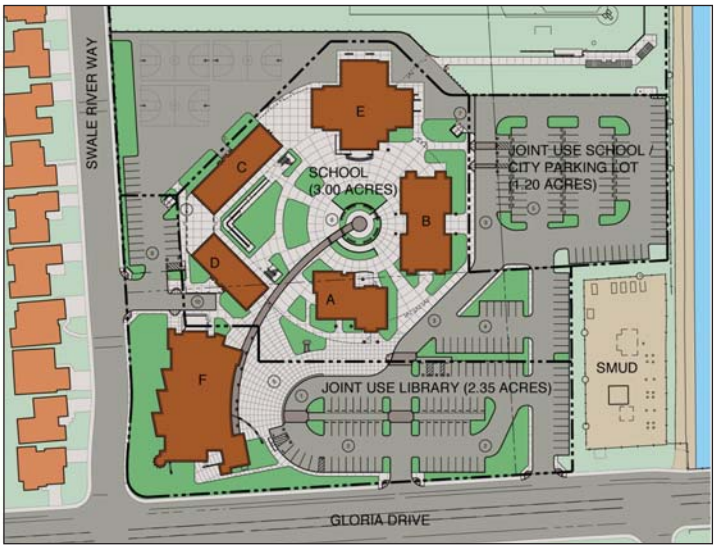
SCHOOL OF ENGINEERING AND SCIENCES & GREENHAVEN/POCKET LIBRARY JOINT USE PROJECT

Draft Environmental Impact Report

SCH# 2007102124



Sacramento City Unified School District

January 2008

Prepared by:
PLACEMAKERS

in association with

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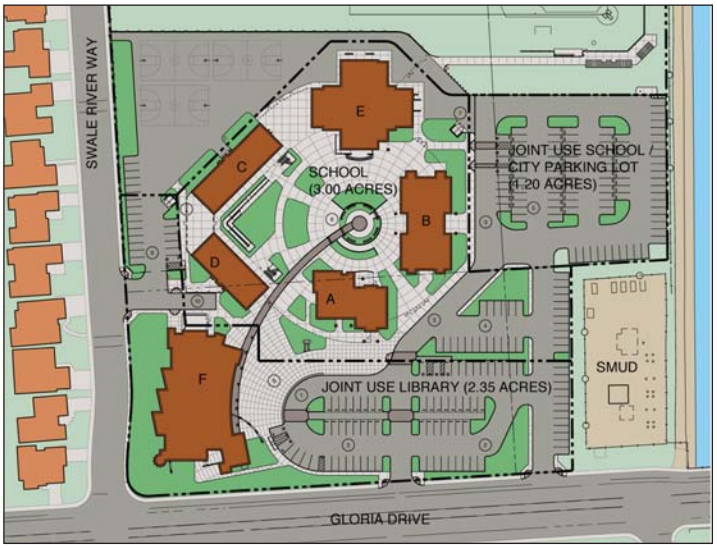

Sacramento City Unified School District

January 2008

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SUMMARY

S.1 PROJECT DESCRIPTION

The Project site is located on Gloria Drive at Swale River Way. The site is bounded by Swale River Way to the west, single-family residential development to the north, Havenside Canal and the Sacramento Municipal Utilities substation to the east and Gloria Drive to the south.

The Project site comprises 13.55 acres and consists of four parcels. Two of the parcels are owned by the Sacramento City Unified School District and two of the parcels are owned by the City of Sacramento. The site contains vacant land and Sojourner Truth Park.

The Project would include a high school, a public library and a joint-use school/city park. The high school would be designed with a capacity of 500 students in seventh through twelfth grades. The school would include five buildings ranging in height from one to two stories with a total of about 44,568 square feet. The public library would contain about 15,000 square feet and would be designed to achieve a LEED Silver certification. The joint-use park would provide a baseball/softball field and two youth (or one adult) soccer fields.

Project construction would begin in March 2008 with completion in July 2009 for the high school and park; and early 2010 for the library.

S.2 ENVIRONMENTAL CONSEQUENCES AND MITIGATIONS

Table S.1 at the end of this section provides a summary of the environmental impacts, the level of significance of those impacts, identified mitigation measures and level of significance after the implementation of the mitigation measures.

S.3 ALTERNATIVES TO THE PROJECT

Alternatives analyzed in this EIR include: No Project Alternative and Master Plan 8 Alternative. Potential environmental impacts associated with each alternative and a comparison of each alternative with the proposed Project is presented in Chapter 4. The proposed Project with mitigation would be the environmentally superior alternative.

TABLE S.1: SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED PROJECT

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
3.1 *Visual Resources*			
3.1.1 The Project does not appear to provide for adequate landscaping.	Significant	A landscape plan shall be prepared that incorporates the following: (a) Street trees shall be installed along Gloria Drive and Swale River Way to improve the pedestrian experience and soften the view of the Project from the streets. (b) The parking lots shall incorporate shrubs and other plantings to screen them from nearby residences as follows: Library parking lot along Gloria Drive; Library staff parking lot along Swale River Way; and student/joint-use park parking lot along the eastern boundary. (c) To the extent feasible, vines or other suitable vegetation shall be planted along the fence lines of the northern and eastern boundaries of the joint-use park to screen the playfields from nearby residences. (d) Native and drought tolerant plants shall represent the dominant species included in the plant palette.	Less than Significant
3.1.2 The Project would include outdoor lighting, primarily for safety and security purposes.	Significant	A lighting plan, which includes a photometric study, shall be prepared that shows the location of all lights to be installed. Light poles shall be equipped with hooded lamps to cast light downwards to illuminate the parking lots only. Outdoor lighting that may be installed along the Gloria Drive and Swale River Way frontages shall be oriented so as not to create glare or cast night light that would shine onto residences located along Swale River Way, Gloria Drive and across the Havenside Canal.	Less-than-Significant
3.1.3 The Project would include signage which may not be compatible with the neighborhood.	Significant	A signage plan shall be prepared that shows the location, type and size of signs installed at the Project site. Signs should be unified in design, constructed of materials compatible with Project buildings and in scale with the development and neighborhood.	
3.2 *Planning and Land Use*			
None.			

TABLE S.1: SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED PROJECT (Continued)

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
3.3 *Traffic and Circulation*			
3.3.1 During Project construction, temporary and intermittent transportation effects would result from truck movements as well as construction worker vehicles traveling to and from the Project site.	Significant	Prior to the start of construction [Note to City – typically I would state prior to issuance of a building permit, however, the District does not receive building permits from the City; also would the City issue itself a building permit. Thus, I thought "start of construction was appropriate. If this is not appropriate, please provide language], the Project sponsors and construction contractor shall meet with the City of Sacramento Public Works department and other appropriate City of Sacramento agencies to determine traffic management strategies to reduce, to the maximum extent feasible, traffic congestion and the effects of parking demand by construction workers during construction of this Project and other nearby projects that could be simultaneously under construction. The Project sponsors shall develop a construction management plan for review and approval by the City of Sacramento Public Works department. The plan shall include at least the following items and requirements: 1. A set of comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak traffic hours, detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes. 2. Notification procedures for adjacent property owners and public safety personnel regarding when major deliveries, detours, and lane closures will occur. 3. Location of construction staging areas for materials, equipment, and vehicles (must be located on the Project site). 4. Identification of haul routes for movement of construction vehicles that would minimize effects on vehicular and pedestrian traffic, circulation and safety; and provision for monitoring surface streets used for haul routes so that any damage and debris attributable to the haul trucks can be identified and corrected by the Project sponsors.	Less than Significant

TABLE S.1: SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED PROJECT (Continued)

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
3.3 *Traffic and Circulation(continued)*			
3.3.1 (cont.)		5. Temporary construction fences to contain debris and material and to secure the site. 6. Provisions for removal of trash generated by project construction activity. 7. A process for responding to, and tracking, complaints pertaining to construction activity, including identification of an onsite complaint manager. 8. Provisions for monitoring surface streets used for truck routes so that any damage and debris attributable to the trucks can be identified and corrected. 9. Subject to City review and approval, prior to start of construction, a construction worker transportation demand management (TDM) program shall be implemented to encourage construction workers to carpool or use alternative transportation modes in order to reduce the overall number of vehicle trips associated with construction workers.	
3.4 *Air Quality*			
Fugitive dust and construction equipment emissions generated from Project construction activities would be below SMAQMD thresholds.	Less-than-Significant	The Project would not result in significant air quality impacts. However, the following mitigation measures are recommended to further reduce the potential emissions from Project construction activities: • Utilize CARB-certified low-sulfur fuel in all construction equipment. • Minimize idling time (no more than 5 minutes). • Maintain properly tuned equipment. • Limit hours of operation of heavy duty equipment and/or the amount of equipment in use. • Enclose, cover or water twice daily all soil piles. • Water all haul roads twice daily.	Less-than-Significant

TABLE S.1: SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED PROJECT (Continued)

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
3.4 *Air Quality (continued)*			
3.4.1 (cont.)		• Cover the loads of all haul/dump trucks securely. • Limit speed of trucks on unpaved roads to 15 miles per hour.	
3.5 *Noise*			
3.5.1 Exposure of Residences to Construction Noise.	Significant	Construction equipment shall be well-maintained and used judiciously to be as quite as practical. Contract specifications shall incorporate the following measures, as appropriate: (e) Limit construction activities to daytime hours between 7:00 AM and 5:00 PM. (f) To the extent feasible, use self-adjusting ambient–sensitive back-up alarms, manually-adjustable alarms on low setting, use of observers, and/or schedule activities so that alarm noise is minimized (g) Use "quiet" models of air compressors and other stationary noise sources where technology exists. (h) Equip all internal combustion engine-driven equipment with mufflers that are in good condition and appropriate for the equipment. (i) Install acoustically attenuating shields or shrouds on noise producing equipment; (j) Locate all staffing areas and stationary noise-generating equipment, such as air compressors and portable power generators, as far away as possible from residences. (k) Designate an on-site construction noise complaint manager for the duration of the Project. (l) Post signs around the project site to inform persons of the construction hours and the name and phone number of the person or persons to notify in the event of a noise related problem.	Less than Significant

TABLE S.1: SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED PROJECT (Continued)

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
3.5 *Noise (continued)*			
3.5.1 (cont.)		(m) Notify neighbors within 300 feet of the project construction area at least 30 days in advance of any extreme noise-generating activities. The notification should include an estimate of the duration of the activity. (n) Restrict extreme noise generating activities greater than 90 dBA to between 8:00 a.m. and 4:00 p.m. Monday through Friday. (o) A pre-construction meeting shall be held with the job inspectors and the general contractor/on-site project manager to confirm that noise mitigation practices (including construction hours, neighborhood notification, posted signs, etc.) are completed.	
3.6 *Hydrology and Water Quality*			
3.6.1 The Project would result in increased runoff at the Project site due to Project development.	Significant	Manage Stormwater Runoff. In order to prevent site development from contributing to downstream flooding, the Project Sponsors shall accomplish the following: • Construct and operate on-site storm drainage treatment and storage facilities (divert parking lot and building runoff to vegetated swales, bioretention areas and/or other similar measures to reduce peak runoff rates and increased runoff volumes. • Develop and implement the Project Sponsors' SWMP consistent with the NPDES Phase II municipal stormwater permit requirements. • Include site design features that would decrease post-development runoff, including features presented in the Sacramento Stormwater Management Program's "Guidance Manual for On-Site Stormwater Quality Control Measures" (2000).	Less-than-Significant

TABLE S.1: SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED PROJECT (Continued)

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
3.6 *Hydrology and Water Quality*			
3.6.1 (cont.)		The Sacramento County Water Resources Division and/or the City of Sacramento Department of Utilities Division of Engineering Services shall specify the final criteria (including the storm event or events and models) that shall be used by SCUSD to design on-site stormwater treatment and storage facilities, site features, or other measures used to prevent impacts caused by increases in post-development stormwater runoff. In establishing the appropriate design criteria (e.g., 100-year, 24-hour storm event), the City shall be consulted regarding the storm events that shall be used in designing facilities with sufficient capacity to prevent impacts on downstream storm drainage facilities. The Project Sponsors shall prepare a site-specific drainage study for the Project. Based on the results of this study, the Project Sponsors shall design, construct, and maintain Project-specific storm drainage system improvements, site features, or measures that are sufficient to assure that the peak storm runoff leaving the Project site does not increase and that the increased runoff leaving the project Site does not cause downstream flooding. As a minimum, stormwater treatment and storage facilities and other site features and measures should be designed, constructed, and implemented in accordance with the following design criteria provided by the City of Sacramento Department of Utilities: On-site drainage improvements for the Project shall be sufficient to assure that 950 cubic feet of on-site stormwater storage/detention capacity per acre of new impervious surface is developed to offset potential increases in flow and minimize the potential for future flooding. On-site storage of storm runoff can be accomplished through the use of drainage swales, bioretention areas, and/or underground vaults; these measures should be integrated with site landscaping elements.	

TABLE S.1: SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED PROJECT (Continued)

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
3.6 *Hydrology and Water Quality*			
3.6.1 (cont.)		Individual stormwater treatment and storage facilities, site features, or measures may serve more than one building, but the Project Sponsors must demonstrate adequate capacity to prevent increased runoff as part of the project application and to address stormwater treatment requirements. The on-site facilities shall be designed to temporarily store the stormwater runoff and not create extended ponding that could result in mosquito breeding. Prior to stormwater facility construction, the Sacramento County Water Resources Division and/or the City of Sacramento Department of Utilities shall approve the proposed improvements.	
3.6.2 Proposed construction activities and post-construction operation of Project facilities would result in the degradation of surface water quality in downstream receiving waters.	Significant	3.6.2a Mitigation Measure 3.6.1 shall be implemented.	Less than Significant
		3.6.2b Best Management Practices for potential water quality impacts associated with Project construction activities shall be implemented as follows: • For each construction project that disturbs over 1 acre, SCUSD shall apply to the SWRCB for coverage under the State General NPDES Permit for Stormwater Discharge Associated with Construction Activity as required. The site manager shall be responsible for assuring that an SWPPP is maintained at the Site and implemented, and that all required site monitoring is performed. • All construction on campus shall abide by the SCUSD Stormwater Management Plan. • Each construction site shall be visited approximately once per month during the rainy season, and as needed during the summer months by a SCUSD employee who reviews stormwater best management practices used on site. • Periodically, construction site conditions shall also be reviewed by City staff. Any deficiencies shall be brought to the site manager for immediate correction.	Less than Significant

TABLE S.1: SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED PROJECT (Continued)

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
3.6 *Hydrology and Water Quality*			
3.6.2 (cont.)		• Regular reminder letters and on-site training shall be performed throughout the year at campus construction sites. • Project Managers shall be trained in stormwater pollution prevention requirements. Best Management Practices for Preventing Post-Construction Urban Runoff Pollution shall be implemented as follows: • The Project Sponsors shall implement site improvements for new buildings and parking lots that include BMPs that are effective for preventing post-construction stormwater and groundwater pollution caused by urban runoff, including bioretention/infiltration areas, grassy swales, and vegetated filter strips to ensure that applicable NPDES stormwater quality treatment requirements are met. • Prior to construction, the City shall review and approve the proposed post-construction BMPs to assure conformance with the Sacramento County Stormwater Water Quality Management Plan and/or the SCUSD Stormwater Management Plan.	
3.6.3 The Project would contribute to cumulative impacts to surface water hydrology and water quality.	Significant	Mitigation Measures 3.6.1, 3.6.2a and 3.6.2b shall be implemented.	Less than Significant
3.7 *Geology and Soils*			
3.7.1 The Project would be subject to potentially significant hazards associated with seismic ground shaking.	Significant	The Project Sponsors shall implement the design recommendations included in the Geotechnical Design Report, prepared by LFR and dated February 27, 2007.	Less-than-Significant
3.7.2 The Project sites' soils are not suitable without some form of ground improvement for support of conventional spread or continuous footing foundations.	Significant	The Project Sponsors shall implement the design recommendations included in the Geotechnical Design Report, prepared by LFR and dated February 27, 2007.	Less-than-Significant

TABLE S.1: SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED PROJECT (Continued)

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
3.8 *Hazards and Hazardous Materials*			
None.			
3.9 Public Services			
None.			

CHAPTER

1

INTRODUCTION

1.1 PURPOSE AND USE OF THIS DRAFT EIR

This Draft Environmental Impact Report (DEIR) evaluates the potential environmental impacts of the proposed Project that could occur as a result of its construction and operation. The DEIR is intended to be used as an informational document and is subject to public review, agency review and consideration by the Sacramento City Unified School District and the City of Sacramento. The purpose of this DEIR is to identify potentially significant effects of the Project on the physical environment, to determine the extent to which these effects could be reduced or avoided and to identify and evaluate feasible alternatives to the Project. The EIR need not be exhaustive in its analysis of a project (Section 15151 *CEQA Guidelines*) but should analyze important issues to a sufficient degree that permitting and approving agencies can make informed decisions. The EIR is an information document that in itself does not determine whether a project will be approved.

1.2 ENVIRONMENTAL REVIEW PROCESS

In accordance with the *CEQA Guidelines*, the District, as the Lead Agency, prepared an Initial Study on the Project (*Section 15063 CEQA Guidelines*). On the basis of the Initial Study, the District determined that an EIR was required. A copy of the Initial Study is included in **Appendix A**. Effects found not to be significant in the Initial Study, and thus omitted from analysis in the DEIR addressed: agricultural resources, biological resources, mineral resources and population and housing. The Initial Study reported there are no known cultural resources present at the Project site; however, if unknown cultural resources were disturbed during Project construction this is considered a potentially significant impact. The Initial Study identified mitigation measures that would reduce potentially significant impacts to cultural resources to a less-than-significant level; and cultural resources, therefore, are not evaluated in the DEIR.

1.3 PUBLIC NOTICE

A Notice of Preparation (NOP) for this DEIR was circulated to the State Clearinghouse and Responsible Agencies on October 25, 2007 in accordance with Section 15802 of the CEQA Guidelines (Appendix A). The NOP was circulated to local and state agencies and other interested parties. A copy of the comment letters in response to the NOP is included as **Appendix B**.

PUBLIC REIVEW OF THE DRAFT EIR

The DEIR will be distributed for public review for 45 days, during which time comments on its accuracy and completeness may be submitted by local, state and federal agencies; public interest groups; and concerned individuals. Written comments should be submitted to:

James C. Dobson, Director of Planning & Construction
Sacramento City Unified School District
5735 47th Avenue
Sacramento, California 95824

All comments on the DEIR received during the public comment period will be addressed in a Response to Comments document. That document, and this DEIR combined, will form the Final EIR (FEIR) to be considered by the Sacramento City Unified School District Board of Education (District Board) for certification as complete and adequate. Subsequent to the certification of the FEIR by the Board of Education, the FEIR will be considered by the City of Sacramento City Council for certification.

PROJECT APPROVALS

Approval of the Project by the District Board, as proposed or revised, would be accompanied by written findings for each significant adverse environmental effect identified in the FEIR. Findings must be accompanied by a brief explanation of the rationale for each finding and will indicate that: 1) mitigation measures to avoid or substantially lessen the significant environmental effects; 2) mitigation measures within the responsibility and jurisdiction of another public agency and either have been or should be adopted by that public agency; or 3) specific impacts are unavoidable and substantially unmitigable, but are considered acceptable because overriding considerations indicate the benefits of the project outweigh the adverse effects.

When making findings and at the time of approval of the Project, the District Board must adopt a monitoring program for mitigation measures incorporated into the approved Project that reduces or avoids significant effects on the environment. The

mitigation monitoring program will be prepared in conjunction with the FEIR. This program is not required to be adopted until the time of approval of the Project.

Project approval would also be required of the City of Sacramento City Council and their approval would also be accompanied by written findings prepared by the City.

In addition to Board approval, approvals, actions and permits would be needed from State and local agencies. For more information regarding Project approvals, see Chapter 2, Section 2.6.

1.4 CONTENTS OF THIS DRAFT EIR

This DEIR contains the following sections:

- The Summary chapter presents a Project overview including the Project description, environmental consequences and mitigation measures and Project alternatives.
- Chapter 1 provides an introduction and overview describing the intended use of the DEIR and the review and certification process.
- Chapter 2 provides a description of the Project, its location, the Project sponsor's objectives, specific planning features and required approvals.
- Chapter 3 presents a discussion of the environmental effects of the Project. The "Setting" sections of this chapter identify existing conditions relevant to each topic. The "Impacts and Mitigations" section includes a discussion of potential impacts. Each impact has been numbered to correspond to the mitigation measure.
- Chapter 4 discusses alternatives to the Project.
- Chapter 5 provides CEQA-required discussions regarding significant unavoidable environmental impacts and other CEQA-related topics.
- Chapter 6 identifies the persons involved in the DEIR preparation.
- Chapter 7 lists references.

CHAPTER

2

PROJECT DESCRIPTION

2.1 BACKGROUND

Since 2006, Sacramento City Unified School District, the Sacramento Public Library Authority and the City of Sacramento have worked together to plan for a new high school, library and joint-use school/city park at the Project site.

A total of 11 community meetings, jointly sponsored by the Sacramento City Unified School District, the Sacramento Public Library Authority and the City of Sacramento, were held between April 2006 and November 2007. The purpose of these meetings was to provide the public with information on the proposed Project. A public scoping meeting was held on May 23, 2007 to provide the public with information on the environmental review process for the proposed Project.

[All: please feel free to add text. This is based on my understanding of the project at this time.]

2.2 PROJECT SPONSORS'S OBJECTIVES

The Project represents a cooperative effort on the part of four Project Sponsors to develop a high school, public library and joint-use school and city park: Sacramento City Unified School District (District); Sacramento Public Library Authority (Public Library); City of Sacramento Department of General Services (City General Services); and City of Sacramento Department of Parks and Recreation (City Parks and Recreation). Collectively, for purposes of this EIR these four agencies are identified as the Project Sponsors. The objectives of each Project Sponsor are presented below.

Sacramento City Unified School District's objectives are to:

[Note to Jim Dobson and Glenda Golobay: I reviewed a concept paper for the School of Engineering and Sciences (dated 2/8/06), however this did not provide any specific objectives. I developed objectives based on my understanding of the project.]

- Develop a small high school with an emphasis on science and engineering.
- Encourage joint-use opportunities with the Sacramento Public Library Authority and City of Sacramento to minimize costs.
- Utilize land currently owned by the District to minimize costs.
- Act as a responsible steward of public tax money allocated by the bond measure to efficiently construct a new high school with an emphasis on engineering and science.

Sacramento Public Library's objectives are to:

[Note to Alison Landers: the objectives are based on my review of the Facility Master Plan.]

- Provide a new library that serves the Pocket neighborhood.
- Partner with public agencies, particularly schools, to construct new library facilities to minimize costs.

City of Sacramento Department of General Services are to:

- Build a sustainable library with a LEED Silver rating.
- Utilize the efforts of the Sacramento City Unified School District and the City of Sacramento to deliver a construction project that will save money.
- Reduce the impact to the environment by co-locating public functions at one site including parking, ball fields, joint use library for the public and the high school.

City of Sacramento Department of Parks and Recreation's objectives are to:

- Develop City-School District partnerships that build or improve public facilities to maximize community use and that maximizes the collective resources of both entities.
- Assist in meeting the park acreage service level goals to provide recreational opportunities with reasonable walking or driving distance of all residents.
- Provide a venue with dimensions flexible for multi-sports use.

2.3 PROJECT LOCATION

The Project site is located on Gloria Drive at Swale River Way. The site is bounded by Swale River Way to the west, single-family residential development to the north, Havenside Canal and the Sacramento Municipal Utilities District substation to the east and Gloria Drive to the south. **Figure 2-1** shows the Project location.

2.4 PROJECT SITE CHARACTERISTICS

The Project site consists of four parcels comprising approximately 13.55 acres. Two of the parcels comprising approximately 9.8 acres are owned by the District and two parcels comprising 3.75 acres are owned by the City. The site contains a parking lot, two baseball fields and vacant land. **Figure 2-2** shows a photo aerial of the Project site. The site is relatively flat with an elevation of approximately zero to five feet above mean sea level.

2.5 PROJECT CHARACTERISTICS

The Project would include the construction of a high school, a public library and joint use school/city park. The public library would be located at the corner of Gloria Drive and Swale River Way.

The high school campus would be set back behind the library building and library parking lot. The joint use high school/city park would be located behind the high school campus at the northern portion of the Project site. The western boundaries of the Project site would be landscaped with street trees and planting to screen athletic and parking facilities from residences located across Swale River Way. A six foot high perimeter fence would be located along the western, northern and eastern boundaries of the school and park. The fence would be constructed of decorative metal that is painted. **Figure 2-3** shows the Project Site Plan. **Table 2-1** presents a breakdown of the proposed facilities. A description of each Project component is presented below.

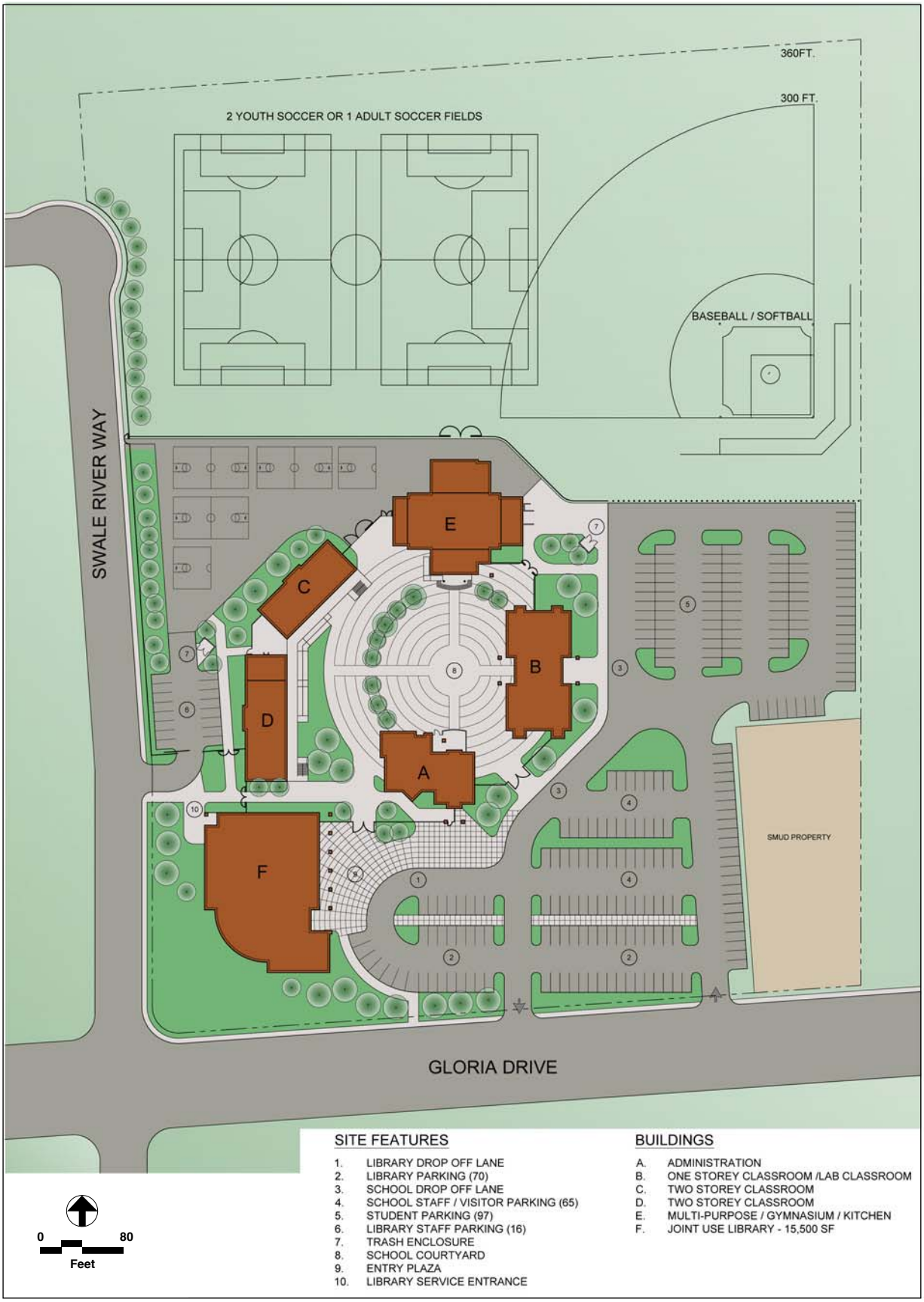
HIGH SCHOOL

The high school would be designed with a capacity of 500 students in seventh through twelfth grades. Until the high school is completed, the District is operating an interim facility that houses approximately ____ seventh graders [Other grades? Jim at the 12/14 project meeting I was informed the school will be at capacity in the 2010/2011 school year. Please provide a revised breakdown of student enrollment for Table 2-2] The first year of school operation, 2009/10, the school would have an enrollment of about _____ seventh through ____. It is anticipated the 2010/11 school year would

Figure 2-1
Project Location Map

Source: City of Sacramento

Figure 2-2
Photo Aerial of Project Site



Source: WLC Architects

Figure 2-3
Project Site Plan

TABLE: 2-1 PROPOSED FACILITIES

Building	Facilities	Square Feet	Number of Classrooms	Parking Spaces	Acreage
High School					3.00
A	Administration/ 1 computer lab	5,778	1		
B	One-story Classrooms/ Lab Classroom	8,154	4		
C	Two-story Classrooms	8,934	7		
D	Two-story Classrooms	10,935	9		
E	Multi-purpose/Gym/Kitchen	10,767			
	Student /City Park (after school hours and weekends) Parking Lot			98	1.20
	School Staff/Visitor Parking Lot			31	
Library					2.35
F	Joint Use Library	15,000			
	Library Staff Parking Lot			16	
	Library Parking Lot			83	
Park					
	Athletic Fields				7.00
	TOTAL	**59,568**	**21**	**228**	**13.55**

achieve a full enrollment of 500 grade 7 – 12 students. At full student enrollment, there would be 31 faculty and staff at the high school. **Table 2-2** shows the student enrollment.

