be devoted to local recreation and park purposes. The amount of land to be provided or in-lieu fees paid shall be determined pursuant to the appropriate standards and formula contained within the chapter. Under the appropriate circumstances, the subdivider shall, in lieu of dedication of land, pay a fee equal to the value of the land prescribed for dedication to be used for recreational and park facilities which will serve the residents of the area being subdivided.

### **Chapter 18.44 Park Development Impact Fee**

Chapter 18.44 of the City's Code imposes a park development impact fee on residential and non-residential development within the city. Fees collected pursuant to Chapter 18.44 are primarily used to finance the construction of park facilities. The park fees are assessed upon landowners developing property in order to provide all or a portion of the funds which will be necessary to provide neighborhood or community parks required to meet the needs of and address the impacts caused by the additional persons residing or employed on the property as a result of the development.

## **IMPACTS AND MITIGATION MEASURES**

### **Methods of Analysis**

The City of Sacramento has park acreage Service Level Goals for the three categories of parks identified in the Parks and Recreation Master Plan. Meeting these goals would provide the public with opportunities to access parks within reasonable walking or driving distance of all residences. Therefore, for the purposes of the analysis the following city goals are used:

- Neighborhood/Community Serving: 5.0 acres per 1,000 population
- Citywide/Regionally serving and Open Space: 8.0 acres per 1,000 population
- Trails/Bikeways: 0.5 miles per 1,000 population

Based on the city goals identified above, Table 5.7-3 shows the park acres required to serve development in the proposed project.

For the purposes of calculating the amount of parkland required for the project, the analysis uses factors from Sacramento City Code section 16.64.030 to determine park acreage for the different park types, as shown in Table 5.7-3. For the purposes of this analysis, a significant impact would occur if park acreage Service Level Goals are not reached and the use of existing park facilities causes a substantial physical deterioration to those facilities or construction of additional park

facilities is required which could cause adverse environmental impacts. Land dedicated to the City is considered to contribute toward meeting the Service Level Goals for parks.

Type of Park	City Goals	Required New Park Acres/ Mileage
Neighborhood/Community Serving Parks <sup>1</sup>	5.0 acres per 1,000 population	10.5
Citywide/Regionally Serving Parks and Open Space	8.0 acres per 1,000 population	16.8
Trails/Bikeways	0.5 miles per 1,000 population	1.05
Notes 1. Based on park acreage dedication factors from Sacramento City Code section 16.64.030: single-family dwelling units= 0.0149 two-family dwelling units = 0.0112 multiple-family dwelling units= 0.0088 Source: City of Sacramento, Department of Parks and Recreation, <i>Parks and Recreation Master Plan 2005-2010: 2009 Technical Update</i> , < <a href="http://www.cityofsacramento.org/parksandrecreation/masterplan/pdf/mp1-a-cover-rev-app.pdf">www.cityofsacramento.org/parksandrecreation/masterplan/pdf/mp1-a-cover-rev-app.pdf</a> >, Adopted April 2009, Table 8, Assessment Chapter; Sacramento City Code section 16.64.030 < <a href="http://www.qcode.us/codes/sacramento/view.php?topic=16-16_64-16_64_030&amp;frames=on;">www.qcode.us/codes/sacramento/view.php?topic=16-16_64-16_64_030&amp;frames=on</a> >; PBS&J, 2010.		

### **Standards of Significance**

For the purposes of this EIR, an impact would be considered significant if the proposed project would:

- cause or accelerate a substantial physical deterioration of existing area parks or recreational facilities; or
- create a need for construction or expansion of recreational facilities beyond what was anticipated in the General and/or Community Plans.

### **Project-Specific Impacts and Mitigation Measures**

#### **5.7-1 Implementation of the proposed project could result in increased use of existing parks or recreational facilities or create a need for construction or expansion of recreational facilities beyond what was anticipated in the General and/or Community Plans.**

The City of Sacramento 2030 General Plan anticipates an increase of approximately 195,000 residents in the next twenty years. Based on service level goals set as part of the Parks and Recreation Master Plan, the proposed General Plan would require approximately 2,535 additional acres of parkland and 97 miles of additional trails/bikeways, as shown in Table 6.9-5 of section 6.9, *Parks and Open Space*, of the General Plan Master EIR.

General plan policies are in place to ensure adequate parks and recreational facilities are provided to accommodate the increase in new residents. For example, Policy ERC 2.1.1 requires the City to develop and maintain a complete system of public parks and open space areas throughout Sacramento that provide opportunities for both passive and active recreation. Policy ERC 2.5.4 requires the City to fund the costs of acquisition and development of

neighborhood and community parks and community and recreation facilities through land dedication, in lieu fees, and/or development impact fees. Policy ERC 2.2.3 identifies service level goals and Policy ERC 2.2.4 requires new residential development to dedicate land or payment of in-lieu fees for parks or recreation facilities. Policy ERC 2.4.1 also requires the City to maintain service levels to provide linear parks/parkways and trails/bikeways in accordance with Parks and Recreation Master Plan adopted policies such 0.5 linear miles per 1,000 residents.

The Master EIR found that as development occurred within the City the General Plan policies require new development to either provide adequate park and recreation facilities or contribute in lieu fees to the city for the acquisition of new parkland. The Master EIR found the cumulative impact would be less than significant (Master EIR Impact 6.9-2; page 6.9-20).

The proposed project would develop a residential/mixed-use community on approximately 31.7 acres within the Land Park Community Plan Area of the city of Sacramento. The project would include development of an approximately 4.3-acre public park within the south central portion of the project site (see Figure 2-3 in Chapter 2, Project Description). The proposed park would be considered a Neighborhood Park and is intended to be used primarily by the people that live nearby or are within walking or bicycling distance. No dedicated parking would be provided. However, on-street parking would be available. Park amenities could include such improvements as a tot lot, unlighted sports fields, or picnic areas. As indicated in the Project Description, the park would include pedestrian links that would run through the project site and connect with the adjacent school properties. A portion of the area that would ultimately be developed for park use at project buildout would be used as a temporary detention basin during Phase 1 of the proposed project. Therefore, there would be no parkland dedication until development of phases 2 through 4.

