



REPORT TO THE PLANNING COMMISSION

AGENDA ITEM NO.: VIII-B
COMMISSION MEETING: 09/07/16
APPROVED BY
 DEPARTMENT DIRECTOR

September 7, 2016

FROM: MIKE SANCHEZ, Assistant Director
Development and Resource Management Department

THROUGH: BONIQUE EMERSON, Planning Manager 
Development and Resource Management Department

BY: BRUCE BARNES, Project Manager 
Development and Resource Management Department

SUBJECT: CONSIDER APPROVAL OF A REQUEST BY FRESNO UNIFIED SCHOOL DISTRICT FOR A FINDING OF GENERAL PLAN CONSISTENCY IN ACCORDANCE WITH CALIFORNIA PUBLIC RESOURCES CODE SECTION 21151.2 AND GOVERNMENT CODE SECTION 65402(C) FOR THE DISTRICT'S PROPOSED ACQUISITION OF APPROXIMATELY 34 ACRES OF PROPERTY LOCATED AT THE SOUTHWEST CORNER OF EAST CHURCH AND SOUTH PEACH AVENUES FOR THE CONSTRUCTION AND OPERATION OF HIGH SCHOOL FACILITIES ON THE SITE.

EXECUTIVE SUMMARY

Fresno Unified School District is proposing a project that involves the acquisition of approximately 34 acres at the southwest corner of East Church and South Peach Avenues in the southeast portion of the District and the construction and operation of high school facilities on the site. Fresno Unified could ultimately expand the facilities to include the functions of both a choice high school and a comprehensive high school. As provided by the California Government Code and Public Resources Code, the District has requested that the Planning Commission make a determination on the General Plan Conformity of the site and is soliciting information and recommendations on the proposed school site.

RECOMMENDATION

Based upon staff review of the project, staff recommends that the Fresno Planning Commission make the following determinations:

1. That the proposed project at the proposed location of the school site conforms to the Fresno General Plan.
2. That the Fresno Unified School District's Facilities Master Plan *"calls for a new high school in the southeast area of the district, which would help accommodate new growth and help lessen overcrowding at existing high schools"*.

3. That the 34 acre site is zoned RS-5 (*Residential Single Family, Medium Density*) which permits, by right, the development of public or private schools; and
4. That the Fresno Unified School District comply with the Roosevelt Community Plan and the Fresno General Plan policies regarding development standards to ensure compatibility with adjacent residences and landscaping strips along major streets; and
5. That District's development of the planned street system shall be proportionate to the impact of the project via Urban Growth Management fees; and
6. That major streets be improved to city standards including street widths, sidewalks, curb and gutter, bike paths and trails and other features deemed necessary per the traffic study recommendations; and
7. That future bus transportation facilities be provided in accordance with Fresno Area Express requirements and policies; and
8. That a Conditional Use Permit application should be processed by the City to insure that this school site complies with city plans, policies and development standards.
9. That, the District shall coordinate with the City of Fresno Public Works and Public Utilities Departments so that conditions/requirements as spelled out in the letters dated July 11, 2016 July 8, 2016 respectively , are complied with.

Attachments:

- Letter from Fresno Unified School District and Vicinity Maps
- Letter from Public Works, Traffic Division, dated July 11, 2016
- Letter from Public Utilities, Water Division, dated July 8, 2016
- Fresno Unified School District, Notice of Intent to Adopt a Mitigated Negative Declaration for the Southeast School Site Acquisition and Development Project

ODELL *Planning & Research, Inc.*

Environmental Planning • School Facility Planning • Demographics

June 22, 2016

Jennifer Clark, AICP
Director/Planning Commission Secretary
City of Fresno
Development & Resource Management Department
2600 Fresno Street, Third Floor
Fresno, CA 93721

Subject: Request for Planning Commission Report on Proposed Fresno Unified Southeast School Site Acquisition and Development Project

Dear Ms. Clark:

The Fresno Unified School District is proposing to acquire property for a new high school at the southwest corner of Church and Peach Avenues. The approximately 34 acres to be acquired is adjacent to 18 acres already owned by the District on the south side of Church Avenue (partially developed with portable school buildings). A portion of the 18 acres would be developed with a new elementary school with the remainder being used for high school purposes. (A full description of the project is available in the Initial Study and Proposed Mitigated Declaration previously provided to you on CD and available on the District's web site at: <https://www.fresnou.org/dept/facilities/Pages/Southeast-School-Site-Development-and-Acquisition.aspx>.)

On behalf of the Fresno Unified School District, we are requesting a Planning Commission report and general plan conformity evaluation in accordance with Public Resources Code Section 21151.2 and Government Code Section 65402(c). Public Resources Code Section 21151.2 requires the Planning Commission to investigate the site and within 30 days after receipt of this notice, submit a written report of its investigation and recommendations concerning acquisition of the site. Government Code Section 65402(c) requires the planning agency to report to the District within 40 days as to the conformity of the proposed school project with the adopted general plan.

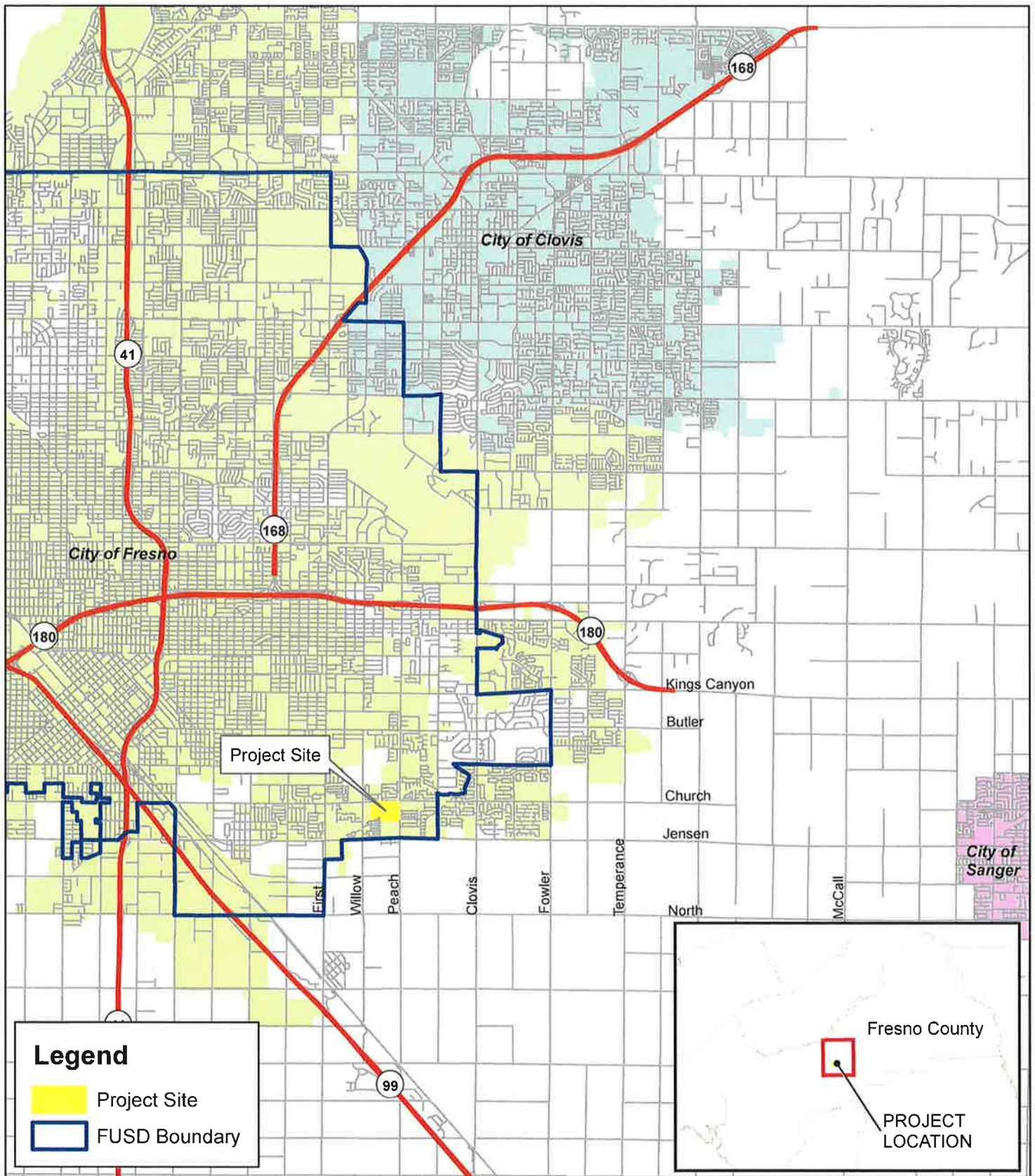
As part of its site approval requirements, the California Department of Education requires the District to request a Planning Commission report pursuant to the above code sections.

Thanks for your assistance with this request. Please contact me if you have any questions.

Sincerely,



Scott B. Odell, AICP
Principal Planner / President



Project Location

Southeast School Site Acquisition and Development Project
Fresno Unified School District

ODELL Planning & Research, Inc.

Figure 1



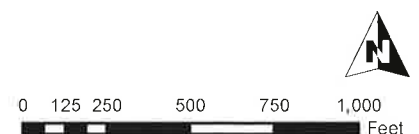


Project Site Land to be Acquired

Figure 2

Southeast School Site Acquisition and Development Project
Fresno Unified School District

ODELL Planning & Research, Inc.



City Hall
2600 Fresno Street, 4th Floor
Fresno, California 93721
Ph. (559) 621-8800
www.fresno.gov

Scott L. Mozier, P.E.
Public Works Director

July 11, 2016

Rick Andreasen, Project Manager
Facilities Management & Planning
4600 N. Brawley Avenue
Fresno, CA 93722

SUBJECT: REVIEW OF THE TRAFFIC IMPACT ANALYSIS DATED APRIL 21, 2016 FOR THE PROPOSED FRESNO UNIFIED SCHOOL DISTRICT – HIGH SCHOOL AND ELEMENTARY SCHOOL LOCATED ON THE SOUTHWEST CORNER OF THE INTERSECTION OF CHURCH AND PEACH AVENUES
TIS 16-007

PROJECT ANALYSIS OVERVIEW

We have reviewed the Traffic Impact Analysis (TIA) prepared by JLB Traffic Engineering, Inc. for the proposed Fresno Unified School District High School and Elementary School located on approximately 52 acres on the southwest corner of Church and Peach Avenues. The project is proposed to be constructed considering two (2) alternatives. Alternative 1 would include a Choice High School serving approximately 800 to 1,000 students and an Elementary School serving approximately 750 students. Alternative 2 would consist of a Choice High School and a Comprehensive High School serving a maximum of 2,500 students and an Elementary School serving approximately 750 students.

The TIA evaluated the impacts of the project by analyzing seven (7) intersections and four (4) roadway segments in the vicinity of the project during the AM and PM peak hours. Vehicle trips projected to be generated by the project were calculated using the ITE Trip Generation Manual, 9th Edition. The daily, AM and PM peak hour trips projected to be generated for each alternative are shown in the following tables.

Alternative 1 Trip Generation								
Land Use	Size	ADT	Weekday					
			AM			PM		
			Peak Hour			Peak Hour		
			In	Out	Total	In	Out	Total
Elementary School (ITE Code 520)	750 students	968	186	152	338	94	116	210
High School (ITE Code 530)	1,000 students	1,710	292	138	430	96	194	290
Total		2,678	478	290	768	190	310	500

Alternative 2 Trip Generation								
Land Use	Size	ADT	Weekday					
			AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Elementary School (ITE Code 520)	750 students	968	186	152	338	94	116	210
High School (ITE Code 530)	2,500 students	4,275	731	344	1,075	239	486	725
Total		5,243	917	496	1,413	333	602	935

Based on the analysis shown in the TIA, the study intersections and segments are currently operating at or above the Traffic Impact Zone (TIZ) III acceptable level of service (LOS) D standard.

With the addition of the project as described in Alternative 1, the intersection of Willow and Church Avenues is projected to operate below the acceptable LOS standard. The proposed Driveway on Church Avenue is also projected to operate at an unacceptable LOS.

With the addition of the project as described in Alternative 2, the intersections of Chestnut and Willow Avenues with Church Avenue are projected to operate below an acceptable LOS standard. The proposed Driveway on Church Avenue is also projected to operate at an unacceptable LOS.

The near-term analyses included in the TIA for each proposed project alternative indicate the same operational deficiencies as in the Existing Plus Project scenario.

The Cumulative Year 2035 analyses for both project alternatives identified operational deficiencies at six (6) of the study intersections. All the study roadway segments are projected to operate at an acceptable LOS in the Cumulative Year 2035 analyses for project Alternative 1 conditions. The roadway segment of Church Avenue between Willow and Peach Avenues is projected to operate below the TIZ III acceptable LOS in the Cumulative Year 2035 analysis for project Alternative 2.

GENERAL COMMENTS and CONDITIONS

1. This project shall pay its Traffic Signal Mitigation Impact (TSMI) Fee of \$47.12 per ADT, per the Master Fee Schedule, at the time of building permit. The calculated fee for each alternative would be as follows:
 - Alternative 1: \$126,187.36 based on the weekday ADT of 2,678
 - Alternative 2: \$247,050.16 based on the weekday ADT of 5,243

The TSMI fee facilitates project impact mitigation to the City of Fresno Traffic Signal infrastructure so that costs are applied to each new project/building based on the generated ADT. The TSMI fee is credited against traffic signal installation/modifications and/or Intelligent Transportation System (ITS) improvements (constructed at their ultimate

location) that plan to build out the 2035 General Plan circulation element and are included in the Nexus Study for the TSMI fee. The TSMI fee is regularly updated as new traffic signals are added, new grant funds offset developer improvement costs, and/or construction costs increase/decrease. If the project is conditioned with traffic signal improvements in excess of their TSMI fee amount, the applicant may apply for fee credits (security/bonding and/or developer agreement required) and/or reimbursement for work in excess of their fee as long as the infrastructure is in place at the ultimate location. The applicant should work with the Public Works Department and identify, with a Professional Engineers estimate, the costs associated with the improvements prior to paying the TSMI fee to determine any applicable fee credits and/or reimbursements.

For project specific impacts that are not consistent with the 2035 General Plan, Public Works Standards, and/or are not incorporated into the TSMI fees, the infrastructure costs will not be eligible for reimbursement unless the City Engineer and City Traffic Engineer include the new traffic signal and/or ITS infrastructure in the next TSMI fee update and the applicant agrees to pay the new TSMI fee that includes the new infrastructure. Failure to pay this fee or construct improvements that are credited/reimbursable with this fee will result in a significant unmitigated impact as this fee is applied to all projects within the City Sphere of Influence.

2. This project shall pay its Fresno Major Street Impact (FMSI) Fee, which will be determined at time of building permit. This FMSI fee is creditable towards major street roadway improvements included in the nexus study for the FMSI fee.
3. The project shall pay the Regional Transportation Mitigation Fee (RTMF). Pay the RTMF fee to the Joint Powers Agency located at 2035 Tulare Street, Suite 201, Fresno, CA 93721; (559) 233-4148, ext. 200; www.fresnocog.org. Provide proof of payment or exemption, based on vesting rights, prior to issuance of building permits.
4. The proposed project shall make the following improvements at the intersection of Willow and Church Avenues with Alternative 1:
 - Install a traffic signal with protected left-turn phasing
 - Restripe/widen the west leg, eastbound, to one (1) left-turn lane, one (1) through lane and one (1) right-turn lane
 - Restripe/widen the east leg, westbound, to one (1) left-turn lane and a shared through right-turn lane
 - Restripe/widen the south leg, northbound, to one (1) left-turn lane and a shared through right-turn lane
 - Restripe/widen the north leg, southbound, to one (1) left-turn lane, one (1) through lane and one (1) right-turn lane

The traffic signal at this intersection is included in the current TSMI fee program and is considered eligible reimbursable or creditable improvements.

5. The proposed project shall make the following improvements at the intersection of Willow and Church Avenues with Alternative 2:

- Install a traffic signal with protected left-turn phasing
- Restripe/widen the west leg, eastbound, to one (1) left-turn lane, one (1) through lane and a shared through right-turn lane
- Restripe/widen the east leg, westbound, to one (1) left-turn lane, one (1) through lane and one (1) right-turn lane
- Restripe/widen the south leg, northbound, to one (1) left-turn lane, one (1) through lane and one (1) right-turn lane
- Restripe/widen the north leg, southbound, to one (1) left-turn lane, one (1) through lane and one (1) right-turn lane

The traffic signal at this intersection is included in the current TSMI fee program and is considered eligible reimbursable or creditable improvements.

6. The proposed project shall construct a Class I trail facility along the canal within the project boundaries as shown on General Plan Figure MT-2 and in the 2010 Bicycle Master Plan.
7. The proposed project shall install sidewalks along Church and Peach Avenues within the limits of the project boundaries.
8. The proposed project shall make necessary improvements and right-of-way and public easement dedications along adjacent public street(s) and within the site boundaries per City of Fresno standards/requirements.
9. The proposed site plan shall be reviewed and approved by the City of Fresno Traffic & Engineering Services Division, Traffic Planning Section.

If you have any further questions regarding this matter, please contact me at (559) 621-8792 or jill.gormley@fresno.gov.

Sincerely,



Jill Gormley, TE
City Traffic Engineer / Traffic Engineering Manager
Public Works Department, Traffic & Engineering Services

- C. Copy filed with Traffic Impact Study
Louise Gilio, Traffic Planning Supervisor
Bonique Emerson, Planning Manager, DARM
Jose Benavides, JLB Engineering, Inc.



**DEPARTMENT OF PUBLIC UTILITIES
WATER DIVISION**



Providing Life's Essential Services

MEMORANDUM

DATE: July 8, 2016

TO: RICK ANDREASEN, Project Manager
Facilities Management & Planning
Fresno Unified School District

FROM: DEJAN PAVIC, Professional Engineer
Department of Public Utilities, Water Division

SUBJECT: CEQA INITIAL STUDY – SOUTHEAST SCHOOL SITE ACQUISITION AND DEVELOPMENT PROJECT

We have reviewed the CEQA INITIAL STUDY for the Southeast School Site Acquisition and Development Project (the "Study"), prepared by ODELL Planning & Research, Inc., and dated June 2016, specifically the parts pertaining to Hydrology and Water Quality (IX) and portions pertaining to water supply of Public Services (XIV) and Utilities and Service Systems (XVII).

Our comments listed below are intended only for clarification purposes and do not change the Study's findings of a "less than significant" impact pertaining to water supplies related topics.

1. General comments:

- In several spots throughout the Study, the City of Fresno Draft 2015 Urban Water Management Plan ("UWMP") is referenced. Since the preparation of the Study the final 2015 UWMP has been adopted by the City Council on June 23, 2016. It is accessible at the City website at <http://www.fresno.gov/Government/DepartmentDirectory/PublicUtilities/Watermanagement/importantdocument.htm>. Please note that the above-referenced link still shows the "draft" 2015 UWMP, but there were no changes made between the draft and the final (except to add a copy of the signed City Council resolution approving the plan and filling in a couple of dates).
- On page 60 of the Study, in the middle of the second bullet-point, the line starting with "... residential subdivision..." might not need word "not" in front of "expire."

2. Appendix E (Water and Wastewater Report, prepared by Blair, Church & Flynn, April 2016):

- As stated above, instead of using the 2010 UWMP (prepared by West Yost Associates, 2012), we recommend using the 2015 UWMP (prepared by Provost & Pritchard Consulting Group, 2016). The 2010 UWMP is referenced in the Bibliography and in the Notes of Table 1.1.



A Nationally Accredited Public Utility Agency

- In the Executive Summary, page 2, and in Tables 1.1, 1.2, 1.3, 1.4, 2.1, and 2.2, it would be beneficial and easier to understand/compare if the water demands (per current zoning and per proposed uses) are totaled for the entire site: currently, the water consumptions are shown in "gpd/ac" (for medium density residential and for various student populations, Tables 1.1, 1.2, 1.3, and 1.4), while the water demand for irrigation is shown for the entire site in "gpd" (Tables 2.1 and 2.2).

For example: the total water demand based on current use would be 300,900 gpd (based on Table 1.1; or 251,940 gpd if the per capita demand is reduced from 295 gpd to 247 gpd per the 2015 UWMP), while the total for the proposed use (2,500-student high school alternative) would be 127,252 gpd (the sum of: 10,656 gpd based on Table 1.2, 40,494 gpd based on Table 1.4, 31,474 gpd based on Table 2.1, and 44,628 gpd based on Table 2.2). The water consumption for the proposed use (school site) is still lower than for the currently approved use (medium density residential), but the totals referenced above are not easily accessible/comparable. A summary table might be useful for this purpose.

cc: Michael Carbajal

Fresno Unified School District
Notice of Intent to Adopt a Mitigated Negative Declaration for the
Southeast School Site Acquisition and Development Project

NOTICE IS HEREBY GIVEN:

The Fresno Unified School District has prepared an Initial Study and Proposed Mitigated Negative Declaration for the proposed Southeast School Site Acquisition and Development Project. Based on the Initial Study, the District determined that although the project could have a significant effect on the environment, there would not be a significant effect because the District has incorporated into the project mitigation measures that would avoid any significant effects of the project or reduce the effects to an insignificant level.

The Board of Trustees of the Fresno Unified School District will consider adopting the Proposed Mitigated Negative Declaration and approving the project on Wednesday August 24, 2016, at 5:30 p.m. or as soon thereafter as practicable in the District Office Boardroom, 2309 Tulare Street, Fresno, California. You may attend this meeting and present testimony regarding the project.

Project Location and Description: The project involves the acquisition of approximately 34 acres at the southwest corner of E. Church and S. Peach Avenues in the southeast portion of the District and the construction and operation of high school facilities on the site. The first facilities constructed would likely be a choice high school providing career technical education. Fresno Unified could ultimately expand the facilities to include the functions of both a choice high school and a comprehensive high school. The project also involves the construction and operation of an elementary school on a portion of 18 acres owned by the District along the south side of E. Church Avenue west of the proposed high school site. The high school, if developed as a choice high school, would have capacity for 800-1,000 students, and if expanded to a comprehensive high school, would serve a total of 2,500 students. The elementary school would have capacity for 750 students.

Construction of the choice high school could occur within approximately five years. Any expansion to a comprehensive high school would depend on continuing enrollment growth in the area and could occur within seven to ten years or longer.

Mitigation Measures: Fresno Unified has incorporated into the project mitigation measures for potentially significant project impacts related to aesthetics, air quality, biological resources, cultural resources, hazards and hazardous materials, noise and transportation and traffic. The mitigation measures are included in Table 6-1 of the Initial Study.

Public Review and Comment: The public and interested agencies may review and submit written comments on the Proposed Mitigated Negative Declaration and the Initial Study. The documents are available for review at the FUSD Facilities Management and Planning office located at 4600 N. Brawley Avenue, Fresno, California, the District's Board Office located at 2309 Tulare Street, Fresno, California, and the District's Facilities Management and Planning web site: <http://www.fresnounified.org/operations/facilities/>

The public review period will close on Monday, July 11, 2016, at 5:00 p.m. If you have not responded with written comments by the due date, the District will assume you do not have any comments on the Proposed Mitigated Negative Declaration or Initial Study.

Please submit your written comments or any questions you have on the project or this notice to:

Rick Andreasen, Project Manager
Facilities Management & Planning
4600 N. Brawley Avenue, Fresno, CA 93722
Phone: (559) 457-6113
Email: rick.andreasen@fresnounified.org

Fresno Unified School District
PROPOSED MITIGATED NEGATIVE DECLARATION
Southeast Fresno School Site Acquisition and Development Project

Project Title: Southeast Fresno School Site Acquisition and Development Project

Lead Agency and Project Sponsor: Fresno Unified School District

Contact Person:

Rick Andreasen, Project Manager
Facilities Management & Planning
4600 N. Brawley Avenue, Fresno, CA 93722
Phone: (559) 457-6113
Email: rick.andreasen@fresnounified.org

Project Description and Location: The project involves the acquisition of approximately 34 acres at the southwest corner of E. Church and S. Peach Avenues in the southeast portion of the District and the construction and operation of high school facilities on the site. The first facilities constructed would likely be a choice high school providing career technical education. Fresno Unified could ultimately expand the facilities to include the functions of both a choice high school and a comprehensive high school. The project also involves the construction and operation of an elementary school on a portion of 18 acres owned by the District along the south side of E. Church Avenue west of the proposed high school site. The high school, if developed as a choice high school, would have capacity for 800-1,000 students, and if expanded to a comprehensive high school, would serve a total of 2,500 students. The elementary school would have capacity for 750 students.

Construction of the choice high school could occur within approximately five years. Any expansion to a comprehensive high school would depend on continuing enrollment growth in the area and could occur within seven to ten years or longer.

Mitigation Measures: Fresno Unified has incorporated into the project mitigation measures for potentially significant project impacts related to aesthetics, air quality, biological resources, cultural resources, hazards and hazardous materials, noise and transportation and traffic. The mitigation measures are included in Table 6-1 of the attached Initial Study.

Finding: As required by the California Environmental Quality Act, Fresno Unified prepared an Initial Study for the project (attached). Based on the Initial Study, the District determined that although the project could have a significant effect on the environment, there would not be a significant effect in this case because the District incorporated into the project mitigation measures that would avoid any significant effects of the project or reduce the effects to an insignificant level. Therefore, It is the Intent of Fresno Unified to adopt a Mitigated Negative Declaration for the project.

 _____ Signature Ruth F. Quinto Deputy Superintendent/CFO	06/08/16 _____ Date
Print Name	Title

State Clearinghouse No. 2016011033

California Environmental Quality Act

Initial Study

**Southeast School Site Acquisition
and Development Project
Fresno, California**

Lead Agency and Project Sponsor:

Fresno Unified School District

Facilities Management and Planning
Contact: Rick Andreasen, Project Manager
4600 N. Brawley Avenue
Fresno, CA 93722
(559) 457-6113

Prepared by:

ODELL *Planning & Research, Inc.*

49370 Road 426, Suite C
Oakhurst, CA 93644
(559) 472-7167 • www.odellplanning.com

June 2016

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Executive Summary

Fresno Unified School District contracted with Odell Planning & Research, Inc. to prepare this California Environmental Quality Act (CEQA) Initial Study for the Southeast School Site Acquisition and Development Project (project). The project involves the acquisition of approximately 34 acres at the southwest corner of E. Church and S. Peach Avenues in the southeast portion of the District and the construction and operation of high school facilities on the site. The first facilities constructed would likely be a choice high school providing career technical education. Fresno Unified could ultimately expand the facilities to include the functions of both a choice high school and a comprehensive high school. The project also involves the construction and operation of an elementary school on a portion of 18 acres owned by the District along the south side of E. Church Avenue west of the proposed high school site. The high school, if developed as a choice high school, would have capacity for 800-1,000 students, and if expanded to a comprehensive high school, would serve a total of 2,500 students. The elementary school would have capacity for 750 students.

Construction of the choice high school could occur within approximately five years. Any expansion to a comprehensive high school would depend on continuing enrollment growth in the area and could occur within seven to ten years or longer.

Based on the California Environmental Quality Act Guidelines (CEQA Guidelines), the purpose of this Initial Study is to provide Fresno Unified with environmental information on the project to use as the basis for deciding whether to prepare an EIR or a Negative Declaration for the project.

This Initial Study concluded:

1. The project would have a less than significant impact or no impact on most of the environmental resources and conditions evaluated in the Initial Study. The Initial Study explains why there would be no impacts or the impacts would be less than significant.
2. The Initial Study identified several potentially significant environmental effects of the project in the following subject areas: aesthetics, air quality, biological resources, cultural resources, hazards and hazardous materials, noise and traffic. Fresno Unified can avoid or reduce to an insignificant level these impacts by incorporating in the project the mitigation measures listed in Section 6.
3. Based on items 1 and 2, above, Fresno Unified should adopt a Mitigated Negative Declaration for the project.

1. Project Background Information

1.1 Project Title, Lead Agency, and Lead Agency Contact Information

Project Title: Southeast School Site Acquisition and Development Project (project)

Lead Agency and Project Sponsor: Fresno Unified School District

Lead Agency Contact Person:

Rick Andreasen, Project Manager
Fresno Unified School District
Facilities Management and Planning Department
4600 N. Brawley Ave., Fresno, CA 93722
Telephone: (559) 457-6113
Email: Rick.Andreasen@fresnounified.org

1.2 Project Objectives

Fresno Unified is the fourth largest school district in California, with an enrollment of over 73,000 students dispersed among 95 existing schools. The District adopted a Facilities Master Plan in 2009 to provide clear and consistent feeder patterns, improve existing schools, replace portable classrooms with permanent classrooms and build new schools to alleviate overcrowding in the southeast portion of the District and to accommodate anticipated increases in enrollment.

The objectives of the Fresno Unified School District for the project are as follows:

- To comply with the recommendation of the District's Facilities Master Plan to build a new high school in the southeast area of the District to accommodate anticipated increases in enrollment.
- To provide Fresno Unified students more opportunities to attend a choice high school providing career technical education.
- To build a new elementary school in the southeast area. This, along with the creation of a new attendance area for the new school, will relieve overcrowding at several existing elementary schools in the area and accommodate students from new development.
- To minimize the environmental effects of project construction and operation on the community.