TABLE 2-2: STUDENT ENROLLMENT

School Year	Grade	Enrollment	Total
2009-10	7	84	84
2010/11	7 through 8	83	167
2011/12	7 through 9	84	251
2012/13	7 through 10	83	334
2013/14	7 through 11	83	417
2014/15	7 through 12	83	500

The high school campus would be located in the central portion of the Project site. School buildings would be located around a courtyard. Landscaping would be located in the courtyard and campus perimeter. The high school campus would be secured with gates and fencing. Vehicular access to the campus would be from Gloria Drive. Truck access for service vehicles would also access the school from Gloria Drive. The student

parking lot would provide 98 parking spaces and the school staff/visitor parking lot would provide 31 parking spaces and seven accessible parking spaces. The parking lots would be lighted in the evening for safety and security needs.

The school buildings would be one and two stories and would be a contemporary design. The predominant exterior building materials would include plaster; simulated stone veneer walls; standing seam metal roofing; and steel/aluminum metal doors and windows. The color palette would compliment the surrounding residential neighborhood.

PUBLIC LIBRARY

The public library would be sited at the corner of Gloria Drive and Swale River Way. The building would be set back from the street. The corner setback would be landscaped with lawn, trees and other plantings. The public library would contain approximately 15,000 square feet. Building materials and colors would be complimentary to what is used on the school buildings. The design would promote an open feeling with glass walls that allow viewing into the library as well as allowing natural day lighting. The library building is designed to achieve a LEED Silver certification [Max: can you provide text on what the LEED Silver represents.] Vehicular access would be from Gloria Drive. The library parking lot would provide 83 parking spaces and four accessible parking spaces. A library staff parking lot providing 16 parking spaces would be accessed from Swale River Way. Library service would also be accessed from Swale River Way. The parking lots would be lighted in the evening for safety and security needs.

The estimated number of daily library users is:

Monday – Thursday: 720
Friday: 540
Saturday: 500

JOINT-USE SCHOOL/CITY PARK

The joint-use school/city park would provide athletic fields including a baseball/softball field and two youth (or one adult) soccer fields, three full basketball courts and two half-courts. The athletic facilities would be available for day use only; the fields would not be lighted for nighttime use. There would not be an amplified announcer system installed in the park. Park users would share the student parking lot.

The estimated number of park users:

Two youth soccer fields in use on Saturday – 250 to 300 youths and parents during change-over of games. 125 – 150 youths and parents present during actual games.

Baseball/softball field – 100 youths and parents; use will not overlap with soccer field use.

The high school gym/multi-purpose room would be available in the evening and weekends by permit.

Hours of operation for the Project are as follows:

High School: 8:00 AM – 3:00 PM, Monday – Friday.

Public Library: 10:00 AM – 6:00 PM, Monday and Tuesday; 12:00 PM – 8:00 PM Wednesday and Thursday; 11:00 AM – 5:00 PM, Friday; 10:00 AM – 5:00 PM, Saturday.

City Park: 3:00 PM – Dusk, Monday through Friday; 8:00 AM – Dusk, Saturday and Sunday; and during non-school days Dawn to Dusk.

Project construction would begin in March 2008 with completion in July 2009 for the school and park; and early 2010 for the library.

2.6 PROJECT APPROVAL PROCESS

The District is the principal authority for the proposed Project and is the Lead Agency for the proposed Master Plan Project. The District Board of Education will hold two public hearings on the proposed Project before deciding whether to approve it. The District Board of Education must certify the Final EIR before making a decision on the Project.

The Project will also require approval by the following public agencies:

- California Department of General Services, Division of State Architect (DSA) for the school buildings, handicap accessibility, fire and life safety.
- California Department of Education for approval of the educational program, school parking lot circulation and design of teaching spaces.
- City of Sacramento for the certification of the Final EIR as it pertains to the library and joint use park; encroachment permit for curb cuts on Gloria Drive and Swale River Way; water, sewer and storm drain hook-ups.
- City of Sacramento, Department of General Services and Sacramento Public Library Authority for review of building and parking lot design.
- City of Sacramento, Department of Parks and Recreation for design and standards for park and playfield as well as shade tree standards for the parking lots.
- Sacramento Fire Department for site access and fire hydrants/water pressure.
- Central Valley Regional Water Quality Control Board (Sacramento Office) for NPDES General Permit and Storm Water Pollution Prevention Plan (SWPPP).

CHAPTER

3

ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

INTRODUCTION

This chapter of the DEIR addresses specific topics to be evaluated in accordance with requirements of the California Environmental Quality Act and Guidelines. For each topic discussed (e.g. Traffic and Circulation, Air Quality), the following two subsections are included: "Setting" and "Impacts and Mitigation Measures." Under "Setting" the text provides a discussion of existing conditions. Under "Impacts and Mitigation Measures," the text includes sections on: 1) Significance Criteria; 2) Impact Overview; and 3) Potentially Significant Impacts and Mitigation Measures. The Potentially Significant Impacts and Mitigation Measures section includes numbered impacts which correspond to specific mitigation measures. Unless the impacts are noted as significant and unavoidable (SU), the recommended mitigation measures would reduce the identified impacts to less-than-significant. Thus, after each mitigation measure, the reader will find (LTS).

The specific criteria for determining if the impacts would be significant are identified under "Significance Criteria." These criteria are taken from the CEQA Guidelines, City of Sacramento standards and other responsible and trustee agencies.

3.1 VISUAL RESOURCES

SETTING

The Project site is relatively flat and consists of vacant land covered with weedy grasses and Sojourner Truth Park developed with two baseball fields and a paved parking lot.

The Sacramento Municipal Utilities District Havenside Canal Substation is located adjacent to the Sojourner Truth Park parking lot. The site is paved and contains a single-story building and electrical transformers and other electrical facilities. The Havenside Canal abuts the easterly boundary of the Project site and consists of the canal and paved maintenance road.

Nearby development is single-family one and two story residences. The predominant building materials include wood siding, stucco and brick. Residences are well landscaped with front lawns, trees and other plantings.

The Project site is visible from surrounding residential development fronting the site along Gloria Drive, Swale River Way, residential development abutting the Project site's northerly boundary and residential development abutting the Havenside Canal (east of the Project site).

City of Sacramento General Plan Goals and Policies

Current General Plan

The *City of Sacramento General Plan* (City of Sacramento 1988) does not specifically include policies pertaining to visual resources and aesthetics. However, Section 1 of the General Plan includes a policy that acknowledges neighborhood aesthetics:

Policy 5 – Urban Conservation and Infill Areas

4. The City should promote infill development that meets the following neighborhood, housing, economic and project design objectives, through its policies, zoning and other regulations, design guidelines, and infill incentives.
   - k. Has design and massing in scale with neighbor.
   - m. Minimizes the appearance/impact of parking.

It is noted the District is exempt from General Plan policies and standards. However, the Project is a joint use effort with the City and the District, where feasible, intends to comply with the applicable General Plan policies identified herein. [Jim please confirm.]

Proposed 2030 General Plan

The City is currently updating their General Plan. The proposed *City of Sacramento 2030 General Plan* (City of Sacramento 2007) includes policies pertaining to aesthetic resources and urban design. Applicable policies are presented below.

Aesthetic Resources (ER 7)

ER 7.14 Standards for New Development. The City shall seek to ensure that new development does not significantly impact Sacramento's natural and urban landscapes. To this end, the City shall encourage new development:

- Be sited to minimize obstruction of views from public lands and rights-of-ways;
- Be sited to reduce visual prominence by sensitive site design and building orientation and form, breaking up massing, and using locally familiar vernacular materials and colors that blend structures into the landscape;
- Hide parking areas from view;
- Include landscaping that screens or softens the view of development;
- Limit the impact of new roadways and grading on natural settings; and
- Include signage that is compatible and in character with the location, setting, and building design.

Public/Quasi-Public (LU 8)

LU 8.1.3 Excellence in Public Projects. The City shall lead by example, demonstrating design excellence in City projects including buildings, parks, public rights-of-way and City-subsidized redevelopment projects.

LU 8.1.4 Architecture and Planning that Complements Adjoining Uses. The City shall ensure that the City-owned public buildings, sites, and infrastructure are designed to be compatible in scale, mass, character, and architecture with the district or neighborhood in which they are located.

LU 8.1.5 Compatibility of Non-City Public Uses. The City shall encourage school and utility districts and other government agencies that may be exempt from City land use control and approval to plan their properties and design buildings at a high level of visual and architectural quality that maintains the character of the neighborhood or district in which they are located.

LU8.1.6 Green Civic Buildings. The City shall ensure that all new City-owned buildings are built to meet the standards for LEED Silver or better.

IMPACTS AND MITIGATION MEASURES

Standards of Significance

For purposes of this EIR, visual impacts are considered significant if the Project would:

- Substantially degrade the existing visual character or quality of the site and its surroundings.
- Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.
- Conflict with applicable goals and policies of the 1988 City of Sacramento General Plan or proposed Draft 2030 General Plan (library and joint-use park sites only).

Impact Overview

The Project could result in intrusive light and glare impacts to nearby residences which is considered a potentially significant impact. The Project does not appear to provide for adequate landscaping which is necessary to screen parking lots and soften the building appearance from the street. This is considered a potentially significant impact. Recommended mitigation measures would reduce potentially significant impacts to a less-than-significant level.

Less-than-Significant Impacts

Project Affects on Visual Character and Quality of Project Site and Surrounding Neighborhood

The visual character of the Project site would significantly change with development of the Project. Project development would replace vacant land and an existing park with a new library, high school and joint-use park. The Project would introduce larger buildings than the existing one and two-story residences. Project building heights would be taller and buildings would be greater in mass. The library and school buildings would be set back from the Swale River Way and Gloria Drive which would diminish their apparent mass from the street. The high school would comprise five buildings with sloped roofs and articulated entrances which would provide visual penetration through the site and provide smaller building footprints. The library building would incorporate setbacks, vertical treatments and varying rooflines to further diminish the building mass and provide visual interest.

The library and school buildings would incorporate plaster, wood and simulated stone veneer walls in earth tone colors that would be compatible with nearby residential development. The generous use of glass would promote an open feeling and maximize access to natural day lighting.

The overall building design and use of materials would be compatible with the surrounding residential neighborhood. The Project would establish a visual vocal point for the neighborhood.

Consistency with General Plan Goals and Policies

The Project would be consistent with bullet 2 of Policy ER 7.14 (it is noted that bullets one and five are not applicable to the Project). The buildings would be setback from the street and would be designed to reduce their visual prominence by breaking up building massing, providing varying heights and rooflines and utilizing compatible materials and colors.

The Project would be consistent with Policies LU 8.1.3 and LU 8.1.4. The library building would be compatible in scale, mass, character and architecture with the

neighborhood. The library design demonstrates design excellence with its focus on sustainability.

The library would be consistent with Policy LU 8.1.6 as it is design to achieve a LEED Silver certification.

The Project would be consistent with Policy LU 8.1.5. The school buildings would be compatible with the overall architectural character of the neighborhood and would represent a high quality architectural design.

Potentially Significant Impacts and Mitigation Measures

Impact 3.1.1 The Project does not appear to provide for adequate landscaping. (S)

The Project site plan does not provide adequate information regarding the landscaping of the site. It is unknown what type of plantings would be included in the landscaping, if street trees are included, and the extent of planting to screen unattractive areas such as the parking lots and hard courts. The parking lots located along Swale River Way and Gloria Drive would be visible from residences facing the Project site without adequate landscaping. Additionally, the playfields would be visible from residences along the Project's northern and eastern boundaries. While the existing playfields are visible from these residences, the new joint-use park would result in increased use of the playfields which could present privacy concerns for residences facing the playfields. This is considered a potentially significant impact.

Without a landscape plan it is unknown if the Project would be consistent with bullets 3 and 4 of Policy ER 7.14 of the proposed 20230 General Plan. This is considered a potentially significant impact.

Mitigation Measure 3.1.1 A landscape plan shall be prepared that incorporates the following:

a) Street trees shall be installed along Gloria Drive and Swale River Way to improve the pedestrian experience and soften the view of the Project from the streets.

b) The parking lots shall incorporate shrubs and other plantings to screen them from nearby residences as follows: Library parking lot along Gloria Drive; Library staff parking lot along Swale River Way; and student/joint-use park parking lot along the eastern boundary.

c) To the extent feasible, vines or other suitable vegetation shall be planted along the fence lines of the northern and eastern boundaries of the joint-use park to screen the playfields from nearby residences.

d) Native and drought tolerant plants shall represent the dominant species included in the plant palette. (LTS)

Impact 3.1.2 ***The Project would include outdoor lighting, primarily for safety and security purposes. (S)***

Currently there is no night lighting at the Project site. The parking lots would be lit at night for safety and security purposes. This could result in intrusive light and glare affecting nearby residences. This is considered a potentially significant impact.

Mitigation Measure 3.1.2 A lighting plan, which includes a photometric study, shall be prepared that shows the location of all lights to be installed. Light poles shall be equipped with hooded lamps to cast light downwards to illuminate the parking lots only. Outdoor lighting that may be installed along the Gloria Drive and Swale River Way frontages shall be oriented so as not to create glare or cast night light that would shine onto residences located along Swale River Way, Gloria Drive and across the Havenside Canal. (LTS)

Impact 3.1.3 ***The Project would include signage which may not be compatible with the neighborhood. (S)***

The Project site plan does not provide adequate information regarding signage. Inappropriate signage may detract from the Project design and be incompatible with the surrounding neighborhood. The library school and joint use park are public facilities that require adequate signage to assist the public in reaching their destination. It is important that signage be visible to the public but not be intrusive to the neighborhood or detract from the architectural quality of the Project. The installation of signage that is out of scale with the neighborhood or inconsistent with the Project architecture is considered a potentially significant impact. Without a signage plan, it is unknown if the Project would be consistent with bullet 6 of Policy ER 7.14 of the proposed 2030 General Plan. [Jim would the school include an electronic display sign that announces school events/activities/etc?]

Mitigation Measure 3.1.3 A signage plan shall be prepared that shows the location, type and size of signs installed at the Project site. Signs should be unified in design, constructed of materials compatible with Project buildings and in scale with the development and neighborhood. (LTS)

3.2 PLANNING AND LAND USE

SETTING

Existing Land Uses on Project Site

The Project site comprises approximately 13.55 acres and contains Sojourner Truth Park, which includes two baseball fields and a parking lot owned by the City of Sacramento; and vacant land owned by Sacramento City Unified School District. **Figure 2-2** shows a photo aerial of the Project site.

Existing Surrounding Land Uses

The Project site is surrounded by low density residential development. A Sacramento Municipal Utilities District substation (Havenside Canal Substation) is located immediately adjacent to the southeast corner of the Project site. The Havenside Canal abuts the eastern boundary of the site.

Regulatory Setting

California Code of Regulations

Title 5, Section 14010 of the California Code of Regulations includes standards for K-12 school construction so that a project will not create any new significant safety hazards or exacerbate existing safety hazards to students. These include: 1) power lines/electromagnetic fields; 2) within 1,500 feet of railroad right-of-way; 3) traffic noise; 4) active fault or fault trace; 5) flood or inundation area; 6) near an above ground water or fuel storage tank or within 1,500 feet of a pipeline, which can pose a safety hazard; 7) liquefaction/landslides; 8) traffic/pedestrian safety; 9) compatible existing and proposed surrounding land uses; 10) exposure to adverse light, wind and air pollution; 11) easements restricting access or building placement; and 12) within 2,000 feet of a significant disposal of hazardous waste.

Sacramento General Plan and Zoning

Current General Plan

The *City of Sacramento General Plan* (City of Sacramento 1988) identifies several goals and policies pertaining to residential and public facility land uses applicable to the proposed Project. These goals and policies are presented below.

Residential Land Use

Goal A: Maintain and improve the quality and character of residential neighborhoods in the City.

Public Facility Land Use

Goals and Policies for Schools – Goal A: Continue to assist school districts in providing quality education facilities that will accommodate projected student enrollment growth.

Goals and Policies for Library Service – Goal A: Provide adequate library facilities to contribute to the community cultural, academic, and recreational activities.

Goals and Policies for Parks and Recreation Services – Goal A: Provide adequate parks and recreational services in all parts of the City, adapted to the needs and desires of each neighborhood and community. Attempt to achieve the park acreage standards established in the Parks and Recreation Master Plan.

2030 General Plan

The City is currently updating their General Plan. The proposed *City of Sacramento 2030 General Plan* (City of Sacramento 2007) includes policies pertaining to land use. Applicable policies are presented below.

Public/Quasi-Public (LU 8)

Goal

LU 8.1 Public/Quasi-Public. Provide governmental services, institutional, educational, cultural, and social, facilities that are located and designed to complement Sacramento's neighborhoods, centers, and corridors.

Policies

LU 8.1.1 Public Places. The City shall create vibrant public places in Sacramento's neighborhoods, centers, and corridors that serve as gathering places.

LU 8.1.2 Adequate Community Supporting Uses. The City shall seek to ensure that schools, government administrative and operational facilities, fire stations and police facilities, religious facilities, schools, cultural facilities, museums, interpretive centers and hospitals are located throughout the city to provide places that serve the varied needs of the community, provide for community meeting places, and provide community and neighborhood landmark buildings and places.

LU 8.1.8 Co-location of Community Facilities. The City shall promote the co-location of parks, schools, police and fire facilities, health services, and other community facilities to support community interaction, enhance neighborhood identify, and leverage limited resources.

Zoning

The Project site is zoned R-1 Standard Single-Family. Public facilities such as libraries, schools and parks are permitted land uses.

IMPACTS AND MITIGATION MEASURES

Standards of Significance

For purposes of this EIR, land use and planning impacts are considered significant if the Project would:

- Conflict with Title 5, Section 14010 of the California Code of Regulations (high school site only).
- Conflict with applicable goals and policies of the 1988 City of Sacramento General Plan or proposed Draft 2030 General Plan (library and joint-use park sites only).

- Conflict with the R-1 Standard Single-Family Detached zoning classification for the Project site (library and joint-use park sites only).

Impact Overview

The Project would not result in land use conflicts with adjacent and nearby residential development. Project development would be consistent with applicable adopted General Plan policies as well as proposed policies identified in the draft 2030 General Plan. The high school site would meet the standards outlined in Title 5, Section 14010 of the California Code of Regulations.

Less-than Significant Impacts

Change in Land Use

The Project would intensify land use activity at the site. The school and library are designed to minimize conflicts with nearby residences. The main vehicular access is on Gloria Drive. The school-drop off zone would be located on-site and would provide good circulation and reduce the possibility of queuing onto Gloria Drive.

Compliance with California Code of Regulations, Title 5, Section 14010

The Project would be in compliance with Title 5, Section 14010 of the California Code of Regulations. See Section 3.8 Hazards and Hazardous Materials for a discussion of Project compliance with these standards.

Consistency with General Plan Goals and Policies and Project Site Zoning

The Project would be consistent with Residential Land Use Goal A of the current General Plan. It would provide a vibrant community center that will conveniently serve neighborhood residents at what is now an underutilized site.

The Project would be consistent with Public Facility Land Use Goals (Goal A) for schools, library services and parks and recreation services. The City and District are working cooperatively to provide quality education facilities, adequate library facilities and parks and recreational services for the Greenhaven and Pocket neighborhoods.

The Project would be consistent with Goal 8.1 and Policies 8.1.1, 8.1.2 and 8.1.8 of the draft 2030 General Plan by providing educational and recreational facilities to serve the Greenhaven and Pocket neighborhoods.

The proposed Project would be a permitted use under the R-1 Standard Single-Family zoning classification.

Potentially Significant Impacts and Mitigation Measures

The Project would not result in significant land use impacts. No mitigation measures are required.

3.3 TRAFFIC AND CIRCULATION

INTRODUCTION

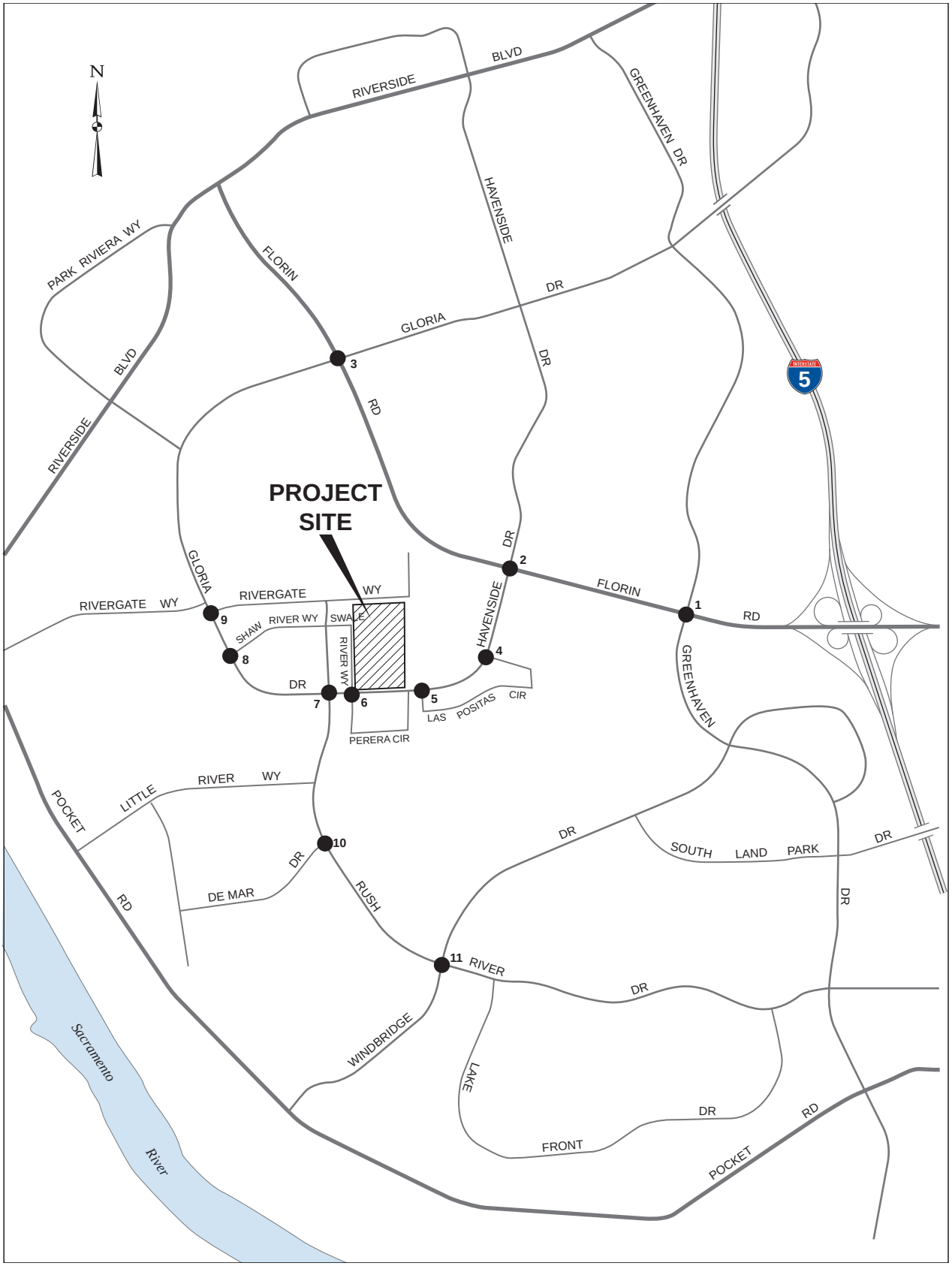
The purpose of this section is to evaluate the potential traffic impacts associated with the proposed Project on the surrounding roadway network. This section also evaluates the potential on-site and off-site transportation impacts associated with the Project and provides an assessment of on-site circulation, access and parking. As shown in **Figure 3.3-1**, the traffic analysis focuses on the following eleven study intersections:

1. Greenhaven Drive / Florin Road (signal controlled);
2. Havenside Drive / Florin Road (signal controlled);
3. Florin Road / Gloria Drive (signal controlled);
4. Havenside Drive / Las Positas Circle (east) (one-way stop controlled);
5. Havenside Drive / Las Positas Circle (west) (one-way stop controlled);
6. Swale River Way / Gloria Drive (one-way stop controlled);
7. Rush River Drive / Gloria Drive (all-way stop controlled);
8. Gloria Drive / Shaw River Way (one-way stop controlled);
9. Gloria Drive / Rivergate Way (two-way stop controlled);
10. Rush River Drive / De Mar Drive (one-way stop controlled); and
11. Windbridge Drive / Rush River Drive (roundabout).

In addition, seven-day twenty-four hour pneumatic tube counts were conducted on Swale River Way north of Gloria Drive, and on Shaw River Way east of Gloria Drive. An analysis of the project's effects on these two roadway segments was also undertaken.

The traffic analysis was conducted following the City of Sacramento's *Traffic Impact Analysis Guidelines* (rev. July 19, 2002), and using the Sacramento Council of Governments' (SACOG) SACMET travel demand forecasting model. Traffic impacts were evaluated using LOS calculations for the AM (7AM-9AM) peak hour. Evaluations were conducted for the following four scenarios:

- Existing Conditions;
- Existing plus Project Conditions;
- 2025 Cumulative Conditions; and
- 2025 Cumulative plus Project Conditions.



Source: DMJM Harris

Figure 3.3-1
Project Study Intersections

SETTING

Roadway Network

Local access to the Project site is provided primarily via Gloria Drive and Swale River Way.

Greenhaven Drive

Greenhaven Drive is a north-south arterial stretching from Riverside Boulevard in the north to Grand River Drive in the south. In the vicinity of the Project site, Greenhaven Drive generally has two lanes of traffic in each direction, with additional left turn pockets provided at some intersections. The right shoulder is occupied by marked bike lanes. On-street parking is not permitted.

Florin Road

Florin Road is a major east-west arterial stretching from Riverside Boulevard in the west to Sunrise Boulevard in Elk Grove in the east. In the vicinity of the Project site, Florin Road generally has two lanes of traffic, with additional left turn pockets provided at some intersections. The right shoulder is occupied by marked bike lanes. On-street parking is not permitted. Florin Road provides the primary access between the Project vicinity and Interstate 5 (I-5).

Havenside Drive

Havenside Drive is a north-south local roadway stretching from Riverside Boulevard in the north to Pocket Canal in the south, where it becomes Gloria Drive. In the vicinity of the Project site, Havenside Drive has one lane of traffic in each direction, with a center left-turn lane and marked bike lanes in both directions. On-street parking is permitted.