Based on the parkland dedication requirements enumerated in Sacramento City Code section 16.64.030, the proposed project at maximum build out of 968 units would generate a demand for approximately 10.5 acres of neighborhood/community parks, 16.8 acres of region (citywide) parks, and approximately 1 mile of trails and bikeways (see Table 5.7-3). These demands are subject to change based on final unit count. General Plan Policy ERC 2.2.4 and Chapter 16.64 of the Sacramento City Code requires that new residential projects either dedicate land, pay in-lieu fees, or otherwise contribute a fair share to the acquisition and development of parks or recreation facilities to meet the service level goals. The proposed project intends to meet 100 percent of the neighborhood/community parks Quimby obligation through parkland dedication and payment of in lieu fees at a 50/50 ratio. The project includes approximately 4.3 acres of parks, as discussed above; however, final unit count will determine actual park land dedication up to 5.25 acres. Because there would be no parkland dedication until development of phases 2 through 4, the project proponent would be required to pay in-lieu fees for Phase 1. This would ensure that increased demand associated with an increase in population would not significantly accelerate the deterioration of existing park areas or recreational facilities because new residential development would be required

to ensure that adequate parkland is provided or applicable fees paid to the City to purchase additional park facilities. Therefore, the proposed project would have no additional significant environmental effect not addressed as a significant effect in the Master EIR.

### Mitigation Measure

*None required.*

### Cumulative Impacts

The Master EIR (Section 6.9, Parks and Open Space) evaluated the potential effects of anticipated buildout under the 2030 General Plan on the City's parks and recreational resources. In Impacts 6.9-1 and 6.9-2, the Master EIR concluded that new development would be required to contribute or provide new resources adequate to meet increased demand. The Master EIR concluded that the impacts were, therefore, less than significant. The proposed project is consistent with the land use designations as established in the 2030 General Plan, and would have no additional significant environmental effect not addressed as a significant effect in the Master EIR.

## **5.8 Public Services**

---

### INTRODUCTION

This section of the DEIR describes existing public services associated with implementation of the proposed project and evaluates the effects of proposed development on those services. The services evaluated in this section include:

- Fire Protection,
- Police Protection, and
- Schools.

The Master EIR certified in connection with adoption of the 2030 General Plan in March 2009 included an extensive analysis of public services, including police protection, fire protection, schools, libraries and emergency services. The Master EIR evaluated the effects of development that could occur under the new general plan, and identified and evaluated the effects of future development, including analysis of growth-inducing effects and irreversible environmental effects. The discussion of public services in the Master EIR (see Chapter 6.10) is incorporated here by reference pursuant to CEQA Guidelines section 15050. The Master EIR may be reviewed at [www.sacgp.org](http://www.sacgp.org).

No comments regarding police and fire protection or schools were received in response to the NOP.

Information for this section is based on the Sacramento 2030 General Plan Master Environmental Impact Report (certified March 3, 2009), Sacramento County Multi-Hazard Mitigation Plan, the City of Sacramento Police Department Annual Report, State education data, Sacramento City Unified School District (SCUSD) Strategic Plan 2030-2014, SCUSD Facilities Master Plan 2006-2015, personal and written communication with service providers, and websites from the service agencies.

The discussion below addresses project-specific effects on fire and police services, and schools. A discussion of cumulative effects is included at the end of this section.

### FIRE PROTECTION

#### ENVIRONMENTAL SETTING

The Sacramento Fire Department provides fire protection services to the entire city, including the proposed project site. As shown in Figure 5.8-1, Station #5 located at 731 Broadway is the station nearest the project site. Station #5 is located approximately one-half mile from the project site on Broadway. The next closest station, Station #1, located at 624 Q Street, is approximately one mile away. Station #5 has one battalion and is equipped with one engine and one truck.<sup>1</sup>

---

1 Michelle Basurto, Program Specialist, Sacramento Fire Department, written communication, October 11, 2007.



- 1** Fire Station #5  
731 Broadway
- 2** Police Station – South Area Substation  
(Joseph E. Rooney Police Facility)  
5303 Franklin Boulevard



NORTH  
NOT TO SCALE

Source: Google Earth Pro, basemap, 2010; PBS&J, 2010.

FIGURE 5.8-1  
**Fire and Police Station Locations**



100013515

Northwest Land Park

## **Response Times**

Two major factors are considered when defining response times for fire and emergency medical services (EMS): (1) the critical timeframe that responders have to successfully assist victims of cardiac arrest (chances of surviving a cardiac arrest deteriorate approximately 10 percent for each minute that passes before cardio-pulmonary resuscitation (CPR) and/or defibrillation is initiated), and (2) the critical timeframe that responders have to gain control of a fire, thereby minimizing the impact on the structure and nearby structures. Based on these two critical issues, the Fire Department has a goal to have its first responding company, which provides fire suppression and paramedic services, arrive within a 4-minute response time 90 percent of the time and medic units within 8 minutes, 90 percent of the time. In the case of a fire, the goal is to have its first responding company arrive within a 4-minute response time 90 percent of the time and an additional 10 responders arrive within 8 minutes, 90 percent of the time.<sup>2</sup> Locating fire stations according to 1.5-mile radius service areas typically allows responders to arrive on a call within these response time goals. In more densely populated areas and where call volumes are higher and occur simultaneously, a shorter radius is necessary. In 2005, the most current information available, the average response time for the Fire Department was 5.2 minutes.<sup>3</sup>

## **Staffing Levels**

The SFD is authorized for 614 full-time sworn personnel, including 19 full-time fire prevention officers, and 39 full-time civilian employees.<sup>4</sup> Each fire station should accommodate, at a minimum, an engine, truck, and medic. An engine and truck require a 4-person company and Medic-2, for a total of 10 personnel per shift.<sup>5</sup> With three shifts per station, this equates to 30 personnel per fire station.