1.3 Project Location¹

The 51.5-acre project site is at the southwest corner of the intersection of S. Peach Avenue and E. Church Avenue, in the southeast portion of the Fresno Unified School District and the City of Fresno, Fresno County, California. Figure 1 shows the location of the site in relation to the Fresno-Clovis metropolitan area and to the boundaries of the school district. Figure 2 provides a closer aerial view of the proposed school site location in southeast Fresno and shows existing Fresno Unified schools near the site. Table 1-1 provides detailed information about the location of the site.

Fresno Unified owns the westerly 17.7-acre portion of the project site, most of which is proposed for development with a new elementary school. The elementary school site has approximately 640 feet of frontage on the south side of E. Church Avenue, between S. Peach Avenue and S. Willow Avenue. The site extends from E. Church Avenue south to an irregular boundary formed by the Central Canal.

The 33.8-acre portion of the project site to be acquired for high school facilities has approximately one-quarter mile of frontage along the south side of E. Church Avenue between S. Peach Avenue and the land already owned by the District and one-quarter mile of frontage along the west side of S. Peach Avenue between E. Church Avenue and a point one-quarter mile north of E. Jensen Avenue.

¹ The figures cited in this Initial Study are located following the text of the study.

The Central Canal extends on a southwest to northeast axis through a portion of the proposed high school site.

**TABLE 1-1
Project Location**

City, County, State	City of Fresno, County of Fresno, State of California		
Zip Code	93725		
Assessor's Parcel Number, Parcel Size, Existing Use	<u>APN</u>	<u>Acres</u>	<u>Existing Use</u>
	481-090-23ST	17.73 ac.	FUSD Portable School (Phoenix Secondary Academy)
	481-090-18	0.80ac.	Single Family Residence
	481-090-16	1.07 ac.	Single Family Residence
	481-090-27	1.10 ac.	Vacant
	481-090-28	<u>30.80 ac.</u>	Vacant/Fallow Agricultural Land
	Total Site Area	51.50 ac.	
Nearest Major Cross Streets	S. Peach Avenue and E. Church Avenue, both of which adjoin the project site		
USGS Map	Malaga, CA 7.5-Minute Map		
Elevation	Approximately 305 ft. MSL		
Section, Township & Range	Por. Section. 18, Township 14S., Range 21E., M.D.B.&M.		
Latitude/Longitude	At southwest corner of S. Peach and E. Church Avenues: 36°42'52.86"N 119°43'07.65"W		

1.4 Project Description

General: This Initial Study addresses the proposal by the Fresno Unified School District to develop and operate a new high school and elementary school in southeast Fresno.

High School: Fresno Unified would acquire 33.8 acres at the southwest corner of E. Church and S. Peach Avenues for the high school, although it is anticipated that some of the adjacent 17.7 acres owned by the District would also be used for high school purposes. The first facilities constructed would likely be a choice high school providing career technical education. Fresno Unified could ultimately expand the facilities to include the functions of both a choice high school and a comprehensive high school.

Fresno Unified anticipates that the choice high school would serve approximately 800-1,000 students. If expanded to a comprehensive high school, the District would construct additional facilities to serve up to approximately 2,500 students.

Construction of the choice high school could occur within approximately five years. Any expansion to a comprehensive high school would depend on continuing enrollment growth in the area and could occur within seven to ten years or longer.

Elementary School: Fresno Unified would construct and operate an elementary school on the majority of a 17.7-acre site the District owns on the south side of E. Church Avenue, adjacent to the 33.8 acres to be acquired. The site is partially developed with portable school buildings, and a small alternative high school (Phoenix Secondary Academy) is currently operating on a portion of the site. A new site would need to be identified for this program. The existing portable facilities, with additional portable facilities placed on the site, could house up to 750 elementary school students until the new elementary school is constructed on an adjacent portion of the site. Construction of the new elementary school could occur within approximately five years.

constructed on an adjacent portion of the site. Construction of the new elementary school could occur within approximately five years.

1.5 Actions Required to Implement Project

Fresno Unified School District must undertake the following actions in order to implement the project:

- Consult with the City of Fresno Planning Commission on the compatibility of the proposed school sites with the Fresno General Plan;
- Hold a public hearing on the proposed school sites before taking action to approve the project;
- Complete the California Environmental Quality Act process for the project. Based on this Initial Study, the District should consider the adoption of a Mitigated Negative Declaration for the project;
- Adopt and implement a Mitigation Monitoring and Reporting Program for the Mitigated Negative Declaration;
- Complete the California Department of Toxic Substances Control process for school sites;
- Approve the project;
- Acquire the land required for the high school portion of the project;
- Complete the California Department of Education, School Facilities Planning Division, school site approval process;
- Secure approvals, permits, and agreements, as necessary, from agencies and utilities responsible for facilities the project would construct, modify, or otherwise affect within or near the project area.

1.6 Other Public Agencies Whose Approval is Required

Implementation of the project would require approvals from the public agencies listed in Table 1-2 in addition to Fresno Unified:

**TABLE 1-2
Responsible Agencies**

Public Agency	Approval(s)
California Department of Education, School Facilities Planning Division	Review and approve school site
California Department of Toxic Substances Control (DTSC)	Responsible for ensuring that the proposed school sites are free of contamination or, if the properties were previously contaminated, that they have been cleaned up to a level that protects the students and staff who will occupy the new schools.
City of Fresno	Planning Commission: Investigation and recommendations concerning acquisition of site and conformity with the Fresno General Plan Staff: Review and approve the location, design and construction of street, water, and sewer improvements
Fresno Irrigation District (FID)	Review and approve the location, design, and construction of any FID facilities within the project area that may be modified or replaced because of the project
Fresno Metropolitan Flood Control District (FMFCD)	Review and approve the location, design, and construction of flood control facilities required for the project.

2. Project Setting

2.1 Existing Land Uses and Public Land Use Policy

Schools, Public or Private. Facilities for primary or secondary education, including public schools, charter schools, and private and parochial schools having curricula comparable to that required in the public schools of the State of California.

Proposed High School Site:

- Land Use: The 33.8 acres being acquired for high school facilities are mostly fallow agricultural or open space land. The only exceptions are two single-family residences on adjoining approximately one-acre parcels along E. Church Avenue.
- Fresno General Plan Designation: Medium Density Residential (5.0-12 dwelling units/acre). Under the planned density range, the 33.8-acres being acquired for high school facilities could be developed with approximately 170 – 405 dwelling units.
- Zoning: City of Fresno zoning is RS-5 - Residential Single-Family, Medium Density.
- Approved Tentative Tract No. 5436: The property to be acquired, excluding the two rural one acre parcels along E. Church Avenue, was approved as a 168-lot single family residential subdivision. The tentative map approval will expire on September 21, 2017.

Proposed Elementary School Site:

- Land Use: The 17.7 acres currently owned by the District, most of which will be used for a new elementary school, is partially occupied by portable school buildings. The District has previously used portable buildings at the site as an interim elementary school site and the site is currently being used for an alternative education program (Phoenix Secondary Academy).
- Fresno General Plan Designation: Special School

Nearby Land Uses and Fresno General Plan Land Use Designations:

- North of E. Church Avenue, between S. Peach Avenue and S. Willow Avenue:
 - Land Use: Single-family residential subdivisions
 - Fresno General Plan Designation: Medium Density Residential (5.0-12 dwelling units/acre)
- Northeast corner of E. Church Avenue and S. Peach Avenue:
 - Land Use: Vacant land
 - Fresno General Plan Designation: Medium Density Residential (5.0-12 dwelling units/acre) and Neighborhood Commercial
- Southeast corner of E. Church and S. Peach Avenues:
 - Land Use: Storey Elementary School
 - Fresno General Plan Designation: Elementary School
- East side of S. Peach Avenue, from south boundary of Storey Elementary School south to Jensen Avenue:
 - Land Use: Single-family residential subdivisions
 - Fresno General Plan Designations: Medium Low Density Residential (3.5-6.0 dwelling units/acre) and Medium Density Residential (5.0-12 dwelling units/acre)
- West side of S. Peach Avenue, from south boundary of high school site south to Jensen Avenue:
 - Land Use: 20-acre cattle ranch with single family dwelling and ranch buildings adjacent to high school site and 20 acres of fallow agricultural land south from the cattle ranch to Jensen Avenue

- Fresno General Plan Designation: Medium Density Residential (5.0-12 dwelling units/acre)
- South boundary of elementary school site to Jensen Avenue:
 - Land Use: Mobile home park
 - Fresno General Plan Designation: Medium High Density Residential (12-16 dwelling units/acre)
- West boundary of elementary school site to S. Willow Avenue:
 - Land Use: Single-family residences on rural lots
 - Fresno General Plan Designation: Medium Density Residential (5.0-12 dwelling units/acre)

2.2 Existing Schools

Existing Fresno Unified schools in the general vicinity of the project site include:

- Phoenix Secondary Academy (small alternative high school) on the proposed elementary school site;
- Storey Elementary School at the southeast corner of E. Church and S. Peach Avenues, across Church Avenue from the proposed high school site;
- Terronez Middle School at the northwest corner of E. Church and S. Willow Avenues, about one-eighth mile west of the proposed elementary school site;
- Sunnyside High School at the southeast corner of Kings Canyon Road and Peach Avenue, about one mile north of the proposed high school site.

2.3 Existing Mobility and Transportation Resources and Facilities

Vehicular Access: The high school site has street frontage on S. Peach Avenue and E. Church Avenue, and the elementary school site has frontage on E. Church Avenue. Major streets near the project site include E. Jensen Avenue, S. Chestnut Avenue, and S. Willow Avenue.

- S. Peach Avenue:
 - Existing Condition: Peach Avenue is an existing two to four-lane divided arterial in the vicinity of the proposed Project. Peach Avenue is a major north-south street that extends southerly from McKinley Avenue beyond the Fresno City limits.
 - General Plan Designation: The Fresno General Plan designates S. Peach Avenue as an arterial street. The general plan describes arterial streets as “four- to six-lane divided (median island separation) roadways, with somewhat limited motor vehicle access to abutting properties, and with the primary purpose of moving traffic within and between neighborhoods and to and from freeways and expressways. In addition to major street intersections, appropriately designed and spaced local street intersections may allow left-turn movements to and from the arterial streets.”
- E. Church Avenue:
 - Existing Condition: Church Avenue is an existing two-to-four lane undivided collector in the vicinity of the proposed Project. Church Avenue is an east-west street that extends through the southern part of the City of Fresno.
 - General Plan Designation: The Fresno General Plan designates E. Church Avenue in the project vicinity as a collector street. As described in the general plan, “collectors are two- to four-lane undivided roadways, with the primary function of connecting local streets and arterials and neighborhood traffic generators and providing access to abutting properties. Local street intersections and motor vehicle access points from abutting properties are allowed consistent with the City’s engineering standards and accepted traffic engineering practices. Collectors typically have a center two-way left-turn lane.” Development of Church Avenue to the collector standard is incomplete in the project vicinity.

- **E. Jensen Avenue:** Jensen Avenue is an existing four-lane divided expressway in the vicinity of the proposed Project. Jensen Avenue is a major east-west street that extends through the southern part of the City of Fresno Sphere of Influence. The Fresno General Plan Circulation Element designates Jensen Avenue as a six-lane super arterial east of Freeway 99.
- **S. Chestnut Avenue:** Chestnut Avenue is predominantly an existing four-lane divided arterial (six-lane divided arterial between Olive Avenue and Belmont Avenue) in the vicinity of the proposed Project. This section of Chestnut Avenue is a major north-south street that extends from Dakota Avenue southerly beyond the Fresno City limits. Its northerly prolongation connects diagonally to Willow Avenue. The Fresno General Plan Circulation Element designates this section of Chestnut Avenue as a four-lane divided arterial with the exception of the segment between Olive Avenue and Belmont Avenue being a six-lane divided arterial.
- **S. Willow Avenue:** Willow Avenue is an existing two-to-three lane undivided collector in the vicinity of the proposed Project. This section of Willow Avenue is a north-south street that extends from Butler Avenue, southerly beyond the Fresno City limits. The Fresno General Plan Circulation Element designates this section of Willow Avenue as a two-lane undivided collector.

Transit Service:

Fresno Area Express (FAX) is the transit operator in the City of Fresno. At present, there is one transit route in the vicinity of the proposed Project. FAX Route 41 provides a direct connection to the Shaw/Marks shopping center, Manchester Transit Center and Shopping Mall, San Joaquin College of Law, Scandinavian Middle School, Duncan Polytech High School, California Christian College, Eastgate Shopping Center, Fresno Pacific University, and the community of Malaga. FAX Route 41 operates at thirty minute intervals on weekdays and 50-minute intervals on weekends. Its nearest stop to the project site is located at the northwest corner of Church Avenue and Chestnut Avenue. Retention of the existing routes and the increase or decrease of route intervals is dependent on transit ridership and on available funding.

Bicycle Access:

Existing Condition: Currently, bikeways do not exist adjacent to the proposed Project site or its vicinity. The City of Fresno Bicycle Transportation Plan recommends that Class II bike lanes along the Project's frontages to Church Avenue and Peach Avenue be implemented.

General Plan Designation: The Fresno General Plan designates the route of the Central Canal from Jensen Avenue through the high school site to E. Church Avenue and beyond as a Class I Bicycle/Pedestrian Path (Figure MT-2: Paths and Trails). The general plan defines a Class I path as a facility that "is completely separated from vehicle traffic and typically a 10- to 12-foot wide concrete/asphalt-concrete paved surface with two-foot wide shoulders."

The general plan indicates that collector streets (e.g., E. Church Avenue) and arterial streets (e.g., S. Peach Avenue) should have on-street bike paths (Table 4-1: Roadway Characteristic Matrix).

Pedestrian Access:

Existing Condition: Sidewalks exist adjacent to the residential subdivisions and schools in the project vicinity.

A temporary, paved walking path exists along the east side of S. Peach Avenue between E. Church Avenue and the California Avenue alignment. Sidewalk would replace the path as urban development occurs along its route.

General Plan Designation: The Fresno General Plan requires continuous sidewalks "along public streets on both sides, within all new development. Sidewalks or alternative pedestrian routes will also be required within developments that utilize private street access." (p 4-20). The Fresno General Plan designates the route of the Central Canal from Jensen Avenue through the high school site to E. Church Avenue and beyond as a Class I Bicycle/Pedestrian Path (Figure MT-2: Paths and Trails).

The Fresno General Plan Healthy Communities Element includes Objective HC-6: Improve access to schools and their facilities for the community. Implementing Policy HC-6a provides for working with school districts to implement safe routes to school programs.

2.4 Existing Sewer, Water, Solid Waste, and Storm Water Services

Sewer: The City of Fresno is the Regional Sewer Agency for the Fresno-Clovis Metropolitan Area, and, therefore, would be responsible for serving the proposed project. The City owns and maintains the wastewater collection system that serves the City and other participating agencies. The City also owns and operates the Fresno-Clovis Regional Wastewater Reclamation Facility, located southwest of the city, and the North Fresno Water Reclamation Facility, located in northeast Fresno. (General Plan, 6-17)

Water: The City of Fresno Water Division provides potable water to the majority of the city, including the area in which the proposed project is located. Fresno's primary source of potable water is groundwater stored in an aquifer. However, in 2004 the City's first Surface Water Treatment Facility came on line and began delivering on average 27,000 acre feet/year to residents in northeast Fresno. (General Plan, 6-23). Per the City of Fresno's 2015 Urban Water Management Plan, a new 54 mgd surface water treatment facility is under construction, which will permit the maximum use of surface water supplies available to the City for direct potable use and replenishment of groundwater via intentional recharge. The treatment facility is expected to be complete in fiscal year 2018. An 8 mgd satellite tertiary wastewater treatment facility is planned for southeast Fresno, budgeted for FY 2018. This facility will enable the City to provide direct potable water offset to this region of the City and further stretch the use of pristine supplies for the best and most beneficial uses. Upon completion of the projects presently under construction, and those already existing, the City will have transitioned from a system that relied 100% on groundwater to meet potable water demands in the Year 2000, to one that will be comprised of about 46% groundwater, 50% surface water, and 4% recycled water in the Year 2020 (City of Fresno 2015 UWMP, pages 7-12 and 7-13).

Solid Waste: The City of Fresno provides solid waste refuse collection, neighborhood cleanup, sanitation enforcement, and recycling programs for residential customers. According to the Fresno General Plan, "existing waste disposal facilities are adequate to maintain a sufficient level of service for future population growth in the city over the planning period for this [General] Plan." (6-28)

Storm Water: The Fresno Metropolitan Flood Control District (FMFCD) provides flood control and urban storm water services the watershed located between the Kings and San Joaquin Rivers, including the project site. FMFCD operates a system comprised of approximately 655 miles of pipeline and 153 stormwater retention basin to serve the Fresno/Clovis urban area.

As described on the FMFCD website, "the local storm water drainage system consists of storm drains, detention and retention basins, and pump stations. The system is designed to retain and infiltrate as much stormwater and urban runoff as possible. The District's Storm Drainage and Flood Control Master Plan includes 158 drainage areas, each providing service to approximately one to two square miles. All but five of the developed drainage areas have a retention or detention."

The project site is in FMFCD Drainage Areas BD and BF. The storm water retention basin for proposed high school site is the BD area, located south of E. Jensen Avenue, in the northwest corner of the intersection of the S. Helm Avenue alignment and E. Vine Avenue. The storm water retention basin for the BF area, which would serve the elementary school site, is south of E. Church Avenue, in the southeast corner of the intersection of the E. Burns Avenue alignment and S. Chestnut Avenue.

2.5 Existing Police and Fire Protection Services

Police Protection: The Fresno Police Department provides police protection services within the City of Fresno, including the project site. "The Fresno Police Department (Police Department) Patrol Division provides a full range of police services, including uniformed patrol response to both emergency and nonemergency calls for service, crime prevention, pro-active tactical crime enforcement (including gang and violent crime suppression through the use of Impact Teams), and investigation of crimes utilizing District Detectives. The Police Department currently operates out of four policing district stations in the Southwest, Southeast, Northwest, and Northeast geographic areas within the city." (General Plan, 6-3)

Fire Protection: The City of Fresno Fire Department provides a full range of services including fire prevention, suppression, emergency medical care, hazardous materials, urban search and rescue response, as well as emergency preparedness planning and public education coordination for the City, including the project site. The Fire Department also reviews all building permits and subdivision maps to ensure that access and fire suppression equipment (i.e., fire hydrants) are properly located and conducts new construction inspections of fire protection systems and routine fire and life safety inspections of existing buildings. (General Plan, 6-10)

3. Environmental Factors Potentially Affected


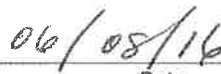
Based on the evaluations in Section 6, the project would have a less than significant impact on the environmental factors listed in the following table. Those factors that require mitigation to be incorporated into the project to be less than significant are noted with an "X".

Table 3-1
Environmental Factors Potentially Affected

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

4. Determination

Based on this Initial Study, I find that the Southeast School Site Acquisition and Development Project could have significant effects on the environment but by incorporating into the project the mitigation measures identified in Section 6, the Fresno Unified School District would avoid or render them insignificant.

	
Signature	Date
Ruth F. Quinto	
Deputy Superintendent/CFO	
Print Name	Title

5. Evaluation

5.1 State CEQA Guidelines Appendix G: Environmental Checklist Form

Sections 6 in this Initial Study address all of the environmental issues that Appendix G in the State CEQA Guidelines suggests an Initial Study should address. In addition, it addresses several environmental issues that the California Department of Education requires be considered in the selection and approval of a school site.

The discussion of each impact in Section 6 concludes with a determination that the impact is potentially significant, less than significant with mitigation, less than significant, or does not involve any impact (no impact).

The “potentially significant” determination is applied if there is substantial evidence that an effect may be significant. Under the State CEQA Guidelines, a significant effect, or impact, on the environment means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. (sec. 15382) The District must prepare an Environmental Impact Report for the project if the Initial Study identifies one or more potentially significant impacts.

The “less than significant impacts with project level mitigation” determination applies when the incorporation by the District of project-specific mitigation measures in the project would reduce an impact from potentially significant to less than significant. This Initial Study describes each mitigation measure the District has incorporated in the project to reduce potentially significant impacts to a less than significant level.

The “less than significant” determination applies when the project would not result in a significant effect on a resource or condition. The less than significant determination used only in cases where no mitigation measures are required to reduce an impact to a less than significant level.

The “no impact” determination applies when the project would have no impact on a resource or condition or the resource or condition does not apply to the project or its location. The no impact determination is used only in cases where no mitigation measures are required to avoid or eliminate an impact.

The discussion of impacts in this Initial Study lists each potential impact as stated in Appendix G, provides an analysis of the impact, describes each mitigation measure required to avoid the impact or reduce it to an insignificant level, and concludes with a determination of the level of significance of the impact. References to documents that would provide background information on an impact are provided where applicable.

5.2 Existing Laws, Regulations, Policies, and Mitigation Measures

Introduction: In some cases, an impact that might appear significant is determined to be less than significant because it is subject to state, regional, or local laws, regulations, or policies, the application of which would reduce the impact to a less than significant level or avoid the impact entirely. In evaluating impacts, this Initial Study considered the applicable laws, regulations, and policies to determine the effect they would have on preventing or reducing potentially significant impacts. The Initial Study, however, does not cite them as mitigation measures because they would apply to the project regardless of the outcome of the Initial Study.

For the proposed project, applicable laws, regulations, and policies include but are not limited to the following:

State of California: The selection and approval of a site for a public school in California is subject to numerous state rules and regulations, most of which the California Department of Education administers and protect the health and safety of students and staff at the school. Before the Department of Education will approve a school site and the school becomes eligible for state funding, a school district must certify that “the proposed site is suitable for educational purposes and is free, or will be free prior to occupancy, from hazards that could be considered harmful to student and staff health and safety. The school district has complied with and will comply with all applicable laws and policies associated with the acquisition of the school site, including commitments for Department of Toxic Substances Control required activities...” (SFPD 4.03, 2). The state requirements include but are not limited to the following:

- *Education Code Section 17210-17224*: Specifies the environmental review process the Department of Toxic Substance Control (DTSC) administers for new school sites. DTSC ensures that proposed school sites are free of contamination or, if the properties were previously contaminated, that they have been cleaned up to a level that protects the students and staff who will occupy the new school. All proposed school sites that will receive State funding for acquisition or construction are required to go through a rigorous environmental review and cleanup process under DTSC's oversight.
- *Education Code Section 17212.5; California Code of Regulations, Title 5, Section 14010 Geological and Other Environmental Hazards Report*: District must prepare a Geological Hazards Report and other environmental hazards report as described in Appendix H of the *School Site Selection and Approval Guide, 2000 Edition*. This will include a survey of high-pressure pipelines, liquid storage tanks, railroads, airports, electrical transmission lines, and areas subject to flooding, dam inundation, seismic faulting, and liquefaction.
- *Education Code Section 17213, Public Resources Code Section 21151.8; and California Code of Regulations, Title 5, Section 14011[h],[i]; Title 14, Section 15093*: Requires District Board to adopt findings stating: (1) the proposed school site is not a current or former waste disposal site; (2) the site is not a hazardous substance release site; (3) the site does not contain pipelines; and (4) whether a qualified freeway and/or qualified traffic corridor is located within 500 feet of the site. In addition, requires board-adopted findings for hazardous air emitters and hazardous material handlers located within a 1/4 mile of the site
- *Education Code Section 17215 and California Code of Regulations, Title 21, Division 2.5, Chapter 2.1*: airports: Requires providing a notice to the State Department of Education if a proposed school site is within two nautical miles, measured by air line, of that point on an airport runway or a potential runway included in an airport master plan that is nearest to the site. The Department of Education is required to consult with the Department of Transportation as to the safety of the site in relation to airport operations.
- *Public Resources Code Section 21151.2 and Government Code sections 53094, 65402[c]*: Require consultation with local Planning Commission to determine compatibility of proposed school site with general plan.
- *Public Resources Code Section 21151.4*: Addresses CEQA consultation requirements for the proposed construction or alteration of a facility within one-quarter mile of school that might reasonably be anticipated to emit or handling of hazardous or acutely hazardous material
- *Title 5, California Code of Regulations, Article 2, Section 14010, Standards for School Site Selection*: The standards address: possible hazards related to power line easements, railroads, airports, major streets, above ground pipelines, underground pipelines, above ground storage tanks, traffic, noise, seismicity, geology, soils, flooding, dam flood inundation, incompatible zoning, and other safety-related factors.
- *Title 24, California Code of Regulations, Part 1 through Part 12*: Specifies the State of California building regulations for public schools. The Division of the State Architect is responsible for administering the regulations.

San Joaquin Valley Air Pollution Control District

(<https://www.valleyair.org/rules/1ruleslist.htm>)

Regulation VIII – Fugitive PM10 Prohibitions and Regulation IX – Mobile and Indirect Sources

Fresno Metropolitan Flood Control District

(<https://www.fresnofloodcontrol.org/wp-content/uploads/2014/08/Std-Specifications-April-1-2011-approved-amended-1-1-12.pdf>)

Storm Drainage Master Plan

National pollutant Discharge Elimination System (NPDES) Construction General Permit

Fresno County Department of Public Health, Environmental Health

<http://www.co.fresno.ca.us/DivisionPage.aspx?id=990>

Public Health is responsible for Permitting and inspecting retail food businesses, including school cafeterias, reviewing construction plans and inspection of new and remodeled food facilities, investigating complaints regarding violations involving unsanitary conditions, investigates suspected food borne illnesses, etc.

City of Fresno

- Fresno General Plan
<http://www.fresno.gov/Government/DepartmentDirectory/DARM/AdvancedPlanning/Downloads.htm>
- Citywide Development Code
<http://www.fresno.gov/Government/DepartmentDirectory/DARM/AdvancedPlanning/DevCodeUpdate.htm>
- Standard Specifications and Drawings
<http://www.fresno.gov/Government/DepartmentDirectory/PublicWorks/DeveloperDoorway/Technical+Library/StandardSpecificationsandDrawings.htm>

Fresno Unified School District

Comprehensive Safe School Plan. The Fresno Unified School District (FUSD) Comprehensive Safe School Plan (CSSP) provides guidance and direction to principals, faculty and staff who have emergency management responsibilities. The CSSP is used during all emergency incidents involving a FUSD School facility. The Safe School Plan looks at strategies for improving school safety/climate using district/school site data and plan specific strategies to minimize problems and promote a positive learning environment for all students on campus.

5.3 Master Environmental Impact Report, General Plan and Development Code Update, City of Fresno, California

The Master Environmental Impact Report, General Plan and Development Code Update, City of Fresno, is a primary resource document for this Initial Study and is incorporated in this Initial Study by reference. The Master EIR addresses most of the environmental resources and conditions addressed in this Initial Study but at a broader level. The reader, therefore, is referred to the Master EIR for background information and on the environmental resources and conditions addressed in both documents. The Master EIR is available at: <http://www.fresno.gov/Government/DepartmentDirectory/DARM/AdvancedPlanning/Downloads.htm>

6. Potential Impacts and Mitigation Measures

Table 6-1 addresses the potential impacts of the proposed project and provides mitigation measures, as necessary.

TABLE 6-1
Potential Impacts of the Proposed Project and Mitigation Measures

Impact No. ²	AESTHETICS
I, a)	<p>Potential Impact: Would the proposed project have a substantial adverse effect on a scenic vista?</p> <p>Impact Analysis: The Fresno General Plan and Development Code Master Environmental Impact Report (MEIR) does not identify any scenic vistas on or near the project site. Field studies conducted for this Initial Study confirmed this conclusion.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: No impact</p>

² Except as noted, the impact number corresponds to the numbers used in CEQA Appendix G, Environmental Checklist Form.