Gloria Drive

Gloria Drive is a north-south local roadway stretching from 34th Avenue in the north to Pocket Canal in the south, where it becomes Havenside Drive. In the vicinity of the Project site, Gloria Drive has one lane of traffic in each direction, with a center left-turn lane and marked bike lanes in both directions. On-street parking is permitted. Gloria Drive would provide the main access to the parking for school staff, school/library visitors, and students.

Las Positas Circle

Las Positas Circle is a short east-west local roadway which connects with Havenside Drive at both ends. It has one lane of traffic in each direction. On-street parking is permitted.

Swale River Way

Swale River Way is a short north-south local roadway between Rush River Drive and Gloria Drive. At Rush River Drive, it becomes Shaw River Way, and at Gloria Drive, it becomes Perera Circle. It consists of one lane in each direction, with on-street parking permitted. Swale River Way would provide access to the library staff parking lot located on the west side of the Project site.

Rush River Drive

Rush River Drive is a local roadway stretching from Swale River Way to Greenhaven Drive, where it becomes Alder Tree Way. In the vicinity of the Project site, it has one lane of traffic in each direction, with a center left-turn lane and marked bike lanes in both directions south of Gloria Drive. On-street parking is permitted.

Shaw River Way

Shaw River Way is a short east-west local roadway between Rush River Drive and Gloria Drive. At Rush River Drive, it becomes Shale River Way. It consists of one lane in each direction, with on-street parking permitted.

Rivergate Way

Rivergate Way is an east-west local roadway between Pocket Canal in the east and Pocket Road in the west. It consists of one lane in each direction, with on-street parking permitted.

De Mar Drive

De Mar Drive is a short east-west local roadway between Rush River Drive in the east and Salton Sea Way in the west. It consists of one lane in each direction, with on-street parking permitted.

Windbridge Drive

Windbridge Drive is a major arterial stretching between Pocket Road in the southwest and Greenhaven Drive in the northeast. It generally has one lane in each direction, with a center left-turn lane and marked bike lanes in both directions. The intersection of Windbridge Drive and Rush River Drive is controlled by a roundabout.

Public Transit

Public transit in the Project area is operated by Sacramento Regional Transit District (RT). There are two relevant routes that pass in the vicinity of the Project:

The 2 Riverside runs between the Pocket Transit Center at the intersection of Windbridge Drive / Rush River Drive and Downtown Sacramento via Rush River Drive, Riverside Boulevard, and 7th/8th Streets. The closest stop is at Rush River Drive / Gloria Drive.

The 248 Meadowview Road / Rush River Drive is a school tripper that operates one run from Meadowview Road / 24th Street to Florin Road / Gloria Drive in the morning and one run in the opposite direction in the afternoon. The closest stop is at Rush River Drive / Gloria Drive.

Additional transit service is provided along Florin Road (10-15 minute walk from the project site) and at the Pocket Transit Center at Windbridge Drive / Rush River Drive (20-25 minute walk from the Project site), which is a major transfer point for RT lines traveling along Pocket Road. Public transit service in the vicinity of the Project is shown in **Figure 3.3-2**.

Data Collection

Existing turning movement counts and pneumatic tube counts were collected at each of the study intersections during the fall of 2007. This period was selected to coincide with peak traffic generation of the proposed Project's land uses. The geometry of study intersections and roadway segments were also recorded to ensure that the operations analysis accurately reflects the Existing conditions. **Appendix C** presents traffic data for the proposed Project.

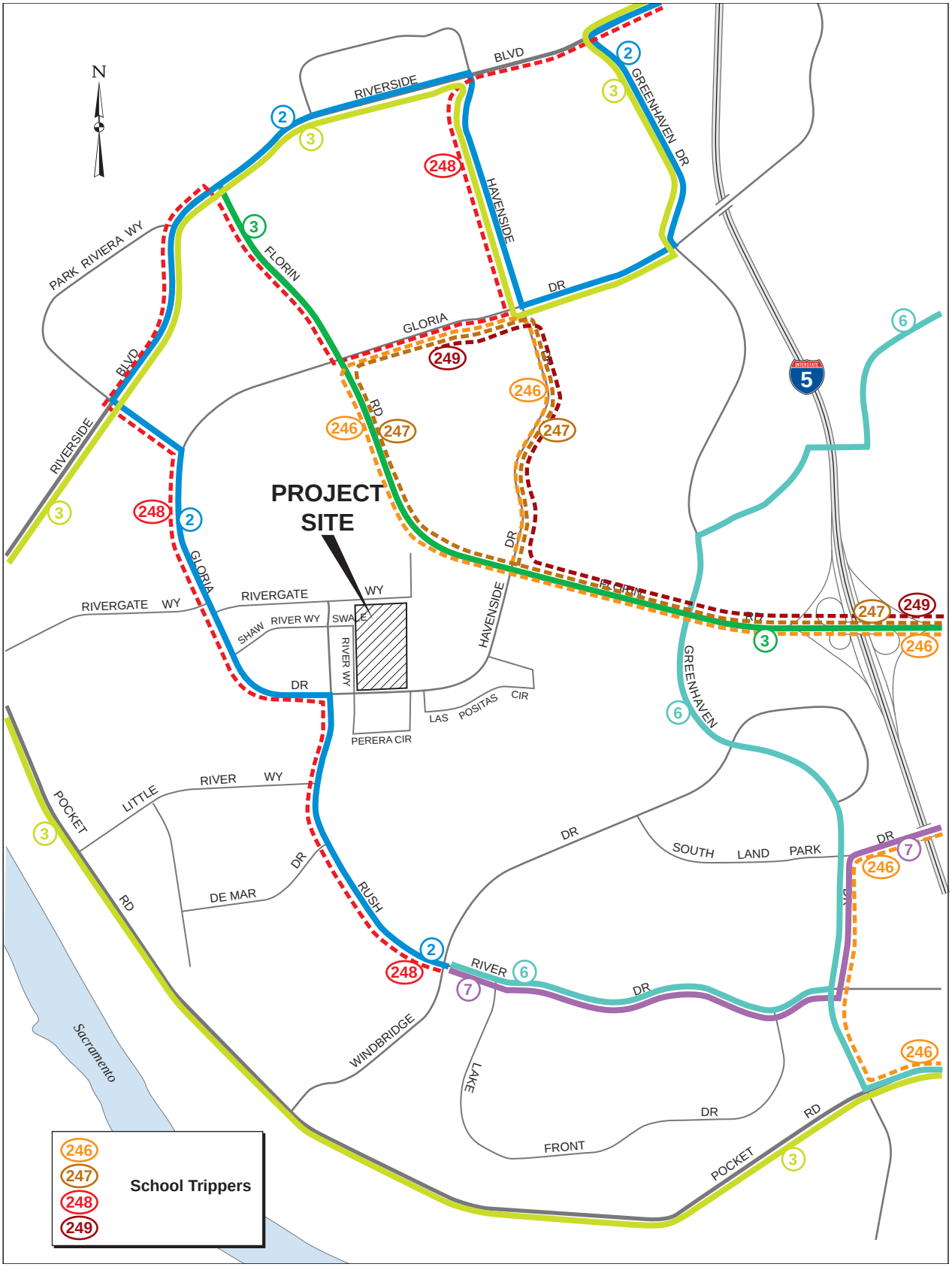
Analysis Methodology

The traffic analysis was conducted in accordance with the guidelines established by the City of Sacramento. The Project's traffic impacts were evaluated using intersection and roadway segment level of service (LOS) calculations. The LOS methodology is a qualitative description of an intersection's performance based on the average delay per vehicle.

The operating conditions at the study intersections were evaluated using the *2000 Highway Capacity Manual* (HCM) methodology, as required by the City of Sacramento. For signalized and all-way stop intersections, delay is presented in terms of average control delay for all movements. For side-street stop-controlled intersections, delay is presented for the worst case stop-controlled approach.

Level of service definitions for signalized and unsignalized intersections are summarized in **Table 3.3-1**.

The need for a traffic signal at an unsignalized intersection is determined not only by review of the service level, but also through a system of warrants that incorporate peak hour and daily traffic volumes, pedestrian crossing volumes, accident rates, school crossing needs, and other operational issues. The *Manual for Uniform Traffic Control Devices (MUTCD*), 2003 Edition and the *MUTCD California Supplement* provides a description of the 11 standard signal warrants. For this study, the peak hour delay warrant (Warrant 3A) and the peak hour volume warrant (Warrant 3B) were checked to determine if



Source: DMJM Harris

Figure 3.3-2
Existing Transit Network

TABLE 3.3-1: LEVEL OF SERVICE METHODOLOGY

LOS	Description	Signalized Intersections (seconds/vehicle)	Unsignalized Intersections (seconds/vehicle)
A	Little or no delay	≤10.0	≤10.0
B	Short traffic delay	>10.0 and ≤20.0	>10.0 and ≤15.0
C	Average traffic delay	>20.0 and ≤35.0	>15.0 and ≤25.0
D	Long traffic delay	>35.0 and ≤55.0	>25.0 and ≤35.0
E	Very long traffic delay	>55.0 and ≤80.0	>35.0 and ≤50.0
F	Extreme traffic delay	>80.0	>50.0

Source: *Highway Capacity Manual*, Transportation Research Board, 2000.

signalization is warranted to serve peak hour traffic volumes at unsignalized study intersections. The peak hour volume warrant compares the combination of major and minor street volumes to a threshold determined to be indicative of the need for a traffic signal. The signal warrants contained in the MUTCD are based on actual traffic counts, while the Project analysis is limited to future forecasts. Therefore, the study provides a basis to determine if an intersection has the potential to be signalized if projected volumes are comparable to future actual counts.

The analysis of roundabout intersections is based on the Federal Highway Administration (FHWA) methodology presented in *Roundabouts: An Informational Guide*. The FHWA methodology calculates an average delay value, which is then assigned a level of service based on the methodology presented in **Table 3.3-1**.

Level of service definitions for roadway segments with free-flow speeds of 25 miles per hour (such as the two roadway segments studied in this report) are not provided in the *2000 Highway Capacity Manual*. As such, the Project impacts on roadway segments are considered significant if they would cause the volume on a given segment to exceed capacity. This corresponds to a volume-to-capacity ratio greater than 1.0.

Existing Conditions

Intersection Operations

The operation of each intersection was analyzed using the existing intersection volumes and configurations. These results are summarized in **Table 3.3-2**. The volume-to-capacity (V/C) ratio is provided for all intersections as a point of information. As presented in **Table 3.3-2**, the Greenhaven Drive / Florin Road intersection currently operates at LOS D. All other study intersections operate at LOS C or better.

TABLE 3.3-2: INTERSECTION LOS SUMMARY – EXISTING CONDITIONS

#	Intersection	Traffic Control[1]	Peak Hour	Existing Conditions		
				LOS	Delay[2]	V/C[3]
1	Greenhaven Drive/ Florin Road	Signal	AM	D	36.7	0.833
			PM	C	32.6	0.681
2	Havenside Drive/ Florin Road	Signal	AM	C	24.7	0.524
			PM	C	23.5	0.499
3	Florin Road/ Gloria Drive	Signal	AM	C	31.0	0.410
			PM	C	28.7	0.227
4	Havenside Drive/ Las Positas Circle (east)	OWSC	AM	B	11.4	0.050
			PM	A	9.3	0.020
5	Havenside Drive/ Las Positas Circle (west)	OWSC	AM	B	12.3	0.020
			PM	B	12.3	0.020
6	Swale River Way/ Gloria Drive	OWSC	AM	B	13.8	0.030
			PM	B	14.1	0.020
7	Rush River Drive/ Gloria Drive	AWSC	AM	B	11.3	0.461
			PM	B	11.3	0.402
8	Gloria Drive/ Shaw River Way	OWSC	AM	A	9.6	0.030
			PM	B	10.4	0.010
9	Gloria Drive/ Rivergate Way	TWSC	AM	B	11.7	0.100
			PM	B	10.8	0.030
10	Rush River Drive/ De Mar Drive	OWSC	AM	B	11.8	0.070
			PM	B	11.8	0.060
11	Windbridge Drive/ Rush River Drive	Roundabout	AM	A	4.6	----
			PM	A	5.2	----

1 OWSC = One Way Stop Control, TWSC = Two Way Stop Control, AWSC = All Way Stop Control.
2 Delay measured in seconds per vehicle.
3 V/C = Volume-to-Capacity ratio.

Source: DMJM Harris, 2007.

Roadway Segment Operations

Two roadway segments in the vicinity of the Project were selected for evaluation:

- Shaw River Way east of Gloria Drive; and,
- Swale River Way north of Gloria Drive.

Twenty four-hour pneumatic tube counts were taken during a seven-day period from October 23, 2007 to October 29, 2007. Using these counts, the weekday AM and PM peak hour traffic level was determined and the volume-to-capacity (V/C) ratio was calculated for Existing Conditions. These results are summarized in **Table 3.3-3**.

As shown in **Table 3.3-3**, all study roadway segments are operating well below capacity in Existing Conditions. Vehicles on these roadways can travel at free-flow speed.

TABLE 3.3-3: ROADWAY SEGMENT SUMMARY – EXISTING CONDITIONS

Roadway Segment	Peak Hour	Direction	Existing Conditions	
			Volume	V/C[1]
Shaw River Way east of Gloria Drive	AM	EB	9	0.010
		WB	28	0.031
	PM	EB	15	0.017
		WB	13	0.014
Swale River Way north of Gloria Drive	AM	EB	1	0.001
		WB	12	0.013
	PM	EB	17	0.019
		WB	16	0.018

[1] V/C = Volume-to-Capacity ratio.

Source: DMJM Harris, 2007.

IMPACTS AND MITIGATION MEASURES

Standards of Significance

The City of Sacramento's *Traffic Impact Analysis Guidelines* (rev. July 19, 2002) describe the following Standards of Significance in the assessment of transportation-related impacts due to the proposed Project:

Roadways:

- An impact is considered significant for roadways when the Project causes the facility to degrade from LOS C or better to LOS D or worse.
- For facilities that are already worse than LOS C without the Project, an impact is also considered significant if the Project increases the V/C ratio by 0.02 or more on a roadway.

Signalized and unsignalized intersections:

- An impact to the intersections is considered significant if the Project causes the LOS of the intersections to degrade from LOS C or better to LOS D or worse.

- For intersections that are already operating at LOS D, E, or F without the Project, an impact is significant if the implementation of the Project increases the average delay by five seconds or more at an intersection.

Transit facilities:

An impact is considered significant if the implementation of the Project will cause one or more of the following:

- The Project-generated ridership, when added to the existing or future ridership, exceeds existing and/or planned system capacity. Capacity is defined as the total number of passengers the system of buses and light rail vehicles can carry during the peak hours of operation.
- Adversely affect the transit system operations or facilities in a way that discourages ridership (e.g. removes shelter, reduces park and ride).

Bicycle facilities:

An impact is considered significant if the implementation of the Project will cause one or more of the following:

- Eliminate or adversely affect an existing bikeway facility in a way that discourages the bikeway use;
- Interfere with the implementation of a proposed bikeway;
- Result in unsafe conditions for bicyclists, including unsafe bicycle/pedestrian or bicycle/motor vehicle conflicts.

Pedestrian facilities:

An impact is considered significant if the Project will adversely affect the existing pedestrian facility or will result in unsafe conditions for pedestrians, including unsafe pedestrian/bicycle or pedestrian/motor vehicle conflicts.

Parking facilities:

A significant impact to parking would occur if the anticipated parking demand of the Project exceeds the available or planned parking supply for typical day conditions. However, the impact would not be significant if the Project is consistent with the parking requirements stipulated in the City Code.

Impact Overview

The proposed Project would not contribute to significant impacts at any of the study intersections or along any of the study roadway segments in Existing or Cumulative scenarios. Temporary construction traffic impacts are considered potentially significant, however, the recommended mitigation measures would reduce potentially significant impacts to a less-than-significant level.

Less-than-Significant Impacts

Trip Generation

The number of new vehicle trips that would be generated by the proposed Project was estimated through a trip generation analysis. Trip generation rates and inbound/ outbound splits were taken from the Institute of Transportation Engineers (ITE)'s, *Trip*

Generation Manual, Seventh Edition, which compiles these trip characteristics based on the type of land use. The resulting trip generation for the proposed Project is summarized in **Table 3.3-4**. As shown, the proposed Project would generate approximately 222 vehicle trips in the AM peak hour and 177 vehicle trips in the PM peak hour.

TABLE 3.3-4: PROJECT TRIP GENERATION SUMMARY

Land Use/Size	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
High School[1]/500 Students	855	141	64	205	33	37	70
Library[2]/15,000 Square Feet	810	12	4	16	51	55	106
Park[3]/7 Acres	19	1	0	1	0	1	1
Total	**1,684**	**154**	**68**	**222**	**84**	**93**	**177**

[1] High School (Land Use 530).
[2] Library (Land Use 590).
[3] County Park (Land Use 412). County Park land use was chosen in lieu of City Park land use due to insufficient survey data.

Source: *ITE Trip Generation Manual*, *Seventh Edition*; DMJM Harris, 2007.

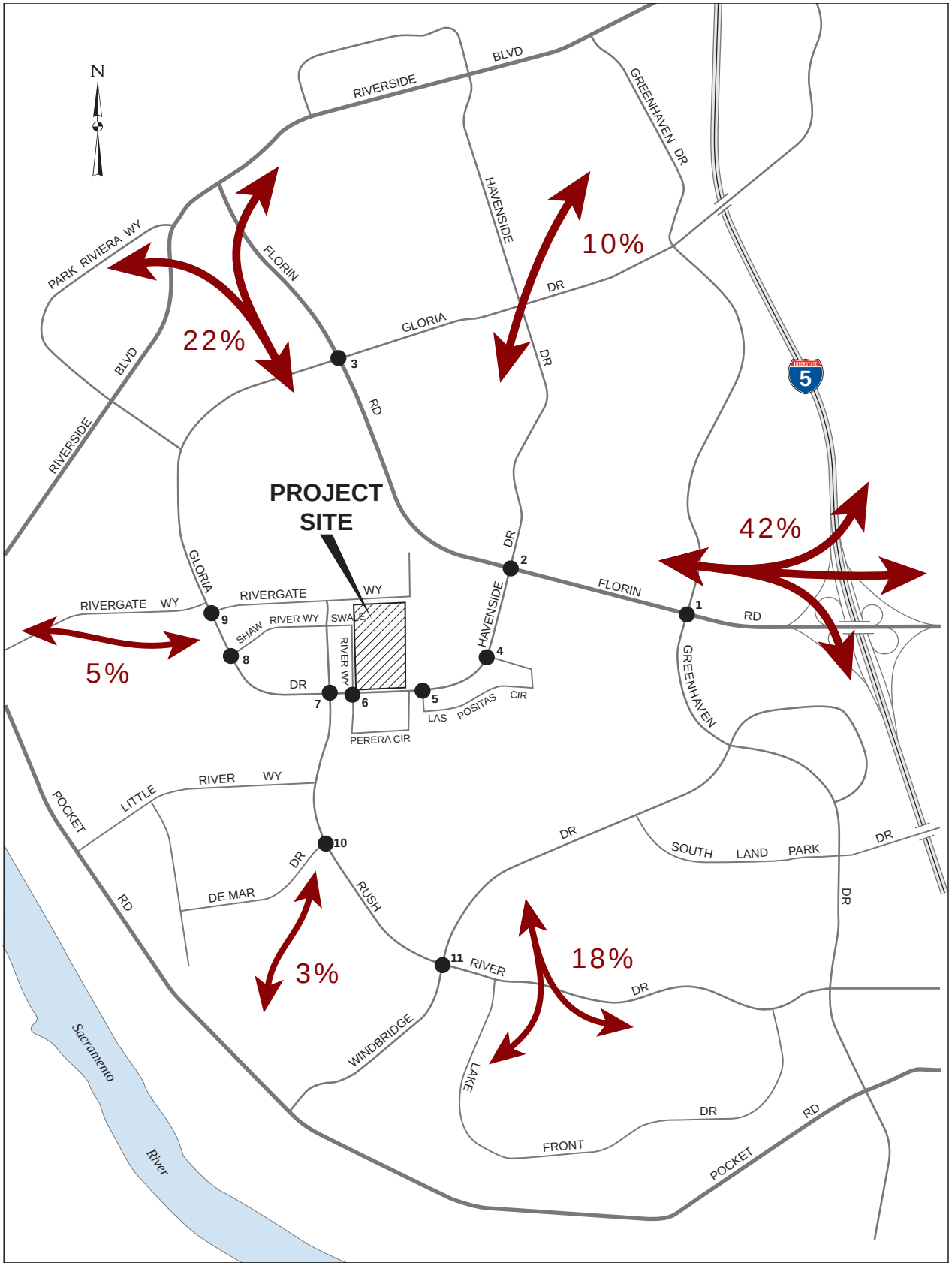
Trip Distribution

To assess the effects Project trips on the study intersections, the trips generated by the proposed Project are distributed to and from the Project site. The distribution of Project traffic was determined using a select link analysis from the latest available SACMET Travel Demand Model, and an analysis of existing travel patterns. The Project trip distribution patterns are presented in **Figure 3.3-3**.

Existing plus Project Conditions

Intersection Operations. The traffic generated by the proposed Project was subsequently added to the Existing roadway network to derive Existing plus Project Conditions. Existing plus Project Conditions level of service for each study intersection are shown in **Table 3.3-5**.

As shown in **Table 3.3-5**, the Greenhaven Drive / Florin Road intersection would continue to operate at LOS D during the AM peak hour with the addition of Project generated traffic. However, average delay would increase by less than five seconds at this intersection. Thus, the Project would not create a significant impact. All other study intersections would continue to operate at LOS C or better with the addition of Project generated traffic.



Source: DMJM Harris

Figure 3.3-3
Project Trip Distribution

TABLE 3.3-5: INTERSECTION LOS SUMMARY – EXISTING PLUS PROJECT CONDITIONS

#	Intersection	Peak Hour	Existing Conditions			Existing plus Project Conditions		
			LOS	Delay[1]	V/C[2]	LOS	Delay[1]	V/C[2]
1	Greenhaven Drive/ Florin Road	AM	D	36.7	0.833	D	37.0	0.837
		PM	C	32.6	0.681	C	33.1	0.686
2	Havenside Drive/ Florin Road	AM	C	24.7	0.524	C	26.2	0.603
		PM	C	23.5	0.499	C	24.9	0.561
3	Florin Road/ Gloria Drive	AM	C	31.0	0.410	C	31.1	0.419
		PM	C	28.7	0.227	C	28.9	0.231
4	Havenside Drive/ Las Positas Cir. (east)	AM	B	11.4	0.050	B	11.8	0.050
		PM	A	9.3	0.020	A	9.7	0.020
5	Havenside Drive/ Las Positas Cir. (west)	AM	B	12.3	0.020	B	13.4	0.020
		PM	B	12.3	0.020	B	13.6	0.020
6	Swale River Way/ Gloria Drive	AM	B	13.8	0.030	B	14.9	0.050
		PM	B	14.1	0.020	C	15.2	0.050
7	Rush River Drive/ Gloria Drive	AM	B	11.3	0.461	B	12.3	0.530
		PM	B	11.3	0.402	B	11.9	0.447
8	Gloria Drive/ Shaw River Way	AM	A	9.6	0.030	A	9.8	0.030
		PM	B	10.4	0.010	B	10.7	0.010
9	Gloria Drive/ Rivergate Way	AM	B	11.7	0.100	B	12.0	0.100
		PM	B	10.8	0.030	B	10.9	0.020
10	Rush River Drive/ De Mar Drive	AM	B	11.8	0.070	B	12.4	0.090
		PM	B	11.8	0.060	B	12.5	0.060
11	Windbridge Drive/ Rush River Drive	AM	A	4.6	----	A	4.7	----
		PM	A	5.2	----	A	5.3	----

[1] Delay measured in seconds per vehicle.
[2] V/C = Volume-to-Capacity ratio.
Source: DMJM Harris, 2007.

Roadway Segment Operations. The Project trips were added to the Existing traffic volumes on the study roadway segments and the V/C ratios recalculated for Existing plus Project Conditions. These results are summarized in **Table 3.3-6**.

As shown in **Table 3.3-6**, even with the addition of Project trips, traffic on the study segments operates well below the roadway capacity. Vehicles on these roadways can

TABLE 3.3-6: ROADWAY SEGMENT SUMMARY – EXISTING PLUS PROJECT CONDITIONS

Roadway Segment	Peak Hour	Direction	Existing Conditions		Existing plus Project Conditions	
			Volume	V/C[1]	Volume	V/C[1]
Shaw River Way east of Gloria Drive	AM	EB	9	0.010	10	0.011
		WB	28	0.031	29	0.032
	PM	EB	15	0.017	16	0.018
		WB	13	0.014	14	0.016
Swale River Way north of Gloria Drive	AM	EB	1	0.001	15	0.017
		WB	12	0.013	30	0.033
	PM	EB	17	0.019	24	0.027
		WB	16	0.018	25	0.028

[1] V/C = Volume-to-Capacity ratio.

Source: DMJM Harris, 2007.

travel at free-flow speed. Therefore, the Project is not expected to cause a significant impact on roadway segment operations.

Cumulative Conditions

Cumulative Conditions traffic volumes were forecasted using the most recent version of the SACMET travel demand model. Using the SACMET travel demand model, traffic growth expected in Sacramento due to land use changes and shifts in travel behavior due to the implementation of planned transportation improvements can be quantified.

Intersection Operations. Non-compounded growth rates were calculated and applied to Existing traffic volumes to derive Cumulative traffic volumes. A comparison of Existing and Cumulative Conditions levels of service at each study intersection is provided in **Table 3.3-7**. As shown, intersections along Florin Road would experience an increase in average delay due to increased volume levels. At the other study intersections, however, average delay remains the same as no land use changes or traffic growth are anticipated.

Roadway Segment Operations. Operations on the study roadway segments in Cumulative Conditions are summarized in **Table 3.3-8**. No cumulative growth in traffic is expected on the study segments, and therefore the volume to capacity ratio in Cumulative Conditions is identical to that in Existing Conditions. All study segments operate well below capacity and vehicles on these roadways can travel at free-flow speed.

TABLE 3.3-7: INTERSECTION LOS SUMMARY – CUMULATIVE CONDITIONS

#	Intersection	Peak Hour	Existing Conditions			Cumulative Conditions		
			LOS	Delay[1]	V/C[2]	LOS	Delay[1]	V/C[2]
1	Greenhaven Drive/ Florin Road	AM	D	36.7	0.833	D	44.1	0.939
		PM	C	32.6	0.681	C	34.9	0.768
2	Havenside Drive/ Florin Road	AM	C	24.7	0.524	C	25.8	0.591
		PM	C	23.5	0.499	C	24.3	0.563
3	Florin Road/ Gloria Drive	AM	C	31.0	0.410	C	31.4	0.463
		PM	C	28.7	0.227	C	28.9	0.256
4	Havenside Drive/ Las Positas Cir. (east)	AM	B	11.4	0.050	B	11.4	0.050
		PM	A	9.3	0.020	A	9.3	0.020
5	Havenside Drive/ Las Positas Cir. (west)	AM	B	12.3	0.020	B	12.3	0.020
		PM	B	12.3	0.020	B	12.3	0.020
6	Swale River Way/ Gloria Drive	AM	B	13.8	0.030	B	13.8	0.030
		PM	B	14.1	0.020	B	14.1	0.020
7	Rush River Drive/ Gloria Drive	AM	B	11.3	0.461	B	11.3	0.461
		PM	B	11.3	0.402	B	11.3	0.402
8	Gloria Drive/ Shaw River Way	AM	A	9.6	0.030	A	9.6	0.030
		PM	B	10.4	0.010	B	10.4	0.010
9	Gloria Drive/ Rivergate Way	AM	B	11.7	0.100	B	11.7	0.100
		PM	B	10.8	0.030	B	10.8	0.030
10	Rush River Drive/ De Mar Drive	AM	B	11.8	0.070	B	11.8	0.070
		PM	B	11.8	0.060	B	11.8	0.060
11	Windbridge Drive/ Rush River Drive	AM	A	4.6	----	A	4.6	----
		PM	A	5.2	----	A	5.2	----

[1] Delay measured in seconds per vehicle.
[2] V/C = Volume-to-Capacity ratio.