Station #5 has one engine and one ladder truck. Each vehicle is staffed with a captain, an engineer, and two firefighters, for a total of eight personnel.<sup>6</sup>

## **Fire and Medical Incidents**

During 2008, which is the most recent information available, the Fire Department responded to 70,811 incidents. Medical calls made up approximately 63 percent of the incidents, with 44,768 calls. Of the 2,405 fire calls, there were 517 confirmed structural fires. Fires represented approximately three percent of all calls received by the Department in 2008, with structure fires representing less than one percent of all calls. The remaining incidents were a combination of calls for hazardous conditions, service, good intent, and false alarms.<sup>7</sup>

- 
- 2 City of Sacramento, Sacramento 2030 General Plan Master Environmental Impact Report, page 6.10-14.
  - 3 Michelle Basurto, Program Specialist, Sacramento Fire Department, written communication, October 11, 2007.
  - 4 Sacramento Fire Department, *Annual Report*, 2008, p. 9.
  - 5 Michelle Basurto, Program Specialist, Sacramento Fire Department, written communication, October 11, 2007.
  - 6 Carol Renix, Sacramento Fire Department, personal communication, August 11, 2010.
  - 7 Sacramento Fire Department, *Annual Report*, 2008, p. 11.

---

## **Divisions within the Department**

The Fire Department is divided into three offices: (1) Office of the Fire Chief, (2) Office of Operations, and (3) Office of Administrative Services. The Office of the Fire Chief provides overall direction and management of the department. This office plans, organizes and directs overall operations; advocates for resources; promotes the department's image; and directs citywide emergency services. Media Relations, Fiscal Services, and Community Outreach are functions in this office.<sup>8</sup> The Office of Operations provides overall direction and management of the emergency response to the community. The Office of Administrative Services provides support functions for the department including Fire Prevention, Training, Technical Services, and Human Resources. This office also oversees Facility Planning. The Emergency Services Officer coordinates with the City's Office of Emergency Services (OES), which is responsible for disaster planning.

## **Urban Fire Hazard**

Although structural fires can occur in any developed areas within the city, the Master EIR notes that there are two areas in particular that the City's Fire Department has identified that are especially susceptible to this hazard: the non-sprinklered commercial buildings in the downtown area and dwelling units in lower socio-economic areas.<sup>9</sup> Due to the age of the structures, older building standards and fire codes were applied, non-fire-resistive construction materials were used, and no current internal sprinklers or other fire safety systems are in place.

## **REGULATORY SETTING**

### **Federal**

There are no federal regulations regarding fire protection services that pertain to the proposed project.

### **State**

#### **California Occupational Safety and Health Administration**

In accordance with California Code of Regulations, Title 8 Sections 1270 "Fire Prevention" and 6773 "Fire Protection and Fire Equipment", the California Occupational Safety and Health Administration (Cal OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance and use of all fire fighting and emergency medical equipment.

---

8 *Ibid*, p. 6.

9 City of Sacramento, Sacramento 2030 General Plan Master Environmental Impact Report, p. 6.10-18.

## Uniform Fire Code

The Uniform Fire Code (UFC) contains regulations relating to construction, maintenance, and use of buildings. Topics addressed in the code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The UFC contains specialized technical regulations related to fire and life safety.

## California Health and Safety Code

State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code, which includes regulations for building standards (as set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers, smoke alarms, high-rise building, childcare facility standards, and fire suppression training.

## Local

### City of Sacramento 2030 General Plan

The following goals and policies from the 2030 General Plan are relevant to fire protection services within the project area.

#### **PUBLIC HEALTH AND SAFETY (PHS)**

#### **FIRE SERVICES**

**Goal PHS 2.1 Fire Protection and Emergency Medical Services. Provide coordinated fire protection and emergency medical services that support the needs of Sacramento residents and businesses and maintains a safe and healthy community.**

#### Policies

- PHS 2.1.1 **Fire Master Plan.** The City shall maintain and implement a Fire Department Master Plan to address staffing and facility needs and service goals.
- PHS 2.1.2 **Response Time Standards.** The City shall strive to maintain appropriate emergency response times to provide optimum fire protection and emergency medical services to the community.
- PHS 2.1.3 **Staffing Standards.** The City shall maintain optimum staffing levels for sworn, civilian, and support staff, in order to provide quality fire protection and emergency medical services to the community.
- PHS 2.1.4 **Response Units and Facilities.** The City shall provide additional response units, staffing, and related capital improvements, including constructing new fire stations, as necessary, in areas where a company experiences call volumes exceeding 3,500 in a year to prevent compromising emergency response and ensure optimum service to the community.

- PHS 2.1.5 **Timing of Services.** The City shall ensure that the development of fire facilities and delivery of services keeps pace with development and growth of the city.
- PHS 2.1.6 **Locations of New Stations.** The City shall ensure that new fire station facilities are located strategically throughout the city to provide optimal response times to all areas.
- PHS 2.1.7 **Future Station Locations.** The City shall require developers to set aside land with adequate space for future fire station locations in areas of new development.
- PHS 2.1.11 **Development Fees for Facilities and Services.** The City shall require development projects to contribute fees for fire protection services and facilities.

**Goal PHS 2.2 Fire Prevention Programs and Suppression.** The City shall deliver fire prevention programs that protect the public through education, adequate inspection of existing development, and incorporation of fire safety features in new development.

#### Policies

- PHS 2.2.2 **Development Review for New Development.** The City shall continue to include the Fire Department in the review of development proposals to ensure projects adequately address safe design and on-site fire protection and comply with applicable fire and building codes.
- PHS 2.2.4 **Water Supplied for Fire Suppression.** The City shall ensure that adequate water supplies are available for fire-suppression throughout the city, and shall require development to construct all necessary fire suppression infrastructure and equipment.

### **Applicable Mitigation Measures from the City of Sacramento 2030 General Plan**

No applicable mitigation measures.

### **Sacramento City Code**

The following City ordinances from the Sacramento City Code are applicable to the proposed project:

**Section 8.100.540** - All buildings or portions thereof shall be provided with the degree of fire resistive construction as required by the California Building Code for the appropriate occupancy, type of construction and location on property or in fire zone; and shall be provided with the appropriate fire-extinguishing systems or equipment required by the California Building Code.