I, b)	<p>Potential Impact: Would the proposed project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?</p> <p>Impact Analysis: The Fresno General Plan MEIR does not identify any state scenic highways, or scenic resources on or near the project site. Field surveys conducted for this Initial Study confirmed this conclusion.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: No impact</p>
I, c)	<p>Potential Impact: Would the proposed project substantially degrade the existing visual character or quality of the site and its surroundings?</p> <p>Impact Analysis: The project would change but not degrade the existing visual character or quality of the site and its surroundings. The Fresno General Plan designates the project site and its surroundings primarily for urban residential development. Schools are a common visual element in urban residential environments and are normally considered to complement, if not enhance, the visual character of the environments. Fresno Unified's Storey Elementary School, Terronez Middle School, and Sunnyside High School are nearby examples of schools that have enhanced the visual environment in which they are located.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: No impact</p>
I, d)	<p>Potential Impact: Would the proposed project create a new source of light and glare that would adversely affect day or nighttime views in the area?</p> <p>Impact Analysis: The project would result in additional light and, possibly, glare in its vicinity from street lights and vehicular headlights on the adjoining streets, exterior lighting systems for safety and security on the school sites, and exterior lighting from school buildings. The increase in lighting could result in light spillover onto adjacent properties.</p> <p>The project does not include a stadium or outdoor playfield lighting. Therefore, impacts associated with this type of lighting are not addressed in this Initial Study.</p> <p>Level of Significance without Mitigation: The impact would be significant without mitigation.</p> <p>Mitigation Measures: Fresno Unified shall incorporate in the project the following mitigation measures from the Fresno General Plan MEIR:</p> <p>MM A1: Lighting systems for street and parking areas shall include shields to direct light to the roadway surfaces and parking areas. Vertical shields on the light fixtures shall also be used to direct light away from adjacent light sensitive land uses such as residences.</p> <p>MM A2: Lighting systems for active play areas shall provide adequate illumination for the activity; however, low intensity light fixtures and shields shall be used to minimize spillover light onto adjacent properties.</p> <p>MM A3: Materials used on building facades shall be non-reflective.</p> <p>Level of Significance with Mitigation Measures: The impact would be less than significant with the mitigation measures incorporated in the project.</p>
Impact No.	AGRICULTURE AND FORESTRY RESOURCES
II, a)	<p>Potential Impact: Would the proposed project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?</p>

	<p>Impact Analysis: The project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. According to the California Department of Conservation’s Important Farmland Map, these soils do not exist on the project site.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: No impact</p>																																			
II, b)	<p>Potential Impact: Would the proposed project conflict with existing zoning for agricultural use, or a Williamson Act contract?</p> <p>Impact Analysis: The existing City of Fresno zoning districts and related information for the parcels comprising the project site are as follows:</p> <table><tr><th>Assessor’s Parcel Number</th><th>Parcel Area</th><th>Existing Zoning District</th><th>Fresno General Plan Planned Land Use</th><th>Existing Land Use</th></tr><tr><td>481 090 28</td><td>30.84 acres</td><td>R-5, Residential Single Family, Medium Density</td><td>Residential Medium Density</td><td>Open Space/Ag.</td></tr><tr><td>481 090 27</td><td>1.10 acres</td><td>R-5, Residential Single Family, Medium Density</td><td>Residential/Medium Density</td><td>Open Space/Ag.</td></tr><tr><td>481 090 16</td><td>1.07 acres</td><td>R-5, Residential Single Family, Medium Density</td><td>Residential/Medium Density</td><td>Low Density Residential (1 dwelling unit)</td></tr><tr><td>481 090 23ST</td><td>17.73 acres</td><td>PI, Public and Institutional</td><td>Public Facility/Special School</td><td>Public Facility/Special School</td></tr><tr><td>481 090 18</td><td>0.80 acres</td><td>R-5, Residential Single Family, Medium Density</td><td>Residential/Medium Density</td><td>Low Density Residential (1 dwelling unit)</td></tr><tr><td>Central Canal</td><td>NA</td><td>Split</td><td>Open Space/Canal</td><td>Open Space/Canal</td></tr></table> <p>Source: gis4u.fresno.gov/viewer/</p> <p>Most of the parcels comprising the project site are zoned for urban single family residential development and one is zoned for Public and Institutional uses. (The canal shares the zoning of the adjoining parcels.) None of the parcels are zoned for agricultural use. The City of Fresno has planned all of the parcels except the parcels occupied by the school and canal for urban residential use. Therefore, the project will not conflict with existing zoning.</p> <p>The parcels comprising the project site are not subject to Williamson Act Contracts.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: Less than significant</p>	Assessor’s Parcel Number	Parcel Area	Existing Zoning District	Fresno General Plan Planned Land Use	Existing Land Use	481 090 28	30.84 acres	R-5, Residential Single Family, Medium Density	Residential Medium Density	Open Space/Ag.	481 090 27	1.10 acres	R-5, Residential Single Family, Medium Density	Residential/Medium Density	Open Space/Ag.	481 090 16	1.07 acres	R-5, Residential Single Family, Medium Density	Residential/Medium Density	Low Density Residential (1 dwelling unit)	481 090 23ST	17.73 acres	PI, Public and Institutional	Public Facility/Special School	Public Facility/Special School	481 090 18	0.80 acres	R-5, Residential Single Family, Medium Density	Residential/Medium Density	Low Density Residential (1 dwelling unit)	Central Canal	NA	Split	Open Space/Canal	Open Space/Canal
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II, c)	<p>Potential Impact: Would the proposed project conflict with existing zoning for, or cause rezoning of, forest land?</p> <p>Impact Analysis: The proposed project would have no impacts on forestland, timberland, or timberland zoned for timberland production. These resources and zoning do not exist within or near the project site.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: No impact</p>
II, d)	<p>Potential Impact: Would the proposed project result in the loss of forest land or conversion of forest land to non-forest use?</p> <p>Impact Analysis: The proposed project would have no impacts on forestland, timberland, or timberland zoned for timberland production. These resources do not exist within or near the project site.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: No impact</p>
II, e)	<p>Potential Impact: Would the proposed project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland, to non-agricultural use or conversion of forestland to non-forest use?</p> <p>All of the land adjoining the project site is developed with urban or rural residential uses except the 20-acre parcel south of the site along Peach Avenue, which is in agriculture use (cattle). The Fresno General Plan designates the parcel for medium density residential development, and the City zoning for the parcel is R-5. According to the Important Farmland Map for Fresno County (2014), the easterly approximately one-third of the parcel is Prime Farmland. The westerly two-thirds of the parcel is Farmland of Local Importance.</p> <p>Development of the proposed high school next to the parcel could affect the existing cattle operation by restricting the types of agricultural chemicals that can be used on the parcel and the methods by which the chemicals can be applied. The cattle operation could also be subject to complaints from the school about noise, dust, and odors from the operation and to vandalism committed by students attending the school.</p> <p>It is unlikely that development of the proposed school would contribute to these types of impacts to the extent that continuation of the cattle operation would be impaired. The parcel is within an urbanizing area in the City of Fresno and is not in an area where agriculture is the predominant land use. Extensive urban development has occurred near the parcel. A mobile home park and the Fresno Unified portable school buildings adjoin the west boundary of the parcel. The land across Peach Avenue from the parcel, between Church Avenue and Jensen Avenue, is developed with an elementary school and urban single-family residential subdivisions.</p> <p>The two schools and the residential development are considered sensitive land uses. Therefore, any restrictions on the use of agricultural chemicals by the cattle operation already exist.</p> <p>The schools are within 750 feet of the parcel. According to Fresno Unified staff, the District has never had any reason to complain about noise, dust, or odor issues related to the cattle operation.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: Less than significant</p>

Impact No.	AIR QUALITY
III, a)	<p>Potential Impact: Would the project conflict with or obstruct implementation of the applicable air quality plan?</p> <p>Impact Analysis: This Initial Study contains a technical assessment, presented in the following paragraphs and Appendix A. For the purposes of this analysis, the two proposed high school scenarios were addressed separately. Alternative 1 would serve approximately 800-1,000 high school students and Alternative 2 would serve up to 2,500 high school students. Elementary school students would remain constant for both alternatives.</p> <p>In accordance with San Joaquin Valley Air Pollution Control District (SJVAPCD)-recommended methodology for the assessment of air quality impacts, projects that result in significant air quality impacts at the project level are also considered to have a significant cumulative air quality impact. As noted in Impact III-b, short-term construction and long-term operational emissions would not exceed applicable thresholds. In addition, the proposed project's contribution to localized concentrations of emissions, including emissions of CO, TACs, and odors, are considered less than significant. However, as noted in Impact III-d, the proposed project could result in a significant cumulative contribution <i>of criteria pollutants for which the San Joaquin Valley Air Basin (SJVAB) is currently designated non-attainment</i>. For this reason, implementation of the proposed project could conflict with air quality attainment or maintenance planning efforts.</p> <p>Level of Significance without Mitigation: Potentially significant.</p> <p>Mitigation Measures: Implement Mitigation Measure AQ-1 (refer to Impact III-d).</p> <p>Level of Significance with Mitigation: With implementation of Mitigation Measure AQ-1 this impact would be considered less than significant.</p>
III, b)	<p>Potential Impact: Would the proposed project violate any air quality standard or contribute substantially to an existing or projected air quality violation?</p> <p>Impact Analysis:</p> <p>Short-term Construction Emissions</p> <p>Short-term increases in emissions would occur during the construction process. Construction-generated emissions are of temporary duration, lasting only as long as construction activities occur, but have the potential to represent a significant air quality impact. The construction of the proposed project would result in the temporary generation of emissions associated with site grading and excavation, paving, motor vehicle exhaust associated with construction equipment and worker trips, as well as the movement of construction equipment on unpaved surfaces. Short-term construction emissions would result in increased emissions of ozone-precursor pollutants (i.e., ROG and NO_x) and emissions of PM. Emissions of ozone-precursors would result from the operation of on-road and off-road motorized vehicles and equipment. Emissions of airborne PM are largely dependent on the amount of ground disturbance associated with site preparation activities and can result in increased concentrations of PM that can adversely affect nearby sensitive land uses. Estimated construction-generated annual emissions associated with the proposed project alternatives are summarized in Table AQ-1.</p>

Table AQ-1
Short-term Construction-Generated Emissions

Project Alternative	Uncontrolled Maximum Annual Emissions (TPY) ¹					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Project Alternative 1 ²	1.5	4.9	4.7	0.01	0.6	0.4
Project Alternative 2 ³	3.1	5.9	5.9	0.01	0.8	0.5
Significance Thresholds:	10	10	None	None	15	15
Exceeds Thresholds/Significant Impact (Alternative 1/Alternative 2)?:	No/No	No/No	No/No	No/No	No/No	No/No
Project Alternative	Uncontrolled Average Daily Onsite Emissions (lbs/day) ⁴					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Project Alternative 1 ²	9.6	23.0	15.5	0	2.3	1.8
Project Alternative 2 ³	17.4	31.2	21.1	0	3.1	2.3
Significance Thresholds:	100	100	100	100	100	100
Exceeds Thresholds/Significant Impact (Alternative 1/Alternative 2)?:	No/No	No/No	No/No	No/No	No/No	No/No
^{1.} Based on CalEEMod computer modeling. Totals may not sum due to rounding. To be conservative, construction emissions were based on year 2016-2017 conditions assuming that both the proposed high school and elementary school would be constructed simultaneously. Does not include emission control measures. ^{2.} Project Alternative 1 includes construction of a 750-student elementary school and a 1,000-student high school. ^{3.} Project Alternative 2 includes construction of a 750-student elementary school and a 2,500-student high school. ^{4.} Average daily onsite emissions are based on total onsite emissions divided by the total number of construction days. Refer to Appendix A for modeling results and assumptions.						

Assuming the simultaneous construction of all proposed facilities, Project Alternative 1 would generate maximum uncontrolled annual emissions of approximately 1.5 tons/year of ROG, 4.9 tons/year of NO_x, 4.7 tons/year of CO, 0.6 tons/year of PM₁₀, and 0.4 tons/year of PM_{2.5}. Project Alternative 2 would generate maximum uncontrolled annual emissions of approximately 3.1 tons/year of ROG, 5.9 tons/year of NO_x, 5.9 tons/year of CO, 0.8 tons/year of PM₁₀, and 0.5 tons/year of PM_{2.5}. Emissions of SO₂ for both project alternatives would be negligible (e.g., less than 0.1 tons/year). Estimated construction-generated emissions would not exceed the SJVAPCD's significance thresholds of 10 tons/year of ROG, 10 tons/year of NO_x, or 15 tons/year PM₁₀. It is also important to note that estimated average-daily onsite emissions for both Alternative 1 and Alternative 2 would not exceed the SJVAPCD's recommended localized ambient air quality significance thresholds of 100 lbs/day for each of the criteria air pollutants evaluated. As a result, short-term construction of the proposed project would not result in a significant impact to regional or local air quality conditions. Furthermore, it is important to note that the proposed project would be required to comply with SJVAPCD Regulation VIII (Fugitive PM₁₀ Prohibitions). Mandatory compliance with SJVAPCD Regulation VIII would further reduce emissions of fugitive dust from the project site, and minimize the project's potential to adversely affect nearby sensitive receptors. With compliance with SJVAPCD Regulation VIII, maximum annual emissions of PM would be reduced by approximately 50 percent, or more. Given that project-generated emissions would not exceed applicable SJVAPCD significance thresholds, this impact would be considered **less than significant**.

Long-term Operational Emissions

Estimated annual operational emissions for Project Alternative 1 and Project Alternative 2 are summarized in Table AQ-2 and Table AQ-3, respectively. As depicted, Project Alternative 1 would result in a net increase of approximately 2.8 tons/year of ROG, 3.9 tons/year of NO_x, 13.8 tons/year of CO, 1.9 tons/year of PM₁₀, and 0.6 tons/year of PM_{2.5} during the initial year of operation. Project Alternative 2 would result in a net increase of approximately 5.0 tons/year of ROG, 8.1 tons/year of NO_x, 28.2 tons/year of CO, 4.0 tons/year of PM₁₀, and 1.2 tons/year of PM_{2.5}. Emissions of SO₂ for both project alternatives would be negligible (e.g., less than 0.1 tons/year). Operational emissions would not exceed SJVAPCD's mass-emissions significance thresholds. It is also important to note that estimated average-daily onsite emissions for both Alternative 1 and Alternative 2 would not exceed the SJVAPCD's recommended localized ambient air quality significance thresholds of 100 lbs/day for each of the criteria air pollutants evaluated. As a result, long-term operation of the proposed project would not result in a significant impact to regional or local air quality conditions. It is important to note that estimated operational emissions are conservatively based on the default vehicle fleet distribution assumptions contained in the model, which include contributions from medium and heavy-duty trucks. Mobile sources associated with schools typically consist largely of light-duty vehicles and buses. Based on data received from the FUSD, roughly 65 percent of FUSD's existing bus fleet is alternatively fueled (e.g., compressed natural gas or hybrid electric vehicles). For these reasons, actual mobile source emissions would likely be less than estimated. Long-term operational emissions associated with the proposed project alternatives would not exceed applicable thresholds. As a result, this impact is considered *less than significant*.

Table AQ-2
Long-term Operational Emissions – Project Alternative 1 (Unmitigated)

Season	Uncontrolled Annual Emissions (tons/year) ¹					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Area Source	1.80	0.0	0.02	0.0	0.0	0.0
Energy Use	0.03	0.25	0.21	0.0	0.02	0.02
Mobile Source	1.24	3.73	13.89	0.03	1.97	0.57
Total:	3.02	3.98	14.12	0.03	1.99	0.59
Existing Land Uses to be Removed:	0.20	0.05	0.35	0.0	0.05	0.03
Net Increase (tons):	2.82	3.93	13.77	0.03	1.94	0.56
Significance Thresholds (tons):	10	10	None	None	15	None
Exceeds Thresholds/Significant Impact?:	No	No	--	--	No	--
Average Daily Onsite Emissions (lbs) ² :	14.9	2.1	1.9	0.0	0.2	0.2
Significance Thresholds (lbs):	100	100	100	100	100	100
Exceeds Thresholds/Significant Impact?:	No	No	No	No	No	No
¹ Emissions were calculated using the CalEEMod computer program. Does not include implementation of emissions control measures. ² Average daily onsite emissions are based on total onsite emissions divided by the total number of operational days. Totals may not sum due to rounding. Refer to Appendix A for modeling assumptions and results.						

Table AQ-3 Long-term Operational Emissions – Project Alternative 2 (Unmitigated)						
Season	Uncontrolled Annual Emissions (tons/year) ¹					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Area Source	2.67	0.0	0.03	0.0	0.0	0.0
Energy Use	0.06	0.51	0.43	0.0	0.04	0.04
Mobile Source	2.49	7.59	28.05	0.07	4.03	1.16
Total:	5.21	8.10	28.50	0.07	4.07	1.20
Existing Land Uses to be Removed:	0.20	0.05	0.35	0.0	0.05	0.03
Net Increase (tons):	5.01	8.05	28.15	0.07	4.02	1.17
Significance Thresholds (tons):	10	10	None	None	15	None
Exceeds Thresholds/Significant Impact?:	No	No	--	--	No	--
Average Daily Onsite Emissions (lbs) ² :	22.7	4.2	3.8	0.0	0.3	0.3
Significance Thresholds (lbs):	100	100	100	100	100	100
Exceeds Thresholds/Significant Impact?:	No	No	No	No	No	No
1. Emissions were calculated using the CalEEMod computer program. Does not include implementation of emissions control measures. 2. Average daily onsite emissions are based on total onsite emissions divided by the total number of operational days. Totals may not sum due to rounding. Refer to Appendix A for modeling assumptions and results.						
Mitigation Measures: None required						
Level of Significance: Given that project-generated emissions would not exceed applicable SJVAPCD significance thresholds, this impact would be considered less than significant.						
III, c)	<p>Potential Impact: Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?</p> <p>Impact Analysis: The SJVAB is currently designated non-attainment for the state and federal ozone and PM_{2.5} ambient air quality standards and the state PM₁₀ standard. As discussed in <i>Impact III-b</i>, short-term construction-generated emissions of ozone-precursor pollutants (e.g., ROG and NO_x) and PM would not exceed SJVAPCD's significance thresholds. However, as noted in <i>Impact III-d</i>, fugitive dust generated during construction may result in localized pollutant concentrations that could result in increased nuisance concerns to nearby residents. Uncontrolled increases of construction-generated PM emissions could contribute, on a cumulative basis, to existing non-attainment conditions.</p> <p>Level of Significance without Mitigation: Potentially significant.</p> <p>Mitigation Measures: Implement Mitigation Measure AQ-1 (refer to <i>Impact III-d</i>).</p> <p>Level of Significance with Mitigation: With implementation of Mitigation Measure AQ-1 this impact would be considered less than significant.</p>					
III, d)	<p>Potential Impact: Would the proposed project expose sensitive receptors³ to substantial pollutant concentrations?</p>					

³ One of the most important reasons for air quality standards is the protection of those members of the population who are most sensitive to the adverse health effects of air pollution, termed "sensitive receptors." The term sensitive receptors refer to specific population groups, as well as the land uses where individuals would reside for long periods. Commonly identified sensitive population groups are children, the

Impact Analysis: Sensitive land uses located in the vicinity of the proposed project site include nearby schools and residential land uses. The nearest residential land uses are generally located adjacent to the southwestern boundary of the project site and to the north of the project site, across E. Church Avenue. Phoenix Secondary School is located within the western portion of the project site and Edith B. Storey Elementary School is located east of the project site, across S. Peach Avenue. Long-term operational and short-term construction activities and emission sources that could adversely impact these nearest sensitive receptors are discussed below:

Long-term Operation

Localized Mobile-Source CO Emissions

Carbon monoxide is the primary criteria air pollutant of local concern associated with the proposed project. Under specific meteorological and operational conditions, such as near areas of heavily congested vehicle traffic, CO concentrations may reach unhealthy levels. If inhaled, CO can be adsorbed easily by the blood stream and can inhibit oxygen delivery to the body, which can cause significant health effects ranging from slight headaches to death. The most serious effects are felt by individuals susceptible to oxygen deficiencies, including people with anemia and those suffering from chronic lung or heart disease.

Mobile-source emissions of CO are a direct function of traffic volume, speed, and delay. Transport of CO is extremely limited because it disperses rapidly with distance from the source under normal meteorological conditions. For this reason, modeling of mobile-source CO concentrations is typically recommended for sensitive land uses located near signalized roadway intersections that are projected to operate at unacceptable levels of service (i.e., LOS E or F). Localized CO concentrations associated with the proposed project would be considered less-than-significant impact if: (1) traffic generated by the proposed project would not result in deterioration of a signalized intersection to a level of service (LOS) of E or F; or (2) the project would not contribute additional traffic to a signalized intersection that already operates at LOS of E or F.

With implementation of the proposed transportation improvements, signalized intersections within the project area would operate at LOS D, or better, for existing-plus-project, near-term, and future cumulative conditions (JBL 2016). In comparison to the CO screening criteria, implementation of the proposed project would not result in or contribute to unacceptable levels of service (i.e., LOS E, or worse) at nearby signalized intersections. As a result, the proposed build alternatives would not be anticipated to contribute substantially to localized CO concentrations that would exceed applicable standards. For this reason, this impact would be considered less than significant.

Toxic Air Contaminants

No major stationary sources of TACs or major agricultural operations are located within one-quarter mile of the project site. In addition, the project site is not located within 500 feet of a freeway or other busy traffic corridor (SJVAPCD 2016). Predicted onsite health risks for onsite student and staff are anticipated to be minor and would not be anticipated to exceed the SJVAPCD's significance thresholds. In addition, implementation of the proposed project would not result in the long-term operation of any major onsite stationary sources of TACs, nor would project implementation result in a significant increase in diesel-fueled vehicles traveling along area roadways. For these reasons, long-term exposure to TACs would be considered less than significant.

Short-term Construction

Asbestos Material in Demolition

Demolition activities can have potential negative air quality impacts, including issues surrounding proper handling, demolition, and disposal of asbestos containing material (ACM). Asbestos containing materials

elderly, the acutely ill, and the chronically ill. Commonly identified sensitive land uses would include facilities that house or attract children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Residential dwellings, schools, parks, playgrounds, childcare centers, convalescent homes, and hospitals are examples of sensitive land uses.

could be encountered during demolition of existing structures, particularly older structures constructed prior to 1970. Asbestos can also be found in various building products, including (but not limited to) utility pipes/pipelines (transite pipes or insulation on pipes). If a project will involve the disturbance or potential disturbance of ACM, various regulatory requirements may apply, including the requirements stipulated in the *National Emission Standard for Hazardous Air Pollutants (40CFR61, Subpart M - Asbestos NESHAP)*. These requirements include but are not limited to: 1) notification, within at least 10 business days of activities commencing, to the SJVAPCD, 2) an asbestos survey conducted by a Certified Asbestos Consultant, and, 3) applicable removal and disposal requirements of identified ACM.⁴

The project site will require demolition of existing structures. As a result, demolition activities have the potential to result in the disturbance of ACM. The disturbance and potential exposure to ACM during demolition is considered to have a potentially significant impact.

Naturally Occurring Asbestos

Naturally-occurring asbestos, which was identified by ARB as a TAC in 1986, is located in many parts of California and is commonly associated with ultramafic rock. The project site is not located near any areas that are likely to contain ultramafic rock (DOC 2000). As a result, risk of exposure to asbestos during the construction process would be considered less than significant.

Diesel-Exhaust Emissions

Implementation of the proposed project would result in the generation of DPM emissions during construction associated with the use of off-road diesel equipment for site grading and excavation, paving and other construction activities. Health-related risks associated with diesel-exhaust emissions are primarily associated with long-term exposure and associated risk of contracting cancer. For residential land uses, the calculation of cancer risk associated with exposure of to TACs are typically calculated based on a 70-year period of exposure. The use of diesel-powered construction equipment, however, would be temporary and episodic and would occur over a relatively large area. Assuming that construction activities involving the use of diesel-fueled equipment would occur over an approximate 18-month period, project-related construction activities would constitute less than three percent of the typical 70-year exposure period. As a result, exposure to construction-generated DPM would not be anticipated to exceed applicable thresholds (i.e., incremental increase in cancer risk of 10 in one million). As a result, this impact would be considered less than significant.

Localized PM Concentrations

Construction of the proposed project may result in the generation of fugitive dust. Fugitive dust emissions would be primarily associated with earth-moving, material handling and demolition activities, as well as, vehicle travel on unpaved and paved surfaces. Onsite off-road equipment and trucks would also result in short-term emissions of diesel-exhaust PM. Fugitive dust can also be generated during the clearing of vegetation, including the burning of vegetative material. Uncontrolled emissions of fugitive dust may contribute to increased occurrences of Valley Fever and may also result in increased nuisance impacts to nearby land uses and receptors. As a result, localized uncontrolled concentrations of construction-generated PM would be considered to have a potentially significant impact.

Level of Significance without Mitigation: Potential exposure to ACM during demolition and localized uncontrolled concentrations of construction-generated PM would be considered to have a potentially significant impact. Other long-term operation and short-term construction impacts are considered less than significant.

⁴ The SJVAPCD's *Asbestos Notification and Demolition Permit Release Form* will need to be completed prior to the start of demolition. Asbestos requirements for demolition are available on the SJVAPCD's website at URL: <http://www.valleyair.org/busind/comply/asbestosbuln.htm>.

Mitigation Measures:

MM AQ-1: The following measures shall be implemented to reduce potential exposure of sensitive receptors to localized concentrations of asbestos-containing material and to reduce localized concentrations of fugitive dust at nearby sensitive receptors and land uses during project construction:

- a. Demolition of onsite structures shall comply with the *National Emission Standards for Hazardous Air Emissions (NESHAP) requirements (NESHAP, 40 CFR, Part 61, Subpart M)* for the demolition of existing structures. The SJVAPCD is delegated authority by the Environmental Protection Agency (EPA) to implement the Federal Asbestos NESHAP. Prior to demolition of onsite structures, the SJVAPCD shall be notified, per NESHAP requirements. Additional information and compliance information can be obtained on the SJVAPCD's website at URL:
https://www.valleyair.org/busind/comply/AssistanceDocuments/CAB_asbestos_july2006.pdf
- b. On-road diesel vehicles shall comply with Section 2485 of Title 13 of the California Code of Regulations. This regulation limits idling from diesel-fueled commercial motor vehicles with gross vehicular weight ratings of more than 10,000 pounds and licensed for operation on highways. It applies to California and non-California based vehicles. In general, the regulation specifies that drivers of said vehicles:
 1. Shall not idle the vehicle's primary diesel engine for greater than 5 minutes at any location, except as noted in Subsection (d) of the regulation; and,
 2. Shall not operate a diesel-fueled auxiliary power system to power a heater, air conditioner, or any ancillary equipment on that vehicle during sleeping or resting in a sleeper berth for greater than 5.0 minutes at any location when within 1,000 feet of a restricted area, except as noted in Subsection (d) of the regulation.
- c. Off-road diesel equipment shall comply with the 5-minute idling restriction identified in Section 2449(d)(2) of the California Air Resources Board's In-Use Off-road Diesel regulation. The specific requirements and exceptions in the regulations can be reviewed at the following web sites:
www.arb.ca.gov/msprog/truck-idling/2485.pdf and
www.arb.ca.gov/regact/2007/ordiesl07/frooal.pdf.
- d. Signs shall be posted at the project site construction entrance to remind drivers and operators of the state's 5-minute idling limit.
- e. To the extent available, replace fossil-fueled equipment with alternatively-fueled (e.g., natural gas) or electrically-driven equivalents.
- f. Construction truck trips shall be scheduled, to the extent feasible, to occur during non-peak hours.
- g. The burning of vegetative material shall be prohibited.
- h. The proposed project shall comply with SJVAPCD Regulation VIII for the control of fugitive dust emissions. Regulation VIII can be obtained on the SJVAPCD's website at website URL:
<https://www.valleyair.org/rules/1ruleslist.htm>. At a minimum, the following measures shall be implemented:
 - 1) All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover.
 - 2) All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.

	<ol style="list-style-type: none"> 3) All land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking. 4) With the demolition of buildings up to six stories in height, all exterior surfaces of the building shall be wetted during demolition. 5) When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained. 6) All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions.) (Use of blower devices is expressly forbidden.) 7) Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant. 8) On-road vehicle speeds on unpaved surfaces of the project site shall be limited to 15 mph. 9) Sandbags or other erosion control measures shall be installed sufficient to prevent silt runoff to public roadways from sites with a slope greater than one percent. 10) Excavation and grading activities shall be suspended when winds exceed 20 mph (Regardless of wind speed, an owner/operator must comply with Regulation VIII's 20 percent opacity limitation). <p>i. The above measures for the control of demolition and construction-generated emissions shall be included on site grading and construction plans.</p> <p>Level of Significance with Mitigation: Less than significant</p>
III, e)	<p>Potential Impact: Would the proposed project create objectionable odors affecting a substantial number of people?</p> <p>Impact Analysis: The occurrence and severity of odor impacts depends on numerous factors, including: the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies.</p> <p>No major sources of odors have been identified in the project area. However, construction of the proposed project would involve the use of a variety of gasoline or diesel-powered equipment that would emit exhaust fumes. Exhaust fumes, particularly diesel-exhaust, may be considered objectionable by some people. In addition, pavement coatings and architectural coatings used during project construction would also emit temporary odors. However, construction-generated emissions would occur intermittently throughout the workday and would dissipate rapidly within increasing distance from the source. As a result, short-term construction activities would not expose a substantial number of people to frequent odorous emissions.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: Less than significant</p>

Impact No.	BIOLOGICAL RESOURCES
IV, a)	<p>Potential Impact: Would the proposed project have a substantial adverse effect, either directly or through habitat modifications, on any wildlife species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U. S. Fish and Wildlife Service?</p> <p>Impact Analysis: Based on the habitat types present within the project site, 9 special status wildlife species have the potential to occur on the site.</p> <p>The likelihood that pallid bats occupy the project site is very low, as disturbance makes the habitat somewhat marginal. However, direct mortality to bats could occur if a structure is demolished prior to bat eviction.</p> <p>Eight special status avian species (burrowing owl, Swainson's hawk, northern harrier, white-tailed kite, loggerhead shrike, fox sparrow, yellow-billed magpie, and Nuttall's woodpecker) have the potential to nest and/or forage within the study area. Swainson's hawk, white-tailed kite, yellow-billed magpie, Nuttall's woodpecker could nest in the large trees within and adjacent to the study area. Northern harrier could nest in tall herbaceous vegetation near the canal or ponding basin, and forage over nearby agricultural fields. Loggerhead shrike could nest in shrubs within and adjacent to the study area and forage in the open fields. Fox sparrow may forage in the shrubs of the school and rural residences during the winter. Although none were detected during a reconnaissance survey, burrowing owls could move into the area prior to construction, and occupy any large burrows during the nesting and wintering seasons.</p> <p>Although none were detected during a reconnaissance survey, burrowing owls could move into the area prior to construction and occupy any large burrows during the nesting and wintering seasons.</p> <p>In addition, other migratory birds will likely be nesting in the study area and vicinity, most of which are protected by the Migratory Bird Treaty Act (MBTA) (USCA 1918). Both construction related disturbance and the removal of vegetation or buildings within the project area could result in nest abandonment or direct mortality of eggs, chicks, and/or fledglings. This type of impact to migratory birds, including special status bird species, would be considered take under the MBTA and California Endangered Species Act (CESA), and therefore, is a potentially significant impact.</p> <p>Level of Significance without Mitigation: The impact would be significant without mitigation.</p> <p>Mitigation Measures:</p> <p>Mitigation Measure BR-1: Pallid Bats</p> <ol style="list-style-type: none"> 1. Pre-construction Surveys: Prior to the onset of construction activity, a California Department of Fish and Wildlife (CDFG) -approved biologist will conduct pre-construction surveys for active roosting, breeding, or hibernacula sites (roosts) in large trees and buildings within the project area. Construction/building demolition will not take place as long as a roost site is occupied. Therefore, depending on when construction begins, bat surveys should be timed to be prior to the change in season (maternity vs. hibernation) so that special status bats can be correctly excluded without take (see seasons below). If no active bat roosts, breeding, or hibernacula sites are detected, no further action is required. 2. Avoidance & Minimization: <ol style="list-style-type: none"> a. If any active bat sites are discovered or if evidence of recent occupation is established, the following measures will be implemented to minimize impacts on special status bats: <ol style="list-style-type: none"> i. Construction will be scheduled to minimize impacts upon pallid bats. Type and status of active roosts shall be determined, and bat eviction shall be undertaken in a manner that does not exclude bats during times of inclement weather, or exclude females from young still in a roost.