Source: DMJM Harris, 2007.

Cumulative plus Project Conditions

Intersection Operations. Project-related traffic was overlaid on top of the Cumulative traffic volumes to obtain Cumulative plus Project Conditions traffic volumes. The resulting levels of service are summarized in **Table 3.3-9**.

TABLE 3.3-8: ROADWAY SEGMENT SUMMARY – CUMULATIVE CONDITIONS

Roadway Segment	Peak Hour	Direction	Existing Conditions		Cumulative Conditions	
			Volume	V/C[1]	Volume	V/C[1]
Shaw River Way east of Gloria Drive	AM	EB	9	0.010	9	0.010
		WB	28	0.031	28	0.031
	PM	EB	15	0.017	15	0.017
		WB	13	0.014	13	0.014
Swale River Way north of Gloria Drive	AM	EB	1	0.001	1	0.001
		WB	12	0.013	12	0.013
	PM	EB	17	0.019	17	0.019
		WB	16	0.018	16	0.018

[1] V/C = Volume-to-Capacity ratio.

Source: DMJM Harris, 2007.

As shown in **Table 3.3-9,** the Greenhaven Drive / Florin Road intersection would continue to operate at LOS D in the AM peak hour with the addition of Project generated traffic. However, average delay would increase by less than five seconds at this intersection. Thus, the Project would not create a significant impact at this intersection in the AM peak hour.

In the PM peak hour, the addition of Project generated traffic to the Greenhaven Drive/Florin Road intersection causes the level of service to degrade from LOS C to LOS D. However, since the increase in average delay is below five seconds, the Project would not create a significant impact.

All other study intersections would continue to operate at LOS C or better with the addition of Project generated traffic.

Roadway Segment Operations. The Project trips were added to the Cumulative traffic volumes on the study roadway segments and the V/C ratios recalculated for Cumulative plus Project Conditions. These results are summarized in **Table 3.3-10**. Since there is no expected cumulative traffic growth on these roadway segments, the results are identical to those in **Table 3.3-6**. All study segments operate well below capacity and vehicles on these roadways can travel at free-flow speed.

TABLE 3.3-9: INTERSECTION LOS SUMMARY – CUMULATIVE PLUS PROJECT CONDITIONS

#	Intersection	Peak Hour	Cumulative Conditions			Cumulative plus Project Conditions		
			LOS	Delay[1]	V/C[2]	LOS	Delay[1]	V/C[2]
1	Greenhaven Drive/ Florin Road	AM	D	44.1	0.939	D	44.6	0.944
		PM	C	34.9	0.768	D	35.4	0.774
2	Havenside Drive/ Florin Road	AM	C	25.8	0.591	C	27.4	0.670
		PM	C	24.3	0.563	C	25.8	0.624
3	Florin Road/ Gloria Drive	AM	C	31.4	0.463	C	31.5	0.471
		PM	C	28.9	0.256	C	29.1	0.260
4	Havenside Drive/ Las Positas Cir. (east)	AM	B	11.4	0.050	B	11.8	0.050
		PM	A	9.3	0.020	A	9.7	0.020
5	Havenside Drive/ Las Positas Cir. (west)	AM	B	12.3	0.020	B	13.4	0.020
		PM	B	12.3	0.020	B	13.6	0.020
6	Swale River Way/ Gloria Drive	AM	B	13.8	0.030	B	14.9	0.050
		PM	B	14.1	0.020	C	15.2	0.050
7	Rush River Drive/ Gloria Drive	AM	B	11.3	0.461	B	12.3	0.530
		PM	B	11.3	0.402	B	11.9	0.447
8	Gloria Drive/ Shaw River Way	AM	A	9.6	0.030	A	9.8	0.030
		PM	B	10.4	0.010	B	10.7	0.010
9	Gloria Drive/ Rivergate Way	AM	B	11.7	0.100	B	12.0	0.100
		PM	B	10.8	0.030	B	10.9	0.040
10	Rush River Drive/ De Mar Drive	AM	B	11.8	0.070	B	12.4	0.090
		PM	B	11.8	0.060	B	12.5	0.060
11	Windbridge Drive/ Rush River Drive	AM	A	4.6	----	A	4.7	----
		PM	A	5.2	----	A	5.3	----

[1] Delay measured in seconds per vehicle.
[2] V/C = Volume-to-Capacity ratio.

Source: DMJM Harris, 2007.

Parking

The Project parking demand was estimated using the ITE's *Parking Generation, Third Edition*, which gives average parking demand rates for given land uses. The estimated parking demand is summarized in **Table 3.3-11**.

TABLE 3.3-10: ROADWAY SEGMENT SUMMARY – CUMULATIVE PLUS PROJECT CONDITIONS

Roadway Segment	Peak Hour	Direction	Cumulative Conditions		Cumulative plus Project Conditions	
			Volume	V/C[1]	Volume	V/C[1]
Shaw River Way east of Gloria Drive	AM	EB	9	0.010	10	0.011
		WB	28	0.031	29	0.032
	PM	EB	15	0.017	16	0.018
		WB	13	0.014	14	0.016
Swale River Way north of Gloria Drive	AM	EB	1	0.001	15	0.017
		WB	12	0.013	30	0.033
	PM	EB	17	0.019	24	0.027
		WB	16	0.018	25	0.028

[1] V/C = Volume-to-Capacity ratio.

Source: DMJM Harris, 2007.

TABLE 3.3-11: PARKING DEMAND SUMMARY

Land Use/Size	Rate	Parking Spaces
Weekday		
High School[1]/500 Students	0.26 Spaces per Student	130
Library[2]/15,000 Square Feet	2.61 Spaces per 1,000 Square Feet	39
Park[3]/8.2 Acres	----	----
Total		**169**
Weekend		
High School[1]/500 Students	----	----
Library[2]/15,000 Square Feet	2.25 Spaces per 1,000 Square Feet	34
Park[4]/8.2 Acres	5.1 Spaces per Acre	42
Total		**76**

[1] High School (Land Use 530).
[2] Library (Land Use 590). Weekend parking demand rate developed through a comparison of Weekday and Weekend Daily trip generation rates.
[3] No weekday parking demand available for City Park (Land Use 411).
[4] Weekend parking demand data for City Park (Land Use 411) based one site surveyed on a Saturday.

Source: *ITE Parking Generation*, *Third Edition*; DMJM Harris, 2007.

It should be noted that no weekday parking demand data was available for City Park (Land Use 411). However, since the school/city park would only be open to the public during after-school hours and weekends, the peak parking demand period for the park would not coincide with the peak parking demand period for ITE's High School land use (9:00 AM to 11:00 AM). The ITE gives the peak parking demand period for a Library land use as 3:00 PM to 4:00 PM.

Title 17, Division III, Chapter 17.64 of the Sacramento City Code does not provide specific parking requirements for the proposed Project's land uses. Rather, specific parking requirements are to be determined by the Planning Commission. It is noted the District is exempt from City parking requirements.

Table 3.3-12 summarizes the proposed Project's parking supply.

TABLE 3.3-12: PROPOSED PARKING SUPPLY

Facility	Spaces Proposed
High School / City Park	
Student / City Park[1]	98
School Staff / Visitor	31
Library	
Library Staff	16
Library Visitor	83
Total	**228**

[1] Student parking becomes city park visitor parking after school hours and on weekends).
Source: DMJM Harris, 2007.

The proposed high school parking approximately meets the ITE's estimated parking demand (129 proposed spaces vs. 130 estimated spaces). The proposed library and joint-use city park parking supply also meet the ITE's estimated parking demand.

Proposed Site Access

As shown in **Figure 2-3**, access to the Project site would be provided by one exit and one entrance driveway on Gloria Drive accessing the student/ park, school staff/visitor, and library visitor parking spaces. Access to the library staff parking spaces located on the west side of the Project site is via a driveway on Swale River Way.

The proposed pick-up and drop-off areas for the high school and library are located within the site. To access the school drop-off zone, vehicles must enter the east driveway and circle around the eastern portion of the lot, which provides for good

circulation within the lot and reduces the possibility of queuing extending past the driveway and into the street. The student/ park parking spaces are located in the portion of the lot farthest from the street, which should also help reduce possible queuing to exit the parking lot after dropping off or picking up students, while still allowing access to the library and school visitor spaces. Traffic attempting to access the main parking lot from eastbound Gloria Drive would not be able to do so from the existing center left-turn lane, allowing through traffic to pass without experiencing additional delay.

The two proposed exit driveways were analyzed to determine the level of service and average delay experienced by vehicles attempting to exit the two parking lots within the Project site. The results of this analysis are summarized in **Table 3.3-13**.

TABLE 3.3-13: DRIVEWAY OPERATIONS

Exit Driveway	Peak Hour	Existing plus Project Conditions		Cumulative plus Project Conditions	
		LOS	Delay[1]	LOS	Delay[1]
At Gloria Drive	AM	C	15.1	C	15.1
	PM	C	15.9	C	15.9
At Swale River Way	AM	A	9.2	A	9.2
	PM	A	9.2	A	9.2

[1] Delay measured in seconds per vehicle.
[2] V/C = Volume-to-Capacity ratio.
Source: DMJM Harris, 2007.

Overall, the Project driveway on Gloria Drive is expected to operate at LOS C with vehicles exiting the driveway experiencing an average of 15.1 seconds of delay. Spaced approximately 250 feet from the nearest intersection, queuing from adjacent intersections would not conflict with vehicles exiting the Project site on to Gloria Drive.

The driveway on Swale River Way is not expected to result in traffic issues because it only accesses the 16 library staff parking spaces.

The ultimate location and design of the three Project driveways shall be constructed to City of Sacramento standards and will be subject to review and approval by the City of Sacramento Development Engineering Division. Driveway permits are required and will also be subject to review and approval by the City of Sacramento Development Engineering Division.

Pedestrian and Bicycle Conditions

As mentioned in the Roadway Network section, bike lanes currently exist on Greenhaven Drive, Florin Road, Havenside Drive, Gloria Drive, Rush River Drive, and Windbridge Drive in the vicinity of the Project. Sidewalks are also provided on all streets in the vicinity of the Project, with the exception of a portion of Swale River Way fronting the Project site which is unpaved. Sidewalk will be installed on this segment of the street as part of the Project, and landscaping will be installed on all portions of the site fronting Gloria Drive and Swale River Way.

Gloria Drive is approximately 70 feet wide with three lanes of traffic and two bike lanes. Currently, there are no crosswalks marked at the intersection of Gloria Drive and Swale River Way. Considering that the proposed Project is expected to generate a moderate amount of new pedestrian trips in the area, the City may consider requiring marked crosswalks or new stop signs on the eastbound and westbound approaches at this intersection.

The Project does not propose any features which would otherwise be unsafe to pedestrian or bicycle travel, nor does it interfere with proposed bicycle or pedestrian improvements in the vicinity. Therefore, the Project is not expected to cause significant impacts to pedestrian and bicycle conditions in the area.

Transit Conditions

As mentioned, there are two routes that pass in the immediate vicinity of the Project that could potentially serve people attempting to access the site. However, given the nature of the surrounding development and the relative inconvenience of transit compared to automobiles, the Project is not expected to cause ridership to increase in excess of current capacity. However, considering that the Project involves the construction of a new high school, the City may consider improving AM peak hour bus service to the site for students going to school. This could feasibly be accomplished by extending lines which currently serve the John F. Kennedy High School to also serve the Project.

Although the Project is expected to add a moderate amount of new traffic to the local roadway network, this increase is not expected to cause conflicts between transit and automobile traffic. The Project does not propose any features which would adversely impact transit operations or facilities, and therefore, the Project is not expected to cause significant impacts to transit conditions in the area.

Potentially Significant Impacts and Mitigation Measures

Impact 3.3.1 ***During Project construction, temporary and intermittent transportation effects would result from truck movements as well as construction worker vehicles traveling to and from the Project site. (S)***

The construction-related traffic would result in a temporary reduction to the capacities of Project area streets because of the slower movements and larger turning radii of construction trucks compared to passenger vehicles. Given the proximity of I-5 freeway ramps, use of local roadways would be limited. Truck traffic that occurs during the peak commute hours (7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.) could result in worse levels of service and higher delays at local intersections than during off-peak hours. Also, parking of construction workers' vehicles would temporarily increase parking occupancy levels in the area.

As part of the build-out of the proposed Project, all sidewalks and pedestrian ramps bordering the Project site would be reconstructed. All ramps adjacent to the Project site are to be upgraded to full Americans with Disabilities Act (ADA) compliance.

The estimated quantity of dirt that would be removed from the current site to build the proposed Project is approximately 70,000 yards. This quantity of dirt removal corresponds to approximately 20 dump trucks in operation on a daily basis for duration of 30 to 40 days. Each truck is assumed to haul 14 yards per load, and to be able to remove eight loads per day. Based on information from projects of similar size (overall acreage and square footage of buildings), it is assumed that the construction of the Project would require 25 to 30 workers on site on a given day with a peak workforce of 45 to 50.

Mitigation Measure 3.3.1 Prior to the start of construction [Note to City – typically I would state prior to issuance of a building permit, however, the District does not receive building permits from the City; also would the City issue itself a building permit. Thus, I thought "start of construction was appropriate. If this is not appropriate, please provide language], the Project sponsors and construction contractor shall meet with the City of Sacramento Public Works department and other appropriate City of Sacramento agencies to determine traffic management strategies to reduce, to the maximum extent feasible, traffic congestion and the effects of parking demand by construction workers during construction of this Project and other nearby projects that could be simultaneously under construction. The Project sponsors shall develop a construction management plan for review and approval by the City of Sacramento Public Works department. The plan shall include at least the following items and requirements:

1. A set of comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak traffic hours, detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes.

2. Notification procedures for adjacent property owners and public safety personnel regarding when major deliveries, detours, and lane closures will occur.

3. Location of construction staging areas for materials, equipment, and vehicles (must be located on the Project site).

4. Identification of haul routes for movement of construction vehicles that would minimize effects on vehicular and pedestrian traffic, circulation and safety; and provision for monitoring surface streets used for haul routes so that any damage and debris attributable to the haul trucks can be identified and corrected by the Project sponsors.

5. Temporary construction fences to contain debris and material and to secure the site.

6. Provisions for removal of trash generated by project construction activity.

7. A process for responding to, and tracking, complaints pertaining to construction activity, including identification of an onsite complaint manager.

8. Provisions for monitoring surface streets used for truck routes so that any damage and debris attributable to the trucks can be identified and corrected.

9. Subject to City review and approval, prior to start of construction, a construction worker transportation demand management (TDM) program shall be implemented to encourage construction workers to carpool or use alternative transportation modes in order to reduce the overall number of vehicle trips associated with construction workers.(LTS)

3.4 AIR QUALITY

SETTING

Meteorology

The Site is located in Sacramento County within the Sacramento Valley Air Basin. Temperatures in the area range from the high 90's during the day and low 50s in the evening during the summer months, (June-August) and mid 60s during the day and mid 30s in the evening during the winter months (December-February). Rainfall averages a few inches each month during the "rainy season", occurring from (November - April). Total annual rainfall averages between 15 and 20 inches. Winds direction in the surrounding vicinity is generally from the north.

Ambient Air Quality Standards

The federal Clean Air Act Amendments of 1970 established national ambient air quality standards (NAAQS) to which states are required to adhere. The federal act also afforded individual states the option to adopt standards that are more stringent and/or include other pollutants.

The AAQS are intended to protect the public health and welfare. They are designed to protect those segments of the public most susceptible to respiratory distress, known as "sensitive receptors," including asthmatics, the very young, the elderly, and people weakened by other illness or disease.

California had established its own air quality standards when federal standards were promulgated. Some of the California Ambient Air Quality Standards (CAAQS) are more stringent than their NAAQS counterparts. Details of both NAAQS and CAAQS are presented in **Table 3.4-1**.

The California Air Resources Board (CARB) is the state agency responsible for regulating air quality. The CARB's responsibilities include establishing CAAQS, emissions standards, and regulations for mobile emission sources (e.g., autos, trucks) and monitoring the efforts of county-wide and multi-county air pollution control districts, which have primary responsibility over stationary sources. The Sacramento Metropolitan Air Quality Management District (SMAQMD) is the regional agency responsible for air quality regulation within the Sacramento Valley Air Basin. The SMAQMD regulates air quality through its permit authority over most types of stationary emission sources and through its planning and enforcement activities.

Ambient Air Quality

As required by the federal Clean Air Act, criteria air pollutants are pollutants for which the federal or State government has established ambient air quality standards. These standards, or criteria, were identified in order to protect public health and welfare. The SMAQMD operates a regional monitoring network that measures the ambient concentrations of six criteria air pollutants: ozone (O_3), carbon monoxide (CO),

TABLE 3.4-1: FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards	Federal Standards
Ozone	1-Hour	0.09 ppm	---
	8-Hour	0.070 ppm	0.08 ppm
Particulate Matter (PM_{10})	24-Hour	50 $\mu g/m^3$	150 $\mu g/m^3$
	Annual Arithmetic Mean	20 $\mu g/m^3$	50 $\mu g/m^3$
Particulate Matter – Fine ($PM_{2.5}$)	24-Hour	---	35 $\mu g/m^3$ *
	Annual Arithmetic Mean	12 $\mu g/m^3$	15 $\mu g/m^3$
Carbon Monoxide (CO)	8-Hour	9.0 ppm	9 ppm
	1-Hour	20 ppm	35 ppm
Nitrogen Dioxide (NO_2)	Annual Average	---	0.053 ppm
	1-Hour	0.25 ppm	---
Sulfur Dioxide (SO_2)	Annual Average	---	0.03 ppm
	24-Hour	0.04 ppm	0.14 ppm
	1-Hour	0.25 ppm	---
Lead	30 Day Average	1.5 $\mu g/m^3$	---
	Calendar Quarter	---	1.5 $\mu g/m^3$
Sulfates	24-Hour	25 $\mu g/m^3$	---

* U.S. Environmental Protection Agency (U.S. EPA) lowered the 24-hour PM2.5 standard from 65 $\mu g/m^3$ to 35 $\mu g/m^3$ in 2006.

--- = No Standards Available
$\mu g/m^3$ = micrograms per cubic meter
ppm = parts per million

Sources: California and Federal Standards – Sacramento Metropolitan Air Quality Management District (SMAQMD) and U.S. EPA

small-diameter particulate matter (PM_{10}), lead (Pb), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2). The SMAQMD also established a monitoring system for toxic constituents. In addition, monitoring has commenced for fine particulate matter ($PM_{2.5}$). Descriptions of health-related impacts associated with these pollutants, as well as volatile organic compounds (VOCs), are provided below.

Ozone (O3)

O_3 is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving hydrocarbons (HC) and nitrogen oxides (NO_x). O_3 is a regional air pollutant because its precursors are transported and diffused by wind

concurrently with O_3 production by the photochemical reaction process. When inhaled, O_3 is readily delivered to terminal respiratory airways and alveolar tissue, the major target sites for its effects. O_3 injures tissue membranes by oxidizing amino acids and polyunsaturated fatty acids, resulting in swelling and disintegration of cellular organelles and inhibition of metabolic pathways. O_3 also causes eye and respiratory irritation, reduces resistance to lung infection, and may aggravate pulmonary conditions in persons with lung disease.

Carbon Monoxide (CO)

CO is an odorless, invisible gas usually formed from combustion of organic substances (e.g., fuel sources). Exposure to high concentrations of CO may be lethal with death resulting from asphyxiation. Asphyxiation and sub-lethal symptoms are usually caused by poorly vented combustion appliances, idling motor vehicles in closed environments, excessive CO production, and inadequate ventilation associated with a variety of industrial occupational activities. Lower levels of CO can impair the transport of oxygen in the bloodstream and cause fatigue, headaches, nausea, and dizziness, as well as aggravating cardiovascular disease.

Volatile Organic Compounds (VOCs)

VOCs are organic chemicals that easily vaporize at room temperature. They are found in fuels, paints, coatings, consumer products, and cleaning fluids. All of these products can release organic compounds during use and to some degree when they are stored. VOCs include a wide range of individual substances such as aliphatic hydrocarbons, halogenated hydrocarbons such as chlorine, and oxygenated hydrocarbons such as alcohols, ethers, acids, and ketones. VOCs are emitted by a variety of sources, including gasoline and diesel engines in vehicles and construction equipment, building materials and furnishings, and consumer products. VOCs have been found to be major contributors to the production of ozone, a common air pollutant proven to be a public health hazard.

VOCs also have the potential to cause a variety of health effects. As with other pollutants, the extent and nature of the health effect will depend on many factors, including the specific chemicals, level of exposure, and length of time exposed. Health effects of VOCs may include eye, nose, and throat irritation; headaches; dizziness; loss of coordination; nausea; and damage to the liver, kidneys, and central nervous system. Some organics can cause cancer in animals and others are suspected or known to cause cancer in humans.

Particulate Matter (PM10 and PM2.5)

The health consequences of atmospheric particulate matter depend on its ability to penetrate respiratory defense mechanisms. In general, defense mechanisms are adequate to remove inhaled particles larger than 10 μm from the inhaled air stream.

PM_{10} consists of small-diameter (≤10 μm) particulate matter that is inhalable into deep lung tissue. $PM_{2.5}$ consists of particles that are respirable (≤2.5 μm) and can enter and be deposited in pulmonary tissue. Particles greater than 2.5 μm are mostly removed in the upper respiratory system. PM_{10} can include certain substances such as sulfates and nitrates that can cause lung damage directly or can contain absorbed gases and suspended droplets that may be injurious to health (e.g., benzene or other toxic contaminants). The effective toxicity of $PM_{2.5}$ particles may be greater than that of larger particles because proportions of toxic substances such as lead, mercury, zinc, and chromium increase with decreasing particle size.

In July 1997, the U.S. EPA adopted an 8-hour ozone standard and a new standard for $PM_{2.5}$. $PM_{2.5}$ is considered a better indicator than PM_{10} of health impact potential from airborne particulate matter because of its ability to penetrate deeply into human lung tissue. $PM_{2.5}$ in urban atmospheres contains substantial quantities of diesel particulate matter (DPM).

Lead

Lead is a highly toxic metal that produces a range of adverse health effects, particularly in young children. It can disturb the gastrointestinal system and cause anemia, kidney disease, and neuromuscular and neurological dysfunction. Present sources include lead smelters, deterioration of lead paint, battery manufacturing, and recycling facilities, while past sources include the combustion of leaded gasoline.

Nitrogen Dioxide (NO_2)

NO_2 is a reddish brown gas that is a by-product of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Aside from its contribution to ozone formation, nitrogen dioxide can increase the risk of acute and chronic respiratory disease and reduce visibility. NO_2 may be visible as a coloring component of a brown cloud on high pollution days, especially in conjunction with high ozone levels.

Sulfur Dioxide(SO_2)

SO_2 is a colorless acidic gas with a strong odor. It has potential to damage materials and it can have health effects at high concentrations. It is produced by the combustion of sulfur-containing fuels, such as oil, coal, and diesel. Sulfur dioxide can irritate lung tissue and increase the risk of acute and chronic respiratory disease.

Other Criteria Air Pollutants

The standards for NO_2, SO_2, and lead are currently being met in the Sacramento Valley Air Basin and the latest pollutant trend information suggests that these standards will not be exceeded in the future.

Five-Year Air Quality Monitoring

Existing and probable future levels of air quality within the Project site vicinity can be best inferred from ambient air quality measurements conducted by the SMAQMD, and reported by the CARB, at the monitoring station located in Sacramento, Sacramento County, California. **Table 3.4-2** is a five-year summary of the monitoring data reported by the SMAQMD and the CARB.

TABLE 3.4-2: FIVE-YEAR AIR QUALITY MONITORING SUMMARY (DAYS STANDARDS WERE EXCEEDED AND MAXIMUM CONCENTRATIONS OBSERVED)

Pollutant / Standard	2001	2002	2003	2004	2005
Ozone (O_3)					
1-Hr. > 0.09 ppm (S)	2	6	4	1	4
1-Hr. > 0.12 ppm (F)*	0	0	0	0	0
8-Hr. > 0.08 ppm (F)	3	3	1	0	1
Max. 1-Hr. Conc. (ppm)	.113	.109	.111	.105	.108
Carbon Monoxide (CO)					
1-Hr. > 20 ppm (S)	0	0	0	0	0
8-Hr. > 9 ppm (S, F)	0	0	0	0	0
Max. 1-Hr. Conc. (ppm)	---	---	---	---	---
Max. 8-Hr. Conc. (ppm)	4.41	4.31	3.4	2.96	3.64
Particulate Matter (PM_{10})					
24-Hr. > 50 $\mu g/m^3$ (S)	5	3	1	1	4
24-Hr. > 150 $\mu g/m^3$ (F)	0	0	0	0	0
Max. 24-Hr. Conc. ($\mu g/m^3$)	96.0	81.0	66.0	58.0	55.0
Fine Particulates ($PM_{2.5}$)					
24-Hr. > 65 $\mu g/m^3$ (F)**	1	4	0	0	0
Max. 24-Hr. Conc. ($\mu g/m^3$)	72.0	73.0	49.0	52.5	63.8

* The national 1-hour ozone standard was revoked by the U.S. EPA on June 15, 2005.
** U.S EPA lowered the 24-hour PM2.5 standard from 65 $\mu g/m^3$ to 35 $\mu g/m^3$ in 2006.

--- = No data available
(F) = Federal Clean Air Standard
(S) = State Clean Air Standard

Source: ARB: Sacramento – T Street Monitoring Station

Federal and State Regulations

Federal Standards

The Clean Air Act (CAA) Amendment of 1977 required that the regional planning and air pollution control agencies prepare a regional Air Quality Plan to achieve all standards within the deadline specified in the CAA. The main purpose of an Air Quality Plan is to bring a region into compliance with the requirements of federal and state air quality standards. To bring the Sacramento Valley Air Basin region into attainment, the SMAQMD developed the 1991 Air Quality Attainment Plan (AQAP) to provide a comprehensive strategy to reduce air pollutant emissions.

As summarized in **Table 3.4-3,** the SMAQMD states that the Sacramento Valley Air Basin is currently "in attainment" for the national standards for carbon monoxide, nitrogen dioxide, sulfur dioxide, PM_{10} (unclassified status at the 24 hour interval) and $PM_{2.5}$. Sacramento County ozone status for the national 8-hour standard is "non-attainment". The national 1-hour ozone standard was revoked by the U.S. EPA on June 15, 2005. No national standard for lead is identified.

State Standards

In 1988 California passed the California Clean Air Act (Assembly Bill 2595), which like its federal counterpart, called for designations of areas as attainment or non-attainment based on the state Ambient Air Quality Standards rather than federal standards.

As summarized in **Table 3.4-3,** the SMAQMD states that the Sacramento Valley Air Basin is currently "in attainment" for the state standards for carbon monoxide, nitrogen dioxide, sulfates, sulfur dioxide, and lead. The current status of the Sacramento Valley Air Basin for 1-hour and 8-hour ozone and particulate matter ($PM_{2.5}$ and PM_{10}) standards is "non-attainment".

Sensitive Receptors

Land uses such as schools, children's day care centers, hospitals, and convalescent homes are considered to be more sensitive than the general public to poor air quality because the population groups associated with these uses are more susceptible to respiratory distress.

Sensitive receptors located within 0.5 mile of the Project site include Martin Luther King Junior Elementary School located southwest of the site.