Chapter 15.36 includes numerous codes relating to the inspection and general enforcement of the City of Sacramento fire code, control of emergency scenes, permits, general provisions for safety, fire department access, equipment, and protection systems, and many standards for fire alarm systems, fire extinguisher systems, commercial cooking operations, combustible materials, heat producing appliances, exit illumination, and emergency plans and procedures.

---

## IMPACTS AND MITIGATION MEASURES

### Methods of Analysis

This impact analysis determines whether implementation of the proposed project would require new or expanded facilities in order to respond to emergencies, the construction of which would result in physical environmental effects. Reductions in service levels can be indicative of significant project impacts and the need for additional fire protection facilities.

The Fire Department does not have an official staffing ratio goal. The department uses a number of measures to determine the need for fire protection services. In the future, the Fire Department would measure specific conditions that need to be monitored in order to prevent compromising emergency response and ensure optimum service to the community. They include providing for one station for every 1.5 mile service radius, per every 16,000 population, and where a company experiences call volumes exceeding 3,500 in a year.<sup>10</sup> For purposes of this analysis, the current capacity of the existing facilities and personnel to provide service to the project will be addressed to determine potential impacts on fire protection services.

### Standards of Significance

For the purposes of this EIR, an impact would be considered significant if the proposed project would:

- require, or result in, the construction of new, or the expansion of existing, facilities related to the provision of fire protection.

### Project-Specific Impacts and Mitigation Measures

#### **5.8-1 Implementation of the proposed project could result in the construction of new, or the expansion of existing facilities related to the provision of fire protection.**

As discussed in the General Plan Master EIR, in order to maintain service levels additional staff and/or fire facilities would be needed to ensure adequate fire protection is provided as buildout under the general plan continues.

The Master EIR evaluated the environmental effects for fire protection and fire department facilities that could occur as buildout under the general plan continues. See Master EIR, Section 6.10, pages 6.10-14 et seq. The 2030 General Plan policies referenced in the Master EIR include measures to accommodate for growth and increased service demands. Specifically, Policy PHS 2.1.1 calls for the City to prepare a Fire Master Plan to address staffing needs, facility needs, and service goals. The Master Plan would be the guiding document for the provision of fire services in the city. Policies PHS 2.1.2 and PHS 2.1.3 require that the City maintain appropriate emergency response times and staffing levels to ensure optimum fire protection in the community. Policy PHS 2.1.4 further requires additional fire protection resources to be supplied when a fire station/company experiences call

---

10 Michelle Basurto, Program Specialist, Sacramento Fire Department, written communication, October 11, 2007.

volumes exceeding 3,500 in a year and Policy PHS 2.1.6 requires that new fire stations be located strategically throughout the city to provide optimal response times to all areas. Policies PHS 2.1.5 and PHS 2.1.7 require new development to set aside land for future fire stations and ensure that adequate fire protection and emergency medical response facilities, equipment, and staffing are available prior to occupation of new development and redevelopment areas. Policy PHS 2.2.4 would ensure that adequate water supplies, pressure, and infrastructure are available in infill and newly developing areas. Lastly, Policy PHS 2.1.11 requires development projects to contribute fees for fire protection services and facilities.

The Master EIR determined that because future development anticipated under the 2030 General Plan would be required to comply with the general plan policies, adequate fire protection services would be provided to serve the anticipated increase in demand, and the environmental effects would be less than significant.

The proposed project would add new residential units to the project area, which would generate demand for fire protection services. The nearest fire station to the project site is Station #5, approximately 0.4 miles east of the project site, which is within the 1.5-mile service radius of the station. As noted above, Station #5 is staffed with a total of eight personnel per shift.<sup>11</sup> With the capacity of the stations at 10 personnel per shift, Station #5 would be able to accommodate two additional personnel per shift. As such, the project site is adequately served by existing fire stations.

The City funds the Fire Department operations primarily from the General Fund, which is reliant largely on property tax, sales tax, and other fees and taxes. New project residents and businesses would pay taxes and fees into the City's General Fund. The City would then determine how to distribute the General Fund revenues amongst the various City services, including the Fire Department. In addition, the Fire Department is required to prepare a Fire Master Plan to address staffing needs, facility needs, and service goals in order to provide adequate fire protection services throughout the city.

Adherence with 2030 General Plan policies, including payment of applicable development fees toward the provision of fire protection services would ensure that adequate fire protection response is provided. The project would have no additional significant environmental effect not addressed as a significant effect in the Master EIR.

### Mitigation Measure

*None required.*

---

11 Sacramento Police Department, 2009 Annual Report, p. 20.

## POLICE PROTECTION

### ENVIRONMENTAL SETTING

The Sacramento Police Department is responsible for providing police protection services for areas within the city, including the project site. The Police Department operates four stations, all within the city. The project site is within the responding area of the South Area Substation (Joseph E. Rooney Police Facility) located at 5303 Franklin Boulevard (see Figure 5.8-1). The South Area Substation provides police protection services to the southern portion of the city, from Highway 50 on the north to the city limits on the west, south, and east. The project site is within Police District 4 and is located within beat 4A.

### Staffing

The Police Department is staffed by 706 sworn full-time police officers and 319 civilian (career) full-time employees.<sup>12</sup> In 2009, 222 non-career employees (such as reserves, interns, and aides) and volunteers provided essential services in the Department.<sup>13</sup> The officers per 1,000 residents dropped to 1.47 in 2009, as shown in Table 5.8-1.<sup>14</sup> The South Area Substation is staffed by 153 full-time police officers, four civilian full-time employees, and three social workers.

<b>2009 Budgeted Authorized Full-Time Staffing (as of July 2009)</b>						<b>Actual Filled - Dec. 2009</b>	<b>Authorized vs. Filled</b>
	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2009</b>	<b>2009</b>
Sworn Officers	792.8	797.8	804	804	799	706	-93
Civilians (Career)	387	438.5	440.5	438.5	440.5	319	-121.5
<b>TOTAL</b>	<b>1,179.8</b>	<b>1,236.3</b>	<b>1,244.5</b>	<b>1,242.5</b>	<b>1,239.5</b>	<b>1,025.0</b>	<b>-214.5</b>
Officers per 1,000 Residents	1.75	1.74	1.72	1.69	1.66	1.47	---

Source: Sacramento Police Department, 2009 Annual Report, p. 20.