- ii. Hibernation sites with evidence of prior occupation will be sealed before the hibernation season (November–March), and nursery sites will be sealed before the nursery season (April–August).
 - iii. If the site is occupied by the bats, then construction will occur outside the hibernation season (for hibernacula), and after August 15 (for nursery colonies). Construction/building demolition will not take place as long as the roost site is occupied.
 - iv. If exclusion devices are used, they will be employed based on current best practices and will be regularly monitored by a qualified biologist.
- b. All new lighting shall be down-cast to reduce disturbance impacts to bat species.

Mitigation Measure BR-2: Special Status Birds

1. Avoidance: If feasible, any vegetation removal will take place between September 1 and February 1 to avoid impacts to nesting birds in compliance with the Migratory Bird Treaty Act. If vegetation removal must occur during the nesting season, project construction may be delayed due to actively nesting birds and their required protective buffers.
2. Pre-construction Surveys:
 - a. A qualified biologist will conduct a pre-construction survey no more than 14 days prior to the initiation of disturbance activities. This survey will cover:
 - i. Active nest sites in trees, bushes, or grass within a species-specific buffers of the project area (Swainson’s hawk – 0.5 mile, other raptor species such as white-tailed kite – 500 ft., non-raptor species (loggerhead shrike, etc. – 250 ft.). Survey protocol developed by the Swainson’s Hawk Technical Advisory Committee (TAC) should be followed (CDFG 2000).
 - ii. Active western burrowing owl burrows in the project area and suitable habitat within 150 m (500 ft.), and evaluate use by owls in accordance with California Department of Fish and Wildlife survey guidelines (CBOC 1993, CDFG 1995, CDFG 2012). Surveys will document if burrowing owls are nesting or using habitat in or directly adjacent to the project area. Survey results will be valid only for the season (breeding [Feb 1-Aug 31] or non-breeding [Sept 1-Jan 31]) during which the survey is conducted.
 - b. If no active nests or burrows are detected during the pre-construction survey, then no further action is required. If an active nest or burrow is detected, then the following minimization measures will be implemented.
3. Minimization/Establish Buffers:
 - a. Swainson’s hawk, northern harrier, white-tailed kite, loggerhead shrike, fox sparrow, yellow-billed magpie, and Nuttall’s woodpecker and any other MBTA-protected species: If any active nests are discovered (and if construction will occur during bird breeding season), the United States Fish and Wildlife Service and/or California Department of Fish and Wildlife shall be contacted to determine protective measures required to avoid take. These measures could include fencing off an area where a nest occurs, or shifting construction work temporally or spatially away from the nesting birds. Biologists are required on site to monitor construction while protected migratory birds are nesting in the project area. If an active nest is found after the completion of the pre-construction surveys and after construction begins, all construction activities shall stop until a qualified biologist has evaluated the nest and erected the appropriate buffer around the nest.
 - b. Burrowing owl:

If burrowing owls are detected within the survey area, CDFW should be consulted to determine the suitable buffer. These buffers will take into account the level of disturbance of the project activity, existing disturbance of the site (vehicle traffic, humans, pets, etc.), and time of year (nesting vs. wintering). If avoidance is not feasible, the District will work with CDFW to determine appropriate

	<p>mitigation, such as passive exclusion or translocation, and associated mitigation land offset (CDFG 2012).</p> <p>4. <u>If avoidance is not feasible</u>, as per the Fresno General Plan MEIR (City of Fresno 2014) Mitigation Measure BIO-3, "If a proposed project will result in the loss of a special-status natural community or suitable habitat for special-status species, compensatory habitat-based mitigation is required under CEQA and CESA. Mitigation will consist of preserving on-site habitat, restoring similar habitat or purchasing off-site credits from an approved mitigation bank. Compensatory mitigation will be determined through consultation with the City and/or resource agencies. An appropriate mitigation strategy and ratio will be agreed upon by the developer and lead agency to reduce project impacts to special-status natural communities to a less than significant level. Agreed-upon mitigation ratios will depend on the quality of the habitat and presence/absence of a special-status species. The specific mitigation for project level impacts will be determined on a case-by-case basis."</p> <p>Level of Significance with Mitigation: The impact would be less than significant with the mitigation measures incorporated in the project.</p>
IV, a)	<p>Potential Impact: Would the proposed project have a substantial adverse effect, either directly or through habitat modifications, on any plant species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U. S. Fish and Wildlife Service?</p> <p>Impact Analysis: No special status plant species were found within the project site. Although the site survey was not conducted at the peak blooming period for some potentially occurring special status plants, all plants could be ruled out because their elevation range, required habitat, and/or soil type differed from the site conditions. Additionally, the frequent disturbance at the elementary school athletic fields (spraying for weed control), plowing of the agricultural field, and the presence of thick non-native grasses and forbs make the site unsuitable for plants under consideration. Therefore, the project will not impact any special status plant species.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: No impact</p>
IV, b)	<p>Impacts: Would the proposed project have a substantially adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Wildlife Service?</p> <p>Impact Analysis: No riparian habitat or other sensitive natural community was identified within the project site. Therefore, there will be no impact.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: No impact</p>
IV, c)	<p>Impacts: Would the proposed project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?</p> <p>Impact Analysis: There are no federally protected wetlands or waters within the project area. Man-made canals are not typically under jurisdiction of the U.S. Army Corps of Engineers (Corps) or the California Department of Fish and Wildlife (Fish and Game Code section 1602).</p> <p>Work within or near the canal may need approval by the Regional Water Quality Control Board (Section 401 Water Quality Certification). At the time of this assessment, exact plans for the canal were not available. As requested by the Fresno Irrigation District in a response to a Request for Consultation (FID 2016), the project will adhere to all requirements, design requests, and permits associated with development near the canal,</p>

	<p>including best management practices during project construction. As such, the proposed project would not have an adverse effect on the quality of waters of the State.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: Less than significant</p>
IV, d)	<p>Potential Impact: Would the proposed project interfere substantially with the movement of any resident or migratory fish or wildlife species or with established native resident migratory wildlife corridors, or impede the use of native wildlife nursery sites?</p> <p>Impact Analysis: The site does not appear to constitute a “movement corridor” for native wildlife (USFWS 1998) that would attract wildlife to move through the site any more than the surrounding urban and agricultural lands.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: Less than significant</p>
IV, e)	<p>Potential Impact: Would the proposed project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?</p> <p>Impact Analysis: The project would be consistent with relevant biological resources policies of the City of Fresno and would not conflict with local policies or ordinances protecting biological resources (City of Fresno 2014).</p> <p>The project would comply with Fresno Municipal Code Section 13-305-Tree Preservation, which protects all trees on City-owned property.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: No impact</p>
IV, f)	<p>Potential Impact: Would the proposed project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional or state habitat conservation plan?</p> <p>Impact Analysis: The City of Fresno is not part of any HCP or NCCP, so the project would not conflict any provisions of any local, regional or state habitat conservation plan (MO, USFWS 1998, 2005).</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: No impact</p>
Impact No.	CULTURAL RESOURCES
V, a)	<p>Potential Impact: Would the proposed project cause a substantial adverse change in the significance of a historical resource as defined in State CEQA Guidelines Section 15064.5?</p> <p>Impact Analysis: The Fresno General Plan MEIR does not identify any historic resources on the project site, and indicates that “most known historical resources are located primarily in Downtown Fresno because this is the area where development of the city began in the mid-1800s.” (EIR page 5.5-22). However, it is possible that historic resources could be uncovered and significantly impacted during project construction activities.</p> <p>Significance without Mitigation: Potentially significant</p> <p>Mitigation Measure:</p> <p>MM CUL-1: If previously unknown historical resources are encountered before or during grading activities, construction shall stop in the immediate vicinity of the find and a qualified historical resources specialist shall be consulted to determine whether the resource requires further study. The qualified historical resources specialist shall make recommendations to the District on the measures that shall be implemented to protect</p>

	<p>the discovered resources, including but not limited to excavation of the finds and evaluation of the finds in accordance with Section 15064.5 of the CEQA Guidelines.</p> <p>If the resources are determined to be unique historical resources as defined under Section 15064.5 of the CEQA Guidelines, measures shall be identified by the monitor and recommended to the District. Appropriate measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. No further grading shall occur in the area of the discovery until the District approves the measures to protect these resources.</p> <p>Any historical artifacts recovered as a result of mitigation shall be provided to a District-approved institution or person who is capable of providing long-term preservation to allow future scientific study.</p> <p>Level of Significance with Mitigation: The impact would be less than significant with the mitigation measure incorporated in the project.</p>
V, b)	<p>Potential Impact: Would the proposed project cause a substantial adverse change in the significance of an archaeological resource pursuant to State CEQA Guidelines Section 15064.5?</p> <p>Impact Analysis: The Fresno General Plan Master EIR indicates that although there have been no prehistoric archaeological resources found within the Planning Area, only a small percentage of the Planning Area has been surveyed by a professional archaeologist (0.3 percent). "Due to the nominal amount of prehistoric archaeological information within the majority of the Planning Area, the potential to impact prehistoric archaeological resources during grading and construction activities within previously undisturbed soils is considered significant." (EIR page 5.5-26) Therefore, archaeological resources may be uncovered and significantly impacted during project construction activities.</p> <p>Level of Significance without Mitigation: Potentially significant</p> <p>Mitigation Measure:</p> <p>MM CUL-2: Subsequent to a preliminary District review of the project grading plans, if there is evidence that a project will include excavation or construction activities within previously undisturbed soils, a field survey and literature search for prehistoric archaeological resources shall be conducted. The following procedures shall be followed:</p> <p>If prehistoric resources are not found during either the field survey or literature search, excavation and/or construction activities can commence. In the event that buried prehistoric archaeological resources are discovered during excavation and/or construction activities, construction shall stop in the immediate vicinity of the find and a qualified archaeologist shall be consulted to determine whether the resource requires further study. The qualified archaeologist shall make recommendations to the District on the measures that shall be implemented to protect the discovered resources, including but not limited to excavation of the finds and evaluation of the finds in accordance with Section 15064.5 of the CEQA Guidelines. If the resources are determined to be unique prehistoric archaeological resources as defined under Section 15064.5 of the CEQA Guidelines, mitigation measures shall be identified by the monitor and recommended to the District. Appropriate measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. No further grading shall occur in the area of the discovery until the Lead Agency approves the measures to protect these resources. Any prehistoric archaeological artifacts recovered as a result of mitigation shall be provided to a District-approved institution or person who is capable of providing long-term preservation to allow future scientific study.</p> <p>If prehistoric resources are found during the field survey or literature review, the resources shall be inventoried using appropriate State record forms and submit the forms to the Southern San Joaquin Valley Information Center. The resources shall be evaluated for significance. If the resources are found to be significant, measures shall be identified by the qualified archaeologist. Appropriate mitigation measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. In addition, appropriate mitigation for excavation and</p>

	<p>construction activities in the vicinity of the resources found during the field survey or literature review shall include an archaeological monitor. The monitoring period shall be determined by the qualified archaeologist.</p> <p>If additional prehistoric archaeological resources are found during excavation and/or construction activities, the procedure identified above for the discovery of unknown resources shall be followed.</p> <p>Level of Significance with Mitigation: The impact would be less than significant with the mitigation measure incorporated in the project.</p>
V, c)	<p>Potential Impact: Would the proposed project directly or indirectly destroy a unique paleontological resource or unique geologic feature?</p> <p>Impact Analysis: Field observations conducted for this Initial Study of open areas did not result in the identification of paleontological resources on the surface of the site or unique geologic features on the site. However, the General Plan MEIR indicates that the Planning Area has high potential sensitivity for paleontological resources. Therefore, paleontological resources may be uncovered and significantly impacted during project construction activities.</p> <p>Level of Significance without Mitigation: Potentially significant</p> <p>Mitigation Measure:</p> <p>MM CUL-3: Subsequent to a preliminary District review of the project grading plans, if there is evidence that a project will include excavation or construction activities within previously undisturbed soils, a field survey and literature search for unique paleontological/geological resources shall be conducted. The following procedures shall be followed: If unique paleontological/geological resources are not found during either the field survey or literature search, excavation and/or construction activities can commence. In the event that unique paleontological/geological resources are discovered during excavation and/or construction activities, construction shall stop in the immediate vicinity of the find and a qualified paleontologist shall be consulted to determine whether the resource requires further study. The qualified paleontologist shall make recommendations to the District on the measures that shall be implemented to protect the discovered resources, including but not limited to, excavation of the finds and evaluation of the finds. If the resources are determined to be significant, mitigation measures shall be identified by the monitor and recommended to the Lead Agency. Appropriate mitigation measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. No further grading shall occur in the area of the discovery until the District approves the measures to protect these resources. Any paleontological/geological resources recovered as a result of mitigation shall be provided to a District-approved institution or person who is capable of providing long-term preservation to allow future scientific study.</p> <p>If unique paleontological/geological resources are found during the field survey or literature review, the resources shall be inventoried and evaluated for significance. If the resources are found to be significant, mitigation measures shall be identified by the qualified paleontologist. Similar to above, appropriate mitigation measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. In addition, appropriate mitigation for excavation and construction activities in the vicinity of the resources found during the field survey or literature review shall include a paleontological monitor. The monitoring period shall be determined by the qualified paleontologist.</p> <p>If additional paleontological/geological resources are found during excavation and/or construction activities, the procedure identified above for the discovery of unknown resources shall be followed.</p> <p>Level of Significance with Mitigation: The impact would be less than significant with the mitigation measure incorporated in the project.</p>

V, d)	<p>Potential Impact: Would the proposed project disturb any human remains, including those interred outside of formal cemeteries?</p> <p>Impact Analysis: The Fresno General Plan MEIR indicates that there is currently no evidence that the Planning Area contains prehistoric cemeteries or native American cemeteries. However, human remains may be uncovered and significantly impacted during project construction activities.</p> <p>Level of Significance without Mitigation: Potentially significant</p> <p>Mitigation Measure:</p> <p>MM CUL-4: In the event that human remains are unearthed during excavation and grading activities of any future development project, all activity shall cease immediately. Pursuant to Health and Safety Code (HSC) Section 7050.5, no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98(a).</p> <p>If the remains are determined to be of Native American descent, the coroner shall within 24 hours notify the Native American Heritage Commission (NAHC). The NAHC shall then contact the most likely descendent of the deceased Native American, who shall then serve as the consultant on how to proceed with the remains. Pursuant to PRC Section 5097.98(b), upon the discovery of Native American remains, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the most likely descendants regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.</p> <p>Fresno Unified shall discuss and confer with the descendants all reasonable options regarding the descendants' preferences for treatment.</p> <p>Level of Significance with Mitigation: The impact would be less than significant with the mitigation measure incorporated in the project.</p>
Impact No.	ENERGY
NA	<p>Potential Impact: Would the proposed project would result in inefficient, wasteful, or unnecessary consumption of energy?</p> <p>Impact Analysis: The plans for all public school projects in California must be submitted to the Division of the State Architect (DSA) for plan review and must comply with DSA and California Energy Commission (CEC) requirements. These requirements ensure that schools, including the two proposed by Fresno Unified, would not result in the inefficient, wasteful, or unnecessary consumption of energy.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: Less than significant</p>
Impact No.	GEOLOGY AND SOILS
VI, a), c), d)	<p>Potential Impacts:</p> <p>a) Would the proposed project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:</p> <ul style="list-style-type: none"> Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

	<ul style="list-style-type: none"> • Strong seismic ground shaking? • Seismic-related ground failure, including liquefaction? • Landslides? <p>c) Would the proposed project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?</p> <p>d) Being located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?</p> <p>Impact Analysis: Fresno Unified commissioned AECOM to prepare a Geological & Environmental Hazards Report for the project:</p> <ul style="list-style-type: none"> • The project site is not within an Earthquake Fault Zone. • Moderate ground shaking is considered possible at the project site. The site is located in Seismic Zone 3 as defined by the California Building Code. • The depth to groundwater and moderate ground shaking potential at the project site make liquefaction unlikely. • Based on the soil types mapped at the project site, the risk of seismic settlement is considered negligible. • The risk of expansive soils at the project site is considered negligible to low. • The existing topography at the project site does not provide sufficient relief that would cause concern due to potential landslides. • The project site is located in an area with little or no subsidence. • In the event of a volcanic eruption in the Mono Lake-Long Valley area, which is located approximately 80 miles east of the site, the project site could conceivably be subject to the deposition of volcanic ash. <p>Mitigation Measures: None required</p> <p>Level of Significance: Less than significant</p>
VI, b)	<p>Potential Impact: Would the proposed project result in substantial soil erosion or the loss of topsoil?</p> <p>Impact Analysis: The potential for water-or wind-borne erosion and loss of topsoil would exist during the construction phase of the proposed project, primarily due to clearing, grubbing, and grading activities. Once construction is completed, the potential for erosion would be minimal because the ground would be covered by buildings, hard surfaces, and landscaping.</p> <p>The potential for the project to result in substantial soil erosion or loss of topsoil during the construction phase would be <i>less than significant</i> because the project would be subject to requirements of the State Water Quality Control Board and the San Joaquin Valley Air Pollution Control District. General Construction Permit, Order No. 2012-0006-DWQ, issued by the State Water Quality Control Board in 2012, regulates construction projects of one acre or more, including the proposed project. Projects obtain coverage under the permit by developing and implementing the Storm Water Pollution Prevention Plans, which must specify best management practices that a project would employ to minimize pollution of storm water. Best management practices include erosion controls, sediment controls, wind erosion controls, non-storm water management controls, and waste management and controls (i.e. good housekeeping practices).</p> <p>The intent of San Joaquin Valley Air Pollution Control District Regulation VIII (Fugitive PM10 Prohibitions) is to reduce ambient concentrations of fine particulate matter (PM10) by requiring actions to prevent, reduce or mitigate anthropogenic fugitive dust emissions. The regulation includes specific measures for construction projects.</p> <p>Mitigation Measures: None required</p>

	Level of Significance: Less than significant									
VI, e)	<p>Potential Impact: Would the proposed project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of wastewater?</p> <p>Impact Analysis: The project would connect to the City of Fresno sewer system. It would not involve the use of septic tanks or alternative wastewater disposal systems.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: No impact</p>									
Impact No.	GREENHOUSE GAS EMISSIONS									
VII, a)	<p>Potential Impact: Would the proposed project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?</p> <p>Impact Analysis: This Initial Study contains a technical assessment, presented in the following paragraphs and Appendix A. For the purposes of this analysis, the two proposed high school scenarios were addressed separately. Alternative 1 would serve approximately 800-1,000 high school students and Alternative 2 would serve up to 2,500 high school students. Elementary school students would remain constant for both alternatives.</p> <p>Implementation of the proposed project would contribute to increases of GHG emissions that are associated with global climate change. Short-term and long-term GHG emissions associated with the development of the proposed project are discussed in greater detail, as follows:</p> <p>Short-term Greenhouse Gas Emissions</p> <p>Short-term annual GHG emissions for Project Alternative 1 and Project Alternative 2 are summarized in Table GHG-1. Based on the modeling conducted, the highest annual emissions of GHGs associated with construction of Project Alternative 1 would total approximately 701 MTCO₂e. Project Alternative 2 would generate a total approximately 1,126 MTCO₂e. There would also be a small amount of GHG emissions from waste generated during construction; however, this amount is speculative. It is important to note that emissions were quantified based on the conservative assumption that all proposed facilities would occur simultaneously. Actual emissions would vary, depending on various factors including construction schedules, equipment required, and activities conducted. Assuming an average project life of 25 years, amortized construction-generated GHG emissions would total approximately 28 MTCO₂e/yr for Project Alternative 1 and approximately 45 MTCO₂e/yr for Alternative 2. Amortized construction-generated GHG emissions were included in the operational GHG emissions inventory for the evaluation of project-generated GHG emissions for each of the Project Alternatives (refer to Table GHG-2 and Table GHG-3, respectively)</p> <div><p>Table GHG-1</p><p>Short-Term Construction-Generated GHG Emissions</p><table><tr><th>Project Alternative</th><th>Total GHG Emissions (MTCO₂e)</th><th>Amortized Emissions (MTCO₂e)</th></tr><tr><td>Alternative 1</td><td>701</td><td>28</td></tr><tr><td>Alternative 2</td><td>1,126</td><td>45</td></tr></table><p><i>Based on CalEEMod computer modeling. To be conservative, construction emissions assume that construction of all facilities (e.g., high school and elementary school) would occur simultaneously. Refer to Appendix A for modeling results and assumptions.</i></p></div>	Project Alternative	Total GHG Emissions (MTCO ₂ e)	Amortized Emissions (MTCO ₂ e)	Alternative 1	701	28	Alternative 2	1,126	45
Project Alternative	Total GHG Emissions (MTCO ₂ e)	Amortized Emissions (MTCO ₂ e)								
Alternative 1	701	28								
Alternative 2	1,126	45								

Long-term Greenhouse Gas Emissions

Estimated long-term increases in GHG emissions associated with Project Alternative 1 and Project Alternative 2 are summarized in Table GHG-2 and Table GHG-3, respectively. Based on the modeling conducted, operational GHG emissions associated with Project Alternative 1 total approximately 3,150 MTCO₂e/year. With the inclusion of removed emissions and amortized construction emissions, Project Alternative 1 would result in a net increase of approximately 3,141 MTCO₂e/year. Based on this estimate and assuming a maximum population of 1,750 students, the calculated GHG efficiency for Project Alternative 1 would be 1.8 MTCO₂e/SP/yr. As noted in Table GHG-3, operational GHG emissions associated with Project Alternative 2 total approximately 6353 MTCO₂e/year. With the inclusion of removed emissions and amortized construction emissions, Project Alternative 2 would result in a net increase of approximately 6,361 MTCO₂e/year. Based on this estimate and assuming a maximum population of 3,250 students, the calculated GHG efficiency for Project Alternative 2 would be 2.0 MTCO₂e/SP/yr.

Operational GHG emissions associated with both project alternatives would be predominantly associated with mobile sources. With the implementation of a Safe Routes to School (SRTS) program, mobile-source emissions would be reduced by approximately 6.5 percent, which would result in additional reductions in overall operational GHG emissions (SRTSNP 2015). It is also important to note that mobile-source emissions were conservatively calculated, based on the default fleet distribution assumptions contained in the model, which includes medium and heavy-duty vehicles. Mobile sources associated with schools typically consist largely of light-duty vehicles and buses. In addition, based on data received from FUSD, roughly 65 percent of FUSD's existing bus fleet is alternatively fueled (e.g., compressed natural gas or hybrid electric vehicles). As a result, actual mobile-source emissions would be less. Nonetheless, because the GHG efficiency for both project alternatives would be below the efficiency threshold of 4.9 MTCO₂e/SP/yr. This impact would be considered *less than significant*.

Table GHG-2
Long-term Operational Greenhouse Gas Emissions – Project Alternative 1

Emissions Source	Emissions (MTCO ₂ e per year) ¹
Area Sources	0.03
Energy Use	663.8
Mobile Sources ²	2313.3
Waste Generation	145.3
Water Use	27.7
Total Project Operational Emissions:	3150.1
Less Emissions to be Removed ³ :	-36.9
Amortized Construction Emissions:	28.0
Net Increase:	3141.2
Project GHG Efficiency (MTCO ₂ e/SP/yr) ⁴ :	1.8
Project GHG Efficiency with SRTS Program (MTCO ₂ e/SP/yr) ⁵ :	1.7
GHG Efficiency Threshold (MTCO ₂ e/SP/yr):	4.9
Exceeds Threshold/Significant Impact?	No
<small>1. Project-generated emissions were quantified using the CalEEMod computer program for year 2020 operational conditions. Does not include GHG-reduction measures.</small>	

2. Fleet distribution data for the project is not available. Mobile source emissions are conservatively based on default vehicle fleet distribution for Fresno County, which includes all vehicle types/classifications, including medium and heavy-duty vehicles. Actual emissions would likely be lower. Does not reflect reductions associated with FUSD's alternatively fueled bus program.
3. Includes removal of existing residential land uses.
4. Based on a student population of 1,750.
5. Includes 6.5 percent reduction in mobile-source emissions with implementation of a Safe Routes to School (SRTS) program (SRTSNP 2015).
Refer to Appendix A for modeling results and assumptions.