Toxic Air Contaminants

Toxic air contaminants (TACs) are pollutants that are associated with acute, chronic, or carcinogenic effects but for which no NAAQS or CAAQS has been established; or, in the case of carcinogens, for which no AAQS is appropriate. TAC impacts are evaluated by determining if a particular chemical poses a significant risk to human health and, if

TABLE 3.4-3: AIR QUALITY STANDARDS ATTAINMENT STATUS FOR THE SACRAMENTO VALLEY AIR BASIN

Parameter	California Standard	Federal Standard
Ozone (1-Hour)	**Non-Attainment** 1-hour and 8-hour standards	**Non-Attainment** 8-hour standard
Ozone (8-Hour)	**Non-Attainment** 24-hour Standard and Annual Mean	**Non-Attainment*** 24-hour standard
Particulate Matter (PM_{10})	**Non-Attainment** Annual Standard	**Attainment** 24-hour Standard and Annual Mean
Particulate Matter – Fine ($PM_{2.5}$)	**Non-Attainment** Annual Standard	**Attainment** 24-hour Standard and Annual Mean
Carbon Monoxide	**Attainment** 1-hour and 8-hour Standards	**Attainment** 1-hour and 8-hour Standards
Nitrogen Dioxide	**Attainment** 1-hour Standard	**Attainment** Annual Standard
Sulfur Dioxide	**Attainment** 1-hour and 24-hour Standards	**Attainment** 3-hour, 24-hour, and Annual Standards
Lead	**Attainment** 30 Day Standard	**Attainment** Calendar Quarter
Sulfates	**Attainment** 24-hour Standard	No Federal Standard

* Air quality meets Federal PM-10 Standards. The SMAQMD must request redesignation to attainment and submit a maintenance plan to be formally designated to attainment.
California Area Designations based on AQ Data collected during 2001-2003

so, under what circumstances. The proposed project would utilize the control measures and best management practices (BMPs) described in "construction related emissions" section and is not expected to increase the exposure of the public to significant levels of TACs. Significant levels are defined as the following: (1) The probability of contracting cancer for the Maximally Exposed Individual (MEI) exceeds 10 in one million, or (2) ground-level concentrations of noncarcinogenic toxic air contaminants would result in a Hazard Index greater than one for the MEI.

Indirect Source Review

The Indirect Source Review Rule began on March 1, 2006, and requires developers of larger residential, commercial and industrial projects to reduce smog-forming and particulates emissions generated by their projects. New development projects create air pollution during the construction phase, as well as during the operational phase by prompting more vehicle trips and more pollution-causing activities such as landscape

maintenance, fuel combustion, and use of consumer products. The SMAQMD will determine how the proposed project fits the Indirect Source Review criteria.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Standards of Significance

For purposes of this EIR, air quality impacts are considered significant if the Project would:

- Violate any air quality standards or contribute substantially to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under an applicable Federal or State AAQS.
- Conflict with or obstruct implementation of the SMAQMD Air Quality Attainment Plan.
- Expose sensitive receptors to substantial additional pollutant concentrations.
- Expose the public to significant levels of toxic air contaminants, defined as follows: (1) the probability of contracting cancer for the Maximally Exposed Individual (MEI) exceeds 10 in one million or (2) ground-level concentrations of non-carcinogenic toxic air contaminants would result in a hazard Index greater than one for the MEI.
- Create objectionable odors.
- Have a significant impact on climate change due to potential greenhouse gas emissions.

Method of Analysis

To determine the potential impacts that the construction and operation of the school may have on air quality, the ARB-approved Urban Emissions Model (URBEMIS) 2007 program was used. URBEMIS is a computer program that can be used to estimate emissions associated with land development projects in California such as residential neighborhoods, shopping centers, and office buildings. **Appendix D** includes the results of the URBEMIS estimates.

Construction

The proposed Project would include the construction of a high school, a library, and joint use school and city park. The Project would require grading, transport of materials, and building and installation of new equipment. Emission levels for construction activities would vary depending on the number and type of equipment, duration of use, operation schedules, and the number of construction workers. URBEMIS 2007 (Version 9.2.1), which assumes typical construction operations based on the size of the site, was used to calculate emissions associated with the project construction.

Traffic

URBEMIS 2007 (Version 9.2.1) is the latest version that uses emission factors (EMFAC) based on the California Air Resources Board's on-road emissions inventory model to estimate vehicle emissions associated with various land uses. URBEMIS calculates volatile organic compounds reported as reactive organic gases (ROGs), nitrogen oxides, carbon monoxide, PM10, and sulfur dioxide. The URBEMIS 2007 program was used in conjunction with local traffic information provided by DMJM Harris, the traffic consulting firm which prepared the traffic impact analysis for the proposed Project, to assess potential impacts to air quality.

The anticipated traffic conditions of the Project were modeled using URBEMIS 2007 for winter and summer for the year 2009, which is the proposed year for the school to open.

Stationary Sources

As stated in the *Guide to Air Quality Assessment in Sacramento County* (SMAQMD 2004), "stationary sources consist of a single emission source with an identified emission point, such as a stack, at a facility. Stationary point sources are usually associated with manufacturing and industrial processes. Examples of these sources include boilers, electric power plants, and other types of combustion equipment." Based on the definition of stationary sources provided by the SMAQMD, the types of facilities being constructed for the Project (school building, library, and park) are not considered stationary sources. Therefore, no additional stationary sources are anticipated due to the Project.

Impact Overview

The Project would not result in significant air quality impacts. Construction-related emissions from equipment and vehicle exhaust and fugitive dust would be below SMAQMD thresholds. Area source emissions and vehicle emissions generated by the proposed Project would be below SMAQMD thresholds for criteria pollutants.

Less-than-Significant Impacts

Potential to Violate Air Quality Standards or Substantially Contribute to Existing Air Quality Violations

According to the *Guide to Air Quality Assessment in Sacramento County* distributed by the SMAQMD, a proposed project may have a substantial impact if SMAQMD threshold emission levels are exceeded, the project would cause a substantial increase of an existing exceedance of a state ambient air quality standard (greater than five percent), and/or would violate CO standards (potential to exceed the state 1-hour standard of 20 ppm of CO and/or the 8-hour standard of 9.0 ppm).

Construction Related Emissions. Emissions from construction activities associated with the construction of the proposed Project would occur over a short term. As shown below in **Table 3.4-4**, the NOx emissions do not exceed 85 lbs/day. Therefore, as stated in the *Guide to Air Quality Assessment in Sacramento County* (SMAQMD 2004), it may be assumed that "exhaust emissions of other pollutants [i.e. ROG, CO, SO_2, and PM_{10}] from operation of equipment and worker commute vehicles are also not significant."[1] Based on this information, it can be concluded that potential construction exhaust emissions associated with the Project would be less-than-significant.

TABLE 3.4-4: CALCULATED AIR EMISSIONS FROM CONSTRUCTION OPERATIONS

Number and Equipment Type	Emissions (lbs/day)				
	ROG	**NOx**	**CO**	**SO2**	**PM_{10}**
Total	208.25	73.22	75.51	0.04	93.94
SMAQMD Threshold[2]	Substantial[3] Increase	85	Exceedance of CO Standard or Substantial[4] Increase	Substantial[4] Increase	Substantial[4] Increase

Criteria pollutant emissions of reactive organic gases (ROG) and NOx from construction equipment would incrementally add to the regional atmospheric loading of ozone precursors during Project construction. While these increases are anticipated to be less-than-significant, **Mitigation Measure 3.4.1** would reduce emissions of ozone precursors and particulates.

Fugitive Dust. Fugitive dust emissions are generally associated with demolition, land clearing, exposure, and cut and fill operations. $PM_{2.5}$ results from fuel combustion in motor vehicles, equipment, and industrial sources. A portion of PM_{10} is derived from dust created by soil disturbance and vehicle turbulence. Some PM_{10} is derived from natural processes.

The dust generated during construction would vary depending on the level of activity, specific construction activities, and weather conditions. Sensitive receptors within 0.5 mile of the site include Martin Luther King Jr. Elementary School. These sensitive receptors and construction workers at the Project site may be exposed to blowing dust,

[1] Guide to Air Quality Assessment in Sacramento County. SMAQMD. 2004. Page 3-2.
[2] Construction Thresholds from are from the Sacramento Metropolitan Air Quality Management District (SMAQMD) CEQA Guide to Air Quality Assessment in Sacramento County (July 2004), Table 2.1.
[3] "Substantial" is defined as making measurably worse, which is 5% or more of an existing exceedance of a state ambient air quality standard.

depending on prevailing wind conditions. Dust from soils and debris transport within and around the Project site could contribute to the Sacramento County's nonattainment of the state $PM_{2.5}$ and PM_{10} standards.

The U.S. EPA estimates that approximately 1.2 tons of total suspended particulate matter per acre is generated during one month of construction activity. This generation rate assumes a moderate level of construction activity, moderate silt content in the soils being disturbed, and a semi-arid climate. The CARB estimates that 64 percent of construction-related total suspended particulate emissions are composed of PM_{10}. Therefore, the emission factors for uncontrolled, construction-related PM_{10} emissions are:

- 0.77 ton per acre per month of PM_{10}; or
- 1,540 pounds per acre per month of PM_{10}

The Project site comprises approximately 13.55 acres. The entire Project site is not expected to be under construction at any one time. For purposes of this air quality analysis, it is assumed that 3.09[4] acres or less of land would be under construction or exposed on any given day. Based on the emission factors listed above, the potential uncontrolled PM_{10} emissions from construction related activities is 2.38 tons per month.

There is no quantitative threshold of significance provided by the SMAQMD for fugitive dust (i.e. lbs/day, tons/year). Due to the relatively small Project site and the short duration of construction, fugitive dust from construction activities should not increase the Sacramento County PM_{10} ambient air concentration by five percent or more. Therefore, the fugitive dust created during construction activities for the Project is anticipated to be a less-than-significant impact. Nevertheless, **Mitigation Measure 3.4.1** is recommended to lower the potential fugitive dust emissions from construction activities.

Operational Air Emissions. The SMAQMD recommends a detailed analysis be conducted for any project that's size is greater than, or within ten percent of, the values indicated in Table 4.2 of the SMAQMD's *Guide to Air Quality Assessment in Sacramento County*. Since the proposed Project comprises approximately 59,568 square feet, which is greater than the 56,000 square foot limit shown in Table 4.2 of the SMAQMD's CEQA document, a detailed analysis is recommended. URBEMIS 2007 (version 9.2.1) was used to calculate emissions associated with Project operations.

[4] Source: URBEMIS 2007 (version 9.2.1) Calculations. See Appendix D.

Long-term air emission impacts would be those associated with changes in permanent usage of the Project site. Project-related vehicle trips are expected to increase by 1,848 average daily trips based on information provided by DMJM Harris. The potential daily emissions calculated using URBEMIS 2007 version 9.2.1 are shown in **Table 3.4-5** and in the URBEMIS report presented in **Appendix D**. **Table 3.4-5** identifies the highest potential daily emissions of each pollutant from project operations and area sources. As shown in **Table 3.4-5**, the ROG and NOx emissions for project operations do not exceed 65 pounds per day. Therefore, as stated in the *Guide to Air Quality Assessment in Sacramento County* (SMAQMD 2004), it may be assumed that emissions of other pollutants (i.e., CO, SO_2, and $PM_{10)}$ from Project operations are also not significant[5]. Based on this information, the proposed Project is not anticipated to emit air pollutants in excess of SMAQMD significance thresholds during Project operations.

TABLE 3.4-5: CALCULATED AIR EMISSIONS FROM PROJECT OPERATIONS

Proposed Project Operations	Emissions (lb/day)				
	ROG	**NOx**	**CO**	**SO_2**	**PM_{10}**
Area Source Emissions (natural gas, landscaping, and architectural coatings)	0.79	0.64	5.30	0.00	0.01
Vehicle Emissions	20.59	22.15	170.09	0.15	23.82
Total	**21.38**	**22.79**	**175.39**	**0.15**	**23.83**
SMAQMD Thresholds[6]	65	65	Violation of CO Standards (see Local CO Hot Spots)	Substantial[7] Increase	Substantial[8] Increase

Local CO Hot Spots. Local ambient air quality is most affected by CO emissions from motor vehicles. CO is typically the contaminant of greatest concern because it is the pollutant created in greatest abundance by motor vehicles and it does not readily disperse into the air, creating pockets of high CO concentrations called "hot spots" in areas of vehicular congestion. These pockets have the potential to exceed the state 1-hour standard of 20 ppm of CO and/or the 8-hour standard of 9.0 ppm.

[5] Guide to Air Quality Assessment in Sacramento County. SMAQMD. 2004. Page 5-2.

[6] Operational thresholds from are from the Sacramento Metropolitan Air Quality Management District (SMAQMD) CEQA Guide to Air Quality Assessment in Sacramento County (July 2004), Table 2.1

[7] "Substantial" is defined as making measurably worse, which is 5% or more of an existing exceedance of a state ambient air quality standard.

CO transport is limited; it disperses rapidly with distance from the source under normal meteorological conditions. Under certain extreme meteorological conditions, CO concentrations proximate to a congested roadway or intersection may reach unhealthful levels, adversely affecting the health of local sensitive receptors (e.g., residents, schoolchildren, the elderly, and hospital patients). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes.

The SMAQMD CEQA Guide to Air Quality Assessment in Sacramento County states that the CO levels of project operations are considered insignificant if the project is smaller than 1,192,000 square feet. Since the total size of the Project site is approximately 59, 568 square feet, the potential CO levels of Project operations are considered insignificant. Moreover, the SMAQMD considers development projects that fall below the operational significance thresholds for ROG and NOx listed in Chapter 4, Table 4.2 (65 pounds per day) also to be insignificant for CO emissions.

Potential to Result in a Considerable Net Increase of any Criteria Pollutant for Which the Region is in Non-Attainment

Currently, the Sacramento County is in "nonattainment" for the state1-hour and 8-hour ozone, PM_{10}, and $PM_{2.5}$ standards and the federal 8-hour ozone standard. The SMAQMD *California Environmental Quality Act Guidelines* state that a project would result in significant emissions (on both the project and cumulative scales) of criteria pollutants if the project results in the operational emission increase of more than 65 pounds per day of ROG or NOx or construction emissions of more than 85 pounds per day of NOx, contributes to local CO Hot Spots, or causes an adverse impact to sensitive receptors from particulate emissions. Based on the information presented above, the Project would not result in considerable or significant increases of NOx, ROG, or CO emissions.

For other criteria pollutants including PM_{10} and $PM_{2.5}$, a "substantial" increase is defined as contributing emissions equivalent to five percent or more of an existing exceedance of a state ambient air quality standard. The SMAQMD considers projects that fall below screening levels for ROG and NOx to also be insignificant for CO, PM_{10} and SO_2 emissions and visibility. Therefore, implementation of the proposed Project would not result in substantial cumulative impact to levels of any criteria pollutant.

Compliance with SMAQMD Clean Air Quality Attainment Plan

An air quality plan describes air pollution control strategies to be implemented by a city, county, or region classified as a nonattainment area. The main purpose of an air quality plan is to bring the area into compliance with the requirements of federal and state air quality standards. To bring the Sacramento Valley Air Basin region into attainment, the

SMAQMD developed the 1991 Air Quality Attainment Plan (AQAP) to provide a comprehensive strategy to reduce air pollutant emissions and focused on control measures to be implemented. The Sacramento Clean Air Plan was revised and amended in 1994, 1997, 1999, 2001 and 2005.

The attainment status of the Sacramento Valley Air Basin with respect to state and federal standards is presented above in **Table 3.4-3**. Because the proposed Project would not violate air quality standards or exceed emissions thresholds as discussed above, and is generally consistent with current air quality management policies, the Project is not anticipated to conflict with the SMAQMD's attainment plan.

Potential to Expose Sensitive Receptors to Substantial Additional Pollutant Concentrations

Construction of the proposed Project may expose surrounding land uses and sensitive receptors to airborne particulates and fugitive dust, as well as a small quantity of pollutants associated with the use of construction equipment (e.g., diesel-fueled vehicles and equipment). Due to the small size of the Project and the short duration of construction, fugitive dust from construction activities is not anticipated to increase the Sacramento County PM_{10} ambient air concentration by five percent or more (level of significance). Implementation of **Mitigation Measure 3.4.1** is anticipated to reduce construction-related emissions even further.

Operational impacts from the proposed Project would be limited to less-than-significant emissions of ozone precursor emissions (see **Table 3.4-5**). CO emissions would not result in or create a violation of the CO standard as described above (see Local CO Hot Spots). The SMAQMD also considers projects that fall below screening levels for ROG and NOx to also be insignificant for CO, PM_{10} and SO_2 emissions and visibility. PM_{10} emissions are generated from vehicle trips and are de minimis in comparison to the regional inventory. Therefore, operational impacts to nearby sensitive receptors are also expected to be less-than-significant.

Potential to Expose Public to Significant Levels of Toxic Air Contaminants

Significant levels of toxic air contaminants are defined as the following: (1) The probability of contracting cancer for the Maximally Exposed Individual (MEI) exceeds ten in one million, or (2) ground-level concentrations of noncarcinogenic toxic air contaminants would result in a Hazard Index greater than one for the MEI. No quantitative toxic risk analysis has been conducted for the Project; however, based on the size of the Project and the types of facilities being constructed and operated, the Project is not anticipated to expose the public to significant levels of toxic air contaminants because:

- No additional stationary sources (concentrated emission points) are anticipated due to the Project.
- The SMAQMD considers projects that fall below screening levels for ROG and NOx (like this project) to also be insignificant for CO, PM_{10} and SO_2 emissions and visibility.
- Emissions from project operations (mainly mobile vehicles) are not continuous and are not considered significant under the SMAQMD thresholds of significance.

Objectionable Odors

Some objectionable odors may be generated from the operation of diesel-powered construction equipment during the construction period. However, these odors would be short term. Under most meteorological conditions that are encountered at the Project site, these odors would likely be diluted sufficiently in odor-free air and would not be perceived by individual receptors in surrounding areas, including the nearest sensitive receptor. Therefore, no significant impacts related to objectionable odors are anticipated to result from the proposed Project.

Impact on Climate Change

California Assembly Bill No. 32 (AB-32), also known as the Global Warming Solutions Act, was passed on August 31, 2006. AB 32 codifies the state's goal by requiring that the state's global warming emissions be reduced to 1990 levels by 2020. Regulating carbon dioxide (CO_2), which is the major greenhouse gas contributor to global warming, has been the main focus for achieving the 1990 levels.

Based on URBEMIS, the construction of the Project would result in approximately 325 tons of CO_2 and approximately 2,500 tons of CO_2 per year from operations. This amount of CO_2 is insignificant when compared to the 8.4 billion metric tons of CO_2 that were emitted worldwide in 2006[8]. Moreover, the majority of the vehicles that are accounted for in the project operations are not new sources of pollution. Many of the students that will attend the high school on the project site are currently enrolled in other schools and are already using their vehicles to commute. Therefore, the construction and operation of the Project would have no significant impact on climate change.

Mitigation Measure 3.4.1 The Project would not result in significant air quality impacts. However, the following mitigation measures are recommended to further reduce the potential emissions from Project construction activities:

- Utilize CARB-certified low-sulfur fuel in all construction equipment.

[8] Proceedings of the National Academy of Sciences.

- Minimize idling time (no more than five minutes).
- Maintain properly tuned equipment.
- Limit hours of operation of heavy duty equipment and/or the amount of equipment in use.
- Enclose, cover or water twice daily all soil piles.
- Water all haul roads twice daily.
- Cover the loads of all haul/dump trucks securely.
- Limit speed of trucks on unpaved roads to 15 miles per hour. (LTS)

3.5 NOISE

SETTING

The Project site contains vacant land and an existing park with two baseball fields. The baseball fields are used by the public during daytime hours seven days a week. Residential development abuts the northern boundary of the baseball fields and the Havenside Canal abuts the eastern boundary of the ball fields; and residential development is located about 75 feet farther to the east.

Environmental Noise Fundamentals

Noise can be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable effects of noise can be attributed to either pitch or loudness. Pitch is the height or depth of a tone or sound, depending on the relative rapidity (frequency) of the vibrations by which it is produced. Higher-pitched signals sound louder to humans than sounds with a lower pitch. Loudness is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

Several noise metrics, or scales, are used to describe noise. A decibel (dB) is a unit of measurement that indicates the relative amplitude of sound pressure. Zero on the decibel scale is based on the lowest sound level that a healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of ten decibels represents a ten-fold increase in acoustic energy, while an increase of 20 decibels results from 100 times the energy, and a 30-decibel increase results from an energy increase of 1,000 times. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each ten-decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities.

There are several methods of characterizing sound. The most common method in California is the A-weighted sound level or dBA. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Representative outdoor and indoor noise levels in units of dBA are shown in **Table 3.5-1**.

Because of the time-varying nature of environmental sound, there are many descriptors that are used to quantify sound levels in the environment. Although one individual descriptor alone does not fully describe a particular noise environment, taken together, they can more accurately represent the noise environment. Some commonly used descriptors are the L_{max}, L_{eq}, L_{90}, L_{dn} and CNEL.

The maximum instantaneous noise level (L_{max}) is often used to identify the loudness of a single event such as a car pass by or airplane flyover. To express the average noise level

TABLE 3.5-1: TYPICAL NOISE LEVELS IN THE ENVIRONMENT

Common Outdoor Noise Source	Noise Level	Common Outdoor Noise Source
	120 dBA	
Jet fly-over		Rock Concert
	110 dBA	
Pile driver at 20 meters	100 dBA	
		Night club with live music
	90 dBA	
Large truck pass by at 15 meters		
	80 dBA	Noisy restaurant
		Garbage disposal at 1 meter
Gas lawn mower at 30 meters	70 dBA	Vacuum cleaner at 3 meters
Commercial/urban are daytime		Normal speech at 1 meter
Suburban expressway at 90 meters	60 dBA	
Suburban daytime		Active office environment
	50 dBA	
Urban area nighttime		Quiet office environment
	40 dBA	
Suburban nighttime		
Quiet rural area	30 dBA	Library
		Quiet bedroom at night
Wilderness area	20 dBA	
	10 dBA	Threshold of human hearing
	0 dBA	

Source: Illingworth and Rodkin 2007

the L_{eq} (equivalent noise level) is used. The L_{eq} can be measured over any length of time but is typically reported for periods of 15 minutes to one hour. The background noise level (or residual noise level) is the sound level during the quietest moments. It is usually generated by steady sources such as distant freeway traffic. It can be quantified with a descriptor called the L_{90} which is the sound level exceeded 90 percent of the time.

To quantify the noise level over a 24-hour period, the Day/Night Average Sound Level (DNL or L_{dn}) or Community Noise Equivalent Level (CNEL) is used. These descriptors are averages like the L_{eq} except they include a ten dB penalty during nighttime hours (and a five dB penalty during evening hours in the CNEL) to account for peoples increased sensitivity during these hours.

In environmental noise, a change in noise level of three dB is considered a just noticeable difference. A five dB change is clearly noticeable, but not dramatic. A ten dB change is perceived as a doubling in loudness.

State of California – General Plan Guidelines

The Office of Planning and Research promulgates guidelines for the acceptable noise levels. The guidelines are divided into various land use categories. For schools, the State considers an L_{dn} of 70 dBA or less as "normally acceptable". However, if the L_{dn} is between 60 and 70 dBA, the noise level is also considered "conditionally acceptable". These guidelines are summarized in **Figure 3.5-1**.

State of California - California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) requires the analysis of potential noise impacts from certain projects. The noise impacts are to be assessed with respect to all applicable standards as well as the potential for the Project to cause significant noise increases.

City of Sacramento

The Project site is located within an area of primarily low density residential development. The City of Sacramento Noise Element is found in Section 8 of the *City of Sacramento General Plan* (City of Sacramento 1988). It contains policies addressing noise exposure levels for proposed land uses. Generally, the normally acceptable noise level for low density residential is 60 dBA and for schools, libraries and playgrounds it is 70 dBA. The City is currently in the process of updating the General Plan. Draft noise policies have been developed which identify exterior noise compatibility standards for various land uses and allowable incremental increases in noise levels. Noise levels which exceed the incremental noise impact standards will require mitigation (City of Sacramento 2007).

IMPACTS AND MITIGATION MEASURES

Standards of Significance

The Project's noise effects would be considered significant if the Project would result in the following:

- Exposure of persons to or generation of noise levels in excess of standards established in the California General Plan Guidelines, City of Sacramento General Plan and City of Sacramento Code.[1]
- Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels.
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- A substantial temporary or periodic increase in ambient noise levels existing without the project.

[1] The high school would not be obligated to meet the City's noise standards; however, these standards would apply to non-school uses. Therefore, the City's standards are used as thresholds of significance in this EIR.

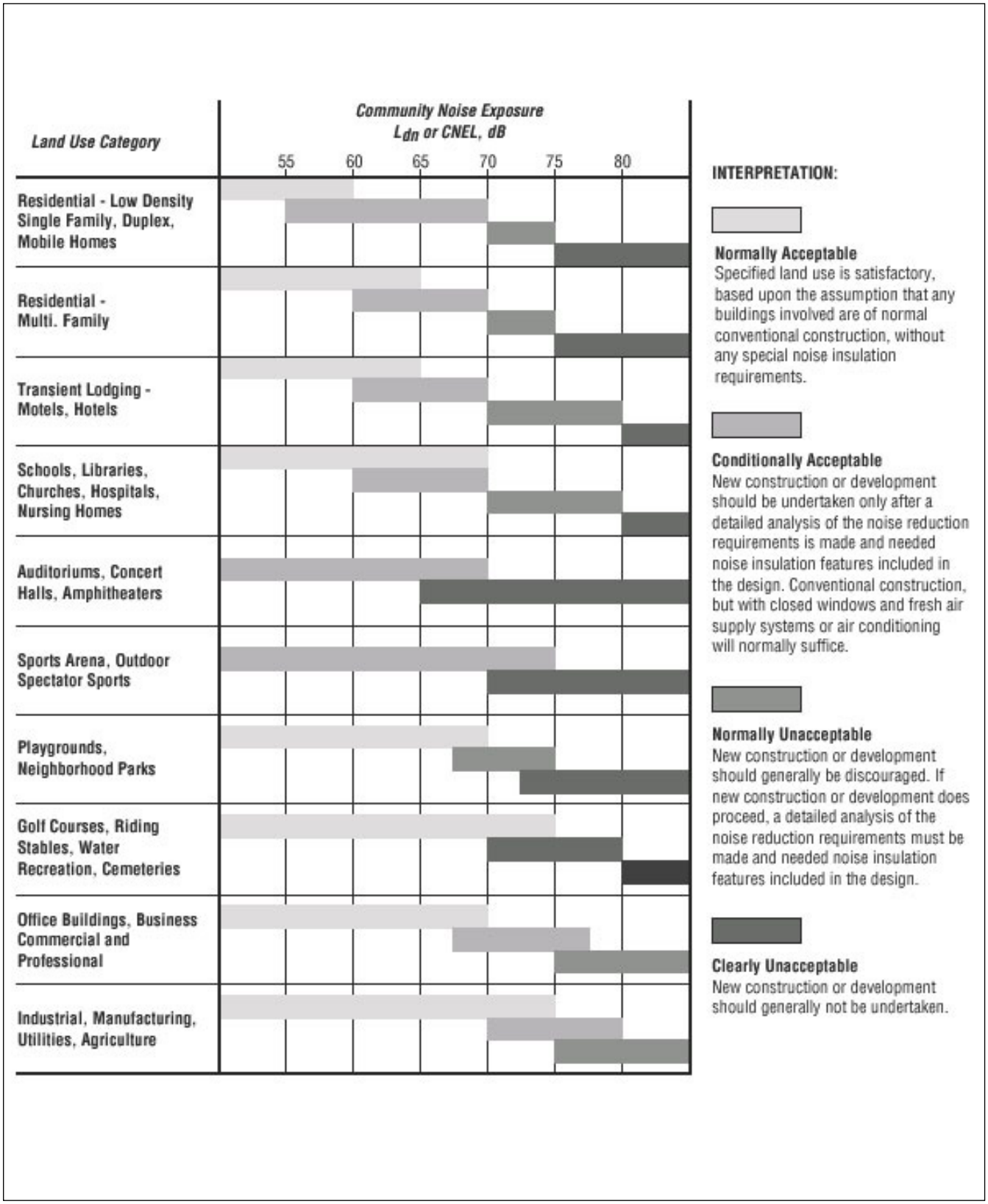


Figure 3.5-1
Land Use Compatibility Guidelines – State of California

Impact Overview

Project operations would generate noise from building mechanical equipment and more intensive recreational use of the park. However, incremental noise increases are considered to be less-than-significant. The Project would result in short-term potentially significant noise impacts associated with construction activities. With implementation of the recommended mitigation measures, potential impacts would be reduced to a less-than-significant level.

Less-than-Significant Impacts

Exposure of Residences to Increased Park Use

The baseball fields are currently in use during the daytime hours. With joint use of the park, there would be an increase in use during the weekdays when the high school is in session. The type of sport activities would be similar to existing conditions, therefore, noise generated from students and other using the baseball fields would be similar to existing conditions.