### Crime Statistics

In 2009, the most current data available, there were 708,786 total incoming and outgoing calls for service, a decrease from the previous four years.<sup>15</sup> Table 5.8-2 shows the average response times for Priority 2 through 6 calls for 2009.

12 *Ibid.*

13 *Ibid.*

14 *Ibid.*

15 *Ibid.*, p. 12.

	Priority 2	Priority 3	Priority 4	Priority 5	Priority 6
Average Response Time (hours:minutes:seconds)	0:07:08	0:08:49	0:16:35	0:19:56	1:01:14
Source: Sacramento Police Department, 2009 Annual Report, p. 13.					

In general, the highest priority calls begin with Priority 1 (the calls that are the most urgent) and progress to Priority 6. For instance, Priority 2 calls include in-progress robberies, whereas Priority 6 calls include less urgent business checks, and some report calls.<sup>16</sup>

Table 5.8-3 provides the Police Department's crime statistics for the 2008 and 2009 and shows an overall reduction in crime rates of 7.3 percent. All crime categories except for rape saw a decrease in the number of incidents. In 2009, the Department continued its emphasis on bringing down crime through a revised crime control model using the constant collection and analysis of data, and a rapid deployment of resources to address crime.

Crime	2008	2009	Change	% Change
Homicide	49	30	-19	-38.8%
Rape	168	179	11	6.5%
Robbery	1,761	1,606	-155	-8.8%
Aggravated Assault	2,682	2,352	-330	-12.3%
Burglary	5,216	5,135	-81	-1.6%
Larceny	12,373	11,720	-653	-5.3%
Motor Vehicle Theft	4,910	4,146	-764	-15.6%
<b>Yearly Total</b>	<b>27,159</b>	<b>25,168</b>	<b>-1,991</b>	<b>-7.3%</b>
Source: Sacramento Police Department, 2009 Annual Report, p. 10.				

## **Projected Needs**

The Police Department does not have any currently funded projects for the remodeling or construction of facilities, although there is a need to both remodel existing facilities and construct new facilities. The Department is currently preparing a Master Plan that will address current deficiencies and future needs for both staffing and facilities. Upon completion, the Master Plan will be presented to the City Council for approval.

16 Eric Poerio, Lieutenant, Sacramento Police Department, Crime Prevention through Environmental Design, written communication, October 5, 2007.

## REGULATORY SETTING

### Federal

There are no federal policies that are directly applicable to police services within the project area.

### State

There are no state policies that are directly applicable to police services within the project area.

### Local

#### City of Sacramento 2030 General Plan

The following goals and policies from the 2030 General Plan are relevant to police protection services within the project area.

#### PUBLIC HEALTH AND SAFETY (PHS)

##### POLICE SERVICES

**Goal PHS 1.1 Crime and Law Enforcement.** Work cooperatively with the community, regional law enforcement agencies, local government and other entities to provide quality police service that protects the long-term health, safety, and well-being of our city, reduce current and future criminal activity, and incorporate design strategies into new development.

##### Policies

- PHS 1.1.1 **Police Master Plan.** The City shall maintain and implement a Police Master Plan to address staffing and facility needs, service goals, and deployment strategies.
- PHS 1.1.2 **Response Time Standards.** The City shall strive to achieve and maintain appropriate response times for all call priority levels to provide adequate police services for the safety of all city residents and visitors.
- PHS 1.1.3 **Staffing Standards.** The City shall maintain optimum staffing levels for both sworn police officers and civilian support staff in order to provide quality police services to the community.
- PHS 1.1.4 **Timing of Services.** The City shall ensure that development of police facilities and delivery of services keeps pace with development and growth in the city.
- PHS 1.1.5 **Distribution of Facilities.** The City shall expand the distribution of police substation type facilities to allow deployment from several smaller facilities located strategically throughout the city and provide facilities in underserved and new growth areas in order to provide appropriate response to all city residents.
- PHS 1.1.6 **Co-Location of Facilities.** The City shall seek to co-locate police facilities with other City facilities, such as fire stations, to promote efficient use of space and provision of police protection services within dense, urban portions of the city.
- PHS 1.1.7 **Development Review.** The City shall continue to include the Police Department in the review of development projects to adequately address crime and safety, and

promote the implementation of Crime Prevention through Environmental Design principles.

PHS 1.1.8 **Development Fees for Facilities and Services.** The City shall require development projects to contribute fees for police protection services and facilities.

## **Applicable Mitigation Measures from the City of Sacramento 2030 General Plan**

No applicable mitigation measures.

## **IMPACTS AND MITIGATION MEASURES**

### **Methods of Analysis**

This impact analysis determines whether development of the proposed project would require new or expanded police facilities, the construction of which could result in physical environmental effects. Reductions in service levels can be indicative of significant project impacts and the need for additional staff and/or police facilities. Proper staffing levels ensure appropriate service levels and response times for police protection. Future development of the proposed project would result in an increase in population of approximately 1,936 new residents. These new residents would require police protection services, which would be provided by the Police Department.

This analysis evaluates the impact of the proposed project on the ongoing ability of the Police Department to provide adequate police protection services and discusses whether additional police facilities are required to accommodate new officers. The Police Department uses service levels to determine impacts which include maintaining a ratio of 2 sworn officers per 1,000 residents and a ratio of 1 civilian support staff per 2 sworn officers to determine staffing needs to serve future development.

### **Standards of Significance**

For the purposes of this EIR, an impact would be considered significant if the proposed project would:

- require, or result in, the construction of new, or the expansion of existing, facilities related to the provision of police protection.