Table GHG-3
Long-term Operational Greenhouse Gas Emissions – Project Alternative 2

Emissions Source	Emissions (MTCO ₂ e per year) ¹
Area Sources	0.06
Energy Use	1296.5
Mobile Sources ²	4729.9
Waste Generation	269.8
Water Use	57.0
Total Project Operational Emissions:	6353.3
Less Emissions to be Removed ³ :	-36.9
Amortized Construction Emissions:	45.0
Net Increase:	6361.4
Project GHG Efficiency (MTCO ₂ e/SP/yr) ⁴ :	2.0
Project GHG Efficiency with SRTS Program (MTCO ₂ e/SP/yr) ⁵ :	1.7
GHG Efficiency Threshold (MTCO ₂ e/SP/yr):	4.9
Exceeds Threshold/Significant Impact?	No
<p>1. Project-generated emissions were quantified using the CalEEMod computer program for year 2020 operational conditions. Does not include GHG-reduction measures. 2. Fleet distribution data for the project is not available. Mobile source emissions are conservatively based on default vehicle fleet distribution for Fresno County, which includes all vehicle types/classifications, including medium and heavy-duty vehicles. Actual emissions would likely be lower. Does not reflect reductions associated with FUSD's alternatively fueled bus program. 3. Includes removal of existing residential land uses. 4. Based on a student population of 3250. 5. Includes 6.5 percent reduction in mobile-source emissions with implementation of a Safe Routes to School (SRTS) program (SRTSNP 2015). Refer to Appendix A for modeling results and assumptions.</p>	

Mitigation Measures: None required

Level of Significance: Less than significant

- VII, b) Potential Impact:** Would the proposed project conflict with any applicable plan, policy, or regulation of an agency adopted to reduce the emissions of greenhouse gases?
- Impact Analysis:** As noted in Impact VII-a, the proposed project would not result in increased GHG emissions that would conflict with AB 32 GHG-reduction targets. The proposed project would be designed to meet current building energy-efficiency standards, which are roughly 30% more energy efficient than previous building standards (CEC 2016). The project would also be designed to promote the use of alternative means of transportation, such as bicycle use, and to provide improved pedestrian access that would link the project site to nearby land uses. These improvements would help to further reduce the project's GHG emissions and

	<p>would also help to reduce community-wide GHG emissions. For these reasons, the proposed project would not conflict with local or state GHG-reduction planning efforts.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: Less than significant</p>
Impact No.	HAZARDS AND HAZARDOUS MATERIALS
VIII, a) VIII, b)	<p>Potential Impacts:</p> <p>a) Would the proposed project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?</p> <p>b) Would the proposed project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?</p> <p>Impact Analysis: Construction of the project would involve the transport and use of fuels, lubricants, greases, solvents, architectural coatings including paints.</p> <p>Operation of the project would involve hazardous materials used for cleaning and maintenance purposes: cleansers, solvents, paints, pesticides, and fertilizers.</p> <p>The school would be subject to state and local regulations governing the routine transport, use, and disposal of hazardous materials and the release of hazardous materials into the environment.</p> <p>In addition, the California Education Code requires that the proposed school site undergo an environmental review process overseen by the California Department of Toxic Substances Control (DTSC). The purpose of the process is to determine if a release or threatened release of any hazardous materials found on the proposed site or presence of any naturally occurring hazardous materials on the site present a risk to human health or the environment. The District, working with DTSC, must identify and implement measures that would mitigate any hazardous conditions before the California Department of Education would approve the school site and provide funding for the project. (Education Code sections 17210, 17210.1, 17213.1, and 17213.2)</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: Less than significant</p>
VIII, c)	<p>Potential Impact: Would the proposed project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?</p> <p>Impact Analysis: The proposed project involves the construction and operation of two schools, both of which would be within one-quarter mile of the existing Storey Elementary School. The potential for the project to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste is addressed in Section VIII, a) & b) and was determined to be less than significant.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: Less than significant</p>
VIII, d)	<p>Potential Impact: Would the proposed project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?</p> <p>Impact Analysis: A review of the California Department of Toxic Substances Control's EnviroStor web site and the Preliminary Environmental Assessment Workplan (AECOM-2) did not result in the identification of any hazardous materials sites within the project site.</p> <p>Mitigation Measures: None required</p>

	Level of Significance: Less than significant
VIII, e) VIII, f) EC ⁵ Sec. 17215	<p>Potential Impact: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, Would the proposed project result in a safety hazard for people residing or working in the project area?</p> <p>Potential Impact: For a project within the vicinity of a private airstrip, Would the proposed project result in a safety hazard for people residing or working in the project area?</p> <p>Impact Analysis: The project site is not within 2 nautical miles of a public or private airport and is not within an area subject to an airport land use plan. The airports nearest the project site are the Fresno Yosemite International Airport, 3.3 nautical miles northeast of the site, and the Fresno Chandler Executive Airport, 4.5 nautical miles west-northwest of the site.</p> <p>Because the project site is a considerable distance from the nearest airports and is not subject to an airport land use plan, the project would not result in airport-related safety hazards for students and staff at the project site. Moreover, the project would not result in a change in airport traffic patterns, including an increase in traffic or change that results in substantial safety risks.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: No impact</p>
VIII, g)	<p>Potential Impact: Would the proposed project impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?</p> <p>Impact Analysis: Research conducted for this Initial Study did not identify any adopted emergency response plans or emergency evacuation plans the project could impair.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: No impact</p>
VIII, h)	<p>Potential Impact: Would the proposed project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?</p> <p>Impact Analysis: The project site is in an urban area and not within or near an area subject to wildland fires.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: No impact</p>
VIII, j) PRC ⁶ §21151.8	<p>Potential Impacts: Is the proposed school site any of the following:</p> <p>(A) The current or former hazardous waste disposal site or solid waste disposal site and, if so, whether the wastes have been removed.</p> <p>(B) A hazardous substance release site identified by the Department of Toxic Substances Control in a current list adopted pursuant to Section 25356 of the Health and Safety Code for removal or remedial action pursuant to Chapter 6.8 (commencing with Section 25300) of Division 20 of the Health and Safety Code.</p> <p>(C) A site that contains one or more pipelines, situated underground or aboveground, that carries hazardous substances, extremely hazardous substances, or hazardous wastes, unless the pipeline is a natural gas line that is used only to supply natural gas to that school or neighborhood, or other nearby schools.</p> <p>(D) A site that is within 500 feet of the edge of the closest traffic lane of a freeway or other busy traffic corridor.</p> <p>Impact Analysis: The proposed high school and elementary school sites are <u>not</u>:</p>

⁵ California Education Code (EC)

⁶ California Public Resources Code (PRC)

	<p>(A) Current or former hazardous waste disposal sites or solid waste disposal sites. Based on information contained in the Preliminary Environmental Assessment Workplan, the site is not a current or former hazardous waste disposal site or solid waste disposal site (AECOM-2).</p> <p>(B) Hazardous substance release sites, as determined by a review of the California Department of Toxic Substances Control's "EnviroStor" website (3/29/2016).</p> <p>(C) Sites that contains one or more pipelines, situated underground or aboveground, that carries hazardous substances, extremely hazardous substances, or hazardous wastes, based on the Geological/Environmental Hazards Report prepared for the project by AECOM-1 (page 15).</p> <p>(D) Within 500 feet of the edge of the closest traffic lane of a freeway or other busy traffic corridor, as determined by Odell Planning & Research.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: No impact</p>
<p>VIII, k) PRC §21151.8</p>	<p>Potential Impact: Fresno Unified, as the lead agency, in preparing the environmental impact report or negative declaration has notified in writing and consulted with the administering agency in which the proposed school site is located, pursuant to Section 2735.3 of Title 19 of the California Code of Regulations, and with any air pollution control district or air quality management district having jurisdiction in the area, to identify both permitted and non-permitted facilities within that district's authority, including, but not limited to, freeways and busy traffic corridors, large agricultural operations, and railyards, within one-fourth of a mile of the proposed school site, that might reasonably be anticipated to emit hazardous emissions or handle hazardous or extremely hazardous substances or waste.</p> <p>Impact Analysis: On behalf of Fresno Unified, AECOM consulted with the Fresno County Environmental Health Division (FCEHD) and the San Joaquin Valley Air Pollution Control District (SJVAPCD) regarding whether there are facilities that produce hazardous air emissions and/or handle hazardous materials within ¼ mile of the project site. The consultation with the FCEHD resulted in the identification of two City of Fresno wells on Peach Avenue. City of Fresno Water Division staff told AECOM that the only hazardous material stored at the wells is liquid sodium hypochlorite, which is added to disinfect the drinking water. It is considered very unlikely that this liquid sodium hypochlorite could produce hazardous air emissions that would impact the school site. (AECOM-1, page 16)</p> <p>The SJVAPCD reported that agricultural facilities are within one-quarter mile of the project site. Agricultural facilities may reasonably be anticipated to emit hazardous compounds or handle hazardous materials from the operation of internal combustion engines driving irrigation pumps, gasoline dispensing tanks, application of pesticides, or other agricultural-related operations. Based on field and aerial photo review, pesticide applications are the only item of concern with regard to agricultural facilities in relation to the project site. However, pesticide application permits issued by the Fresno County Agriculture Department prohibit application of Restricted Material pesticides (as defined in Title 3 CCR Section 6400) within ¼ mile of a school while the school is in session or while the school grounds are occupied. (AECOM-1, page 16).</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: Less than significant</p>
<p>VIII, l) CCR⁷, Title 5, §14010, c</p>	<p>Potential Impact: Is the property line of the site even if it is a joint use agreement as described in subsection (o) of this section shall be at least the following distance from the edge of respective power line easements:</p> <p>100 feet for 50-133 kV line?</p> <p>150 feet for 220-230 kV line?</p> <p>350 feet for 500-550 kV line?</p>

⁷ California Code of Regulations (CCR)

	<p>Impact Analysis: PG&E has a 115-kV overhead electrical transmission powerline extending east-west along the northern edge of East Church Avenue, approximately 50 feet north of the site. (AECOM-1, page 16)</p> <p>Level of Significance without Mitigation: Potentially significant</p> <p>Mitigation Measure H-1: Fresno Unified shall construct all classrooms, labs, and other buildings routinely occupied by students or staff more than 100 feet of the PG&E 115-kV overhead electrical transmission powerline.</p> <p>Level of Significance with Mitigation: Less than significant</p>
VIII, m) CCR, Title 5, §14010, d	<p>Potential Impact: Is the proposed site is within 1,500 feet of a railroad track easement?</p> <p>Impact Analysis: Based on windshield surveys and a review of recent aerial photography, the proposed site is not within 1,500 feet of a railroad.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: No impact</p>
VIII, n) CCR, Title 5, §14010, e	<p>Potential Impact: The site shall not be adjacent to a road or freeway that any site-related traffic and sound level studies have determined will have safety problems or sound levels that adversely affect the educational program.</p> <p>Impact Analysis: Based on information in the noise study (see Appendix D) and the traffic study (see Appendix F) prepared for this Initial Study, the following has been determined:</p> <p>Ambient noise levels in the project area are largely influenced by transportation noise sources, including vehicle traffic on Church Avenue and Peach Avenue. Under maximum buildout conditions, the projected future 65 dBA CNEL/L_{dn} traffic noise contour would extend onto the project site a distance of approximately 141 feet from the centerline of Church Avenue and approximately 134 feet from the centerline of Peach Avenue.</p> <p>Site plans have not yet been prepared for the proposed facilities. Depending on the final site design, predicted noise levels at onsite facilities could potentially exceed commonly applied exterior noise standard of 65 dBA CNEL and interior noise standards of 45 dBA CNEL/L_{eq}.</p> <p>The proposed site is not adjacent to a road or freeway that will have safety problems that would adversely affect the educational programs of the proposed schools. Project design recommendations and Mitigation Measures in Section XII, a), will reduce any noise impacts to less than significant.</p> <p>Mitigation Measures: See measures listed in Impact XII, a) (MM N-1)</p> <p>Level of Significance with Mitigation: Less than significant</p>
VIII, o) CCR, Title 5, §14010, f	<p>Potential Impact: Pursuant to <i>Education Code</i> sections 17212 and 17212.5, the site shall not contain an active earthquake fault or fault trace.</p> <p>Impact Analysis: As described in Section VI, a), the site does not contain an active earthquake fault or fault trace.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: No impact</p>
VIII, p) CCR, Title 5, §14010, g	<p>Potential Impact: Pursuant to <i>Education Code</i> sections 17212 and 17212.5, the site is not within an area of flood or dam flood inundation unless the cost of mitigating the flood or inundation impact is reasonable.</p> <p>Impact Analysis: The portion of the project site that is within approximately 60 feet on either side of the centerline of Central Canal is within the flood hazard area for the 1% annual chance flood (also known as the 100-year flood), as shown on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM).) The remainder of the site west of the canal is identified on the FIRM map as “areas of 0.2% annual</p>

	<p>chance flood (500-year flood); areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood". The remainder of the site east of the canal is identified on the FIRM map as "areas determined to be outside the 0.2% annual chance (500-year) floodplain". (AECOM-1, page 13)</p> <p>The project site is not within an area subject to inundation in the event of failure of any dams. (AECOM-1, page 14)</p> <p>Level of Significance without Mitigation: Potentially significant</p> <p>Mitigation Measure H-2: Fresno Unified shall design the school facilities to account for possible 100-year flooding within approximately 60 feet of the centerline of Central Canal.</p> <p>Level of Significance with Mitigation: Less than significant</p>
VIII, q) CCR, Title 5, §14010, h	<p>Potential Impact: The site shall not be located near an above-ground water or fuel storage tank or within 1500 feet of the easement of an above ground or underground pipeline that can pose a safety hazard as determined by a risk analysis study, conducted by a competent professional, which may include certification from a local public utility commission.</p> <p>Impact Analysis: The Hazardous Pipeline Survey conducted for the project did not identify any pipelines within 1,500 feet of the project site that could pose a safety hazard for the project. (AECOM-1, page 15)</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: No impact</p>
VIII, r) CCR, Title 5, §14010, i	<p>Potential Impact: The site is not subject to moderate to high liquefaction or landslides.</p> <p>Impact Analysis: As described in Section VI, a), c), d), the site is not subject to moderate to high liquefaction or landslides.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: No impact</p>
VIII, t) CCR, Title 5, §14010, k	<p>Potential Impact: The site shall be easily accessible from arterial roads and shall allow minimum peripheral visibility from the planned driveways in accordance with the Sight Distance Standards established in the "Highway Design Manual," Table 201.1, published by the Department of Transportation, July 1, 1990 edition, and incorporated into this section by reference, in toto.</p> <p>Impact Analysis: The project site has substantial frontage and direct access to both a collector street (Church Avenue) and an arterial street (Peach Avenue). These streets are straight and intersect at right angles and should not present a problem with respect to visibility and sight distance when a site plan is prepared for the project.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: No impact</p>
VIII, u) CCR, Title 5, §14010, l	<p>Potential Impact: The site shall not be on major arterial streets with a heavy traffic pattern as determined by site-related traffic studies including those that require student crossings unless mitigation of traffic hazards and a plan for the safe arrival and departure of students appropriate to the grade level has been provided by city, county or other public agency in accordance with the "School Area Pedestrian Safety" manual published by the California Department of Transportation, 1987 edition, incorporated into this section by reference, in toto.</p> <p>Impact Analysis: Although Peach Avenue is an arterial street, it is not unusual for high schools to be located on such streets. The traffic study prepared for this Initial Study (see Section XVI and Appendix F) determined that the mitigation measures recommended, including a safe routes to school plan, would reduce any traffic</p>

	<p>impacts to an insignificant level and would ensure than a safe pedestrian environment would exist in the vicinity of the schools.</p> <p>Mitigation Measures: See Section XVI</p> <p>Level of Significance: See Section XVI</p>
VIII, v) CCR, Title 5, §14010, m	<p>Potential Impact: Existing or proposed zoning of the surrounding properties shall be compatible with schools in that it would not pose a potential health or safety risk to students or staff in accordance with <i>Education Code</i> Section 17213 and <i>Government Code</i> Section 65402 and available studies of traffic surrounding the site.</p> <p>Impact Analysis: Section 2.1 describes the existing and planned land uses and zoning for properties surrounding the project site. Based on the Fresno General Plan, the land surrounding the project site eventually would be completely developed with urban residential uses. The only exception would be the nearby Storey Elementary School. Residential uses and schools normally have no physical or operational characteristics that would pose a potential health or safety risk to students or staff.</p> <p>The traffic study prepared for this Initial Study (Appendix F) determined that the mitigation measures recommended in the study would reduce any traffic-related impacts to an insignificant level.</p> <p>Mitigation Measures: None required for land use and zoning impacts. See Section XVI for traffic-related mitigation measures</p> <p>Level of Significance: Less than significant for land use and zoning. See Section XVI for traffic.</p>
VIII, w) CCR, Title 5, §14010, q	<p>Potential Impact: The district shall consider environmental factors of light, wind, noise, aesthetics, and air pollution in its site selection process.</p> <p>Impact Analysis: Fresno Unified is considering the named environmental factors through the preparation of this Initial Study and other studies required for school site approval.</p> <p>Mitigation Measures: Please see the sections in this Initial Study that address the environmental factors for any mitigation measures recommended for the factors.</p> <p>Level of Significance: Please see the sections in this Initial Study that address the individual environmental factors for the level of significance determined for the factors.</p>
VIII, x) CCR, Title 5, §14010, s,	<p>Potential Impact: If the proposed site is on or within 2,000 feet of a significant disposal of hazardous waste, the school district shall contact the Department of Toxic Substance Control for a determination of whether the property should be considered a Hazardous Waste Property or Border Zone Property.</p> <p>Impact Analysis: A review of the California Department of Toxic Substances Control's EnviroStor web site did not result in the identification of any hazardous materials sites on or within 2,000 feet of the project site.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: No impact</p>
Impact No.	HYDROLOGY AND WATER QUALITY
IX, a)	<p>Potential Impact: Would the proposed project violate any water quality standards or waste discharge requirements?</p> <p>Impact Analysis: The City of Fresno's water supply and wastewater treatment systems would serve the project. The water supply system complies with applicable water quality standards and the wastewater discharge system complies with applicable waste discharge requirements. The design and operational characteristics of the project related to water and wastewater would not incrementally or directly cause the City's systems to violate the applicable requirements.</p> <p>Mitigation Measures: None required</p>

	Level of Significance: Less than significant
IX, b)	<p>Potential Impact: Would the proposed project 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.</p> <p>Impact Analysis: The proposed project would require the use of groundwater for construction, domestic, and landscaping irrigation purposes. According to Water Supply Study prepared for the project (Appendix E), the combined domestic and landscaping water demand of the project would be less than the medium density residential development designated for the site by the Fresno General Plan. Per the City of Fresno's 2015 Urban Water Management Plan, a new 54 mgd surface water treatment facility is under construction, which will permit the maximum use of surface water supplies available to the City for direct potable use and replenishment of groundwater via intentional recharge. The treatment facility is expected to be complete in fiscal year 2018. An 8 mgd satellite tertiary wastewater treatment facility is planned for southeast Fresno, budgeted for FY 2018. This facility will enable the City to provide direct potable water offset to this region of the City and further stretch the use of pristine supplies for the best and most beneficial uses. Upon completion of the projects presently under construction, and those already existing, the City will have transitioned from a system that relied 100% on groundwater to meet potable water demands in the Year 2000, to one that will be comprised of about 46% groundwater, 50% surface water, and 4% recycled water in the Year 2020 (City of Fresno 2015 UWMP, pages 7-12 and 7-13). In consideration of the above, the water required for the project would have a <i>less than significant</i> impact on groundwater supplies.</p> <p>Although the proposed project would reduce the amount of land available for groundwater recharge by covering existing bare land with impermeable building, pavement and hardcourt surfaces, a substantial amount of permeable turfed playground and athletic fields areas would remain available for groundwater recharge. Stormwater runoff from the site that is conveyed to ponding basins will also recharge groundwater.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: Less than significant</p>
IX, c), d), e), f)	<p>Impacts: Would the proposed project:</p> <p>c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?</p> <p>d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?</p> <p>e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?</p> <p>f) Otherwise substantially degrade water quality?</p> <p>Impact Analysis: No streams or rivers exist on the project site. The Central Canal runs through the site; however, no drainage would be allowed to the canal.</p> <p>Grading required for the proposed project would change the existing drainage pattern within the project site, and the additional covered surfaces would increase the amount of surface runoff and, potentially, the rate of runoff. The runoff would have the potential to degrade surface and groundwater quality if not properly controlled.</p> <p>The Fresno Metropolitan Flood Control District (FMFCD) is responsible for managing urban stormwater runoff in the Fresno/Clovis metropolitan area. Fresno Unified must comply with the requirements of FMFCD for the design, construction, and operation of on-and-off site stormwater improvements necessary to serve the project, or provide its own drainage service/facilities, as noted in the FMFCD letter dated February 5, 2016 in response FUSD's request for consultation on the project. It is Fresno Unified's intention to have FMFCD provide drainage service to the site.</p>

	<p>The Fresno Irrigation District (FID) is responsible for providing and distributing surface water to farms and urban land within FID and constructing and maintaining the water distribution infrastructure. FID's Central Canal passes through the project site. Fresno Unified must comply with FID requirements related to the canal as noted in the FID letter dated February 17, 2016 in response FUSD's request for consultation on the project.</p> <p>Before beginning construction, Fresno Unified must prepare a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP is a site-specific plan that is designed to control the discharge of pollutants from the construction site to local storm drains and waterways.</p> <p>FMFCD, the Cities of Clovis and Fresno, and Fresno County are collectively responsible to ensure Permit compliance within the boundaries of the region's National Pollutant Discharge Elimination System (NPDES) Permit boundary. FMFCD's focus is on ensuring that construction sites are managed to minimize the amount of sediment discharged off-site and into the District's local storm drain system.</p> <p>The impacts of the project on stormwater would be less than significant because the project must comply with the requirements of the FMFCD, which include the preparation of a SWPPP.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: Less than significant</p>
IX, g), h), i)	<p>Potential Impact: Would the proposed project:</p> <p>g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?</p> <p>h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?</p> <p>i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?</p> <p>Impact Analysis: The project does not involve housing. See Section VIII, p) regarding flood hazards.</p> <p>Mitigation Measures: See Section VIII, p)</p> <p>Level of Significance: See Section VIII, p)</p>
IX, j)	<p>Potential Impact: Would the proposed project expose people or structures to inundation by seiche, tsunami, or mudflow?</p> <p>Impact Analysis: The project site is within an area in which, because of topographic, soils, and distances to any water bodies, the potential for a seiche, tsunami, or mudflow is nil.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: No impact</p>
Impact No.	LAND USE AND PLANNING
X, a)	<p>Potential Impact: Would the proposed project physically divide an established community?</p> <p>Impact Analyses: The location and scale of the proposed schools would not physically divide the City of Fresno or the southeast Fresno neighborhood in which it would be located. Elementary, middle, and high schools are usually located in residential neighborhoods and often serve as unifying elements for the neighborhoods.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: Less than significant</p>
X, b)	<p>Potential Impact: Would the proposed project conflict with an applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan,</p>

	<p>local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?</p> <p>Impact Analysis:</p> <p>Schools and the related improvements and activities are typically considered to be an appropriate and necessary land use component of a well-balanced neighborhood and community. While schools generate vehicular and pedestrian traffic at the beginning and end of the educational day and during events, they also provide educational and open space recreational opportunities for nearby residents. This Initial Study demonstrates that all potential impacts of the project are either less than significant and or can be mitigated to insignificance.</p> <p>Mitigation Measures: See other sections of this Initial Study</p> <p>Level of Significance: Less than significant</p>
X, c)	<p>Potential Impact: Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?</p> <p>Impact Analysis: Research conducted for this Initial Study did not identify any habitat conservation plans or natural community conservation plans to which the project area would be subject.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: No Impact</p>
Impact No.	MINERAL RESOURCES
XI, a) & b)	<p>Potential Impacts: Would the proposed project:</p> <p>a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?</p> <p>b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan</p> <p>Impact Analysis: No mineral resources or mineral resources recovery sites exist within or near the project site. According to the Fresno General Plan MEIR “the principal area for mineral resources located in or immediately adjacent to the [Fresno] Planning Area is along the San Joaquin River corridor.” (EIR, 8-1) The project site is not along the San Joaquin River corridor and no mineral recovery sites are evident on the project site.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: No impact</p>
Impact No.	NOISE
XII, a)	<p>Potential Impact: Would the proposed project result in the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?</p> <p>Impact Analysis: This Initial Study section contains a technical assessment, presented in the following paragraphs and Appendix D. For the purposes of this analysis, the two proposed high school scenarios were addressed separately. Alternative 1 would serve approximately 800-1,000 high school students and Alternative 2 would serve up to 2,500 high school students. Elementary school students would remain constant (750) for both alternatives.</p>

	<p>For transportation noise sources, the City of Fresno General Plan identifies an interior noise level standard of 45 A-Weighted Decibels (dBA) Equivalent Sound Level (L_{eq}). For schools exposed to intermittent background noise sources, such as airport and other transportation noise, the Acoustical National Standards Institute, Inc (ANSI) standards recommend a more restrictive interior noise levels, not to exceed 40 dBA L_{eq} during the noisiest hour of the day. Assuming an average exterior-to-interior noise reduction of 25 dB for new building construction, an exterior noise level of 65-70 dBA Community Noise Equivalent Level (CNEL) would equate to an interior background noise level of 40-45 dBA. An exterior noise threshold of 65 dBA CNEL would help to ensure consistency with both the City of Fresno and ANSI-recommended noise standards.</p> <p>Ambient noise levels in the project area are largely influenced by transportation noise sources, including vehicle traffic on Church Avenue and Peach Avenue. Under maximum buildout conditions, the projected future 65 dBA CNEL/L_{dn} traffic noise contour would extend onto the project site a distance of approximately 141 feet from the centerline of Church Avenue and approximately 134 feet from the centerline of Peach Avenue.</p> <p>Site plans have not yet been prepared for the proposed facilities. Depending on the final site design, predicted noise levels at onsite facilities could potentially exceed commonly applied exterior noise standard of 65 dBA CNEL and interior noise standards of 45 dBA CNEL/L_{eq}. As a result, this impact is considered potentially significant. (In addition, refer to Impact XII, c), and XII, d), for additional discussion of long-term and short-term noise impacts associated with the proposed project.)</p> <p>Level of Significance without Mitigation: Potentially significant</p> <p>Mitigation Measure:</p> <p>MM N-1 The proposed school sites should be designed so that onsite educational buildings are not located within the projected onsite 65 dBA CNEL/L_{dn} contours (i.e., 141 feet from the centerline of Church Avenue and 134 feet from the centerline of Peach Avenue). In the event that educational buildings are located within the projected 65 dBA CNEL/L_{dn} contours, an acoustical assessment shall be prepared. The acoustical assessment shall evaluate both exterior and interior noise levels. Where necessary, noise-reduction measures shall be included sufficient to reduce noise levels within exterior activity areas and interior occupied areas to within acceptable levels. The acoustical assessment shall be prepared by an individual with experience related to the analysis of environmental noise impacts.</p> <p>Level of Significance with Mitigation: With implementation of the proposed mitigation measure, transportation noise sources at onsite facilities would be reduced to within acceptable levels. As noted earlier, peak-hour and average-daily noise levels are roughly equivalent. With mitigation and assuming an average exterior-to-interior noise reduction of 25 dB for new building construction, predicted interior background noise levels would be approximately 40 dBA, or less. With mitigation, predicted interior noise levels would not exceed commonly applied average-hourly thresholds for educational facilities. With mitigation, this impact would be considered less than significant.</p>
<p>XII, b)</p>	<p>Potential Impact: Would the proposed project result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?</p> <p>Impact Analysis: Long-term operational activities associated with the proposed project would not involve the use of any equipment or processes that would result in potentially significant levels of ground vibration. Increases in groundborne vibration levels attributable to the proposed project would be primarily associated with short-term construction-related activities. Construction activities associated with the proposed improvements would likely require the use of various off-road equipment, such as tractors, concrete mixers, and haul trucks. The use of major groundborne vibration-generating construction equipment, such as pile drivers, would not be required for this project.</p> <p>Groundborne vibration levels associated with representative construction equipment are summarized in Table N-1. As depicted, ground vibration generated by construction equipment would be approximately 0.08 in/sec ppv, or less, at 25 feet. Predicted vibration levels at the nearest existing structures would not exceed</p>

the minimum recommended criteria for structural damage and human annoyance (0.2 in/sec ppv, respectively). As a result, this impact would be considered less than significant.

**Table N-1
Representative Vibration Source Levels for Construction Equipment**

Equipment	Peak Particle Velocity at 25 Feet (In/Sec)
Loaded Trucks	0.076
Jackhammer	0.035
Small Bulldozers/Tractors	0.003
Source: FTA 2006, Caltrans 2004	

Mitigation Measure: None required

Level of Significance: Less than significant

XII, c)

Potential Impact: Would the proposed project result in substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Impact Analysis: Long-term increases in ambient noise levels associated with the proposed project would be associated with increases in vehicle traffic along area roadways. To a lesser extent, onsite non-transportation noise sources would also contribute to potential increases in ambient noise levels. Noise levels associated with project-generated traffic and non-transportation sources are discussed below.

Traffic Noise

Predicted existing traffic noise levels, with and without implementation of proposed Project Alternative 1 and Project Alternative 2, are summarized in Table N-2 and Table N-3, respectively. In comparison to existing traffic noise levels, proposed Project Alternative 1 would result in a predicted increase in traffic noise levels of approximately 0.2 to 1.3 dBA. Predicted increases in traffic noise levels associated with proposed Project Alternative 2 would range from approximately 0.2 to 2.3 dBA.

Predicted increases in future cumulative traffic noise levels along nearby roadways for proposed Project Alternative 1 and Project Alternative 2 are summarized in Table N-4 and Table N-5, respectively. In future years, the project's contribution to cumulative traffic noise levels would be anticipated to decline as increases in vehicle traffic due to surrounding development increases. Under future cumulative conditions, proposed Project Alternative 1 would result in predicted increases in traffic noise levels of approximately 0.1 to 0.9 dBA. Predicted increases in traffic noise levels associated with proposed Project Alternative 2 would range from approximately 0.3 to 1.4 dBA.

As noted earlier in this report, changes in ambient noise levels of approximately 3 dBA, or less, are typically not discernible to the human ear and would not be considered to result in a significant impact. Implementation of the proposed project would not result in a significant increase in traffic noise levels along area roadways. Other less-affected area roadways would, likewise, not experience a significant increase in traffic noise levels. Project-generated increases in traffic noise levels would be considered to have a less-than-significant impact.

Table N-2
Predicted Increases in Existing Traffic Noise Levels - Project Alternative 1

Roadway Segment	Predicted Noise Level at 50 feet from Centerline of Near Travel Lane (dBA CNEL/L _{dn}) ¹			
	Existing Without Project	Existing With Project	Difference ²	Significant? ³
Church Ave., Chestnut Ave. to Willow Ave.	63.7	64.3	0.6	No
Church Ave., Willow Ave. to Peach Ave.	63.3	64.6	1.3	No
Peach Ave., California Ave. Alignment to Church Ave.	67.4	67.5	0.1	No
Peach Ave., Church Ave. to Jensen Avenue	65.2	65.4	0.2	No
1. Traffic noise levels were calculated using the FHWA roadway noise prediction model (FHWA-RD-77-108), based on data obtained from the traffic analysis prepared for this project. 2. Difference in noise levels reflects the incremental increase attributable to the proposed project. 3. Significant increase is defined as an increase of 3 dBA, or greater.				

Table N-3
Predicted Increases in Existing Traffic Noise Levels - Project Alternative 2

Roadway Segment	Predicted Noise Level at 50 feet from Centerline of Near Travel Lane (dBA CNEL/L _{dn}) ¹			
	Existing Without Project	Existing With Project	Difference ²	Significant? ³
Church Ave., Chestnut Ave. to Willow Ave.	63.7	64.7	1.0	No
Church Ave., Willow Ave. to Peach Ave.	63.3	65.6	2.3	No
Peach Ave., California Ave. Alignment to Church Ave.	67.4	67.6	0.2	No
Peach Ave., Church Ave. to Jensen Avenue	65.2	65.6	0.4	No
1. Traffic noise levels were calculated using the FHWA roadway noise prediction model (FHWA-RD-77-108), based on data obtained from the traffic analysis prepared for this project. 2. Difference in noise levels reflects the incremental increase attributable to the proposed project. 3. Significant increase is defined as an increase of 3 dBA, or greater.				