Project-Generated Mechanical Equipment Noise

Mechanical equipment will be associated with the high school and the library and will generally consist of air-conditioners and other mechanical ventilation equipment. [Will the library have air conditioners? Or will the building use passive heating and cooling methods, with minimal mechanical equipment?]. This equipment will tend to be used more heavily during summer months, when the school is not in regular session and overall use of mechanical equipment would be lower. Noise from mechanical equipment is considered to be a less-than-significant impact.

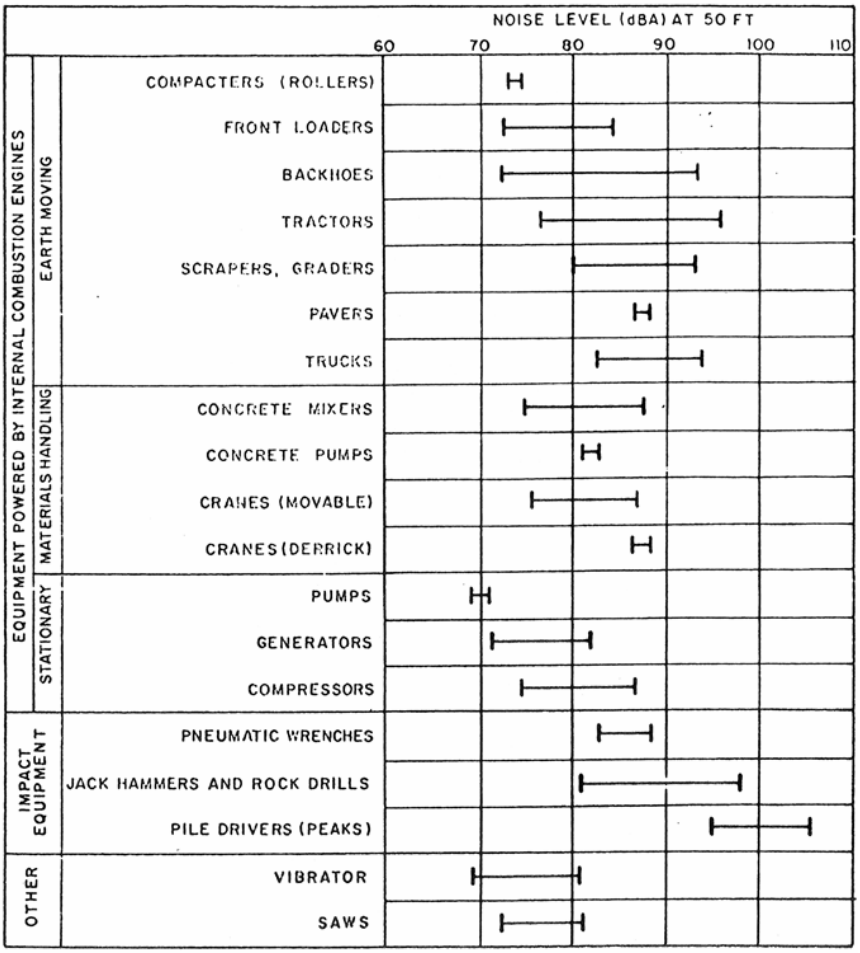
Potentially Significant Impacts and Mitigation Measures

Impact 3.5.1 *Exposure of Residences to Construction Noise. (S)*

The noisiest construction activities are typically associated with grading and foundation work. During these phases, heavy diesel equipment including scrapers, bulldozers and concrete trucks are used. There would also be trucks that deliver material to the Project site. **Figure 3.5-2** presents noise levels from major construction equipment.

In general, during construction activities, noise levels have the potential to significantly exceed existing ambient noise levels at the Project site and interfere with normal daily activities such as conversation outdoors. Construction noise is considered a potentially significant impact.

FIGURE 3.5-2: CONSTRUCTION EQUIPMENT NOISE LEVELS



Source: US EPA, "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances," 1971

Mitigation Measure 3.5.1 Construction equipment shall be well-maintained and used judiciously to be as quite as practical. Contract specifications shall incorporate the following measures, as appropriate:

(a) Limit construction activities to daytime hours between 7:00 AM and 5:00 PM.

(b) To the extent feasible, use self-adjusting ambient–sensitive back-up alarms, manually-adjustable alarms on low setting, use of observers, and/or schedule activities so that alarm noise is minimized

(c) Use "quiet" models of air compressors and other stationary noise sources where technology exists.

(d) Equip all internal combustion engine-driven equipment with mufflers that are in good condition and appropriate for the equipment.

(e) Install acoustically attenuating shields or shrouds on noise producing equipment;

(f) Locate all staffing areas and stationary noise-generating equipment, such as air compressors and portable power generators, as far away as possible from residences.

(g) Designate an on-site construction noise complaint manager for the duration of the Project.

(h) Post signs around the project site to inform persons of the construction hours and the name and phone number of the person or persons to notify in the event of a noise related problem.

(i) Notify neighbors within 300 feet of the project construction area at least 30 days in advance of any extreme noise-generating activities. The notification should include an estimate of the duration of the activity.

(j) Restrict extreme noise generating activities greater than 90 dBA to between 8:00 a.m. and 4:00 p.m. Monday through Friday.

(k) A pre-construction meeting shall be held with the job inspectors and the general contractor/on-site project manager to confirm that noise mitigation practices (including construction hours, neighborhood notification, posted signs, etc.) are completed. (LTS)

3.6 HYDROLOGY AND WATER QUALITY

SETTING

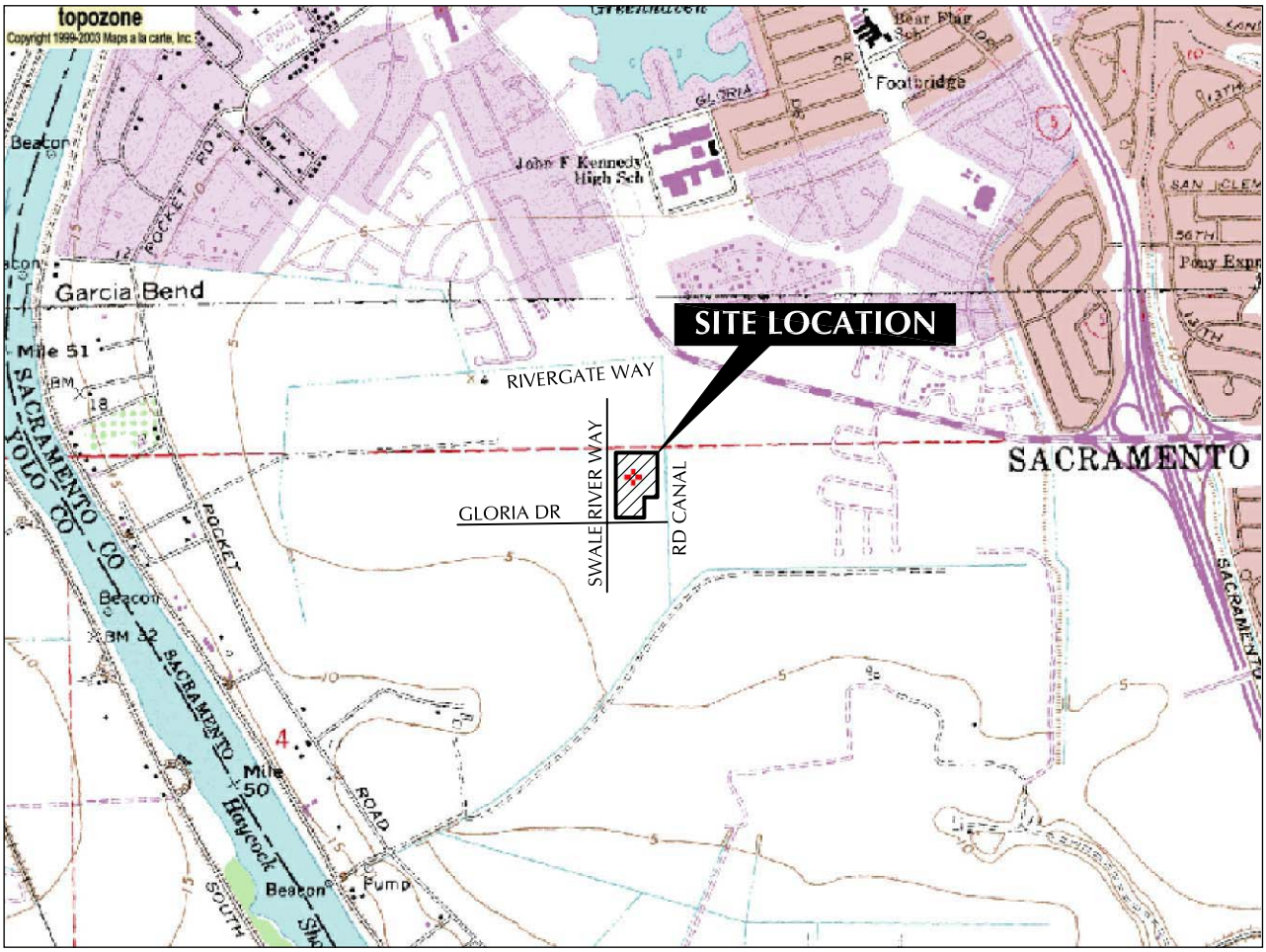
Local and Regional Watersheds

Project site topography is essentially flat; however, the typical site grade is approximately one to two feet lower than the adjacent street grades. Site surface elevations are approximately plus five feet relative to mean sea level (msl), based on review of the U.S. Geological Survey (USGS) Topographic Map of the Clarksburg, California Quadrangle (**Figure 3.6-1**). The Sacramento County (County) spring 2003 groundwater map (published July 2003) indicates that regional groundwater beneath the site is located at an elevation of approximately zero-foot msl, or approximately five feet below the existing ground surface (bgs).

The major surface-water feature in the Project area is the Sacramento River located about one mile west of the Project site. The Havenside Canal runs along the eastern boundary of the site. The Project site is located within the Sacramento River Basin, which is bound by the Sierra Nevada Mountains to the east, the Coast Ranges to the west, the Cascade Range and Trinity Mountains to the north, and the Delta-Central Sierra area to the south. The Sacramento River is the principal stream in the basin. Its major tributaries are the Pit and McCloud rivers, which join the Sacramento River from the north, and the Feather and American rivers, which are tributaries from the east. The Sacramento River is approximately 327 miles long. Its drainage area encompasses 27,200 square miles, extending from the Coast Range to the west, the Cascade and Klamath Ranges to the north, and the Sierra Nevada to the east. The Sacramento River is the dominant water feature within the city of Sacramento (City), bordering the City to the east. The Sacramento River ultimately discharges to Suisun Bay.

Flow within the river averages 17.9 million acre-feet (maf) per year or 24,700 cubic feet per second (cfs); however, flows vary by season. The Sacramento River Deep Water Ship Channel is a semicircular offshoot of the Sacramento River that was created to serve the Port of Sacramento.

Water management operations of the Central Valley Project (CVP) dams, operated by the U.S. Department of the Interior, Bureau of Reclamation, are primarily responsible for determining flow levels in the river. Lake Shasta is the largest storage reservoir in the CVP, with a usable capacity of 4.4 maf. This river and other flood control facilities located on the upper river and its tributaries attenuate high flows in the mainstream of the Sacramento River. As a result, the smaller tributaries (which are unregulated or have limited storage capacity) contribute a substantial portion of the seasonally high flows. Base flow levels in the Sacramento River are controlled by releases from Shasta Dam and, to a lesser extent, from Oroville Dam on the Feather River. These releases are adjusted to meet downstream requirements for water supply, Delta water quality, fish



Source: USGS-TopoZone; LFR

Figure 3.6-1
Topographic Map of Site Vicinity

and wildlife habitat maintenance, flood control, and other beneficial uses in accordance with numerous legal and regulatory requirements.

Rainfall and Runoff Characteristics

The local drainage canals (Havenside Canal and Pocket Canal) in the Project area are owned and maintained by the City of Sacramento Department of Utilities and are supplied by surface-water runoff from precipitation and bypass flows originating from the Sacramento River or adjacent tributaries.

Similar to many of the interiors of California's Coast Ranges, annual precipitation in the greater Sacramento area typically ranges from approximately 12 to 22 inches. Precipitation in the Sacramento area occurs primarily during the cool, wet winters, with an annual average precipitation of 18 inches. The heaviest rainfall occurs from December through February, with little or no rainfall during summer months. The 100-year storm is estimated to produce about 4.25 inches in a 24-hour period, based on the City and County of Sacramento Drainage Manual (1996). Most significant rain event occurs between November and April, and typically, all precipitation occurs in the form of rain.

The mean annual evapotranspiration[1] rate is approximately 49.4 inches per year (DWR Bulletin 113-3), a value that far exceeds annual precipitation. In general, precipitation exceeds evapotranspiration during the months of December, January, and February. Particular zones in the project area may experience unique microclimates due to elevation, aspect, or topographic conditions.

Existing Stormwater Management System

Urbanized portions surrounding the site include flood control channels/drainage canals and piped storm-drain systems to contain and direct stormwater runoff associated with contributing impervious surface areas such as roads and buildings. Storm drainage services are provided by numerous agencies, including the City of Sacramento, Reclamation District 537, Reclamation District 900, the County of Sacramento and the State of California. Stormwater facilities operated by these agencies include buried pipelines, roadside ditches and gutters, large capacity channels/canals and pipelines, stormwater detention basins, pump stations, and levees. The City is responsible for the construction, operation, and maintenance of the surface and underground drainage facilities that discharge to the larger capacity channels and pipelines belonging to the City or reclamation districts. Stormwater pumping stations are operated and maintained by the City and/or reclamation districts.

[1] Evapotranspiration (ET) is a collective term for the transfer of water, as water vapor, to the atmosphere from both vegetated and unvegetated land surfaces. It is affected by climate, availability of water and vegetation. ET is an important component of the water balance; a majority of precipitation that falls on the North American continent is typically returned through ET to the atmosphere.

Surface Water Quality

The water quality in all nearby streams is of concern for wildlife and fisheries as well as for other downstream uses. Stormwater runoff from rural and urban areas may contain excessive levels of pollutants (e.g., pesticides, herbicides, hydrocarbons) that are toxic to fisheries and other aquatic life in the streams. In addition, the water drained from the site eventually reaches the Sacramento River, a primary source of water for the City as well as for the Sacramento-San Joaquin Delta, which has numerous water uses such as water supply, recreation, fisheries, and wildlife habitats.

Water quality degradation from non-point source pollutants is primarily the result of stormwater runoff carrying pollutants from the land surface to the receiving waters. The types of pollutants that may be transported to the receiving waters depend on the land use and the associated land-use activities. In the vicinity of Project site, the urban/commercial uses that may contribute to non-point source pollution include automobile use (tires, oil leaks, brake linings, catalytic converters), the improper use and disposal of chemicals (pesticides, fertilizers, herbicides, paints, paint thinners, solvents, petroleum chemicals), erosion of unprotected surfaces and structural surfaces (street pavement, galvanized pipes, roofing materials, wood preservatives), and solid waste disposal (litter and debris, vegetative matter, pet droppings).

Storm runoff originating on the site drains to the underground storm-drain system that is ultimately discharged to the local City of Sacramento Department of Utilities surface water canal network. These surface waters are tributary to the Sacramento River. Key beneficial uses of the receiving waters are designated as municipal, domestic, and agricultural supply, recreation, and freshwater habitat (Central Valley Regional Water Quality Control Board [RWQCB] 1998).

Water quality within the Sacramento River is generally of good quality. Water quality supports beneficial uses most of the time, including drinking and irrigation water. Samples taken at the City water intake indicate that the river has very low concentrations of total dissolved solids, and dissolved concentrations of heavy metals were below laboratory detection limits. Historically, the Sacramento River has been highly turbid and carries high sediment loads.

Despite the Sacramento River's water quality, some contaminants present concern. These contaminants have the potential to be absorbed and held within river bed sediments. Specifically, the Sacramento River and Sacramento/San Joaquin Delta have been listed as impaired for mercury, pesticides, and unknown toxicity. Water quality has been impaired by upstream water management and land uses, including agriculture. Water-quality degradation is compounded by water diversions, which decrease stream flows. Water-quality objectives for the Sacramento River are determined by the Central Valley RWQCB and are summarized in **Table 3.6.1** below.

TABLE 3.6.1: SURFACE-WATER OBJECTIVES

Constituent	Objective
Bacteria	Waters designated for contact recreation cannot have fecal coliform concentrations exceeding regulations.
Biostimulatory Substances	Water shall not contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.
Chemical Constituents	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses.
Color	Water shall be free of discoloration that causes nuisance or adversely affects beneficial uses.
Dissolved Oxygen	The monthly median of the mean daily dissolved oxygen concentration shall not fall below regulation limits.
Floating Material	Water shall not contain floating material in amounts that cause nuisance or adversely affect beneficial uses.
Oil and Grease	Waters shall not contain oils, greases, waxes, or other materials in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.
pH	The pH shall not be depressed below 6.5 or raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters with designated COLD or WARM beneficial uses.
Radioactivity	Radionuclides shall not be present in concentrations that are harmful to human, plant, animal, or aquatic life.
Salinity	Electrical conductivity and total dissolved solids will not exceed regulated levels.
Sediment	The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
Settleable Material	Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.
Suspended Material	Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.
Tastes and Odors	Water shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to domestic or municipal water supplies, fish flesh, or other edible products of aquatic origin, that cause nuisance, or otherwise adversely affect beneficial uses.
Temperature	The natural receiving water temperature of intrastate waters shall not be altered unless it does not adversely affect beneficial uses.
Toxicity	All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.
Turbidity	Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses.

Groundwater Hydrology and Water Quality

A geotechnical investigation conducted by Wallace Kuhl & Associates (2006) encountered groundwater at depths of approximately two to three feet below existing site grades in the borings drilled during their investigation. The preliminary engineering report concluded that relatively shallow groundwater levels and seasonal moisture will likely affect earthwork construction activities.

The Site is located within the South American River Groundwater Subbasin. The major groundwater types are calcium magnesium bicarbonate and magnesium calcium bicarbonate. For the Elk Grove area, the minor groundwater types are sodium calcium bicarbonate and calcium sodium bicarbonate. For the region where the Sacramento and American rivers meet, the minor groundwater types are magnesium sodium bicarbonate or sodium magnesium bicarbonate. The total dissolved solids ranges from 24 to 581 milligrams per liter (mg/l) and has an average value of 221 mg/l (Department of Water Resources 2003; Department of Water Resources 2004).

Flooding Potential and Dam Failure Inundation Zone

Flood protection on the Sacramento River is generally provided by reservoirs and levees. The major reservoirs on the Sacramento River and its tributaries that provide substantial flood protection are Lake Shasta and Folsom Lake. On-site drainage from the agricultural lands in the area flows into local conveyance facilities (ditches and canals) that empty into the Sacramento River. To provide 100-year flood protection, the Federal Emergency Management Agency (FEMA) requires levees to have at least three feet of freeboard, which is the vertical distance between the water level and the top of the levee. According to Flood Insurance Rate Maps (FIRM), the entire Project site is outside the 100-year floodplain as a result of the surrounding levees along the Sacramento River, but is considered to be within the 500-year flood inundation area and could be subject to more frequent flooding in the event of levee or upstream dam failure. Because the levees surrounding the area were built in the 1920s, levee failure on the Sacramento River is of particular concern. In addition to surface erosion, levees are vulnerable to two kinds of seepage risks. The first is through-levee seepage. Because many segments of the Sacramento River levee system were constructed using relatively porous hydraulic mining sediments borrowed from the river channel, some of the levees on the Sacramento River have a propensity to seep when subjected to prolonged high-water surface elevations such as occurred during the floods of 1986 and 1997. A second kind of seepage risk is levee under-seepage. Because the mainstem levees are constructed on high berms relatively close to the river channel, the hydraulic energy of the river can exert itself against the sandy alluvial soil layers that lie beneath the levees. During high flows, this energy is sometimes strong enough to push water through these layers in volumes great enough to create a sustained flow to the surface, an uplift force capable of fracturing the soil mantle on the landside of the levee. This fracture is referred to as a boil. Such boils are not uncommon in major flood events.

In 1986, the U.S. Army Corps of Engineers (ACOE) evaluated the level of flood protection within West Sacramento. At that time, the ACOE concluded that the levees along the Sacramento River and Yolo Bypass did not provide protection from a 100-year flood event. As a result, FEMA revised the City's FIRM, designating a majority of the City to be within the 100-year floodplain. The ACOE conducted another study in 1991, again concluding that the levees surrounding the City did not provide adequate protection from a 100-year flood event. In response to this study, the ACOE, the City, Reclamation District 537 and Reclamation District 900 to coordinate flood control work in West Sacramento. This led to the establishment of the City of West Sacramento Area Flood Control Agency (Flood Control Agency). The Flood Control Agency collects an assessment from West Sacramento property owners to help pay for flood system improvements. The Flood Control Agency reinforced and/or raised the trouble spots of the City's levees. Subsequently, a new FIRM was issued on January 19, 1995, placing all of the area behind the levees (except for bodies of water) into Zone X. Zone X is the designation for "protected from the 100-year storm by levees." Low-lying areas outside the levees were left in the Zone A floodplain. Additional levee system improvements were completed in 2000. The new improvements provide 350- to 400-year flood protection. The City's levees now provide the highest level of flood protection in the Sacramento Valley. Previous studies indicate that the City of West Sacramento is located within the potential 500-year floodplain. This study was prepared from information provided by FEMA, California Reclamation Board, and ACOE. The study indicates that "flood depths would range from a few inches to 15 feet of water in the event of levee system failure."

To help local jurisdictions develop evacuation plans for areas below dams, the State Office of Emergency Services and the Department of Water Resources have identified areas of potential inundation in the event of dam failures throughout California and have estimated when floodwaters would arrive at downstream locations should a failure occur. Projected inundation limits are approximate and assume a severe hypothetical dam failure and resulting flooding.

Flood protection services are provided by numerous agencies, including the City, the Reclamation District 537, Reclamation District 900 and the State of California. The State of California shares responsibility with the reclamation districts for maintaining the levee system surrounding the City. The reclamation districts in the Sacramento area maintain drainage canals and pump stations jointly, and maintenance and operating costs are charged to the property owners within each district on an annual basis. The existing drainage canals and associated storm-drain system would continue to serve the site.

REGULATORY SETTING

County and City Regulations, Goals, and Policies

The County and the City identify goals and policies in their General that protect surface water resources within their individual jurisdictions The policies relevant to the Project discussed below relate to the protection of local aquatic resources and water quality in downstream receiving waters. The proposed Project would be consistent with these goals and policies.

City of Sacramento General Plan - Water Resources Goals & Policies (ER 1)

ER 1.1 Water Protection. Provide protection and improvement of local watersheds, water bodies and groundwater resources, including creeks, reservoirs, the Sacramento and American Rivers and their shorelines.

ER 1.1.1 Conservation of Open Space Areas. The City shall conserve undeveloped open space areas and drainage canals for the purpose of protecting water resources in the City's watershed and the Sacramento and American rivers.

ER 1.1.2 Regional Planning. The City shall continue to work with federal, state, local, and private watershed organizations to improve water quality and provide habitat protection.

ER 1.1.3 Water Quality Protection. The City shall control sources of pollutants and, improve and maintain urban runoff water quality through implementation of storm water protection measures, as required under the National Pollution Discharge Elimination System (NPDES).

ER 1.1.4 New Development. The City shall implement site design, storm water treatment, and best management practices (BMPs) for future development to reduce stormwater flows and protect the quality of water bodies and natural drainage systems.

ER 1.1.5 Control Post-Development Runoff. The City shall control post-development peak storm water runoff discharge rates and velocities to prevent or reduce downstream erosion and to protect stream habitat.

ER 1.1.6 Construction Site Impact Prevention. The City shall require that construction contractors comply with required storm water pollution prevention planning practices for all projects, minimize the amount of graded land surface exposed to erosion, employ proper erosion control methods, and meet the City's erosion and sediment control and stormwater management and discharge control ordinances.

ER 1.1.7 Maintenance Agreements. The City shall require maintenance agreements for selected on-site stormwater quality facilities in development permit conditions.

ER 1.1.8 Chemical Reduction. The City shall maintain citywide landscape design standards that minimize the use of pesticides and herbicides.

ER 1.1.9 City Recycling Services. The City shall provide used oil recycling and/or hazardous waste recycling facilities and drop-off locations for citizens to prevent illegal dumping in the City's stormwater system.

ER 1.1.10 Watershed Education. The City shall implement watershed awareness and water quality educational programs for City staff, community planning groups, the general public, and other appropriate groups.

Sacramento County General Plan (Conservation Element of the County of Sacramento General Plan, 1993)

Open Space Element

Goal: Natural and open space values of urban stream corridors preserved and protected.

Objective: Natural character of 100-year floodplain maintained by limiting fill.

Policy

CO-103. Allow no fill in the 100-year floodplain as delineated by currently effective FEMA Flood Insurance Rate Maps or subsequent comprehensive drainage plans adopted by the County unless the fill would cause no increase in food surface elevation; in the absence of a floodway master plan the resulting floodplain would not be less than 600 feet at road crossings; depth of fill would not exceed two feet, except as the proposed fill area is not necessary to serve as a detention basin for stormwater runoff; and no wetlands as defined by the U.S. Army Corps of Engineers exist within the proposed fill area.

Objective: Land uses within and development adjacent to the Urban Stream Corridor consistent with natural values.

Policy

CO-119. Roads, parking and associated fill slopes shall be located outside of the Urban Stream Corridor, except at stream crossings. Crossings shall be minimized and be aesthetically compatible with naturalistic values of the stream channel.

Sacramento County and City, along with Folsom and Galt, having joined in a regional Memorandum of Understanding, fell under the jurisdiction of the National Pollutant Discharge Elimination System (NPDES) permitting program in 1990. The four following objectives apply to this program:

1. Cost-effective urban runoff controls using best management practices to limit toxic chemicals and nutrients entering receiving water of the state and reduce the amount of toxics stored in areas exposed to flood hazards.

2. Minimal erosion from new development in urban areas.

3. Comprehensive monitoring of surface water quality by coordinated state and local effort.

4. Disposal of hazardous materials so as not to adversely effect surface water quality. The Urban Stream section of this Element contains additional policies and programs pertaining to stream water quality.

Urban Runoff Controls

Objective 1: Cost effective urban runoff controls using best management practices to limit toxic chemicals and nutrients entering receiving waters of the state and reduce the amount of toxics stored in areas exposed to flood hazards.

Policies

CO-9. Community and specific plans shall specify urban runoff control strategies and requirements, consistent with Master Drainage Plans and Public Work's urban runoff management program, for development in newly urbanizing areas and identify sites where retention and treatment are warranted consistent with discharge permit requirement and county-wide runoff measures.

CO-10. Development within newly urbanizing areas shall incorporate runoff control measures in their design or participate in an areawide runoff control management effort consistent with the urban runoff management program developed by the Public Work's Department.

CO-11. Hazardous materials shall not be stored in the 100 year floodplain in such a manner as to pose a significant potential for surface water contamination.

CO-12. The concentration and management of large animals on residential and agricultural-residential parcels shall be such that pasture runoff does not contain excessive nutrient concentrations which would contribute to surface water quality degradation.

Implementation Measures

A. Develop a management plan which establishes objectives, strategies, and control measures for urban runoff in developed and newly developing areas based on state and federal permit and discharge requirements. The plan should include options for minimizing and removing non-point source pollutants, such as grease, oil, dust, and fine solids concentrated in runoff flowing from streets, roofs, and yards.

B. Incorporate urban runoff control strategies and requirements into community plans as they are updated.

C. Adopt and implement the policies and programs of the draft Hazardous Materials Element.

D. Identify acceptable nutrient levels for agricultural residential pasture runoff, determine circumstances which lead to high nutrient loading, assess extent of problem in Sacramento County, evaluate runoff containment and livestock management measures to minimize nutrient laden runoff, assess landowner impacts and develop implementation recommendations.

E. Evaluate and amend the zoning ordinance pertaining to large animal requirements on residential and agricultural residential parcels as necessary to ensure acceptable runoff quality.

F. Establish a system of pollution abatement fees based on the potential peak runoff and land use, evaluate potential mitigation measures for reducing the runoff and/or removing pollutants and provide for appropriately reduced fees.

Erosion

Objective 2: Minimal erosion from new development in urban areas.