### **Project-Specific Impacts and Mitigation Measures**

#### **5.8-2 Implementation of the proposed project could result in the construction of new, or the expansion of existing, facilities related to the provision of police protection.**

The General Plan Master EIR concluded that additional staff and/or police facilities would be needed to ensure adequate police protection is provided in order to maintain adequate service levels as general plan buildout occurs. The anticipated increase in population of approximately 195,000 persons would create an additional demand for approximately 585 new police staff, including both

sworn officers and civilian support staff, based on the Police Department's staffing goals as identified in the Master EIR.<sup>17</sup>

As discussed in Chapter 2, Project Description, as an optional element of the proposed project, the existing rail tunnel under I-5, adjacent to the western boundary of the project site could be improved to create a pedestrian/bicycle connection between the Northwest Land Park community and Miller Park located along the Sacramento River. If developed, the tunnel would be enhanced with paving, lighting, wayfinding, and security enhancements for pedestrian and bicycle use. The project applicant would also work with other responsible parties, including State Parks, to ensure that the tunnel is appropriately secured and patrolled so it is not an attractive nuisance for the project or the surrounding neighborhood. Safety features could include, based upon input from the Police Department, vandal resistant lighting and video surveillance and monitors, so that users entering the tunnel would have a clear view of the area on the other side. Such features would ensure that safety in the tunnel would not be compromised or result in a substantial burden on police services.

The 2030 General Plan policies include measures to accommodate for growth and increased service demands. Specifically, Policy PHS 1.1.1 calls for the city to prepare a Police Master Plan to address staffing needs, facility needs, deployment strategies, and service goals. The Master Plan would be the guiding document for police services in the city. As mentioned above, the Police Department currently in the process of preparing a Master Plan, but it is not yet completed. Policy PHS 1.1.4 calls for development of police services and facilities as the City grows. Policies PHS 1.1.2 and PHS 1.1.3 require that the City maintain optimum staffing levels and response times in order to provide quality police services to the community. Policies PHS 1.1.5 and PHS 1.1.12 also deal with the distribution and cooperative delivery of services to residents within the city to ensure optimal police response to all city residents. Policy PHS 1.1.6 seeks to co-locate police facilities with other city facilities, such as fire stations, when appropriate, to promote efficient use of space and efficient provision of police protection services within dense, urban portions of the city. Policy PHS 1.1.7 seeks to prevent crime by implementing Crime Prevention through Environmental Design (CPTED) strategies.

Future development anticipated under the 2030 General Plan would be required to comply with the general plan policies, which include assurances that adequate police services and facilities are maintained to serve the anticipated increase in demand.

Based on the staffing ratios identified in the Master EIR, the proposed project would result in a demand for 3.87 sworn officers and 1.94 support staff, as shown in Table 5.8-4. The project site is within the responding area of the South Area Substation (Joseph E. Rooney Police Facility) located at 5303 Franklin Boulevard. The South Area Substation is staffed by 153 full-time police officers, four civilian full-time employees, and three social workers. The Police Department does not have any currently funded projects for the remodeling or construction of new facilities, although there is a need to both remodel existing facilities and construct new facilities. To assess future facility and staffing

---

17 The City Council has not yet adopted the Police Department's 2010 Master Plan.

needs, the Department is in the process of preparing a Master Plan that would address these concerns and identify where staffing deficiencies currently exist.

Land Use	Units	Population <sup>1</sup>	Sworn Officer Demand <sup>2</sup>	Civilian Support Staff Demand <sup>2</sup>
<b>Phase 1</b>				
Medium-Density Multi-Family Residential	208	416	0.83	0.42
<b>Phase 1 Total</b>	<b>208</b>	<b>416</b>	<b>0.83</b>	<b>0.42</b>
<b>Phases 2 through 4</b>				
Medium-Density Multi-Family Residential	690	1,380	2.76	1.38
High-Density Multi-Family Residential	70	140	0.28	0.14
<b>Phases 2 through 4 Total</b>	<b>760</b>	<b>1,520</b>	<b>3.04</b>	<b>1.52</b>
<b>Project Total</b>	<b>968</b>	<b>1,936</b>	<b>3.87</b>	<b>1.94</b>
Notes:				
1. Assumes 2 persons per household.				
2. Assumes a ratio of 2 sworn officers per 1,000 residents and a ratio of 1 civilian support staff per 2 sworn officers.				
Source: PBS&J, 2010.				

The 2030 General Plan policies relating to public safety services are designed to ensure that adequate police facilities and staffing are maintained as buildout under the general plan proceeds. For example, Policy PHS 1.1.8 requires that new development projects contribute fees for police protection services and facilities. The Police Department is funded primarily from the City's General Fund, which receives revenue from property taxes, transit taxes, fees, and other sources. Future residents and businesses would pay taxes and fees that would go to the City's General Fund to pay for additional police services. Typically, the City would use a part of this additional revenue to increase police staffing, as needed.

As noted above, the proposed project could require up to approximately 4 to 5 new police officers and civilian support based on the Police Department's staffing ratio. Based on the available information, the addition of these positions would not result in the need to construct a new facility. In addition, new residences would pay taxes and fees as well as be required to contribute fees to fund additional police services. The project would have no additional significant environmental effect not addressed as a significant effect in the Master EIR.

#### Mitigation Measure

*None required.*

## SCHOOLS

### ENVIRONMENTAL SETTING

SCUSD is the primary provider of primary and secondary education within the city and would provide school services for the project site. The SCUSD area covers the Central City, east to the city limits. The project site would be served by Jedediah Smith Elementary School, California Middle School, and C.K. McClatchy High School, as shown on Figure 5.8-2. Arthur A. Benjamin Health Professions High School, a public school, is located immediately south of the project site, it is an open enrollment campus which accepts students throughout the SCUSD and is not considered an “assigned” school.

### Public Schools Facilities

Table 5.8-5 lists the applicable public schools serving the project site, as well as their enrollment (as of the 2008-09 school year), capacity, and location for each school. SCUSD operates traditional elementary, middle, and high schools, as well as alternative education and charter school facilities. As shown in Table 5.8-5, as of the 2008-09 school year, all of the applicable schools have some remaining capacity.