Table N-4
Predicted Increases in Future Cumulative Traffic Noise Levels - Project Alternative 1

Roadway Segment	Predicted Noise Level at 50 feet from Centerline of Near Travel Lane (dBA CNEL/L _{dn}) ¹			
	Future Without Project	Future With Project	Difference ²	Significant? ³
Church Ave., Chestnut Ave. to Willow Ave.	66.8	67.7	0.9	No
Church Ave., Willow Ave. to Peach Ave.	67.6	68.3	0.7	No
Peach Ave., California Ave. Alignment to Church Ave.	69.4	69.6	0.2	No
Peach Ave., Church Ave. to Jensen Avenue	68.2	68.3	0.1	No
1. Traffic noise levels were calculated using the FHWA roadway noise prediction model (FHWA-RD-77-108), based on data obtained from the traffic analysis prepared for this project. 2. Difference in noise levels reflects the incremental increase attributable to the proposed project. 3. Significant increase is defined as an increase of 3 dBA, or greater.				

Table N-5
Predicted Increases in Future Cumulative Traffic Noise Levels - Project Alternative 2

Roadway Segment	Predicted Noise Level at 50 feet from Centerline of Near Travel Lane (dBA CNEL/L _{dn}) ¹			
	Future Without Project	Future With Project	Difference ²	Significant? ³
Church Ave., Chestnut Ave. to Willow Ave.	66.8	68.1	1.3	No
Church Ave., Willow Ave. to Peach Ave.	67.6	69.0	1.4	No
Peach Ave., California Ave. Alignment to Church Ave.	69.4	69.7	0.3	No
Peach Ave., Church Ave. to Jensen Avenue	68.2	68.6	0.4	No
1. Traffic noise levels were calculated using the FHWA roadway noise prediction model (FHWA-RD-77-108), based on data obtained from the traffic analysis prepared for this project. 2. Difference in noise levels reflects the incremental increase attributable to the proposed project. 3. Significant increase is defined as an increase of 3 dBA, or greater.				

Non-Transportation Noise Sources

Potential increases in noise associated with the proposed project would be associated with the operation of building equipment, such as heating, ventilation, and air conditioning (HVAC) units, outdoor recreational activities, onsite landscape maintenance activities, and vehicle use within onsite parking lots. Non-transportation noise levels commonly associated with these sources are summarized in Table N-6.

Table N-6
Representative Non-Transportation Noise Levels

Source	Noise Level (dBA Leq) at 50 feet
HVAC Systems	35-56
Ball Courts & Fields	50-60
Public Address Systems	75-80
Parking Lots	45-50
Landscape Maintenance	55-75

Based on representative file data for similar land uses.

Detailed site plans for the proposed project have not yet been prepared. As a result, the locations of onsite non-transportation noise sources have not yet been identified. Depending on the final site design, predicted operational noise levels at nearby residences could potentially exceed applicable City of Fresno noise standards. As a result, this impact would be considered potentially significant.

Level of Significance without Mitigation: Potentially significant

Mitigation Measure:

MM N-2: The following measures shall be implemented:

- a. An acoustical assessment of proposed onsite non-transportation noise sources shall be prepared for the proposed project. Non-transportation noise sources shall be evaluated in comparison to applicable City of Fresno noise standards for non-transportation noise sources. Noise-reduction measures shall be included sufficient to reduce operational noise levels to below applicable noise standards. Where noise mitigation measures are required to achieve acceptable levels, emphasis shall be placed upon site planning and incorporation of design features (e.g., building orientation, setbacks, onsite shielding/enclosures, and building construction practices. The acoustical assessment shall be prepared by an individual with experience related to the analysis of environmental noise impacts.
- b. Landscape maintenance activities shall be limited to between the hours of 7:00 a.m. and 10:00 p.m. Landscape maintenance activities shall be prohibited on Sundays and legal holidays.

Level of Significance with Mitigation: With implementation of the proposed mitigation measures, operational noise levels associated with onsite non-transportation noise sources would be reduced to acceptable levels. In addition, onsite facility maintenance activities would be limited to the less noise-sensitive daytime hours. With mitigation, this impact would be considered less than significant

XII, d)

Potential Impact: Would the proposed project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Impact Analysis: Construction noise typically occurs intermittently and varies depending upon the nature or phase (e.g., demolition/land clearing, grading and excavation, erection) of construction. Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Although noise ranges were found to be similar for all construction phases, the initial site preparation phase tended to involve the most equipment. As noted in Table N-7, noise levels generated by individual pieces of construction equipment typically range from approximately 74 dBA to 89 dBA L_{max} at 50 feet (FTA 2006). Typical operating cycles may involve 2 minutes of full power, followed by 3 or 4 minutes at lower

settings. Average hourly noise levels at construction sites typically range from approximately 65 to 89 dBA L_{eq} at 50 feet, depending on the activities performed.

Based on these equipment noise levels presented in Table N-7 and assuming a noise attenuation rate of 6 dBA per doubling of distance from the source, exterior noise levels at nearby residences located within approximately 1,500 feet and within line-of-sight of construction activities could exceed 60 dBA without feasible noise control. Activities occurring during the more noise-sensitive nighttime hours would be of particular concern given the potential for increased levels of annoyance and sleep disruption to occupants of nearby residential dwellings.

The proposed project does not include hourly restrictions for construction activities. Typically, construction-related activities occurring during the nighttime hours (i.e., 10:00 p.m. to 7:00 a.m.) would not be exempt from noise ordinance requirements. As a result, given that construction activities could potentially occur during the more noise-sensitive periods of the day, noise-generating construction activities would be considered to have a potentially significant short-term noise impact.

Table N-7
Typical Construction Equipment Noise Levels

Equipment	Typical Noise Level (dBA L_{max}) 50 feet from Source
Air Compressor	81
Backhoe	80
Compactor	82
Concrete Mixer	85
Concrete Vibrator	76
Crane, Mobile	83
Dozer	85
Generator	81
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	85
Truck	88
Paver	89
Pneumatic Tool	85
Roller	74
Saw	76

Sources: FTA 2006

	<p>Mitigation Measure:</p> <p>MM N-3: The following measures shall be implemented to reduce construction-generated noise levels:</p> <ol style="list-style-type: none"> Construction activities (excluding activities that would result in a safety concern to the public or construction workers) shall be limited to between the hours of 7:00 a.m. and 10:00 p.m. Construction activities shall be prohibited on Sundays and legal holidays. Construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations. Equipment engine shrouds shall be closed during equipment operation. When not in use, all equipment shall be turned off and shall not be allowed to idle. Provide clear signage that posts this requirement for workers at the entrances to the site. <p>Level of Significance: Use of mufflers would reduce individual equipment noise levels by approximately 10 dBA. Implementation of the above mitigation measures would limit construction activities to the less noise-sensitive periods of the day. With implementation of the above mitigation measures, this impact would be considered less than significant.</p>
XII, e) & f)	<p>Potential Impact: For a project located within,</p> <p>e) An airport land use plan, or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?</p> <p>f) The vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?</p> <p>Impact Analysis: The proposed project site is not within an airport land use plan or within two nautical miles of a public airport, public use airport, or private airstrip. The nearest airports in the project vicinity include Turner Field, which is located approximately 2.5 miles to the south, and Fresno Air Terminal, which is located approximately 3.8 miles to the northeast. The proposed project is not located within the projected 60 dBA CNEL/L_{dn} noise contours of these airports. Implementation of the proposed project would not result in the exposure of sensitive receptors to aircraft noise levels nor would the proposed project affect airport operations.</p> <p>Mitigation Measures: None required</p> <p>Level of significance: No impact</p>
Impact No.	POPULATION AND HOUSING
XIII, a)	<p>Potential Impact: Would the proposed project induce substantial population growth either in an area, directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?</p> <p>Impact Analysis: The proposed school project would not induce substantial growth. The project does not involve the development of new homes or businesses or require the extension of roads or other infrastructure. Instead, Fresno Unified is proposing the project to serve students from the substantial existing and planned residential development in southeast Fresno and to provide another choice high school that would serve students throughout the District.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: Less than significant</p>

XIII, b)	<p>Potential Impact: Would the proposed project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?</p> <p>Impact Analysis: The proposed project would displace two single-family dwellings, both of which are on the south side of E. Church Avenue within the proposed high school site. Fresno Unified would comply with applicable state laws in acquiring the dwellings. These include, but are not limited to, laws that govern the use of eminent domain and the relocation of residents. The District would only consider the use of eminent domain if it is unable to reach mutually agreeable terms for the sale of the properties with the property owners.</p> <p>The impact resulting from the displacement of the two dwellings would be less than significant because of the minimal number of units involved and because the District must comply with the requirements of state law.</p> <p>Mitigation Measures: None required</p> <p>Level of significance: Less than significant</p>
XIII, c)	<p>Potential Impact: Would the proposed project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?</p> <p>Impact Analysis: Fresno Unified estimates that the project could displace up to 10 people, which is not a sufficient number to necessitate the construction of replacement housing.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: Less than significant</p>
Impact No.	PUBLIC SERVICES
XIV, a)	<p>Potential Impact: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: fire protection, police protection, schools, parks, other public facilities?</p> <p>Impact Analysis: The project would not result in the need for new or physically altered fire protection, police protection, parks, other public facilities in order to maintain acceptable service ratios, response times or other performance objectives. The project would be in an urban area where adequate City of Fresno facilities and services are already available. The school facilities proposed for construction as a result of the project are evaluated as an integral part of the evaluation of impacts throughout this Initial Study.</p> <p>Mitigation Measures: See Sections I - XVIII</p> <p>Level of Significance: See Sections I – XVIII</p>
Impact No.	RECREATION
XV, a)	<p>Potential Impact: Would the proposed project increase the use of existing neighborhood and regional parks or other recreation facilities such that substantial physical deterioration would occur or be accelerated?</p> <p>Impact Analysis: The proposed project would have no adverse impact on recreation services and facilities. The project would not increase the demand for or use of existing park and recreation facilities. Instead, the proposed schools would add to the grounds and facilities within the community that Fresno Unified could make available to citizens and community groups for recreational and other uses.</p> <p>Mitigation Measures: None required</p>

	Level of Significance: No impact
XV, b)	<p>Potential Impact: Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?</p> <p>Impact Analysis: The proposed schools would include recreational facilities for physical education purposes. This impacts associated with the development of the facilities are evaluated as an integral part of the evaluation of impacts throughout this Initial Study.</p> <p>Mitigation Measures: See Sections I - XVIII</p> <p>Level of Significance: See Sections I – XVIII</p>
Impact No.	TRANSPORTATION/TRAFFIC
XVI, a)⁸	<p>Potential Impact: Would the proposed project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?</p> <p>Impact Analysis: For purposes of this study, two project alternatives were analyzed. Project Alternative One includes a Choice High School and an Elementary School. Project Alternative Two, includes a comprehensive High School and an Elementary School. These Project alternatives are explained in further detail below.</p> <p>Project Alternative One: This alternative would include a Choice High School potentially providing technical education or some other specialized curriculum and an Elementary School. The Choice High School would serve approximately 800 to 1,000 students on approximately 34 acres and a minor portion of approximately 18 acres that the District owns adjacent to the 34 acres. The Elementary School component will occupy most of the approximately 18 acres owned by the District. The new Elementary School is estimated to house a maximum of 750 students.</p> <p>Project Alternative Two: This alternative, if built, would ultimately expand the Choice High School described in Project Alternative One to include functions of both a Choice High School and a Comprehensive High School, as needed. Under this alternative, the High School would serve a maximum of 2,500 students. Similar to Project Alternative One, the Elementary School, once constructed, is estimated to house a maximum of 750 students.</p> <p>Criteria of Significance</p> <p>The Fresno General Plan has established various levels of acceptable traffic congestion on its major streets and these are dependent on the four Traffic Impact Zones (TIZ) within the City. The standard level of service (LOS) threshold for TIZ I is LOS F, that for TIZ II is LOS E, that for TIZ III is LOS D and that for TIZ IV is LOS E. Additionally the 2035 MEIR made findings of overriding consideration to allow a lower LOS threshold than that established by the underlying TIZ zone. For those cases in which a LOS criteria for a roadway segment differs from that of the underlying TIZ zone, such criteria are identified in the roadway description. As all study facilities fall within TIZ III, LOS D is used to evaluate the potential significance of LOS impacts to intersections and segments within this TIA pursuant to the General Plan.</p> <p>The County of Fresno has established LOS C as the acceptable level of traffic congestion on county roads and streets, which fall entirely outside the Sphere of Influence (SOI) of a City. For those areas that fall within the</p>

⁸The analysis of potential impacts of the project on traffic and transportation conditions in this Initial Study is based on a study prepared by JLB Traffic Engineering, Inc. Please see Appendix F for the complete text of the study.

SOI of a City, the LOS criteria of the City are the criteria of significance used in this report. In this case all study facilities fall within the City of Fresno SOI and therefore LOS D is utilized.

Caltrans endeavors to maintain a target LOS at the transition between LOS C and D on State highway facilities consistent with the *Caltrans Guide for the Preparation of Traffic Impact Studies* (2002). However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. In this case, there are no study intersections or segments within Caltrans jurisdiction.

Study Intersections:

1. Church Avenue / Chestnut Avenue
2. Church Avenue / Willow Avenue
3. Church Avenue / Peach Avenue
4. Jensen Avenue / Willow Avenue
5. Jensen Avenue / Peach Avenue
6. Church Avenue / Project Driveway
7. Peach Avenue / Project Driveway

Study Segments:

1. Church Avenue between Chestnut Avenue and Willow Avenue
2. Church Avenue between Willow Avenue and Peach Avenue
3. Peach Avenue between California Avenue alignment and Church Avenue
4. Peach Avenue between Church Avenue and Jensen Avenue

Study Scenarios:

Existing Conditions:

This scenario evaluates existing traffic volumes and roadway conditions based on Year 2015 traffic counts and field surveys.

Existing plus Project Alternative One Conditions:

This scenario evaluates total traffic volumes and roadway conditions based on the Existing plus Project Alternative One traffic conditions. The Existing plus Project Alternative One traffic volumes were obtained by adding the Alternative One Project Only trips to the previous scenario. The Alternative One Project Only trips to the study facilities were based on the Fresno COG "Select Zone" run, the existing roadway network, anticipated school attendance boundaries, and engineering judgment. The Fresno COG Model request and Select Zone Analysis are contained in Appendix F.

Existing plus Project Alternative Two Conditions:

This scenario evaluates total traffic volumes and roadway conditions based on the Existing plus Project Alternative Two traffic conditions. The Existing plus Project Alternative Two traffic volumes were obtained by adding the Alternative Two Project Only trips to the Existing scenario. The Alternative Two Project Only trips to the study facilities were based on the Fresno COG "Select Zone" run, the existing roadway network, anticipated school attendance boundaries, and engineering judgment. The Fresno COG Model request and Select Zone Analysis are contained in Appendix F.

Near Term plus Project Alternative One Conditions:

This scenario expands the traffic volumes in the Existing plus Project Alternative One scenario by adding the Near Term Projects' related trips.

Near Term plus Project Alternative Two Conditions:

This scenario expands the traffic volumes in the Existing plus Project Alternative Two scenario by adding the Near Term Projects' related trips.

Cumulative Year 2035 No Project Conditions:

Cumulative Year 2035 No Project Conditions – This scenario evaluates total traffic volumes and roadway conditions based on the year 2035 without the proposed Project. The Cumulative Year 2035 No Project traffic volumes were obtained by subtracting the 2035 Project Only trips from the Cumulative Year 2035 plus Project Scenario.

Cumulative Year 2035 plus Project Alternative One Conditions:

Cumulative Year 2035 plus Project Alternative One Conditions – This scenario evaluates total traffic volumes and roadway conditions based on the year 2035 with the proposed Project Alternative One. The Cumulative Year 2035 plus Project Alternative One traffic volumes were obtained from the Fresno COG traffic model runs (Base Year 2015 and the Cumulative Year 2035) and existing traffic counts. Under this scenario, the increment method as recommended by the Model Steering Committee was utilized to determine the Cumulative Year 2035 plus Project Alternative One traffic volumes. The Fresno COG Modeling output plots are contained in Appendix F.

Cumulative Year 2035 plus Project Alternative Two Conditions:

Cumulative Year 2035 plus Project Alternative Two Conditions – This scenario evaluates total traffic volumes and roadway conditions based on the year 2035 with the proposed Project Alternative Two. The Cumulative Year 2035 plus Project Alternative Two traffic volumes were obtained from the Fresno COG traffic model runs (Base Year 2015 and the Cumulative Year 2035) and existing traffic counts. Under this scenario, the increment method as recommended by the Model Steering Committee was utilized to determine the Cumulative Year 2035 plus Project Alternative Two traffic volumes. The Fresno COG Modeling output plots are contained in Appendix F.

Conclusions

The potential impacts of the proposed Project were evaluated in accordance with the standards set forth by the level of service (LOS) policies of the City of Fresno, County of Fresno, and Caltrans. Impacts of each scenario are described below, as well as recommendations for reducing those impacts.

Existing Conditions

- At present, all study intersections operate at LOS D or better during both the AM and PM peak periods.
- At present all study segments operate at LOS C or better.

Existing plus Project Conditions Alternative One

- At build-out, Project Alternative One is estimated to generate a maximum of 2,678 daily trips, 768 AM peak hour trips and 500 PM peak hour trips.
- Under this scenario the intersections of Willow Avenue at Church Avenue and the Project Driveway at Church Avenue are projected to operate at unacceptable LOS thresholds. To improve the LOS at these intersections, the following improvements are recommended:
 - At the intersection of Willow Avenue and Church Avenue:
 - Add an eastbound left turn lane;
 - Convert the eastbound left-through to a through lane;
 - Convert the westbound left-through lane to a left turn lane;
 - Convert the westbound right turn lane to a through-right;
 - Add a northbound left turn lane;
 - Convert the northbound left-through-right to a through-right;
 - Add a southbound left turn lane;
 - Convert the southbound left-through to a through lane; and
 - Signalize the intersection with protective left turn phasing in all directions.

- At the intersection of Project Driveway and Church Avenue, a second driveway to Church Avenue would be needed.

Existing plus Project Alternative Two Conditions

- At build-out, Project Alternative Two is estimated to generate a maximum of 5,243 daily trips, 1,413 AM peak hour trips and 935 PM peak hour trips.
- Under this scenario the intersections of Chestnut Avenue at Church Avenue, Willow Avenue at Church Avenue and the Project Driveway at Church Avenue are projected to operate at unacceptable LOS thresholds. To improve the LOS at these intersections, the following improvements are recommended:
 - At the intersection of Chestnut Avenue and Church Avenue:
 - Add a westbound right turn lane.
 - At the intersection of Willow Avenue and Church Avenue:
 - Implement the lane geometrics presented in the Existing plus Project Alternative One Scenario;
 - Modify the eastbound right turn lane to a through-right;
 - Modify the westbound through-right to a through lane;
 - Add a westbound right turn lane;
 - Modify the northbound through-right to a through lane;
 - Add a northbound right turn lane; and
 - Signalize the intersection with protective left turn phasing in all directions.
 - At the intersection of Project Driveway and Church Avenue, a second driveway to Church Avenue would be needed.
- Under this scenario, all study segments are projected to operate at LOS C or better.

Existing plus Project Conditions (Alternatives One and Two)

- Figure 7 within the Traffic Impact Study (Appendix F) identifies preliminary routes to and from the proposed schools. These preliminary routes include infrastructure such as existing traffic controls, marked crosswalks, and missing walkways (i.e. barriers to pedestrians). In an effort to remove barriers to the completion of a Safe Routes to School plan, it is recommended that the District work with the City to identify funding sources and to adopt a Safe Routes to School plan(s). Additionally, as residential development takes place, the City should take into account the proposed Project and condition all new development proposals within the no busing zone to conduct a Safe Routes to School evaluation from the residential development projects to the Project.
- Any proposed access points should not be located within the functional area of a major street intersection. It is also recommended that the District consult with the City of Fresno to determine the final placement of driveways and their access type.
- It is recommended that as part of the Project's frontages to Church Avenue and Peach Avenue, that Class II bike lanes be implemented.

Near Term plus Project Alternative One Conditions

- The total trip generation for the Near Term Projects is 26,210 daily trips, 3,604 AM peak hour trips and 2,595 PM peak hour trips.
- Similar to the Existing plus Project Alternative One scenario, the intersections of Willow Avenue at Church Avenue and the Project Driveway at Church Avenue are projected to operate at unacceptable LOS thresholds. To improve the LOS at these intersections, the same improvements presented for the Existing plus Project Alternative One are recommended.

- Under this scenario, all study segments are projected to operate at LOS C or better.

Near Term plus Project Alternative Two Conditions

- The total trip generation for the Near Term Projects is 26,210 daily trips, 3,604 AM peak hour trips and 2,595 PM peak hour trips.
- Similar to the Existing plus Project Alternative Two scenario, under this scenario the intersections of Chestnut Avenue at Church Avenue, Willow Avenue at Church Avenue and the Project Driveway at Church Avenue are projected to operate at unacceptable LOS thresholds. To improve the LOS at these intersections, the same improvements presented under the Existing plus Project Alternative Two are recommended.
- Under this scenario, all study segments are projected to operate at LOS C or better.

Cumulative Year 2035 No Project Conditions

- Under this scenario the intersections of Willow Avenue at Church Avenue, Peach Avenue at Church Avenue, Willow Avenue at Jensen Avenue, and Peach Avenue at Jensen Avenue are projected to operate at unacceptable LOS thresholds. To improve the LOS at these intersections, the following improvements are recommended:
 - At the intersection of Willow Avenue and Church Avenue:
 - Add an eastbound left turn lane;
 - Convert the eastbound left-through to a through lane;
 - Add a westbound left turn lane;
 - Convert the westbound left-through to a through lane;
 - Add a northbound left turn lane;
 - Convert the northbound left-through-right to a through-right;
 - Add a southbound left turn lane;
 - Convert the southbound left-through to a through lane; and
 - Signalize the intersection with protective left turn phasing in all directions.
 - At the intersection of Peach Avenue and Church Avenue:
 - Convert the eastbound through-right to a through lane;
 - Add an eastbound right turn lane;
 - Convert the westbound through-right to a through lane;
 - Add a westbound right turn lane;
 - Add a second southbound through lane; and
 - Modify the existing traffic signal to accommodate the added lane geometrics.
 - At the intersection of Willow Avenue and Jensen Avenue:
 - Add a third eastbound through lane;
 - Convert the westbound through-right to a through lane;
 - Add a westbound right turn; and
 - Modify the existing traffic signal to accommodate the added lane geometrics and protective left turn phasing in all directions.
 - At the intersection of Peach Avenue and Jensen Avenue:
 - Add a third eastbound through lane;
 - Add a third westbound through lane;
 - Add a northbound left turn lane;
 - Convert the northbound left-through-right lane to a through-right;
 - Add a southbound left turn lane;
 - Convert the southbound left-through-right lane to a through lane;
 - Add a southbound right turn lane; and
 - Modify the existing traffic signal to accommodate the added lane geometrics.
- Under this scenario, all study segments are projected to operate at LOS D or better.

Cumulative Year 2035 plus Project Alternative One Conditions

- Under this scenario, in addition to those intersections presented in the Cumulative Year 2035 No Project scenario, the intersections of Chestnut Avenue at Church Avenue, and Project Driveway to Church Avenue are projected to operate at unacceptable LOS thresholds. To improve the LOS at these intersections, the following improvements are recommended:
 - At the intersection of Chestnut Avenue and Church Avenue:
 - Add a second westbound through lane; and
 - Modify the existing traffic signal to accommodate the added lane geometrics.
 - At the intersections of Willow Avenue and Church Avenue, Willow Avenue and Jensen Avenue, and Peach Avenue and Jensen Avenue, implement the same recommendations presented under the Cumulative Year 2035 No Project scenario.
 - At the intersection of Peach Avenue and Church Avenue, implement the same recommendations presented under the Cumulative Year 2035 No Project scenario in addition to the following:
 - Add a second eastbound through lane;
 - Add a second westbound through lane;
 - Add a second northbound through lane; and
 - Modify the existing traffic signal to accommodate the added lane geometrics.
 - At the intersection of Project Driveway and Church Avenue:
 - Two additional driveways for a total of three to Church Avenue would be needed.
- Under this scenario all study segments are projected to operate at LOS D or better.

Cumulative Year 2035 plus Project Alternative Two Conditions

- Under this scenario, in addition to those intersections presented in the Cumulative Year 2035 No Project scenario, the intersections of Chestnut Avenue at Church Avenue, and Project Driveway to Church Avenue are projected to operate at unacceptable LOS thresholds. To improve the LOS at these intersections, the following improvements are recommended:
 - At the intersections of Chestnut Avenue and Church Avenue, and Peach Avenue and Church Avenue, implement the same recommendations presented for the Cumulative Year 2035 plus Project Alternative One scenario.
 - At the intersection of Willow Avenue and Church Avenue, implement the same recommendations presented under the Cumulative Year 2035 No Project scenario in addition to the following:
 - Convert the northbound through-right to a through lane; and
 - Add a northbound right turn lane.
 - At the intersection of Willow Avenue and Jensen Avenue, implement the same recommendations presented under the Cumulative Year 2035 No Project scenario in addition to the following:
 - Add a second southbound left turn lane; and
 - Modify the existing traffic signal to accommodate the added lane geometrics.
 - At the intersection of Peach Avenue and Jensen Avenue, implement the same recommendations presented under the Cumulative Year 2035 No Project scenario.
 - At the intersection of Project Driveway and Church Avenue:
 - Three additional driveways (for a total of four) to Church Avenue would be needed.
- Under this scenario the segment of Church Avenue between Willow Avenue and Peach Avenue is projected to operate an unacceptable LOS. To improve the LOS, it is recommended that four lanes divided by a two-way left turn lane be implemented.