Policies

CO-13. Roads and structures shall be designed, built and landscaped so as to minimize erosion during and after construction.

CO-14. Roads and structures shall be designed to minimize grading on slopes above 20 percent.

CO-15. Erosion protection measures and on-site ponding shall be required for all borrow pits and surface mining operations.

Implementation Measures

A. Evaluate and amend grading ordinance as necessary to improve implementation effectiveness and to be consistent with Plan policies and state discharge permit requirements.

B. Develop landscape requirements for slopes above 20 percent and amend Zoning Code as necessary.

C. Develop procedures for erosion control mitigation monitoring.

The City, the County, and the Cities of Folsom and Galt (collectively, "the Permittees") received a municipal National Pollutant Discharge Elimination System (NPDES) permit for stormwater discharges from the Central Valley RWQCB. Under this permit, the Permittees are required to develop, administer, implement, and enforce the Sacramento Stormwater Management Program (SSMP) in order to reduce pollutants in urban runoff to the maximum extent practicable (MEP). The SSMP recognizes the challenges of balancing flood protection with water supply, water quality, habitat and environment, and recreation and trails objectives for the City and County. The SSMP implemented by the City and County is a multi-faceted, dynamic program that is designed to reduce stormwater pollution to the MEP. The SSMP emphasizes all aspects of pollution control including, but not limited to, public awareness and participation, source control, regulatory restrictions, water quality monitoring, and treatment control (City and County of Sacramento 2000).

Controlling urban runoff pollution from new development during and after construction is critical to the success of the Sacramento's Comprehensive Stormwater Management Program. The New Development Management Program (NDMP) is an element of the Comprehensive Stormwater Management Program being implemented by the City and County to specifically control post-construction urban runoff pollutants from new development or redeveloped areas. The goal of the NDMP is to minimize runoff pollution typically caused by land development and protect the beneficial uses of receiving waters by employing a sensible combination of pollutant source control and site-specific treatment control measures. The NDMP envisions reducing stormwater pollutants from new development using two concepts: 1) where the opportunity exists, employ regional water quality control measures, such as detention basins, for areas of large development (i.e., areas generally greater than 100 acres), and 2) employ on-site control measures for commercial, industrial, and multi-family residential land uses in areas not served by regional water quality control measures (City and County of Sacramento 2000).

The fact that there is a potential flooding problem in the Sacramento Valley has been known for some time, and even smaller events, such as 10- to 15-year events, have caused significant flooding in localized areas. As a result, the development of a regional approach to stormwater management and flood protection is a major priority of the SSMP.

Water Quality Regulation

Regulatory authorities exist on both the state and federal levels for the control of water quality in California. The U.S. Environmental Protection Agency (U.S. EPA) is the federal agency, governed by the Clean Water Act (CWA), responsible for water quality management. The U.S. EPA regional office is located in San Francisco and delegates authority for waste discharge permitting to the State Water Resources Control Board (SWRCB).

The SWRCB, located in Sacramento, is the agency with jurisdiction over water-quality issues in the State of California. The SWRCB is governed by the Porter-Cologne Water Quality, which establishes the legal framework for water-quality control activities by the SWRCB. Much of the implementation of the SWRCB's responsibilities is delegated to nine Regional Boards which are responsible for implementing the CWA Sections 402 and 303(d). The State Water Board manages both water rights and statewide regulation of water quality, while the RWQCB's focus is exclusively on water quality in their regions. The Sacramento River Basin is under the jurisdiction of the Central Valley RWQCB.

National Pollutant Discharge Elimination System

The federal NPDES program regulates municipal and industrial stormwater discharges under the requirements of the CWA. The NPDES permit program manages the water quality of receiving waters by controlling and reducing the pollutants entering the surface-water bodies from point and nonpoint discharges. The NPDES program was initially established to regulate the quality of effluent discharge from wastewater treatment plants. Through the NPDES Waste Discharge Requirements, the RWQCB sets limits on the levels of pollutants that may be discharged into navigable waters of the United States.

In November 1990, the U.S. EPA promulgated regulations (40 CFR Part 122) that required municipalities and urban counties with separate storm drainage facilities that serve populations over 100,000 to obtain NPDES permits (Phase I Program). The federal regulations also gave discretionary authority to the state administrating agency (i.e., the SWRCB) to require smaller municipalities to obtain NPDES permits. In California, the NPDES Program is administered by individual RWQCBs.

The 1972 amendments to the CWA prohibit the discharge of pollutants to navigable waters from a point source (a discharge from a single conveyance, such as a pipe) unless the discharge is authorized by an NPDES permit.

In 1987, in recognition that diffuse or non-point sources were significantly impairing surface-water quality, Congress amended the CWA to address non-point source stormwater runoff pollution in a phased program requiring NPDES permits for operators of municipal separate storm-sewer systems (MS4s), construction projects, and industrial facilities.

Phase I, promulgated in 1990, required permits for MS4s generally serving populations over 100,000, construction permits for projects 5 acres or greater, and industrial permits for industries determined by Standard Industrial Classification code.

The Phase II program expands on the Phase I program by requiring additional operators of Small Non-traditional MS4s in urbanized areas and operators of small construction sites, through the use of NPDES permits, to implement programs and practices to control polluted stormwater runoff. Stormwater discharges from Small Non-traditional MS4s can contain a high concentration of pollutants if left uncontrolled. Uncontrolled runoff from construction sites can have negative effects, such as increasing sedimentation in creeks and streams. Phase II is intended to reduce these adverse impacts to water quality and aquatic habitat by instituting the use of controls on the unregulated sources of stormwater discharges.

Under Phase II of the NPDES program, the SWRCB has issued two general permits: 1) Municipal permits – required for operators of Small Non-traditional MS4s, including universities and colleges, and 2) Construction permits – required for projects involving 1 acre or more of construction activity. The municipal permit requires development and implementation of a Stormwater Management Plan (SWMP). The purposes of the SWMP are:

- To identify pollutant sources potentially affecting the quality and quantity of stormwater discharges,
- To provide Best Management Practices (BMPs) for municipal and small construction activities implemented by the SCUSD staff and contractors, and
- To provide measurable goals for implementation of the SWMP to reduce discharge of identified pollutants into the storm-drain system and associated waterways.

The goal of the SWMP is to reduce the discharge of pollutants to the MEP, as defined by the U.S. EPA, and to identify activities or structural improvements that help reduce the quantity and improve the quality of the stormwater runoff. BMPs are developed for U.S. EPA's identified Minimum Control Measures for the SWMP to reduce the discharge of pollutants to the storm-drain system to the MEP. "Minimum Control Measures" is the term used by the U.S. EPA for the six MS4 program elements aimed at achieving improved water quality through NPDES Phase II requirements listed below:

- Public Education and Outreach on Stormwater Impacts
- Public Involvement/Participation
- Illicit Discharge Detection and Elimination
- Pollution Prevention/Good Housekeeping for Facilities Operation and Maintenance
- Construction Site Stormwater Runoff Control
- Post-construction Stormwater Management in New Development and Redevelopment

Small Non-traditional MS4s include separate storm-sewer systems that are located within or discharge to a permitted MS4 and those that pose potentially significant water-quality threats. In general, these are stormwater systems serving public campuses (including universities, community colleges, primary schools, and other publicly owned learning institutions with campuses), military bases, and prison and hospital complexes within or adjacent to other regulated MS4s.

The SWRCB considered designating Small Non-traditional MS4s when adopting the current General Permit; however, the SWRCB has delayed making the final designations.

A list of Small Non-Traditional MS4s anticipated to be designated within the permit term is included in Attachment 3 of the General Permit. The Small Non-traditional MS4s may be designated by the SWRCB or the RWQCB at any time in the near future. Small Non-traditional MS4s designated by SWRCB or RWQCB, including those listed in Attachment 3, must submit to the appropriate RWQCB within 180 days of notification of designation (or at a later date stated by SWRCB or RWQCB), a Notice of Intent (NOI), a complete SWMP, and an appropriate fee.

The construction permit requires projects that disturb more than one acre of soil to develop and implement a Stormwater Pollution Prevention Plan (SWPPP), identifying potential sources of pollution and describing runoff controls both during construction and after the building is complete. Discharges originating from the NESHS drainage area to surface waters are subject to the water quality objectives and discharge prohibitions stipulated in the Basin Plan and are regulated by the Central Valley RWQCB.

Each project exceeding one acre in size that is developed under the SCUSD would be required to prepare and implement a project-specific SWPPP. Requirements will be detailed in the SWPPP for site-specific control measures to prevent or minimize pollutants in stormwater and non-stormwater discharges.

The Project Sponsors are responsible for contractor oversight and enforcement. The SCUSD's current construction specifications require each construction project, regardless of size, to be reviewed to verify that the project meets the SWPPP requirements. Additional requirements will include submission of an NOI, as well as post-construction control requirements.

Sacramento Stormwater Management Program

The SSMP has been established in order to comply with the Basin Plan and requirements of the federal CWA and other federal regulatory programs discussed above. The SSMP is a consortium of local agencies in the Sacramento County area.

The Sacramento County Water Resources Division and Department of Utilities are primary participants in the overall program. The City and County participants worked jointly to prepare the Guidance Manual for On-Site Stormwater Quality Control Measures. The goal of the SSMP is to help local residents, businesses, and municipalities meet the stormwater quality goals of the CWA.

Construction Activity Permitting

The Central Valley RWQCB administers the NPDES stormwater permitting program in the Sacramento Area. As discussed above, construction activities of one acre or more are subject to the permitting requirements of the NPDES General Permit for

Discharges of Stormwater Runoff Associated with Construction Activity (SWRCB 1999, General Construction Permit).

The Project Sponsors must submit an NOI to the RWQCB to be covered by the General Permit prior to the beginning of construction. The General Construction Permit requires the preparation and implementation of an SWPPP. The SWPPP must be prepared before construction begins.

The SWPPP would include specifications for BMPs that would be implemented during project construction to control potential discharge of pollutants from the construction area. Additionally, the plan would describe measures to prevent pollutants in runoff after construction is complete and reference a plan for inspection and maintenance of the project facilities. Implementation of the plan starts with the commencement of construction and continues through the completion of the project. Upon completion, the applicant must submit a Notice of Termination to the SWRCB and/or the Central Valley RWQCB.

IMPACTS AND MITIGATION MEASURES

Standards of Significance

California Environmental Quality Act (CEQA) defines a significant effect on the environment as a substantial, or potentially substantial, adverse change in the physical conditions within the area affected by the project. A hydrology- or water-quality impact would be considered significant if it would result in any of the following, which are adapted from the CEQA Guidelines, Appendix G.

- Violate any water-quality standards or otherwise substantially degrade surface or groundwater quality;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would decline to a level that would not support existing land uses or planned uses for which permits have been granted);
- Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river in a manner that would result in substantial erosion or siltation on or off site, or provide substantial additional sources of polluted runoff;
- Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site, or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems; or
- Place structures within a 100-year flood hazard area, which would impede or redirect flood flows.

Impact Overview

The proposed Project would result in an increase in the impermeable surfaces on the site and may increase stormwater runoff. As dictated by the RWQCB, future construction will require improved management of construction materials and an innovative approach to minimize permanent post-construction impacts associated with increased stormwater flows, sedimentation, and potentially contaminated runoff. Because of the proposed land-use changes that would result from Project development and existing inadequacies associated with the downstream drainage infrastructure, new mitigation measures and Best Management Practices (BMPs) would be necessary to address drainage elements, sediment management, construction activities, stormwater-quality treatment, increased flood peaks, and increased flood volumes.

Peak stormwater flows following new development can be two to five times higher than predevelopment conditions. Increases in stormwater runoff rates and volume have been shown to have a detrimental effect on stream quality and habitat. While many measures exist to reduce peak flow rates, there are not many practical ways to reduce runoff volumes unless soil conditions permit.

With the predominantly clay soils present throughout the local Sacramento area, there is limited opportunity to reduce runoff volume through infiltration, unless it is in small areas, such as bio-retention cells or rain gardens[2]. Volume controls, such as collecting rooftop and parking area runoff in stormwater storage and/or infiltration facilities reduce runoff from developed areas, but such techniques are not always feasible in commercial or industrial areas where the percentage of impervious surface is high.

Urban development increases pollutant load, volume, and velocity of runoff. During urban development, two important changes occur. First, natural vegetated pervious groundcover is converted to impervious surfaces, such as paved highways, streets, rooftops, and parking lots. Natural vegetated soil can both absorb rainwater and remove pollutants, providing a very effective natural purification process. Because pavement and concrete can neither absorb water nor remove pollutants, the natural purification characteristics of the land are lost.

Secondly, urban development creates new pollution sources as human population density increases and brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, hazardous wastes, pet wastes, trash, etc., which can be washed into the municipal's separate storm-sewer system. As a result

[2] Bioretention cells and/or rain gardens are engineered systems to manage stormwater runoff, using the chemical, biological and physical properties afforded by a natural, terrestrial-based community of plants, microbes and soil. Bioretention provides two important functions: (1) water quantity (flood) controls; and (2) improve water quality through removal of pollutants and nutrients associated with the runoff.

of these two changes, the runoff leaving the developed urban area is significantly greater in volume, velocity, and pollutant load than the pre-development runoff from the same area.

The pollutants found in urban runoff can have damaging effects on both human health and aquatic ecosystems. In addition, the increased flows and volumes of stormwater discharged from new impervious surfaces resulting from new development and redevelopment can significantly affect beneficial uses of aquatic ecosystems due to physical modifications of watercourses, such as bank erosion and widening of channels.

Water-quality degradation is associated with increases in percent imperviousness. The increased volume and velocity of runoff from developed urban areas can greatly accelerate the erosion of downstream natural channels. A number of studies have demonstrated a direct correlation between the degree of imperviousness of an area and the degradation of beneficial uses of downstream receiving waters. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as a ten percent conversion from natural to impervious surfaces. Even at low densities, standard subdivision and commercial development designs can exceed the ten percent imperviousness threshold that, as noted above, is theorized to be the threshold for degradation of streams and other waters with increasing imperviousness of their catchment.

Less-than-Significant Impacts

The Project would not substantially alter a natural watercourse. Project development would not expose people or property to flooding associated with seiches or tsunamis. Minor infrastructure upgrades to the storm-sewer system may be required for installation of new storm drainage elements including on-site storm drainage treatment and storage facilities, storm drain pipes and/or catch basins.

Potentially Significant Impacts and Mitigation Measures

Impact 3.6.1 *The Project would result in increased runoff at the Project site due to Project development. (S)*

Project development would require grading and creation of additional impervious surface area at the Project site. Impervious surfaces reduce surface-water infiltration and increase the volume and rate of surface runoff. Estimated increases in impervious surface area have been calculated based on the level of development proposed by the Project. Impervious surface area for the proposed Project was estimated based on gross square footage of future buildings, proposed land-use elements (e.g., athletic facilities), and estimates of the current level of development of the site.

Based on the estimated square footage that will be covered by the proposed Project, it is estimated that impervious surface area would increase by about 5.4 acres as shown in **Table 3.6.2**. Thus, peak storm runoff flows from the developed Project area would potentially increase when compared to preexisting conditions and could impact existing storm drainage facilities downstream of the Project area. The post-Project runoff coefficient would increase from 0.42 to 0.63 and associated increases in peak flows would be expected.

TABLE 3.6.2: COMPARISON OF EXISTING AND PROPOSED SITE RUNOFF COEFFICIENTS

Land-Use Category	Existing Area		Existing Runoff Coefficient[1]	Proposed Area		Proposed Runoff Coefficient[1]
	sq. ft.	acres		sq. ft.	acres	
Parking Lots	15,124	0.3	0.9	108,372	2.5	0.9
Buildings	0	0.0	0.9	47,380	1.1	0.9
Athletic Fields	31,166	0.7	0.45	150,473	3.5	0.45
Other Athletic (Impervious)	0	0.0	0.75	12,307	0.3	0.75
Landscaped Areas	0	0.0	0.4	67,746	1.6	0.4
Open Space	536,800	12.3	0.4	118,745	2.7	0.4
Pathways, other developed surfaces	7,281	0.2	0.9	85,349	2.0	0.9
	Total	13.6		Total	13.6	
Composite runoff coefficient			0.42			0.63

[1] Source: Dunne & Leopold, 1978

The primary drainage canal serving the Project area is Havenside Canal. Increases in storm runoff discharges from the Project would potentially impact Havenside Canal. The City of Sacramento Department of Utilities requires new development projects that may increase storm runoff flows to the local drainage canal system to evaluate the existing capacity of the local drainage canal and the applicable downstream pumping station. The Sacramento Department of Utilities has indicated that the Project area/Havenside Canal is served by Sump #132 with a capacity of 0.52 cfs per contributing acre. By applying the Department of Utilities On-site Detention vs. Available Capacity Curve from the current City of Sacramento Design and Procedures Manual (Figure 11.7.3.2(A)) it is estimated that 950 cubic feet of on-site stormwater storage/detention capacity per acre of new impervious surface will be needed to offset potential increases in flow (Pers. Comm. with Sacramento City Department of Utilities,

12/18/07). On-site storage of storm runoff can be accomplished through the engineering design and construction of drainage swales, bioretention areas, and/or underground vaults. Potentially suitable locations for on-site stormwater storage and treatment facilities include open areas along the perimeter of the Site; the facilities can be integrated into proposed courtyards, landscaping areas and/or athletic fields.

The 100-year peak flow for the site was calculated using the Rational Method. Under existing conditions, the peak flow was estimated at 6.9 cfs, where 0.42 was used for the composite site runoff coefficient, 1.21 inches per hour was used for the rainfall intensity, and 13.6 acres was used for the total drainage area. Similarly, under proposed conditions, the 100-year peak flow was estimated at 10.4 cfs, where 0.63 was used for the composite site runoff coefficient, 1.21 inches per hour was used for the rainfall intensity, and 13.6 acres was used for the total drainage area. The value of 1.21 inches per hour is the local rainfall intensity associated with the 100-year, 1-hour duration event (Sacramento County Water Resources Division and City of Sacramento Department of Utilities Division of Engineering Services 1996, Table 4-1). Thus, the unmitigated peak flow under proposed conditions shows an increase of 3.5 cfs compared to the existing conditions.

Without construction and operation of on-site storm drainage stormwater treatment and storage facilities, the impact on downstream flooding is considered a potentially significant impact.

Mitigation Measure 3.6.1 Manage Stormwater Runoff. In order to prevent site development from contributing to downstream flooding, the Project Sponsors shall accomplish the following:

- Construct and operate on-site storm drainage treatment and storage facilities (divert parking lot and building runoff to vegetated swales, bioretention areas and/or other similar measures to reduce peak runoff rates and increased runoff volumes.

- Develop and implement the Project Sponsors' SWMP consistent with the NPDES Phase II municipal stormwater permit requirements.

- Include site design features that would decrease post-development runoff, including features presented in the Sacramento Stormwater Management Program's "Guidance Manual for On-Site Stormwater Quality Control Measures" (2000).

The Sacramento County Water Resources Division and/or the City of Sacramento Department of Utilities Division of Engineering Services shall specify the final criteria (including the storm event or events and models) that shall be used by SCUSD to design on-site stormwater treatment and storage facilities, site features, or other measures used to prevent impacts caused by increases in post-development stormwater runoff.

In establishing the appropriate design criteria (e.g., 100-year, 24-hour storm event), the City shall be consulted regarding the storm events that shall be used in designing facilities with sufficient capacity to prevent impacts on downstream storm drainage facilities.

The Project Sponsors shall prepare a site-specific drainage study for the Project. Based on the results of this study, the Project Sponsors shall design, construct, and maintain Project-specific storm drainage system improvements, site features, or measures that are sufficient to assure that the peak storm runoff leaving the Project site does not increase and that the increased runoff leaving the project Site does not cause downstream flooding.

As a minimum, stormwater treatment and storage facilities and other site features and measures should be designed, constructed, and implemented in accordance with the following design criteria provided by the City of Sacramento Department of Utilities: On-site drainage improvements for the Project shall be sufficient to assure that 950 cubic feet of on-site stormwater storage/detention capacity per acre of new impervious surface is developed to offset potential increases in flow and minimize the potential for future flooding. On-site storage of storm runoff can be accomplished through the use of drainage swales, bioretention areas, and/or underground vaults; these measures should be integrated with site landscaping elements.

Individual stormwater treatment and storage facilities, site features, or measures may serve more than one building, but the Project Sponsors must demonstrate adequate capacity to prevent increased runoff as part of the project application and to address stormwater treatment requirements. The on-site facilities shall be designed to temporarily store the stormwater runoff and not create extended ponding that could result in mosquito breeding. Prior to stormwater facility construction, the Sacramento County Water Resources Division and/or the City of Sacramento Department of Utilities shall approve the proposed improvements.

Impact 3.6.2 *Proposed construction activities and post-construction operation of Project facilities would result in the degradation of surface water quality in downstream receiving waters. (S)*

Construction-Period Impacts

Project grading and excavation would temporarily disturb surface soils. During the construction period, grading and excavation activities would result in exposure of soil to runoff, potentially causing erosion and entrainment of sediment in the runoff. Soil stockpiles and excavated areas on the Project site would be exposed to runoff and, if not managed properly, the runoff could cause erosion and increased sedimentation in water

courses at or away from the Project site. The accumulation of sediment could result in blockage of flows, potentially resulting in increased localized ponding or flooding.

There is the potential for chemical releases during construction activity. Once released, substances such as fuels, oils, paints, and solvents could be transported to nearby surface waterways and/or groundwater in stormwater runoff, wash water, and dust control water, potentially reducing the quality of the receiving waters.

Post-Construction Operation-Period Impacts

Continued and potentially intensified urban uses within the Project site would result in increased vehicle use and potential discharge of associated pollutants. Leaks of fuel or lubricants, tire wear, and fallout from exhaust contribute petroleum hydrocarbons, heavy metals, and sediment to the pollutant load in runoff being transported to receiving waters. Runoff from the proposed landscaped areas and park may contain residual pesticides and nutrients. Long-term degradation of water quality runoff from the Site could impact water quality. Subsequent to construction, runoff containing pollutants from developed areas could cause surface water quality degradation.

Mitigation Measure 3.6.2a Mitigation Measure 3.6.1 shall be implemented. (LTS)

Mitigation Measure 3.6.2b Best Management Practices for potential water quality impacts associated with Project construction activities shall be implemented as follows:

- For each construction project that disturbs over 1 acre, SCUSD shall apply to the SWRCB for coverage under the State General NPDES Permit for Stormwater Discharge Associated with Construction Activity as required. The site manager shall be responsible for assuring that an SWPPP is maintained at the Site and implemented, and that all required site monitoring is performed.

- All construction on campus shall abide by the SCUSD Stormwater Management Plan.

- Each construction site shall be visited approximately once per month during the rainy season, and as needed during the summer months by a SCUSD employee who reviews stormwater best management practices used on site.

- Periodically, construction site conditions shall also be reviewed by City staff. Any deficiencies shall be brought to the site manager for immediate correction.

- Regular reminder letters and on-site training shall be performed throughout the year at campus construction sites.

- Project Managers shall be trained in stormwater pollution prevention requirements.

Best Management Practices for Preventing Post-Construction Urban Runoff Pollution shall be implemented as follows:

- The Project Sponsors shall implement site improvements for new buildings and parking lots that include BMPs that are effective for preventing post-construction stormwater and groundwater pollution caused by urban runoff, including bioretention/infiltration areas, grassy swales, and vegetated filter strips to ensure that applicable NPDES stormwater quality treatment requirements are met.

- Prior to construction, the City shall review and approve the proposed post-construction BMPs to assure conformance with the Sacramento County Stormwater Water Quality Management Plan and/or the SCUSD Stormwater Management Plan. (LTS)

Impact 3.6.3 ***The Project would contribute to cumulative impacts to surface water hydrology and water quality. (S)***

Cumulative development in the Project area would contribute to impervious surface area, affecting flooding, groundwater recharge, and water quality. However, according to the City, the proposed development is in an area that generally consists of existing urban land uses. At this time, there are no significant new development projects within the general Project vicinity that would add substantial areas with impervious surfaces and any proposed future developments would be required to maintain existing hydrologic conditions through site design and implementation of required stormwater mitigation measures.

The proposed Project would contribute runoff to Havenside Canal, Pocket Canal and the Sacramento River. In some locations, past development activities have already exceeded the capacity of existing storm drainage facilities. The capacity of the existing storm drainage facilities serving the site would need to be further evaluated prior to construction of new site drainage utilities.

Mitigation Measure 3.6.3 Mitigation Measures 3.6.1, 3.6.2a and 3.6.2b shall be implemented. (LTS)

3.7 GEOLOGY AND SOILS

SETTING

Topography

The Project site is relatively flat and lies at any elevation of approximately zero to five feet above mean sea level (msl). The local topography slopes gently upward to the north, west and south towards the levees along the eastern bank of the Sacramento River. These levees are the highest topographic features in the site area.

Regional Geology

The Project site is located within the lower Sacramento River Valley, which is part of the Great Valley Geomorphic Province. The Sacramento Valley trends generally north-south; it is bordered by the Coast Ranges to the west and by the Sierra Nevada to the east. The valley is filled with a thick sedimentary sequence of marine and nonmarine origin. In the Sacramento area, the sedimentary deposits are some 5,000 to 10,000 feet thick (LFR 2007).

Site Geology

The Project site is located in a low-lying area near the Sacramento River. The site area is underlain by unconsolidated Quaternary alluvial deposits, which have been mapped as "Holocene Alluvium" and "Holocene Basin Deposits, Undivided". The deposits probably represent a variety of different alluvial environments, such as channels, levees and floodplains (Hackel 1966).

Soils

The soils at the site have been mapped as Egbert Clay, partially drained, zero to two percent slopes. This soil type is commonly associated with low-lying alluvial floodplains in the lower Sacramento River Valley. In January 2006, Wallace-Kuhl & Associates (WKA 2006) drilled six soil borings at the site. The shallow soils at depths above 13.5 feet below ground surface (bgs) were consistently logged as brown silty clay; and at depths of 13.5 to 16 feet bgs the soils were logged as brown, clayey fine sand. WKA noted several geotechnical concerns with the shallow soil at the site including relatively low unconfined compressive strength, a relatively low dry unit weight, a relatively high organic content and a shallow water table. WKA concluded that the soils at the Project site were not suitable for support of shallow foundations, slabs-on-grade or the support of earthen fills in their present conditions. WKA suggested the site would likely require a significant amount of ground improvements or deeper foundations in order to support typical building loads without significant settlement. The soils did not appear to be unusually corrosive nor did the soils appear to be unusually expansive.

LFR conducted 13 cone penetrometer tests at the site to a maximum depth of 50 feet bgs in December 2006. LFR reported stiff desiccated clay to depths of three to four feet bgs, underlain by seven to eight feet of soft to very soft normally-consolidated clay. The clays were reported underlain by interbedded silty sands and sandy silts to a depth of 50 feet bgs. LFR recommended the soils be improved either through excavation or

replacement or through the installation of rammed aggregate piers (GeoPiers[tm]). A rammed aggregate pier is a rigid gravel inclusion inserted into the native soil matrix. The piers somewhat stiffen the existing soils by displacing them laterally, which compacts them. Their main benefit, however, is that they have significant vertical capacities for supporting building elements.

Faulting and Seismicity

Regionally active faults within 50 miles of the Project site that are capable of producing significant ground shaking at the site are shown in **Table 3.7-1**. Most of the identified faults, including the Great Valley, Concord-Green Valley and Hunting Creek-Berryessa faults are located to the west of the Project site in the Coast Ranges area. The Foothills fault system is located to the east of the site, in the Sierra Nevada foothills (LFR 2006).