<b>SACRAMENTO CITY UNIFIED SCHOOL DISTRICT</b>				
<b>School Name</b>	<b>Enrollment</b>	<b>Capacity</b>	<b>Remaining Capacity</b>	<b>Address</b>
C. K. McClatchy High School	2,144	2,799	655	3066 Freeport Blvd.
California Middle School	641	1,280	639	1600 Vallejo Dr.
Jedediah Smith Elementary School	286	641	355	401 McClatchy Way
Arthur A. Benjamin Health Professions High School	467	500	33	451 McClatchy Way
Source: Crystal Hoff, Sacramento City Unified School District, Planning Technician, CAMS/Planning & Construction, personal communication, July 22, 2010; Matt Perry, Sacramento City Unified School District, Director of Linked Learning, personal communication, August 2, 2010.				

Jedediah Smith Elementary School serves grades K-6 and is located just south of the project site (as shown on Figure 2-3, in Chapter 2, Project Description). The main campus was built in 1952 and has 23 permanent classrooms, a multipurpose room, a library, and an administrative building. The school also has 6 portable buildings.<sup>18</sup>

California Middle School serves grades 7-8 and is located on Land Park Drive and Vallejo Drive in the Land Park neighborhood. It is approximately one mile from the project site. C.K. McClatchy High School, constructed in 1937, serves grades 9-12 and is located on Freeport Boulevard approximately two miles from the project site. Arthur A. Benjamin Health Professions High School is a themed high school that serves grades 9-12. The school is located on McClatchy Way, adjacent to Jedediah Smith Elementary School, just south of the project site.

<sup>18</sup> Sacramento City Unified School District, Jedediah Smith Elementary School Accountability Report Card, 2008-09, <<http://www.scusd.edu/OurSchools/Pages/JedediahSmith.aspx>>, accessed July 19, 2010.



- 1** Arthur A. Benjamin Health Professions High School  
451 McClatchy Way
- 2** C. K. McClatchy High School  
3066 Freeport Blvd
- 3** California Middle School  
1600 Vallejo Dr
- 4** Jedediah Smith Elementary School  
401 McClatchy Way

Source: Google Earth Pro, basemap, 2010; PBS&J, 2010.

**FIGURE 5.8-2**  
**SCUSD School Locations**



100013515

Northwest Land Park

---

## **Private School Facilities**

Private elementary, middle, and high schools serve residents throughout the city. Specifically, there are 28 private elementary schools, 1 private middle/high school, and 6 private high schools. Students generated within the project site could choose to attend one of these schools in place of a SCUSD school.

## **REGULATORY SETTING**

### **Federal**

There are no specific federal regulations related to school facilities.

### **State**

#### **California State Assembly Bill 2926 – School Facilities Act of 1986**

In 1986, AB 2926 was enacted by the state of California authorizing entities to levy statutory fees on new residential and commercial/industrial development in order to pay for school facilities. AB 2926, entitled the “*School Facilities Act of 1986*,” was expanded and revised in 1987 through the passage of AB 1600, which added Section 66000 *et seq.* of the Government Code.

#### **Proposition 1A/Senate Bill 50**

Proposition 1A/Senate Bill (SB) 50 (Chapter 407, Statutes of 1998) is a school construction funding measure that was approved by the voters on the November 3, 1998 ballot. Prior to the passage of Proposition 1A/Senate Bill 50 which is summarized below, it was possible for school districts to collect developer fees in accordance with Government Code Section 65995 (often called “statutory fees” or “Stirling fees” after the author of the enabling legislation, AB 2926). The School Facilities Legislation, as it is also referred to, was enacted to generate revenue for school districts for capital acquisitions and improvements.

SB 50 created the School Facility Program through which eligible school districts may obtain state bond funds. State funding requires matching local funds that generally come from developer fees. The passage of SB 50 eliminated the ability of cities and counties to require full mitigation of school impacts and replaced it with the ability for school districts to assess fees directly to offset the costs associated with increasing school capacity as a result of new development. The old “Stirling” fees were incorporated into SB 50 and are referred to as Level 1 fees. Districts meeting certain criteria may collect Level 2 fees as an alternative to Level 1 fees. Level 2 fees are calculated under a formula in SB 50. Level 3 fees are approximately double Level 2 fees and are implemented only when the State Allocation Board is not apportioning state bond funds. The passage of Proposition 1D on November 7, 2006 precludes the implementation of Level 3 fees for the foreseeable future. Although SB 50 provides that payment of developer fees are “deemed to be complete and full mitigation” of the impacts of new development, fees and state funding do not fully fund new school facilities. SCUSD collects Level 1 fees.

## Local

### **City of Sacramento 2030 General Plan**

There are no goals and policies from the 2030 General Plan that are relevant to school resources within the project area.

### **Applicable Mitigation Measures from the City of Sacramento 2030 General Plan**

No applicable mitigation measures.

### **Sacramento Unified School District Facilities Master Plan 2006-2015**

The SCUSD Facilities Master Plan (Plan) explains changes in the District since the previous Master Plan was prepared (1991), provides an inventory of existing District facilities, evaluates the condition of each school campus, provides a demographic and economic analysis of the District, describes future facilities needs in response to a growing student population and aging buildings, and outlines a Capital Improvement Plan. The Plan describes how the District should grow, what modifications to make to existing school sites, and outlines planning principles for the development of new school sites. The District will use this Plan as a tool to implement changes to existing campuses and to construct new ones through the year 2015.

## **IMPACTS AND MITIGATION MEASURES**

### **Methods of Analysis**

Impacts on schools are determined by analyzing the projected increase in demand for schools as a result of development of the proposed project, and comparing the projected increase with the schools' remaining capacities to determine whether new or altered facilities would be required. Impacts on schools are considered to be less than significant with payment of the State Department of Education Development Fee, which was enacted to provide for school facilities construction, improvements, and expansion.

### **Student Generation Calculations**

For the school impact analysis, expected student yields were derived using medium-density and high-density ~~current single-family and multi-family~~ student generation rates for the elementary, middle, and high school levels (see Table 5.8-6). ~~For the purposes of the analysis, the SCUSD multi-family generation rates were used. Multi-family~~ Medium-density generation rates are 0.17 student per unit for grades K-6, 0.06 student per unit for grades 7-8, and 0.08 student per unit for grades 9-12. High-density generation rates are 0.10 student per unit for grades K-6, 0.02 student per unit for grades 7-8, and 0.03 student per unit for grades 9-12. The development of new residential units anticipated under the proposed project would occur over many years, so the growth in students would be spread across several phases of development.