	<p>Level of Significance without Mitigation: Potentially significant</p> <p>Mitigation Measures:</p> <p>MM T-1: The project proponent shall be responsible for contributing its proportionate share of the improvements identified in Section XVI, a), (Impact Analysis), depending on Project Alternative, as a condition of development of the proposed school project.</p> <p>Level of Significance after Mitigation: Less than significant</p>
XVI, b)	<p>Potential Impact: Would the proposed project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?</p> <p>Impact Analysis: The proposed school site is not subject to a congestion management program or to the standards of a congestion management agency. Therefore, no impact would occur.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: No impact</p>
XVI, c)	<p>Potential Impact: Would the proposed project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?</p> <p>Impact Analysis: The proposed school site is not within two nautical miles of an existing or proposed public or private airport and is not within an area encompassed by an airport land use plan. The proposed school would have no design or operational characteristics that would result in an increase in air traffic levels or a change in location. (Google Earth; FAA San Francisco Sectional, 92nd Edition). Therefore, no impact would occur.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: No impact</p>
XVI, d)	<p>Potential Impact: Would the proposed project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?</p> <p>Impact Analysis: The two streets directly adjacent to the project are Church and Peach Avenues. The Fresno General Plan Circulation Element designates Church Avenue as a two-lane undivided collector east of Willow Avenue and as a four-lane undivided collector west of Willow Avenue. However, various segments of Church Avenue east of Willow Avenue have been built to accommodate four lanes. The Fresno General Plan Circulation Element designates Peach Avenue as a four-lane divided arterial between McKinley Avenue and Belmont Avenue, as a four-lane divided scenic arterial between Belmont Avenue and Hamilton Avenue, as a four-lane divided arterial between Hamilton Avenue and Jensen Avenue, and as a local street south of Jensen Avenue.</p> <p>Any new and upgraded roadways will be designed according to applicable federal, state, and local design standards. In addition, the City of Fresno General Plan has adopted policies to support development of the transportation system based on complete street concepts that accommodate mobility of all system users and trip purposes. A site plan was not available at the time of this Initial Study; however, Fresno Unified will comply with all City of Fresno policies, and as a result the proposed project would result in a less-than-significant impact related to hazards due to roadway design features or incompatible uses. For example, any proposed access points should not be located within the functional area of a major street intersection. Also, the District will consult with the City of Fresno to determine the final placement of driveways and their access type.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: Less than significant</p>
XVI, e)	<p>Potential Impact: Would the proposed project result in inadequate emergency access?</p>

	<p>Impact Analysis: According to the City of Fresno General Plan MEIR, the planned, enhanced roadway network that accommodates forecasted travel demand would also provide adequate emergency access. Fresno Unified will work with the City to ensure adequate emergency access to the proposed project and follow objectives and policies of the General Plan that will support implementation and provide adequate emergency access. In addition, as mentioned in Impact XVI, d), the roadways associated with the project will be designed according to applicable governmental agency design standards.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: Less than significant</p>
XVI, f)	<p>Potential Impact: Would the proposed project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?</p> <p>Impact Analysis: The proposed school project would, with one exception, have <i>less than significant impacts</i> related to adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, and would not decrease the performance or safety of such facilities. The reasons for this conclusion are as follows:</p> <ul style="list-style-type: none"> • As recommended in the City of Fresno Bicycle Transportation Plan, a Class II bike lane will be developed along the project's frontages to Church and Peach Avenues. • The City of Fresno would require construction of sidewalks adjacent to the school. Sidewalks would provide pedestrian access to the school site. • Fresno Unified would provide bus transportation for students that reside more than one mile from the elementary school and 1.5 miles from a comprehensive high school. Most of the area within the no busing zone is well developed with walkways and intersection controls, with a few exceptions. • Fresno Unified would prepare a school route plan for the proposed school. The plan would reflect the guidance provided in California MUTCD 2014 Edition, Part 7, Traffic Control for School Areas, as well as the Safe Routes to School recommendations of the Traffic Impact Study. Fresno Unified would develop the plan in coordination with law enforcement and traffic officials responsible for school pedestrian safety and would complete the plan before the school opens. • As residential development takes place, the City and County should take into account the proposed school sites and condition all new development proposals within a one-mile radius to conduct a safe routes to school evaluation from the residential project to the school site. <p>The Central Canal runs through the project site. The Fresno General Plan designates the route of the Central Canal from Jensen Avenue through the high school site to E. Church Avenue and beyond as a Class I Bicycle/Pedestrian Path (Figure MT-2: Paths and Trails). The general plan defines a Class I path as a facility that "is completely separated from vehicle traffic and typically a 10- to 12-foot wide concrete/asphalt-concrete paved surface with two-foot wide shoulders." Since the District would not want to have a public trail passing through a school site for security reasons and since the canal could potentially be piped, a trail at this location is not considered viable by the District.</p> <p>Level of Significance without Mitigation: Potentially significant</p> <p>Mitigation Measure: MM T-2: Fresno Unified shall work with the City of Fresno to identify and implement an acceptable alternative to locating a trail along the Central Canal through the project site.</p> <p>Level of Significance after Mitigation: Less than significant</p>

Impact No.	UTILITIES AND SERVICE SYSTEMS
XVII, a), b), d), e)	<p>Potential Impacts: Would the proposed project:</p> <ul style="list-style-type: none"> a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? b) Result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects? d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? <p>Impact Analysis:</p> <p>The impact of the proposed school project on water supply and wastewater collection and treatment services would be <i>less than significant</i>. The reasons for this conclusion are as follows:</p> <ul style="list-style-type: none"> • The project site is within the City of Fresno. Therefore, Fresno would provide water supply and wastewater collection and treatment services for the project. • The City of Fresno has sufficient water supplies (see also Section IX, b), under Hydrology and Water Quality) and adequate wastewater collection and treatment capacity to serve the project. The demand for water and wastewater collection and treatment services for the elementary school portion of the project site would not appreciably change from that anticipated in the adopted General Plan because the General Plan designates the site for a school and portable school facilities have existed on the site that previously served up to 750 students. The demand on the high school portion would change because the site is undeveloped. The Fresno General Plan designates the property proposed for acquisition for Medium Density Residential development with a density range of 5-12 units per acre. Therefore, the 34-acre acquisition site could be developed with 170 – 405 residential dwelling units in accordance with the General Plan. (Note: the site has an existing entitlement for a 168-lot single family residential subdivision [approved Tentative Tract No. 5436] and the map will not expire September 21, 2017). According to the Water and Wastewater Report (Appendix E), the demand for water from the potential dwelling units on the 34 acres per the General Plan would exceed that of the proposed high school facilities (including the irrigation water demand for the high school facilities). In addition, the amount of wastewater generated by the 34 acres under planned Medium Density Residential development would also exceed that resulting from development of high school facilities on the 34 acres. • The City of Fresno Wastewater Treatment Plant operates in compliance with applicable requirements of the Regional Water Quality Control Board. • Fresno Unified would comply with the City of Fresno Municipal Code and Standard Specifications requirements for sewer and water connections, extensions, fees, permits, and related matters. <p>Mitigation Measures: None required</p> <p>Level of Significance: Less than significant</p>

XVII, c)	<p>Potential Impact: Would the proposed project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?</p> <p>Impact Analysis: The Fresno Metropolitan Flood Control District (FMFCD) provides storm water drainage services in the City of Fresno and beyond. The District's local storm water drainage system consists of storm drains, detention and retention basins, and pump stations. The system is designed to retain and infiltrate as much stormwater and urban runoff as possible. The District's Storm Drainage and Flood Control Master Plan includes 158 drainage areas, each providing service to approximately one to two square miles. All but five of the developed drainage areas are served by a retention or detention facility.</p> <p>Based on the FMFCD Flood Control Master Plan, the portion of the project site east of the Central Canal is in Drainage Zone BD and the portion west of the canal is in Drainage Zone BF.</p> <p>The impact of the proposed school project on the storm drain system would be <i>less than significant</i> because Fresno Unified must comply with the requirements of FMFCD in designing and constructing any necessary storm drainage facilities in accordance with the FMFCD Master Plan and policies.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: Less than significant</p>
XVII, f) &g)	<p>Potential Impact: Would the proposed project:</p> <p>f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?</p> <p>g) Comply with federal, state, and local statutes and regulations related to solid waste?</p> <p>Impact Analysis: Fresno Unified contracts with a private operator for solid waste collection and disposal services. The District contractually requires that the operator dispose of solid waste at a landfill with adequate capacity for the volume of solid waste the District's schools and other facilities generate. The operator must also operate following all applicable federal, state, and local statutes and regulations related to solid waste.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: Less than significant</p>
Impact No.	MANDATORY FINDINGS OF SIGNIFICANCE
XVIII, a)	<p>Potential Impact: Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?</p> <p>Impact Analysis: Based on the analyses presented in Sections 6, IV & V, and with the incorporation of the associated mitigation measures, the project would not degrade the environment or result in significant impacts to biological or cultural resources.</p> <p>Mitigation Measures: See Sections 6, IV & V</p> <p>Level of Significance: Less than significant</p>
XVIII, b)	<p>Potential Impact: Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed</p>

	<p>in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?</p> <p>Impact Analysis: Based on the information in the preceding sections of this document, the project would not have impacts that are individually limited, but cumulatively considerable.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: Less than significant</p>
XVIII, c)	<p>Potential Impact: Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?</p> <p>Impact Analyses: Based on the information in the preceding sections of this document, specifically the analyses presented in Sections 6, III, XII & XVI, and with the incorporation of the associated mitigation measures, the project would not have environmental effects that will cause substandard adverse effects on human beings.</p> <p>Mitigation Measures: None required</p> <p>Level of Significance: Less than significant</p>

7. Mitigation Monitoring and Reporting Program

7.1 Purpose

Fresno Unified has prepared this Mitigation Monitoring and Reporting Program to comply with Section 15097 of the State CEQA Guidelines. The purpose for the Mitigation Monitoring and Reporting Program is to ensure the District implements the mitigation measures identified in this Initial Study.

7.2 Lead Agency

Fresno Unified will undertake the project and is the Lead Agency for the project. The District is responsible for the implementation of all mitigation measures identified in this Initial Study.

7.3 Mitigation Monitoring and Reporting Coordinator

The Chief Operations Officer or her/his designee shall act as the Project Mitigation Reporting Coordinator ("Coordinator").

7.4 Monitoring and Reporting Procedures for Design-, Site Clearing-, and Construction Mitigation Measures

- The Coordinator shall provide a copy of all project design-, site clearing- and construction-related mitigation measures to the project engineer and contractor for incorporation in the project plans, construction specifications, permits, and contracts, as appropriate.
- Prior to award of bid, the Coordinator shall determine that all project design-, site clearing- and construction-related mitigation measures have been incorporated in the project plans, construction specifications, permits, and contracts, as appropriate.
- During construction, the Coordinator, through the construction management team, shall inspect the project area regularly to ensure all work complies with the mitigation measures. If a discrepancy is not resolved within a reasonable time, the Coordinator may order work to cease until the discrepancy is resolved.

- Prior to the District accepting the project improvements, the Coordinator shall certify that the project incorporates all project design and construction-related mitigation measures.

7.5 Monitoring and Reporting Procedures for Operational- and Maintenance-Related Mitigation Measures

Before the project becomes operational, the Coordinator shall determine that the project operational plans and procedures incorporate all operations-related mitigation measures.

8. Names of Persons Who Prepared or Participated in the Initial Study

8.1 Lead Agency and Project Proponent

Fresno Unified School District
Karin Temple, Chief Operations Officer
William Belanger, Assistant Superintendent
Rick Andreasen, Project Manager
Deana Clayton, Project Manager
Heidi Lopez, Technical Specialist II
Facilities Management and Planning Department
4600 N. Brawley Ave., Fresno, CA 93722
(559) 457-6113
Rick.Andreasen@fresnounified.org

8.2 Initial Study/Environmental Consultants

Odell Planning & Research, Inc.
49370 Road 426, Suite C
Oakhurst, CA 93644
(559) 472-7167

- Scott B. Odell, AICP, Principal & Project Manager
(559) 472-7167
scott@odellplanning.com
- Michael Paoli, MCRP, Project Planner
(559) 324-0789
mpaoli00@gmail.com
- Melissa Odell, MS, Senior Biologist/Planner
(559) 472-7167
melissa@odellplanning.com

AECOM (Geological/Environmental Hazards)
Stuart St. Clair, Project Civil Engineer
stuart.stclair@aecom.com

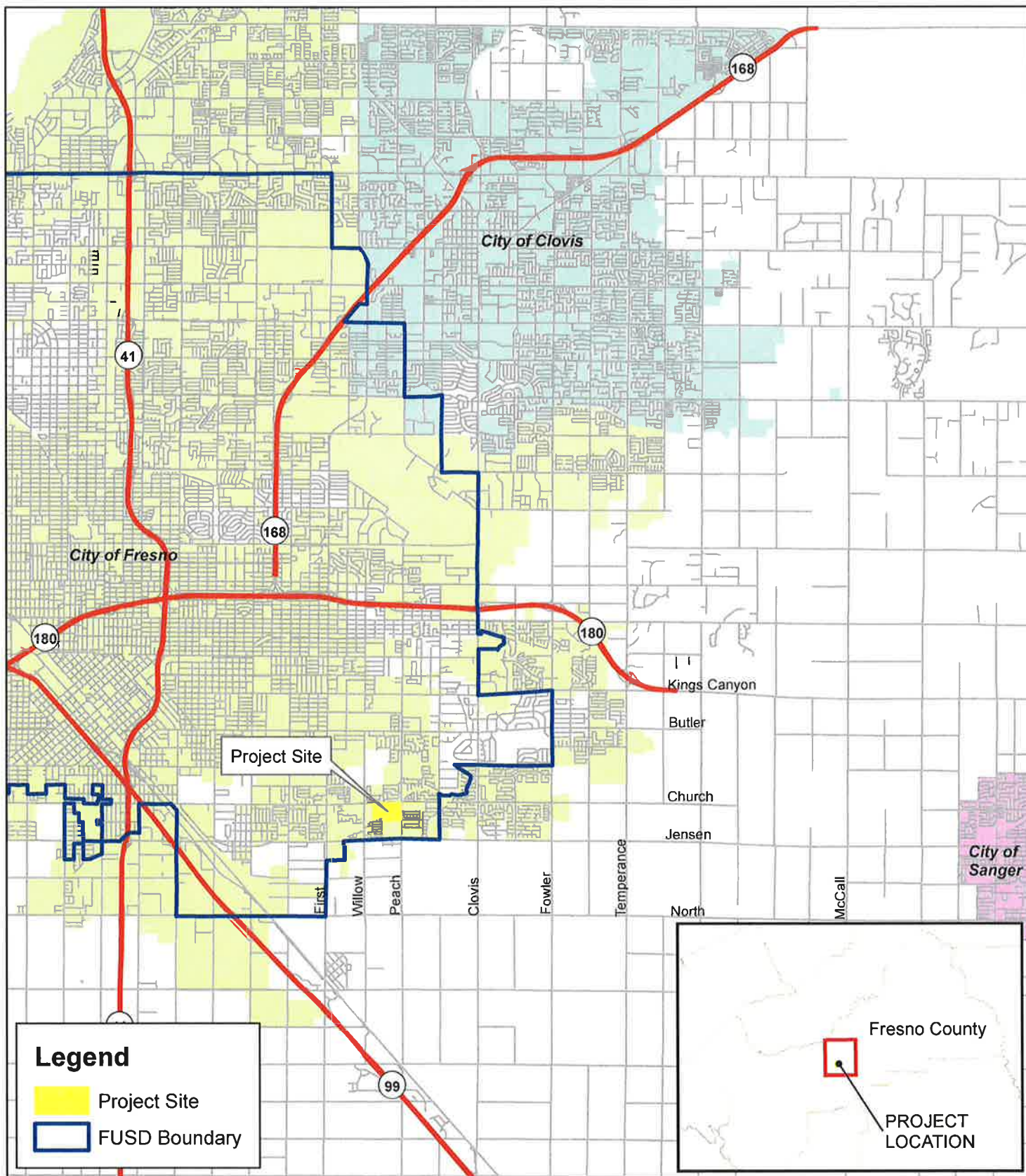
Ambient Air Quality & Noise Consultants (Air Quality, Greenhouse Gas, and Noise Analyses)
Kurt Legleiter, Principal
kurtl@ambientca.com

JLB Traffic Engineering, Inc. (Traffic Impact Analysis)
Jose Luis Benavides, PE, TE, President
jbenavides@jlbtraffic.com

9. Sources Consulted

- AECOM-1. 2016. Geological/Environmental Hazards Report. Planned School Site, 53 acres Southwest of E. Church and S. Peach Avenues, Fresno, Fresno County, California. Prepared for Fresno Unified School District. March 31, 2016.
- AECOM-2. 2016. Draft Preliminary Environmental Assessment Workplan. Planned School Site, 50 acres Southwest of E. Church and S. Peach Avenues, Fresno, Fresno County, California. Prepared for Fresno Unified School District. February 24, 2016.
- Andreasen, Rick. Project Manager, Facilities Management and Planning Department, Fresno Unified School District. Consultations with Michael Paoli. December 2015.
- Ambient Air Quality & Noise Consulting. 2016. Air Quality & Greenhouse Gas Impact Analysis for Southeast School Site Acquisition and Development Project, Fresno, CA (April 2016).
- Ambient Air Quality & Noise Consulting. 2016. Noise & Groundborne Vibration Impact Analysis for Southeast School Site Acquisition and Development Project, Fresno, CA (April 2016).
- Blair, Church, and Flynn. 2016. Water and Wastewater Report.
- California, State of. Department of Toxic Substances Control. EnviroStor Database search website. <http://www.envirostor.dtsc.ca.gov/public/>
- California, State of. Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program: Fresno County Important Farmland 2012 (map).
- California, State of. Department of Transportation (Caltrans). 2016. Response to Request for Consultation RE: Southeast School Site Acquisition and Construction Project. Letter to Rick Andreasen, Fresno Unified School District, from Michael Navarro, Chief, North Planning Branch. January 28, 2016.
- City of Fresno. 2016. Standard Specifications. Department of Public Works. Published February 2016. <http://www.fresno.gov/NR/rdonlyres/41DD948F-8BC7-4943-9CE2-190480D8D728/0/CityofFresnoStandardSpecifications2016January.pdf>
- City of Fresno. 2016. Development Standards and Design Guidelines. Available at <http://www.fresno.gov/Government/DepartmentDirectory/DARM/DevelopmentServices/StandardsGuidelines/default.htm>
- City of Fresno. 2016. Department of Public Utilities – Water Division, Response to Request for Consultation RE: Southeast School Site Acquisition and Construction Project. Letter to Rick Andreasen, Fresno Unified School District, from Dejan Pavic, P.E., Department of Public Utilities – Water Division; Program Management & Engineering. January 27, 2016.
- City of Fresno. 2016. 2015 Urban Water Management Plan. Prepared by Provost & Pritchard Consulting Group.
- City of Fresno. 2014. Draft Master Environmental Impact Report, General Plan and Development Code Update, City of Fresno, Fresno County, California. Prepared by FirstCarbon Solutions.
- City of Fresno. 2014. Fresno General Plan. Prepared by Dyett & Bhatia. Adopted December 18, 2014.
- City of Fresno. 2010. Bicycle, Pedestrian, and Trails Master Plan. Prepared by Fehr & Peers.
- County of Fresno. 2016. Department of Public Works and Planning, Response to Request for Consultation RE: Southeast School Site Acquisition and Construction Project. Letter to Rick Andreasen, Fresno Unified School District, from Christina Monfette, Planner, Development Services Division. January 25, 2016.

- Fresno Irrigation District. 2016. Response to Request for Consultation RE: Southeast School Site Acquisition and Construction Project. Letter to Rick Andreasen, Fresno Unified School District, from Laurence Kimura, P.E., Chief Engineer, Fresno Irrigation District. February 23, 2016.
- Fresno Irrigation District (FID). 2015. Facilities Map, including private facilities, cities water treatment plants & Fresno Metropolitan Flood Control Basins. <http://www.fresnoirrigation.com/index.php?c=23>
- Fresno Metropolitan Flood Control District. 2016. Response to Request for Consultation RE: Southeast School Site Acquisition and Construction Project. Letter to Rick Andreasen, Fresno Unified School District, from Rick Lyons, Engineering Technician III. February 3, 2016.
- Google Earth (Version 5.2.1.1588) [Software]. Mountain View, CA: Google Inc. (2015). Available from <http://www.google.com/earth/index.html>
- JLB Traffic Engineering, Inc. 2016. Traffic Impact Analysis, Fresno Unified School District, High School & Elementary School, at the Southwest Corner of Church Avenue and Peach Avenue, in the City of Fresno, CA (April 2016).
- Odell Planning & Research, Inc. 2016. Biological Resources Assessment, Southeast School Site Acquisition and Construction Project. Prepared for the Fresno Unified School District. March 22, 2016.
- San Joaquin Valley Air Pollution Control District (SJVAPCD). 2016. Response to Request for Consultation RE: Southeast School Site Acquisition and Construction Project. Letter to Rick Andreasen, Fresno Unified School District, from Arnaud Marjollet, Director of Permit Services. February 3, 2016.
- San Joaquin Valley Air Pollution Control District. 2014. APR 2025–CEQA Determinations of Significance for Projects Subject to ARB’s Cap-and-Trade Regulation
- San Joaquin Valley Air Pollution Control District. 2009. Guidance for Valley Land Use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA. http://www.valleyair.org/Programs/CCAP/CCAP_idx.htm.
- San Joaquin Valley Air Pollution Control District. 2002. Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI) http://www.valleyair.org/transportation/ceqa_components.htm
http://www.valleyair.org/policies_per/policies_per_idx.htm.
<http://www.valleyair.org/rules/1ruleslist.htm>
- United States Department of the Interior Geological Survey. Malaga Quadrangle, California, 7.5 Series Topographic Map.
- Zimmerman, III, Ben F. 2016. Response to Request for Consultation RE: Southeast School Site Acquisition and Construction Project. Letter to Rick Andreasen, Fresno Unified School District, from Ben F. Zimmerman III, concerned neighbor. January 27, 2016.



Project Location

Southeast School Site Acquisition and Development Project
Fresno Unified School District

ODELL Planning & Research, Inc.

Figure 1



0 0.5 1 2 3 4 Miles



Source: County of Fresno, FUSD, ESRI

Project Site

Southeast School Site Acquisition and Development Project
Fresno Unified School District

Figure 2

APPENDICES

Appendix A

AIR QUALITY & GREENHOUSE GAS IMPACT ANALYSIS

AIR QUALITY & GREENHOUSE GAS IMPACT ANALYSIS

FOR

SOUTHEAST SCHOOL SITE ACQUISITION & DEVELOPMENT PROJECT FRESNO, CA

APRIL 2016

PREPARED FOR:

ODELL PLANNING & RESEARCH, INC.
49370 Road 426, Suite C
Oakhurst, CA 93644

PREPARED BY:



612 12TH STREET, SUITE 201
PASO ROBLES, CA 93446

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APPENDICES

Appendix A: Emissions Modeling & Documentation

LIST OF COMMON TERMS & ACRONYMS

AAM	Annual Arithmetic Mean
ADT	Average Daily Traffic
AHERA	Asbestos Hazard Emergency Response Act
APCD	Air Pollution Control District
ASHAA	Asbestos School Hazard Abatement Act
ASHARA	Asbestos School Hazard Abatement and Reauthorization Act
ATCM	Airborne Toxic Control Measure
CAAQS	California Ambient Air Quality Standards
ARB	California Air Resources Board
CCAA	California Clean Air Act
CCAR	California Climate Action Registry
CEQA	California Environmental Quality Act
CH ₄	Methane
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
DPM	Diesel-Exhaust Particulate Matter or Diesel-Exhaust PM
DRRP	Diesel Risk Reduction Plan
FCAA	Federal Clean Air Act
GHG	Greenhouse Gases
HAP	Hazardous Air Pollutant
IPCC	Intergovernmental Panel on Climate Change
FUSD	Fresno Unified School District
LOS	Level of Service
N ₂ O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NESHAPs	National Emission Standards for HAPs
NO _x	Oxides of Nitrogen
O ₃	Ozone
Pb	Lead
PM	Particulate Matter
PM ₁₀	Particulate Matter (less than 10 µm)
PM _{2.5}	Particulate Matter (less than 2.5 µm)
ppb	Parts per Billion
ppm	Parts per Million
ROG	Reactive Organic Gases
SIP	State Implementation Plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SO ₂	Sulfur Dioxide
SRTS	Safe Routes to School
TAC	Toxic Air Contaminant
TSCA	Toxic Substances Control Act
µg/m ³	Micrograms per cubic meter
U.S. EPA	United State Environmental Protection Agency

INTRODUCTION

This report describes the existing environment in the project vicinity and identifies potential air quality and greenhouse gas impacts associated with the proposed project. Project impacts are evaluated relative to applicable thresholds of significance. Mitigation measures have been identified for significant impacts.

PROPOSED PROJECT SUMMARY

The Fresno Unified School District (FUSD) proposes the development of a new elementary school and a high school to be located within the southwestern quadrant of the E. Church Avenue and S. Peach Avenue intersection, within the City of Fresno. The elementary school would be designed to serve a total of 750 students. Two alternatives are being considered for the proposed high school. Alternative 1 would serve approximately 800-1,000 students and Alternative 2 would serve up to 2,500 students. Detailed site plans are not yet available for the proposed facilities (OPR 2016).

AIR QUALITY

EXISTING SETTING

The project is located within the San Joaquin Valley Air Basin (SJVAB). The SJVAB is within the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). Air quality in the SJVAB is influenced by a variety of factors, including topography, local and regional meteorology. Factors affecting regional and local air quality are discussed below.

TOPOGRAPHY, METEOROLOGY, AND POLLUTANT DISPERSION

The dispersion of air pollution in an area is determined by such natural factors as topography, meteorology, and climate, coupled with atmospheric stability conditions and the presence of inversions. The factors affecting the dispersion of air pollution with respect to the SJVAB are discussed below.

Topography

The SJVAB occupies the southern half of the Central Valley. The SJVAB is open to the north, and is surrounded by mountain ranges on all other sides. The Coast Ranges, which have an average elevation of 3,000 feet, are along on the western boundary of the SJVAB, while the Sierra Nevada Mountains (8,000 to 14,000 feet in elevation) are along the eastern border. The San Emigdio Mountains, which are part of the Coast Ranges, and the Tehachapi Mountains, which are part of the Sierra Nevada, form the southern boundary, and have an elevation of 6,000 to 8,000 feet. The SJVAB is mostly flat with a downward gradient in terrain to the northwest.

Meteorology and Climate

The SJVAB has an inland Mediterranean climate that is strongly influenced by the presence of mountain ranges. The mountain ranges to the west and south induce winter storms from the Pacific Ocean to release precipitation on the western slopes producing a partial rain shadow over the valley. In addition, the mountain ranges block the free circulation of air to the east, trapping stable air in the valley for extended periods during the cooler half of the year.

Winter in the SJVAB is characterized as mild and fairly humid, while the summer is typically hot, dry, and cloudless. The climate is a result of the topography and the strength and location of a semi permanent, subtropical high-pressure cell. During the summer months, the Pacific high-pressure cell is centered over the northeastern Pacific Ocean, resulting in stable meteorological conditions and a steady northwesterly wind flow. Upwelling of cold ocean water from below to the surface as a result of the northwesterly flow produces a band of cold water off the California coast. In winter, the Pacific high-pressure cell weakens

and shifts southward, resulting in wind flow offshore, the absence of upwelling, and the occurrence of storms.

The annual temperature, humidity, precipitation, and wind patterns reflect the topography of the SJVAB and the strength and location of the semi permanent, subtropical high-pressure cell. Summer temperatures that often exceed 100 degrees Fahrenheit (°F) and clear sky conditions are favorable to ozone formation. Most of the precipitation in the valley occurs as rainfall during winter storms. The winds and unstable atmospheric conditions associated with the passage of winter storms result in periods of low air pollution and excellent visibility. However, between winter storms, high pressure and light winds lead to the creation of low-level temperature inversions and stable atmospheric conditions, which can result in higher pollutant concentrations. The orientation of the wind flow pattern in the SJVAB is parallel to the valley and mountain ranges. Summer wind conditions promote the transport of ozone and precursors from the San Francisco Bay Area through the Carquinez Strait, a gap in the Coast Ranges, and low mountain passes such as Altamont Pass and Pacheco Pass. During the summer, predominant wind direction is from the northwest. During the winter, the predominant wind direction is from the southeast. Calm conditions are also predominant during the winter (ARB 1992).

The climate is semi-arid, with an annual normal precipitation of approximately 12 inches. Temperatures in the project area range from a normal minimum of 46°F, in January, to a normal maximum of 82°F, in July (NOAA 1992).

Atmospheric Stability and Inversions

Stability describes the resistance of the atmosphere to vertical motion. The stability of the atmosphere is dependent on the vertical distribution of temperature with height. Stability categories range from "Extremely Unstable" (Class A), through Neutral (Class D), to "Stable" (Class F). Unstable conditions often occur during daytime hours when solar heating warms the lower atmospheric layers sufficiently. Under Class A stability conditions, large fluctuations in horizontal wind direction occur coupled with large vertical mixing depths. Under Class B stability conditions, wind direction fluctuations and the vertical mixing depth are less pronounced because of a decrease in the amount of solar heating. Under Class C stability conditions, solar heating is weak along with horizontal and vertical fluctuations because of a combination of thermal and mechanical turbulence. Under Class D stability conditions, vertical motions are primarily generated by mechanical turbulence. Under Class E and Class F stability conditions, air pollution emitted into the atmosphere travels downwind with poor dispersion. The dispersive power of the atmosphere decreases with progression through the categories from A to F.

With respect to the SJVAB, Classes D through F are predominant during the late fall and winter because of cool temperatures and entrapment of cold air near the surface. March and August are transition months with equally occurring percentages of Class F and Class A. During the spring months of April and May and the summer months of June and July, Class A is predominant. The fall months of September, October, and November have comparable percentages of Class A and Class F.

An inversion is a layer of warmer air over a layer of cooler air. Inversions influence the mixing depth of the atmosphere, which is the vertical depth available for diluting air pollution near the ground, thus significantly affecting air quality conditions. The SJVAB experiences both surface-based and elevated inversions. The shallow surface-based inversions are present in the morning but are often broken by daytime heating of the air layers near the ground. The deep elevated inversions occur less frequently than the surface-based inversions but generally result in more severe stagnation. The surface-based inversions occur more frequently in the fall, and the stronger elevated inversions usually occur during December and January.

CRITERIA AIR POLLUTANTS

For the protection of public health and welfare, the Federal Clean Air Act (FCAA) required that the United States Environmental Protection Agency (U.S. EPA) establish National Ambient Air Quality Standards (NAAQS) for various pollutants. These pollutants are referred to as "criteria" pollutants because the U.S. EPA publishes criteria documents to justify the choice of standards. These standards define the maximum amount of an air pollutant that can be present in ambient air. An ambient air quality standard is generally

specified as a concentration averaged over a specific time period, such as one hour, eight hours, 24 hours, or one year. The different averaging times and concentrations are meant to protect against different exposure effects. Standards established for the protection of human health are referred to as primary standards; whereas, standards established for the prevention of environmental and property damage are called secondary standards. The FCAA allows states to adopt additional or more health-protective standards. The air quality regulatory framework and ambient air quality standards are discussed in greater detail later in this report.

The following provides a summary discussion of the primary and secondary criteria air pollutants of primary concern. In general, primary pollutants are directly emitted into the atmosphere, and secondary pollutants are formed by chemical reactions in the atmosphere.

Ozone (O₃) is a reactive gas consisting of three atoms of oxygen. In the troposphere, it is a product of the photochemical process involving the sun's energy. It is a secondary pollutant that is formed when NO_x and volatile organic compounds (VOC) react in the presence of sunlight. Ozone at the earth's surface causes numerous adverse health effects and is a criteria pollutant. It is a major component of smog. In the stratosphere, ozone exists naturally and shields Earth from harmful incoming ultraviolet radiation.

High concentrations of ground level ozone can adversely affect the human respiratory system and aggravate cardiovascular disease and many respiratory ailments. Ozone also damages natural ecosystems such as forests and foothill communities, agricultural crops, and some man-made materials, such as rubber, paint, and plastics.

Reactive Organic Gas (ROG) is a reactive chemical gas, composed of hydrocarbon compounds that may contribute to the formation of smog by their involvement in atmospheric chemical reactions. No separate health standards exist for ROG as a group. Because some compounds that make up ROG are also toxic, like the carcinogen benzene, they are often evaluated as part of a toxic risk assessment. Total Organic Gases (TOGs) includes all of the ROG, in addition to low reactivity organic compounds like methane and acetone. ROG and VOC are subsets of TOG.

Volatile Organic Compounds (VOC) are hydrocarbon compounds that exist in the ambient air. VOCs contribute to the formation of smog and may also be toxic. VOC emissions are a major precursor to the formation of ozone. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints.