TABLE 3.7-1: KNOWN ACTIVE EARTHQUAKE FAULTS WITHIN 50 MILES OF PROJECT SITE

Abbreviated Fault Name	Approximate Distance to Site – mi/km	Magnitude of Maximum Earthquake
Great Valley 4	22.7/36.5	6.6
Great Valley 5	23.6/38.0	6.5
Foothills Fault System 1	25.9/41.7	6.5
Great Valley 3	28.1/45.2	6.9
Concord-Green Valley (CON+GVS+GVN)	35.6/57.3	6.7
Concord-Green Valley (GVS+GVN)	35.6/57.3	6.5
Concord-GreenValley (GVN)	35.6/57.3	6
Concord-Green Valley (Floating)	35.6/57.3	6.2
Hunting Creek-Berryessa	35.9/57.7	7.1
Concord-Green Valley (CON+GVS)	36.7/59.1	6.6
Concord-Green Valley (GVS)	36.7/59.1	6.2
Foothills Fault System 2	37.4/60.2	6.5
Concord-Green Valley (CON)	42.9/69.1	6.3
Foothills Fault System 3	44.1/71.0	6.5
Mount Diablo	44.2/71.2	6.7
West Napa	44.4/71.4	6.5
Greenville	45.1/72.6	6.7

Notes: CON = Concord; GVS = Green Valley South; GVN = Green Valley North.
Source: LFR 2006

The Project site is not located within an Alquist-Priolo Earthquake Fault Zone. The closest known active faults, including the Great Valley fault and the Foothills fault system are located at distances of approximately 22 to 26 miles from the Project site, and there are no Alquist-Priolo Zones associated with these faults. The nearest Alquist-Priolo Zone is associated with the Concord-Green Valley fault in southwest Solano County, located approximately 36 miles to the southwest of the Project site. Based on these points there does not appear to be a significant risk of surface rupture on site during the expected service life of the proposed Project (LFR).

Liquefaction can be induced by shaking from an earthquake, which can cause granular materials to lose inherent shear strength due to increased pore water pressures. Some of the factors that typically contribute to liquefaction risk include a shallow water table, low relative density of granular materials below the groundwater table, low soil cohesion or plasticity, low percentage of fine-grained material in soil, relatively long seismic shaking duration and high horizontal ground acceleration during earthquake.

The City of Sacramento has identified the Pocket area as "susceptible to liquefaction hazards". WKA indicated that a liquefaction analysis would be required for a final geotechnical engineering report. LFR subsequently conducted a detailed liquefaction assessment and concluded that the silty sand, sandy-silt and silt strata below 20 feet bgs were potentially liquefiable. The fine-grained silts and clays at shallower depths were not considered likely to be liquefiable (LFR 2007).

The Project site is essentially flat and given the lack of relief, no significant landslide risk exists. The site lies within the Folsom Dam Failure Flood Area as mapped by the County of Sacramento. Folsom Dam is located about 25 miles northeast of the Project site. The Folsom Dam Failure Flood Area affects much of the County including the City of Sacramento. The City of Sacramento has recognized this concern, but has stated that "the occurrence of dam inundation is based on extremely remote conditions" (City of Sacramento 2005).

IMPACTS AND MITIGATION MEASURES

Standards of Significance

For purposes of this EIR, geologic and seismic impacts are considered significant if the Project would result in any of the following:

- Causes exposure of people or structures to major geologic hazards.
- Causes substantial erosion or siltation.
- Prevents the recovery of significant mineral resources.
- Conflicts with state seismic standards for schools.

Impact Overview

The Project would not be subject to significant geologic hazards associated with landslides, tsunamis or seiches. The Project is not located within a FEMA designated 100-year floodplain. The Project site would be subject to strong ground shaking which is considered a significant impact. Site soils are subject to liquefaction and not suitable for conventional building foundations. The recommended mitigation measures would reduce potentially significant impacts to a less-than-significant level.

Issues associate with erosion are addressed in Section 3.6 Hydrology and Water Quality of this DEIR.

Potentially Significant Impacts and Mitigation Measures

Impact 3.7.1 ***The Project would be subject to potentially significant hazards associated with seismic ground shaking. (S)***

Mitigation Measure 3.7.1 The Project Sponsors shall implement the design recommendations included in the Geotechnical Design Report, prepared by LFR and dated February 27, 2007.

Impact 3.7.2 ***The Project sites' soils are not suitable without some form of ground improvement for support of conventional spread or continuous footing foundations. (S)***

Mitigation Measure 3.7.2 The Project Sponsors shall implement the design recommendations included in the Geotechnical Design Report, prepared by LFR and dated February 27, 2007.

3.8 HAZARDS AND HAZARDOUS MATERIALS

SETTING

The Project site comprises approximately 13.55 acres and consists of 9.8 acres of undeveloped land owned by the District and 3.75 acres of existing park land (Sojourner Truth Park) owned by the City. Historical records indicate the site was used for dryland farming. Agricultural use of the site ceased in the 1970s (LFR 2006). Sojourner Truth Park was constructed in [City to provide year of construction].

Hazards

The District must consider the proximity of the high school component of the Project to various potentially hazardous conditions such as high voltage power transmission lines; hazardous facilities and air emissions; high pressure water pipelines; airports; and railroad tracks as identified in *Title 5 of the California Code of Regulations* (State of California 2007). The proximity of the high school campus to potentially hazardous conditions was identified in the Phase I Environmental Site Assessment Report prepared by LFR (LFR 2006). Potential hazardous conditions are summarized below.

High Pressure Water Pipelines

LFR found no high pressure water lines based on review of public works maps.

Underground Storage Tanks

LFR found no underground storage tanks located at the Project site based on a review of available documents (LFR 2006).

Aboveground Fuel or Water Storage Tank or Pipeline Conveying Hazardous Materials

LFR found no above ground fuel or water storage tanks or high pressure natural gas or petroleum pipelines on or within 1,500 feet of the high school campus (LFR 2006).

Hazardous Materials and Air Emissions

The high school campus is not located within a one-quarter mile radius of a facility which might reasonably be anticipated to emit hazardous air emissions or handle hazardous materials or waste (LFR 2006).

Railroad Tracks

The high school campus is not within 1,500 feet of an active railroad track easement (LFR 2006).

High Voltage Power Transmission Lines

The Havenside Canal Substation, owned by the Sacramento Municipal Utilities District (SMUD), is located within approximately 150 feet east of the high school site. According to SMUD, the substation reduces electrical voltage from 69 kilovolts (kV) to 12 kV throughout the surrounding residential area. There are no overhead electric transmission

lines within 350 feet of the high school site or underground lines of 50 kV or greater within 100 feet of the high school site.

Airports Located within Two Nautical Mile Radius

The high school campus is located approximately 1.72 nautical miles west-southwest from the active Sacramento Executive Airport runway. The Department of Transportation Aeronautics Program was notified and determined the Project would not create an undue hazard (State of California 2008).

Busy Freeway or Traffic Corridor

The Project site is not within 500 feet of a State highway or Interstate freeway. The adjacent Swale River Way and Gloria Drive intersection has an average daily traffic count of 3,973 which is well below the 100,000 vehicle trips per day specified in Senate Bill 352 which triggers a detailed air quality assessment.

Hazardous Materials

During the course of agricultural use, pesticides such as DDT and lead arsenate may have been applied to crops in the normal course of farming operations. A *Preliminary Environmental Assessment Report* (PEA) was prepared by LFR (2007) for the Project site. The purpose of the PEA was to evaluate whether a release or threatened release of hazardous substances, which pose a threat to human health or the environment, exists at the Project site and to evaluate the potential risk, if any, to human health or the environment.

Soil samples taken from the Project site were tested for organochlorine pesticides (OCPs) using U.S. EPA Method 8081A; California Assessment Manual 17 (CAM 17) metals including arsenic, using U.S. EPA Method 6000/7000 Series; and arsenic, using U.S. EPA Method 6010B. The soils analysis concluded OCPs are present but not at concentrations considered to pose a health risk; and lead was detected below DTSC's acceptable level of 255 milligrams per kilogram for lead in soil for school sites. The PEA concluded that current site conditions do not appear to pose a health threat (2007 LFR).

The Department of Toxic Substances Control (DTSC) has reviewed and approved the PEA and determined that no further environmental investigation of the Project site is required. A copy of the DTSC confirmation letter is included as **Appendix E**.

Federal and State Regulations

Applicable federal and state laws and regulations governing the generation, handling, transportation and disposal of hazardous materials are described in the following sections. Federal Agencies that regulate hazardous materials include the Environmental Protection Agency (EPA) and the Occupational Safety and Health Administration (Fed/OSHA). At the state level, agencies such as the DTSC, the Sacramento County Department of Environmental Health, California Occupational Safety and Health

Administration (Cal/OSHA) and the Office of Emergency Services govern the use of hazardous materials.

Federal Regulations

Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984. Federal hazardous waste laws are generally promulgated under the Resource Conservation and Recovery Act (RCRA). These laws provide for the "cradle to grave" regulation of hazardous wastes. Any business, institution, or other entity that generates hazardous waste is required to identify and track its hazardous waste from the point of generation to the point of disposal, reuse or recycling.

Hazardous Materials Transportation Act. The US Department of Transportation regulates hazardous material transportation under 49 CFR. This Act requires documentation of hazardous materials during transport including waste manifests, packaging and hazardous material identification placards.

29 CFR, Occupational Health and Safety Act. The federal Occupational Safety and Health Act is intended to ensure that employers provide their workers with a work environment free from recognized hazards to the safety and health, such as exposure to toxic chemicals, excessive noise levels, mechanical dangers or unsanitary conditions. Operation of this program is delegated to the state and operated by the Cal/OSHA. These regulations apply to all District and City employees including student employees and research assistants. Standards are created by the National Institute for Occupational Safety and Health (NIOSH) as the research institution for Fed/OSHA.

State Regulations

The term hazardous substance refers to both hazardous materials and hazardous wastes. A material is defined as hazardous if it appears on a list of hazardous material prepared by a federal, state or local regulatory agency or if it has characteristics defined as hazardous. The CalEPA and DTSC define hazardous waste, as found in the *California Health and Safety Code*, Section 25141(b) as follows:

> "...its quantity, concentration or physical, chemical or infectious characteristics: (1) cause or significantly contribute to an increase in mortality or an increase in serious, irreversible or incapacitating reversible illness; (2) pose a substantial present or potential hazard to human health or the environment due to factors including, but not limited to, carcinogenicity, acute toxicity, chronic toxicity, bioaccumulative properties or persistence in the environment when improperly treated, stored, transported or disposed of, or otherwise managed."

The federal regulations expand into state regulation in that the EPA has the primary responsibly for implementing RCRA; however, individual states are encouraged to seek authorization to implement some or all of the RCRA provisions. California received authority to implement the RCRA program in August 1992. The California DTSC is responsible for implementing the RCRA program, as well as California's own hazardous waste laws which are collectively known as the Hazardous Waste Control Law. Under the Certified Unified Program Agency (CUPA) program, the DTSC has delegated enforcement authority to the Sacramento County Department of Environmental Health which has direct oversight of hazardous waste generation, transportation, treatment, storage and disposal for the District.

State agencies with primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol and the California Department of Transportation. These agencies also govern permitting for hazardous material transportation.

These standards for the Occupational Health and Safety Act are also adopted at the state and local level and are enforced by the Cal/OSHA and other agencies.

A summary of the state regulations that apply to the Project regarding hazardous materials is provided below:

Hazardous Materials Release Response Plans and Inventory Act. Chapter 6.95 of the *California Health and Safety Code* requires facilities that use, store or generate hazardous substances or have a change in business inventory to have a Hazardous Materials Management Plan (HMMP) or a Hazardous Materials Business Plan (HMBP). The plan must disclose the type, quantity and storage location of materials. The law also requires a site-specific emergency response plan, employee training and designation of emergency contact personnel.

Title 22, California Hazardous Waste Control Law. As previously discussed, the DTSC regulates the generation, transportation, treatment, storage and disposal of hazardous waste under the RCRA and California Hazardous Waste Control Law. Both laws impose "cradle to grave" regulatory systems for handling hazardous waste in a manner that protects human health and the environment. The DTSC has delegated some of its authority under the Hazardous Waste Control Law to county health departments and other CUPAs including the Sacramento County Department of Environmental Health.

Title 8 CCR, California Occupational Safety and Health Act. California has developed an Emergency Response Plan to coordinate emergency services provided by federal, state and local government as well as private agencies. The plan is administered by the Office of Emergency Services and includes response to hazardous material incidents. The Office of Emergency Services coordinates the response of other agencies including the Cal/EPA, The California Highway Patrol, the California Department of Fish and Game, the Regional Water Quality Control Board, the Sacramento Metropolitan Air Quality Management District, and the City of Sacramento Fire Department.

Proposition 65. Proposition 65, the Safe Drinking Water and Toxic Enforcement Act of 1986, was enacted as a ballot initiative in November 1986. The Proposition was intended by its authors to protect California citizens and the State's drinking water sources from chemicals known to cause cancer, birth defects or other reproductive harm, and to inform citizens about exposures to such chemicals. Proposition 65 requires the Governor to publish, at least annually, a list of chemicals known to the state to cause cancer or reproductive toxicity and that facilities provide a warning before exposure to chemicals known to cause cancer or reproductive toxicity takes place.

IMPACTS AND MITIGATION MEASURES

Standards of Significance

The evaluation of significance of an impact relies on thresholds identified in the regulatory requirements referenced above and on professional judgment and knowledge of the context within which the impact would occur. For purposes of this EIR, development of the Project would present a significant impact if it:

- Does not adhere to the federal and/or state regulatory requirements (see Federal and State Regulations in Setting section above) for facilities that use and/or store hazardous substances.
- Does not utilize regulatory guidelines and best management practices for use, transport and storage of substances within the campus that may be defined as hazardous.
- For the high school campus, does not comply with Title 5 of the California Code of Regulations.

Impact Overview

The Project would meet applicable Title 5 requirements of the California Code of Regulations for the location of new K-12 school facilities. Prior to occupation of the high school, the District will prepare an emergency evacuation plan [District to confirm]. The Project would meet all applicable federal and State regulations. Analytical data of the on-site soil sample indicate organochlorine pesticides are below concentrations that pose a health risk and the presence of lead in soils was below DTSC acceptable levels.

High school science labs would use and store chemicals, however, these hazardous materials would be properly used and stored within State standards.

Less than Significant Impacts

The high school would include science labs that would include the use of chemicals that are considered hazardous materials [District please provide information on what will be used and stored in the labs.] The science labs would be equipped with proper containment and storage for hazardous materials [Max to provide info on storage/containment design] Pursuant to the proper storage and use of chemicals in the science labs, the presence of hazardous materials at the high school is considered a less-than-significant impact.

Potentially Significant Impacts and Mitigation Measures

The Project would not result in significant impacts due to the storage and use of chemicals in the high school science labs. No mitigation measures are required.

3.9 PUBLIC SERVICES

SETTING

Police Protection

The Sacramento Police Department uses Community Policing as its guiding philosophy and is dedicated to working in partnership with residents and interagency service providers to protect life and property, implement long-term solutions to problems, promote neighborhood revitalization and enhance the quality of life throughout the city.

The Department has an authorized strength of 804 sworn police officers, 438 civilian staff and 26 part-time non-career employees. The Department is managed by the Chief of Police and four Deputy Chiefs who oversee the Offices of Operations, Investigations, Technical Services, Emergency Services and Homeland Security.

The Department has 19 police officers dedicated to 15 schools. These police officers are first responders to calls for service at the schools and the surrounding communities when calls involve students. Officers are responsible for crimes in progress, criminal investigations, truancy and gang suppression. They are deployed during normal school hours at all schools and also are deployed at school events that occur during nights and weekends.

The Patrol Division, in the Office of Operations, is directly responsible for managing and responding to emergency and non-emergency calls for service. Two substations house the patrol teams responsible for patrol services. The main headquarters for the Department is located at the Public Safety Center, Chief Deise/Kearns Administration Facility, 5770 Freeport Boulevard. The Department has two substations from which patrol divisions operate. The facility that serves the Project site is the Joseph E. Rooney Police Facility located at 5303 Franklin, approximately six miles from the site. The other substation is the William J. Kinney Police Facility located at 3550 Marysville Boulevard.

The Joseph E. Rooney Police Facility serves three main districts each having three beats. These districts cover the southern half of the city and are bounded by US Highway 50 on the north, Sheldon Road on the south, South Watt Avenue on the east and the Sacramento River on the west. The approximate current patrol staffing for 24 hours per day, seven days per week is: one police captain, five police lieutenants, 19 police patrol sergeants, four police POP sergeants, 143 police patrol officers and 33 POP officers.

The Department is currently funded for 1.7 officers per 1,000 residents, the Department's goal is to maintain a ratio of two to 2.5 police officers per 1,000 residents. The Department is currently developing a new master plan which will include an updated citywide staffing, resource and facility plan to address current staffing issues as well as projected growth in the city for the next ten years (Poerio 2008).

Fire Protection

Fire protection services to the Project site is provided by the Sacramento Fire Department. Station 11 located at 785 Florin Road would provide first response service to the site (Tunson 2007a).

IMPACTS AND MITIGATION MEASURES

Standards of Significance

For the purposes of this EIR, development of the Project would present a significant impact if it:

- Results in substantial increases in demand on public services that would affect acceptable service ratios, response times or other performance objectives.

Impact Overview

The Project would not result in significant impacts on police and fire protection services.

Less-than-Significant Impacts

Demands on Police Protection Services

Development of the Project site with a high school, public library and upgraded city park would result in an increase in calls for police services. The Sacramento Police Department has determined this increase would require one additional sworn police officer, however, the Department has concluded the Project would have less-than-significant impacts on police services (Poerio 2008).

Demands on Fire Protection Services

The Sacramento Fire Department has determined the Project would not have a significant impact on the Department's ability to provide service to the Project site (Tunson 2007a, b).

Potentially Significant Impacts and Mitigation Measures

The Project would not result in significant impacts to police and fire protections services. No mitigation measures are required.

CHAPTER

4 ALTERNATIVES

Section 15126.6(a) of the CEQA Guidelines requires than an EIR consider a reasonable range of alternatives to the Project or its location which would feasibly attain most of the basic objectives of the Project, but would avoid or substantially lessen any of the significant adverse effects of the Project. The EIR should focus on alternatives that would avoid or substantially lessen significant adverse environmental effects even if the alternative would somewhat impede the attainment of Project objectives or would be more costly. The range of potential alternatives should include those that can feasibly accomplish most of the purposes of the Project while avoiding or substantially lessening one or more of the Project's significant adverse effects. For public school districts, alternatives typically address changes to the site plan or building design, or an alternative location to avoid or reduce environmental effects. Public school districts are legally responsible for providing educational capacity at their facilities to serve projected student enrollment growth; therefore, reducing the capacity of educational facilities below projected student population requirements is not an available alternative for public school districts.

Sufficient information about each alternative should all be included to allow a meaningful evaluation, analysis and comparison with the proposed Project. If alternatives cause one or more significant effects in addition to those caused by the Project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects for the proposed Project (CEQA Guidelines, Section 15126.6(d)).

The evaluation of alternatives is governed by the "rule of reason" under which an EIR must consider a reasonable range of options that could accomplish the basic purpose and need for the Project. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the Project (CEQA Guidelines, Section 15126.6(f).

4.1 ALTERNATIVES COMPARISON

Two alternatives to the proposed Project have been analyzed in the DEIR: the No Project Alternative and the Master Plan 8 Alternative. The No Project Alternative is required by CEQA (Section 15126.6(e)).

Each alternative is described below and their impacts summarized in **Table 4.1** (located at the end of this chapter). **Table 4.1** identifies each impact of the proposed Project (described in Chapter 3) and its level of significance before and after mitigation as Significant or Less than Significant. **Table 4.1** compares the level of significance of each Project impact with that of each alternative.

4.2 NO PROJECT ALTERNATIVE

CEQA defines the "No Project" alternative in this instance as the consequence of not approving the School of Engineering and Sciences & Greenhaven/Pocket Library Joint Use Project (CEQA Guidelines 15126.6(e)(3)(B)). Thus, the high school, library and expanded park facilities would not be constructed with this alternative. The existing Sojourner Truth Park would continue to operate in its current condition.

With this alternative, there would continue to be a need for a new high school, library and expanded park facilities in the Greenhaven and Pocket neighborhoods.

Visual Resources The appearance of the Project site would remain in its current state with views of vacant land and Sojourner Truth Park.

Planning and Land Use Land use conditions would remain as they currently exist. The District-owned property would be available for future development by the District and Sojourner Truth Park would not be upgraded.

Traffic and Circulation Traffic conditions would remain as they currently exist with traffic generated by users of Sojourner Truth Park.

Air Quality Air quality would not be affected with this alternative.

Noise Operational noise conditions would remain as they currently exist with noise generated by park users. There would be no construction noise impacts.

Hydrology and Water Quality Impervious surface area at the Project site would remain the same. There would not be an increase in impervious surface area at the site.

Geology and Soils Exposure to seismic shaking would occur at a level comparable to Project conditions.

Hazards and Hazardous Materials Site conditions concerning hazards and hazardous materials would remain as they currently exist.

Public Services The demand for police and fire protection services would be the same as existing conditions.

4.3 MASTER PLAN 8 ALTERNATIVE

The District and City undertook an extensive planning process to solicit community input and develop the most suitable site plan and building design to meet District and City programming needs while being responsive to community concerns. Eight master plan concepts were developed. Master Plan 8 was approved on November 15, 2006.

Master Plan 8 is very similar to the proposed Project. The differences are as follows: Building D, a two story classroom building, would be sited about ___ feet nearer Swale River Way and the west elevation (facing Swale River Way) would _____. All other components of Master Plan 8 would be the same as the proposed Project. [Max I couldn't discern any differences in the location of Building D in Master Plan version 8 and version 9. In your 12/17/07 email you stated the position of Building D was modified. Is MP 9 pulled back from the street? Also what changes were made to the street elevation? Would appreciate your input.]

Visual Resources [PJ to complete based on Max's input.]

Planning and Land Use [PJ to complete based on Max's input.]

Traffic and Circulation Traffic and circulation affects would be the same as with the proposed Project.

Air Quality Air quality impacts would be the same as with the proposed Project.

Noise Noise impacts would be the same as with the proposed Project.

Hydrology and Water Quality With this alternative, the increase in impervious surface area at the Project site would be the same. Water quality impacts would be the same as the Project.

Geology and Soils Exposure to seismic shaking would occur at a level comparable to the proposed Project.

Hazards and Hazardous Materials

As with the proposed Project, this alternative would not expose students, faculty, staff and visitors to significant hazards and hazardous materials.

Public Services

With this alternative, impacts to police and fire protection services would be the same as with the proposed Project.

4.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires that the EIR identify the environmentally superior alternative for a proposed project. The environmentally superior alternative would be the alternative that would have the least significant effects on the environment. If the No Project would be the environmentally superior alternative, the EIR should also identify an environmentally superior alternative from among the other alternatives that were considered in the EIR (CEQA Guidelines, Section 15126.6(e)(2).

The No Project Alternative would be the environmentally superior alternative. As specified in CEQA, if the No Project Alternative is identified as the environmentally superior alternative, another alternative must be identified as the environmentally superior alternative. For this EIR, with mitigation, the proposed Project would be the environmentally superior alternative. Construction impacts associated with noise, air quality and construction-related traffic would be reduced to a less-than-significant level. The western elevation of Building D would be improved [revise based on Max's input].

TABLE 4.1: COMPARISON OF IMPACTS OF PROJECT WITH ALTERNATIVES

Proposed Project	Significance Before Mitigation	Significance After Mitigation	No Project	Master Plan 8
3.1 *Visual Resources*				
3.1.1 The Project does not appear to provide for adequate landscaping.	**S**	**LTS**	**NI**	**S**
3.1.2 The Project would include outdoor lighting, primarily for safety and security purposes.				
3.1.3 The Project would include signage which may not be compatible with the neighborhood.				
3.2 *Planning and Land Use*	--	--	--	--
None.				
3.3 *Traffic and Circulation*				
3.3.1 During Project construction, temporary and intermittent transportation effects would result from truck movements as well as construction worker vehicles traveling to and from the Project site.	**S**	**LTS**	**NI**	**S**
3.4 *Air Quality*	**LTS**	**LTS**	**NI**	**LTS**
Fugitive dust and construction equipment emissions generated from Project construction activities would be below SMAQMD thresholds.				
3.5 *Noise*	**S**	**LTS**	**NI**	**LTS**
3.5.1 Exposure of Residences to Construction Noise.				
3.6 *Hydrology and Water Quality*				
3.6.1 The Project would result in increased runoff at the Project site due to Project development.	**S**	**LTS**	**NI**	**S**
3.6.2 Proposed construction activities and post-construction operation of Project facilities would result in the degradation of surface water quality in downstream receiving waters.	**S**	**LTS**	**NI**	**S**
3.5.3 The Project would contribute to cumulative impacts to surface water hydrology and water quality.	**S**	**LTS**	**NI**	**S**

KEY:
L = Less than Significant S = Significant Impact NI = No Impact

TABLE 4.1: COMPARISON OF IMPACTS OF PROJECT WITH ALTERNATIVES (Continued)

Proposed Project	Significance Before Mitigation	Significance After Mitigation	No Project	Master Plan 8
3.7 *Geology and Soils*				
3.7.1 The Project would be subject to potentially significant hazards associated with seismic ground shaking.	**S**	**LTS**	**NI**	**S**
3.7.2 The Project sites' soils are not suitable without some form of ground improvement for support of conventional spread or continuous footing foundations.	**S**	**LTS**	**NI**	**S**
3.8 *Hazards and Hazardous Materials*	--	--	--	--
None				
3.9 *Public Services*	--	--	--	--
None.				

KEY:
L = Less than Significant S = Significant Impact NI = No Impact

CHAPTER

5

OTHER STATUTORY CONSIDERATIONS

This chapter addresses the following: cumulative impacts; growth inducing impacts; significant unavoidable environmental impacts; significant irreversible environmental changes; and effects found not to be significant.

5.1 CUMULATIVE IMPACTS

Visual Resources The Project would not result in cumulative impacts to visual resources.

Planning and Land Use The Project would not result in cumulative land use impacts.

Traffic and Circulation The Project would not contribute to cumulative traffic impacts in the Project vicinity.

Air Quality As discussed in Chapter 3, Section 3.4 Air Quality, Project regional air quality impacts would be less-than-significant.

Noise The Project would not result in cumulative noise impacts.

Hydrology and Water Quality As discussed in Chapter 3, Section 3.6 Hydrology and Water Quality, the Project would contribute to the cumulative loss of pervious surfaces in the Project vicinity. The recommended mitigation measures would reduce potential impacts associated with downstream flooding to a less-than-significant level.

Geology and Soils As with other development in the region, the Project would be subject to potentially significant hazards associated with seismic ground shaking.

Hazards and Hazardous Materials The Project would not result in cumulative hazardous conditions or hazardous materials impacts.

Public Services The Project would not result in cumulative impacts to police and fire protection services.

5.2 GROWTH INDUCING IMPACTS

Projects are considered to be growth inducing if they foster economic or population growth or the construction of additional housing, either directly or indirectly in the surrounding environment. The Project is infill development and would consist of the construction of a new library, high school and joint-use park to serve the existing Greenhaven and Pocket neighborhoods. The new high school would serve existing and planned residential development in Sacramento. Thus, the Project is driven by existing growth pressures rather than inducing new unexpected/unplanned growth to the Project area.

5.3 SIGNIFICANT UNAVOIDABLE ENVIRONMENTAL IMPACTS

The Project would not result in any significant and unavoidable environmental impacts.

5.4 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Irreversible commitments of resources would occur with development of the Project. Non-renewable resources such as natural gas and oil would be used during construction of the Project and during the Project's lifetime for heating and cooling Project facilities and other uses. Non-renewable energy resources would also be associated with transportation related to the Project.

5.5 EFFECTS FOUND NOT TO BE SIGNIFICANT

The Project Initial Study identified the following environmental topics as not to be significant. Therefore, they were not discussed in this DEIR.

- Agricultural Resources
- Cultural Resources – with implementation of the recommended mitigation measures, potential impacts to unknown cultural resources would be less-than-significant.
- Biological Resources
- Mineral Resources
- Population/Housing

A copy of the Initial Study is included as Appendix A.

CHAPTER 6

PERSONS INVOLVED IN REPORT PREPARATION

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

James Dobson, Director, Planning & Construction
Glenda Golobay, Principal

CITY OF SACRAMENTO

General Services
Jeff Blanton, Associate Architect

Parks and Recreation
Alan Boyd, [Title?]

SACRAMENTO PUBLIC LIBRARY

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Ron Teitel, Graphics
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Bill Burton, P.E. – Traffic and Circulation

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Sal Mendoza – Hazards and Hazardous Materials
Lucas Paz, PhD, - Hydrology and Water Quality
Jeff Raines, P.E. – Geology and Soils

CHAPTER

7

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