<b>SACRAMENTO STUDENT GENERATION</b>			
<b>Type of School</b>	<b>Multi-Family Generation Rate</b>	<b>Number of Multi-Family-Dwelling Units</b>	<b>Number of Students Generated</b>
<b>Medium-Density Residential</b>			
Elementary (K-6)	<u>0.1</u> - <u>0.17</u>	<u>968 898</u>	<u>97 153</u>
Middle (7-8)	<u>0.02</u> - <u>0.06</u>	<u>968 898</u>	<u>49 54</u>
High (9-12)	<u>0.03</u> - <u>0.08</u>	<u>968 898</u>	<u>29 72</u>
<b>High-Density Residential</b>			
Elementary (K-6)	<u>0.10</u>	<u>70</u>	<u>7</u>
Middle (7-8)	<u>0.02</u>	<u>70</u>	<u>1</u>
High (9-12)	<u>0.03</u>	<u>70</u>	<u>2</u>
<b>Total</b>			<b><u>145 289</u></b>
<small>Source: Crystal Hoff, Planning Technician, Sacramento City Unified School District, January 4, 2011; Diane Heidrich, Sacramento City Unified School District, personal communication, November 7, 2007; PBS&amp;J, 2010.</small>			

The proposed project is anticipating growth of approximately 968 new residences, including 898 medium-density units and 70 high-density units, all of which would be multi-family. In accordance with the estimated number of residences, approximately 16097 elementary, 5549 middle, and 7429 high school students – a total of 289145 students – would be generated, as shown in Table 5.8-6.

### **Standards of Significance**

For the purposes of this EIR, an impact would be considered significant if the proposed project would:

- generate students that would exceed the design capacity of existing or planned schools that would result in the need for new or physically altered school facilities, the construction of which could cause significant environmental impacts.

### **Project-Specific Impacts and Mitigation Measures**

#### **5.8-3 Implementation of the proposed project could generate additional demand for schools.**

The General Plan Master EIR determined that anticipated buildout under the general plan would generate approximately 16,740 elementary, 8,100 middle, and 8,850 high school students – a total of 33,690 students (Master EIR, Table 6.9-15). Based on school enrollment and capacity information available at the time (2008), schools that serve the city could accommodate an additional 17,898 students. Because the 2030 General Plan would generate 15,792 students in excess of existing capacity, new elementary, middle, and high schools would need to be constructed to meet the new students.

The 2030 General Plan includes policies to accommodate future growth and construction of new school facilities. The Master EIR concluded that through implementation of these policies, adequate school facilities would be provided to serve the anticipated student growth in the city. Those policies, coupled with the payment of statutory fees by project applicants or developers for individual

projects under SB 50 would serve as complete mitigation required by CEQA to satisfy the impact of increased demand for school facilities. Funding for new school construction is provided through state and local revenue sources. Due to the passage of Proposition 1A in November 1998, SB 50 (Chapter 407, Statutes of 1998) was enacted to change the way school districts can levy developer fees. SB 50 has resulted in full state preemption of school mitigation. SB 50 enables the district to collect a fee that is equal to the current statutory Level I fees. Where justified, SB 50 allows the district to collect additional fees in an amount that would approximate 50 percent of the cost of additional facilities. The collection of the 50 percent mitigation fees is with the assumption that the State School Facility funding program remains intact and that state funds are still available for partial funding of new school facilities. If the funds are not available, districts may collect up to 100 percent mitigation fees under certain circumstances. Therefore, the Master EIR concluded that the impact of future development on elementary, middle, and high school facilities would be less than significant.

As shown in Table 5.8-6, approximately ~~16097~~ elementary, ~~5519~~ middle, and ~~7429~~ high school students – a total of ~~289145~~ students – would be generated by the proposed project. The proposed project would be constructed in phases and buildout is not anticipated until 2019/20 at the earliest. At that time it is not known what school facilities would be available to serve the project. Therefore, for the purposes of this analysis, full buildout of the project is assumed along with the current school capacities. As shown in Table 5.8-5, there is currently adequate capacity at Jedediah Smith Elementary School, California Middle School, McClatchy High School, and Arthur A. Benjamin Health Professions High School to accommodate the increased demand for educational services. Because the proposed project does not require new school facilities, and buildout of the project would not adversely affect the ability of these SCUSD schools to serve students in the district. The project would contribute all applicable school fees as assumed in the Master EIR, so the project would have no additional significant effect on schools not addressed as a significant effect in the Master EIR.

### Mitigation Measure

*None required.*

### Cumulative Impacts for Fire, Police and Schools

The cumulative context for police and fire protection services is the city of Sacramento, which is the service area for both the City of Sacramento Fire Department and Police Department. The cumulative context for school demand is based on demand generated in the SCUSD boundaries.

The Master EIR evaluated impacts on fire and police services that could occur through anticipated buildout under the 2030 General Plan, and concluded that, with mitigation provided by the policies included in the general plan, such effects would be less than significant (see Impacts 6.10-1 and 6.10-2 in the Master EIR). The cumulative discussion in the Master EIR for schools included development occurring in other school districts that extend beyond the Policy Area but are served by the SCUSD. The Master EIR determined that the general plan policies to accommodate future growth and increased service demands for schools would ensure that schools would be provided for

in all existing and future neighborhoods that they serve, in safe locations, and connected to surrounding uses by walkways, bicycle paths, and greenways. Schools would be developed with joint uses to integrate recreational, cultural, and non-school related activities. School facilities in urban areas would be developed using alternative methods including using smaller sites or higher intensity facilities to deliver services. Implementation of Sacramento 2030 General Plan policies would ensure that adequate school facilities are provided to serve the total anticipated student enrollment in the city. Those policies, coupled with the payment of statutory fees by developers under SB 50, would serve as mitigation required by CEQA to satisfy the impact of development on school services and facilities. The proposed project would be required to comply with these policies and regulations. As discussed in the Project Description (Chapter 2), the proposed project would not alter the land uses included in the General Plan, so the project would not result in any changes to the assumptions in the Master EIR in terms of demand for schools.