Oxides of Nitrogen (NO_x) are a family of gaseous nitrogen compounds and is a precursor to the formation of ozone and particulate matter. The major component of NO_x, nitrogen dioxide (NO₂), is a reddish-brown gas that is toxic at high concentrations. NO_x results primarily from the combustion of fossil fuels under high temperature and pressure. On-road and off-road motor vehicles and fuel combustion are the major sources of this air pollutant.

Particulate Matter (PM), also known as particle pollution, is a complex mixture of extremely small particles and liquid droplets. Particle pollution is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. The size of particles is directly linked to their potential for causing health problems. U.S. EPA is concerned about particles that are 10 micrometers in diameter or smaller because those are the particles that generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects. U.S. EPA groups particle pollution into three categories based on their size and where they are deposited:

- "Inhalable coarse particles (PM_{2.5-10})," such as those found near roadways and dusty industries, are between 2.5 and 10 micrometers in diameter. PM_{2.5-10} is deposited in the thoracic region of the lungs.
- "Fine particles (PM_{2.5})," such as those found in smoke and haze, are 2.5 micrometers in diameter and smaller. These particles can be directly emitted from sources such as forest fires, or they can form when gases emitted from power plants, industries and automobiles react in the air. They penetrate deeply into the thoracic and alveolar regions of the lungs.

- "Ultrafine particles (UFP)," are very small particles less than 0.1 micrometers in diameter largely resulting from the combustion of fossil fuels, meat, wood and other hydrocarbons. While UFP mass is a small portion of PM_{2.5}, its high surface area, deep lung penetration, and transfer into the bloodstream can result in disproportionate health impacts relative to their mass.

PM₁₀, PM_{2.5}, and UFP include primary pollutants (emitted directly to the atmosphere) as well as secondary pollutants (formed in the atmosphere by chemical reactions among precursors). Generally speaking, PM_{2.5} and UFP are emitted by combustion sources like vehicles, power generation, industrial processes, and wood burning, while PM₁₀ sources include these same sources plus roads and farming activities. Fugitive windblown dust and other area sources also represent a source of airborne dust.

Numerous scientific studies have linked both long- and short-term particle pollution exposure to a variety of health problems. Long-term exposures, such as those experienced by people living for many years in areas with high particle levels, have been associated with problems such as reduced lung function and the development of chronic bronchitis and even premature death. Short-term exposures to particles (hours or days) can aggravate lung disease, causing asthma attacks and also acute (short-term) bronchitis, and may also increase susceptibility to respiratory infections. In people with heart disease, short-term exposures have been linked to heart attacks and arrhythmias. Healthy children and adults have not been reported to suffer serious effects from short term exposures, although they may experience temporary minor irritation when particle levels are elevated.

Carbon Monoxide (CO) is an odorless, colorless gas that is highly toxic. It is formed by the incomplete combustion of fuels and is emitted directly into the air (unlike ozone). The main source of CO is on-road motor vehicles. Other CO sources include other mobile sources, miscellaneous processes, and fuel combustion from stationary sources. Because of the local nature of CO problems, the California Air Resources Board (ARB) and U.S. EPA designate urban areas as CO nonattainment areas instead of the entire basin as with ozone and PM₁₀. Motor vehicles are by far the largest source of CO emissions. Emissions from motor vehicles have been declining since 1985, despite increases in vehicle miles traveled, with the introduction of new automotive emission controls and fleet turnover.

Sulfur Dioxide (SO₂) is a colorless, irritating gas with a "rotten egg" smell formed primarily by the combustion of sulfur-containing fossil fuels. However, like airborne NO_x, suspended SO_x particles contribute to the poor visibility. These SO_x particles can also combine with other pollutants to form PM_{2.5}. The prevalence of low-sulfur fuel use has minimized problems from this pollutant.

Lead (Pb) is a metal that is a natural constituent of air, water, and the biosphere. Lead is neither created nor destroyed in the environment, so it essentially persists forever. The health effects of lead poisoning include loss of appetite, weakness, apathy, and miscarriage. Lead can also cause lesions of the neuromuscular system, circulatory system, brain, and gastrointestinal tract. Gasoline-powered automobile engines were a major source of airborne lead through the use of leaded fuels. The use of leaded fuel has been mostly phased out, with the result that ambient concentrations of lead have dropped dramatically.

Hydrogen Sulfide (H₂S) is associated with geothermal activity, oil and gas production, refining, sewage treatment plants, and confined animal feeding operations. Hydrogen sulfide is extremely hazardous in high concentrations; especially in enclosed spaces (800 ppm can cause death). OSHA regulates workplace exposure to H₂S.

Other Pollutants

The State of California has established air quality standards for some pollutants not addressed by Federal standards. The ARB has established State standards for hydrogen sulfide, sulfates, vinyl chloride, and visibility reducing particles. The following section summarizes these pollutants and provides a description of the pollutants' physical properties, health and other effects, sources, and the extent of the problems.

Sulfates (SO₄²⁻) are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to SO₂ during

the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO₂ to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features.

The ARB sulfates standard is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in ventilator function, aggravation of asthmatic symptoms, and an increased risk of cardio-pulmonary disease. Sulfates are particularly effective in degrading visibility, and, due to the fact that they are usually acidic, can harm ecosystems and damage materials and property.

Visibility Reducing Particles: Are a mixture of suspended particulate matter consisting of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. The standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

Vinyl Chloride (C₂H₃Cl or VCM) is a colorless gas that does not occur naturally. It is formed when other substances such as trichloroethane, trichloroethylene, and tetrachloro-ethylene are broken down. Vinyl chloride is used to make polyvinyl chloride (PVC) which is used to make a variety of plastic products, including pipes, wire and cable coatings, and packaging materials.

ODORS

Typically odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from the psychological (i.e. irritation, anger, or anxiety) to the physiological, including circulatory and respiratory effects, nausea, vomiting, and headache.

The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell very minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor and in fact an odor that is offensive to one person may be perfectly acceptable to another (e.g., fast food restaurant). It is important to also note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word strong to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

Neither the state nor the federal governments have adopted rules or regulations for the control of odor sources. The SJVAPCD does not have an individual rule or regulation that specifically addresses odors; however, odors would be subject to SJVAPCD *Rule 4102, Nuisance*. Any actions related to odors would be based on citizen complaints to local governments and the SJVAPCD.

TOXIC AIR CONTAMINANTS

Toxic air contaminants (TACs) are air pollutants that may cause or contribute to an increase in mortality or serious illness, or which may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air, but due to their high toxicity, they may pose a threat to public health even at very low concentrations. Because there is no threshold level below which adverse health impacts are not expected

to occur, TACs differ from criteria pollutants for which acceptable levels of exposure can be determined and for which state and federal governments have set ambient air quality standards. TACs, therefore, are not considered "criteria pollutants" under either the FCAA or the California Clean Air Act (CCAA), and are thus not subject to National or California ambient air quality standards (NAAQS and CAAQS, respectively). Instead, the U.S. EPA and the ARB regulate Hazardous Air Pollutants (HAPs) and TACs, respectively, through statutes and regulations that generally require the use of the maximum or best available control technology to limit emissions. In conjunction with SJVAPCD rules, these federal and state statutes and regulations establish the regulatory framework for TACs. At the national levels, the U.S. EPA has established National Emission Standards for HAPs (NESHAPs), in accordance with the requirements of the FCAA and subsequent amendments. These are technology-based source-specific regulations that limit allowable emissions of HAPs.

Within California, TACs are regulated primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for ARB to designate substances as TACs. The following provides a summary of the primary TACs of concern within the State of California and related health effects:

Diesel Particulate Matter (DPM) was identified as a TAC by the ARB in August 1998. DPM is emitted from both mobile and stationary sources. In California, on-road diesel-fueled vehicles contribute approximately 40% of the statewide total, with an additional 57 percent attributed to other mobile sources such as construction and mining equipment, agricultural equipment, and transport refrigeration units. Stationary sources, contributing about 3 percent of emissions, include shipyards, warehouses, heavy equipment repair yards, and oil and gas production operations. Emissions from these sources are from diesel-fueled internal combustion engines. Stationary sources that report DPM emissions also include heavy construction, manufacturers of asphalt paving materials and blocks, and diesel-fueled electrical generation facilities (ARB 2013).

In October 2000, the ARB issued a report entitled: "Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles", which is commonly referred to as the Diesel Risk Reduction Plan (DRRP). The DRRP provides a mechanism for combating the DPM problem. The goal of the DRRP is to reduce concentrations of DPM by 85 percent by the year 2020, in comparison to year 2000 baseline emissions. The key elements of the DRRP are to clean up existing engines through engine retrofit emission control devices, to adopt stringent standards for new diesel engines, and to lower the sulfur content of diesel fuel to protect new, and very effective, advanced technology emission control devices on diesel engines. When fully implemented, the DRRP will significantly reduce emissions from both old and new diesel fueled motor vehicles and from stationary sources that burn diesel fuel. In addition to these strategies, the ARB continues to promote the use of alternative fuels and electrification. As a result of these actions, DPM concentrations and associated health risks in future years are projected to decline (ARB 2013, ARB 2000).

Exposure to DPM can have immediate health effects. DPM can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. In studies with human volunteers, Exposure to DPM also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks. The elderly and people with emphysema, asthma, and chronic heart and lung disease are especially sensitive to fine-particle pollution. Because children's lungs and respiratory systems are still developing, they are also more susceptible than healthy adults to fine particles. Exposure to fine particles is associated with increased frequency of childhood illnesses and can also reduce lung function in children. In California, DPM has been identified as a carcinogen.

Acetaldehyde is a federal hazardous air pollutant. The ARB identified acetaldehyde as a TAC in April 1993. Acetaldehyde is both directly emitted into the atmosphere and formed in the atmosphere as a result of photochemical oxidation. Sources of acetaldehyde include emissions from combustion processes such as exhaust from mobile sources and fuel combustion from stationary internal combustion engines, boilers, and process heaters. A majority of the statewide acetaldehyde emissions can be attributed to mobile sources, including on-road motor vehicles, construction and mining equipment, aircraft, recreational boats, and agricultural equipment. Area sources of emissions include the burning of wood in residential fireplaces and

wood stoves. The primary stationary sources of acetaldehyde are from fuel combustion from the petroleum industry (ARB 2013).

Acute exposure to acetaldehyde results in effects including irritation of the eyes, skin, and respiratory tract. Symptoms of chronic intoxication of acetaldehyde resemble those of alcoholism. The U.S. EPA has classified acetaldehyde as a probable human carcinogen. In California, acetaldehyde was classified on April 1, 1988, as a chemical known to the state to cause cancer (U.S. EPA 2014; ARB 2013).

Benzene is highly carcinogenic and occurs throughout California. The ARB identified benzene as a TAC in January 1985. A majority of benzene emitted in California (roughly 88 percent) comes from motor vehicles, including evaporative leakage and unburned fuel exhaust. These sources include on-road motor vehicles, recreational boats, off-road recreational vehicles, and lawn and garden equipment. Benzene is also formed as a partial combustion product of larger aromatic fuel components. To a lesser extent, industry-related stationary sources are also sources of benzene emissions. The primary stationary sources of reported benzene emissions are crude petroleum and natural gas mining, petroleum refining, and electric generation that involves the use of petroleum products. The primary area sources include residential combustion of various types such as cooking and water heating (ARB 2013).

Acute inhalation exposure of humans to benzene may cause drowsiness, dizziness, headaches, as well as eye, skin, and respiratory tract irritation, and, at high levels, unconsciousness. Chronic inhalation exposure has caused various disorders in the blood, including reduced numbers of red blood cells and aplastic anemia, in occupational settings. Reproductive effects have been reported for women exposed by inhalation to high levels, and adverse effects on the developing fetus have been observed in animal tests. Increased incidences of leukemia (cancer of the tissues that form white blood cells) have been observed in humans occupationally exposed to benzene. The U.S. EPA has classified benzene as known human carcinogen for all routes of exposure (U.S. EPA 2014).

1,3-butadiene was identified by the ARB as a TAC in 1992. Most of the emissions of 1,3-butadiene are from incomplete combustion of gasoline and diesel fuels. Mobile sources account for a majority of the total statewide emissions. Additional sources include agricultural waste burning, open burning associated with forest management, petroleum refining, manufacturing of synthetics and man-made materials, and oil and gas extraction. The primary natural sources of 1,3-butadiene emissions are wildfires (ARB 2013).

Acute exposure to 1,3-butadiene by inhalation in humans results in irritation of the eyes, nasal passages, throat, and lungs. Epidemiological studies have reported a possible association between 1,3-butadiene exposure and cardiovascular diseases. Epidemiological studies of workers in rubber plants have shown an association between 1,3-butadiene exposure and increased incidence of leukemia. Animal studies have reported tumors at various sites from 1,3-butadiene exposure. In California, 1,3-butadiene has been identified as a carcinogen.

Carbon Tetrachloride was identified by the ARB as a TAC in 1987 under California's TAC program (ARB 2013). The primary stationary sources reporting emissions of carbon tetrachloride include chemical and allied product manufacturers and petroleum refineries. In the past, carbon tetrachloride was used for dry cleaning and as a grain-fumigant. Usage for these purposes is no longer allowed in the United States. Carbon tetrachloride has not been registered for pesticidal use in California since 1987. Also, the use of carbon tetrachloride in products to be used indoors has been discontinued in the United States. The statewide emissions of carbon tetrachloride are small (about 1.96 tons per year), and background concentrations account for most of the health risk (ARB 2013).

The primary effects of carbon tetrachloride in humans are on the liver, kidneys, and central nervous system. Human symptoms of acute inhalation and oral exposures to carbon tetrachloride include headache, weakness, lethargy, nausea, and vomiting. Acute exposures to higher levels and chronic (long-term) inhalation or oral exposure to carbon tetrachloride produces liver and kidney damage in humans. Human data on the carcinogenic effects of carbon tetrachloride are limited. Studies in animals have shown that ingestion of carbon tetrachloride increases the risk of liver cancer. In California, carbon tetrachloride has been identified as a carcinogen.

Hexavalent chromium was identified as a TAC in 1986. Sources of Hexavalent chromium include industrial metal finishing processes, such as chrome plating and chromic acid anodizing, and firebrick lining of glass furnaces. Other sources include mobile sources, including gasoline motor vehicles, trains, and ships (ARB 2013).

The respiratory tract is the major target organ for hexavalent chromium toxicity, for acute and chronic inhalation exposures. Shortness of breath, coughing, and wheezing were reported from a case of acute exposure to hexavalent chromium, while perforations and ulcerations of the septum, bronchitis, decreased pulmonary function, pneumonia, and other respiratory effects have been noted from chronic exposure. Human studies have clearly established that inhaled hexavalent chromium is a human carcinogen, resulting in an increased risk of lung cancer. In California, hexavalent chromium has been identified as a carcinogen.

Para-Dichlorobenzene was identified by the ARB as a TAC in April 1993. The primary area-wide sources that have reported emissions of para-dichlorobenzene include consumer products such as non-aerosol insect repellants and solid/gel air fresheners. These sources contribute nearly all of the statewide para-dichlorobenzene emissions (ARB 2013).

Acute exposure to paradichlorobenzene via inhalation results in irritation to the eyes, skin, and throat in humans. In addition, long-term inhalation exposure may affect the liver, skin, and central nervous system in humans. The U.S. EPA has classified para-dichlorobenzene as a possible human carcinogen.

Formaldehyde was identified by the ARB as a TAC in 1992. Formaldehyde is both directly emitted into the atmosphere and formed in the atmosphere as a result of photochemical oxidation. Photochemical oxidation is the largest source of formaldehyde concentrations in California ambient air. Directly emitted formaldehyde is a product of incomplete combustion. One of the primary sources of directly-emitted formaldehyde is vehicular exhaust. Formaldehyde is also used in resins, can be found in many consumer products as an antimicrobial agent, and is also used in fumigants and soil disinfectants. The primary area sources of formaldehyde emissions include wood burning in residential fireplaces and wood stoves (ARB 2013).

Exposure to formaldehyde may occur by breathing contaminated indoor air, tobacco smoke, or ambient urban air. Acute and chronic inhalation exposure to formaldehyde in humans can result in respiratory symptoms, and eye, nose, and throat irritation. Limited human studies have reported an association between formaldehyde exposure and lung and nasopharyngeal cancer. Animal inhalation studies have reported an increased incidence of nasal squamous cell cancer. Formaldehyde is classified as a probable human carcinogen.

Methylene Chloride was identified by the ARB as a TAC in 1987. Methylene chloride is used as a solvent, a blowing and cleaning agent in the manufacture of polyurethane foam and plastic fabrication, and as a solvent in paint stripping operations. Paint removers account for the largest use of methylene chloride in California, where methylene chloride is the main ingredient in many paint stripping formulations. Plastic product manufacturers, manufacturers of synthetics, and aircraft and parts manufacturers are stationary sources reporting emissions of methylene chloride (ARB 2013).

The acute effects of methylene chloride inhalation in humans consist mainly of nervous system effects including decreased visual, auditory, and motor functions, but these effects are reversible once exposure ceases. The effects of chronic exposure to methylene chloride suggest that the central nervous system is a potential target in humans and animals. Human data are inconclusive regarding methylene chloride and cancer. Animal studies have shown increases in liver and lung cancer and benign mammary gland tumors following the inhalation of methylene chloride. In California, methylene chloride has been identified as a carcinogen.

Perchloroethylene was identified by the ARB as a TAC in 1991. Perchloroethylene is used as a solvent, primarily in dry cleaning operations. Perchloroethylene is also used in degreasing operations, paints and coatings, adhesives, aerosols, specialty chemical production, printing inks, silicones, rug shampoos, and laboratory solvents. In California, the stationary sources that have reported emissions of perchloroethylene

are dry cleaning plants, aircraft part and equipment manufacturers, and fabricated metal product manufacturers. The primary area sources include consumer products such as automotive brake cleaners and tire sealants and inflators (ARB 2013).

Acute inhalation exposure to perchloroethylene vapors can result in irritation of the upper respiratory tract and eyes, kidney dysfunction, and at lower concentrations, neurological effects, such as reversible mood and behavioral changes, impairment of coordination, dizziness, headaches sleepiness, and unconsciousness. Chronic inhalation exposure can result in neurological effects, including sensory symptoms such as headaches, impairments in cognitive and motor neurobehavioral functioning, and color vision decrements. Cardiac arrhythmia, liver damage, and possible kidney damage may also occur. In California, perchloroethylene has been identified as a carcinogen.

ASBESTOS

Asbestos is a term used for several types of naturally-occurring fibrous minerals found in many parts of California. The most common type of asbestos is chrysotile, but other types are also found in California. Serpentine rock often contains chrysotile asbestos. Serpentine rock, and its parent material, ultramafic rock, is abundant in the Sierra foothills, the Klamath Mountains, and Coast Ranges. The project site, however, is not located in an area of known ultramafic rock.

Asbestos is commonly found in ultramafic rock, including serpentine, and near fault zones. The amount of asbestos that is typically present in these rocks range from less than 1 percent up to about 25 percent, and sometimes more. Asbestos is released from ultramafic and serpentine rock when it is broken or crushed. This can happen when cars drive over unpaved roads or driveways which are surfaced with these rocks, when land is graded for building purposes, or at quarrying operations. It is also released naturally through weathering and erosion. Once released from the rock, asbestos can become airborne and may stay in the air for long periods of time.

Additional sources of asbestos include building materials and other manmade materials. The most common sources are heat-resistant insulators, cement, furnace or pipe coverings, inert filler material, fireproof gloves and clothing, and brake linings. Asbestos has been used in the United States since the early 1900's; however, asbestos is no longer allowed as a constituent in most home products and materials. Many older buildings, schools, and homes still have asbestos containing products.

Naturally-occurring asbestos was identified by ARB as a TAC in 1986. The ARB has adopted two statewide control measures which prohibits the use of serpentine or ultramafic rock for unpaved surfacing and controls dust emissions from construction, grading, and surface mining in areas with these rocks. Various other laws have also been adopted, including laws related to the control of asbestos-containing materials during the renovation and demolition of buildings.

All types of asbestos are hazardous and may cause lung disease and cancer. Health risks to people are dependent upon their exposure to asbestos. The longer a person is exposed to asbestos and the greater the intensity of the exposure, the greater the chances for a health problem. Asbestos-related disease, such as lung cancer, may not occur for decades after breathing asbestos fibers. Cigarette smoking increases the risk of lung cancer from asbestos exposure.

VALLEY FEVER

Valley fever is an infection caused by the fungus *Coccidioides*. The scientific name for valley fever is "coccidioidomycosis," and it's also sometimes called "desert rheumatism." The term "valley fever" usually refers to *Coccidioides* infection in the lungs, but the infection can spread to other parts of the body in severe cases.

Coccidioides spores circulate in the air after contaminated soil and dust are disturbed by humans, animals, or the weather. The spores are too small to see without a microscope. When people breathe in the spores, they are at risk for developing valley fever. After the spores enter the lungs, the person's body temperature allows the spores to change shape and grow into spherules. When the spherules get large enough, they

break open and release smaller pieces (called endospores) which can then potentially spread within the lungs or to other organs and grow into new spherules. In extremely rare cases, the fungal spores can enter the skin through a cut, wound, or splinter and cause a skin infection.

Symptoms of valley fever may appear between 1 and 3 weeks after exposure. Symptoms commonly include: fatigue, coughing, fever, shortness of breath, headaches, night sweats, muscle aches and joint pain, and rashes on the upper body or legs.

Approximately 5 to 10 percent of people who get valley fever will develop serious or long-term problems in their lungs. In an even smaller percent of people (about 1 percent), the infection spreads from the lungs to other parts of the body, such as the central nervous system (brain and spinal cord), skin, or bones and joints. Certain groups of people may be at higher risk for developing the severe forms of valley fever, such as people who have weakened immune systems. The fungus that causes valley fever, *Coccidioides*, can't spread from the lungs between people or between people and animals. However, in extremely rare instances, a wound infection with *Coccidioides* can spread valley fever to someone else, or the infection can be spread through an organ transplant with an infected organ.

For many people, the symptoms of valley fever will go away within a few months without any treatment. Healthcare providers choose to prescribe antifungal medication for some people to try to reduce the severity of symptoms or prevent the infection from getting worse. Antifungal medication is typically given to people who are at higher risk for developing severe valley fever. The treatment typically occurs over a period of roughly 3 to 6 months. In some instances, longer treatment may be required. If valley fever develops into meningitis life-long antifungal treatment is typically necessary.

Scientists continue to study how weather and climate patterns affect the habitat of the fungus that causes valley fever. *Coccidioides* is thought to grow best in soil after heavy rainfall and then disperse into the air most effectively during hot, dry conditions. For example, hot and dry weather conditions have been shown to correlate with an increase in the number of valley fever cases in Arizona and in California. The ways in which climate change may be affecting the number of valley fever infections, as well as the geographic range of *Coccidioides*, isn't known yet, but is a subject for further research (CDC 2016).

REGULATORY FRAMEWORK

Air quality within the SJVAB is regulated by several jurisdictions including the U.S. EPA, ARB, and the SJVAPCD. Each of these jurisdictions develops rules, regulations, and policies to attain the goals or directives imposed upon them through legislation. Although U.S. EPA regulations may not be superseded, both state and local regulations may be more stringent.

FEDERAL

U.S. Environmental Protection Agency

At the federal level, the U.S. EPA has been charged with implementing national air quality programs. The U.S. EPA's air quality mandates are drawn primarily from the FCAA, which was signed into law in 1970. Congress substantially amended the FCAA in 1977 and again in 1990.

Federal Clean Air Act

The FCAA required the U.S. EPA to establish National Ambient Air Quality Standards (NAAQS), and also set deadlines for their attainment. Two types of NAAQS have been established: primary standards, which protect public health, and secondary standards, which protect public welfare from non-health-related adverse effects, such as visibility restrictions. NAAQS are summarized in Table 1.

Table 1
Summary of Ambient Air Quality Standards

Summary of Ambient Air Quality Standards			
Pollutant	Averaging Time	California Standards*	National Standards* (Primary)
Ozone (O ₃)	1-hour	0.09 ppm	—
	8-hour	0.070 ppm	0.075 ppm
Particulate Matter (PM ₁₀)	AAM	20 µg/m ³	—
	24-hour	50 µg/m ³	150 µg/m ³
Fine Particulate Matter (PM _{2.5})	AAM	12 µg/m ³	12 µg/m ³
	24-hour	No Standard	35 µg/m ³
Carbon Monoxide (CO)	1-hour	20 ppm	35 ppm
	8-hour	9 ppm	9 ppm
	8-hour (Lake Tahoe)	6 ppm	—
Nitrogen Dioxide (NO ₂)	AAM	0.030 ppm	53 ppb
	1-hour	0.18 ppm	100 ppb
Sulfur Dioxide (SO ₂)	AAM	—	0.03 ppm
	24-hour	0.04 ppm	0.14 ppm
	3-hour	—	0.5 ppm (1300 µg/m ³)***
	1-hour	0.25 ppm	75 ppb
Lead	30-day Average	1.5 µg/m ³	—
	Calendar Quarter	—	1.5 µg/m ³
	Rolling 3-Month Average	—	0.15 µg/m ³
Sulfates	24-hour	25 µg/m ³	No Federal Standards
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m ³)	
Vinyl Chloride	24-hour	0.01 ppm (26 µg/m ³)	
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/kilometer-visibility of 10 miles or more (0.07-30 miles or more for Lake Tahoe) due to particles when the relative humidity is less than 70%.	
<p>* For more information on standards visit :http://www.arb.ca.gov/research/aaqs/aaqs2.pdf</p> <p>** No federal 1-hour standard. Reclassified extreme nonattainment for the federal 8-hour standard May 5, 2010.</p> <p>***Secondary Standard</p> <p>Source: ARB 2016c</p>			

The FCAA also required each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The FCAA Amendments of 1990 added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. The U.S. EPA has responsibility to review all state SIPs to determine conformance with the mandates of the FCAA, and the amendments thereof, and determine if implementation will achieve air quality goals. If the U.S. EPA determines a SIP to

be inadequate, a Federal Implementation Plan (FIP) may be prepared for the nonattainment area that imposes additional control measures.

Toxic Substances Control Act

The Toxic Substances Control Act (TSCA) first authorized the U.S. EPA to regulate asbestos in schools and Public and Commercial buildings under Title II of the law, which is also known as the Asbestos Hazard Emergency Response Act (AHERA). AHERA requires Local Education Agencies (LEAs) to inspect their schools for ACBM and prepare management plans to reduce the asbestos hazard. The Act also established a program for the training and accreditation of individuals performing certain types of asbestos work.

Asbestos School Hazard Abatement and Reauthorization Act

The Asbestos School Hazard Abatement and Reauthorization Act (ASHARA) reauthorized AHERA and made some minor changes in the Act. It also reauthorized the Asbestos School Hazard Abatement Act.

Asbestos School Hazard Abatement Act

The Asbestos School Hazard Abatement Act (ASHAA) of 1984 provided loans and grants to help financially needy public and private schools correct serious asbestos hazards. This program was funded from 1985 until 1993. There have been no funds appropriated since that date.

National Emission Standards for Hazardous Air Pollutants

Pursuant to the FCAA of 1970, the U.S. EPA established the National Emission Standards for Hazardous Air Pollutants. These are technology-based source-specific regulations that limit allowable emissions of HAPs.

STATE

California Air Resources Board

The ARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act of 1988. Other ARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control districts and air quality management districts, establishing California Ambient Air Quality Standards (CAAQS), which in many cases are more stringent than the NAAQS, and setting emissions standards for new motor vehicles. The CAAQS are summarized in Table 1. The emission standards established for motor vehicles differ depending on various factors including the model year, and the type of vehicle, fuel and engine used.

California Clean Air Act

The CCAA requires that all air districts in the state endeavor to achieve and maintain CAAQS for Ozone, CO, SO₂, and NO₂ by the earliest practical date. The CCAA specifies that districts focus particular attention on reducing the emissions from transportation and area-wide emission sources, and the act provides districts with authority to regulate indirect sources. Each district plan is required to either (1) achieve a five percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each non-attainment pollutant or its precursors, or (2) to provide for implementation of all feasible measures to reduce emissions. Any planning effort for air quality attainment would thus need to consider both state and federal planning requirements.

California Assembly Bill 170

Assembly Bill 170, Reyes (AB 170), was adopted by state lawmakers in 2003 creating Government Code Section 65302.1 which requires cities and counties in the San Joaquin Valley to amend their general plans to include data and analysis, comprehensive goals, policies and feasible implementation strategies designed to improve air quality.

Assembly Bills 1807 & 2588 - Toxic Air Contaminants

Within California, TACs are regulated primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics Hot Spots Information and Assessment Act of 1987). The Tanner Air Toxics Act sets forth a formal procedure for ARB to designate substances as TACs. This includes research, public participation, and scientific peer review before ARB designates a substance as a TAC. Existing sources of TACs that are subject to the Air Toxics Hot Spots Information and Assessment Act are required to: (1) prepare a toxic emissions inventory; (2) prepare a risk assessment if emissions are significant; (3) notify the public of significant risk levels; and (4) prepare and implement risk reduction measures.

Regulations Related to Schools

The State of California has adopted various regulations and programs intended to reduce exposure of children to air pollutant concentrations, including the following:

Toxic Emissions Near Schools Program (AB 3205/SB 352)

Assembly Bill (AB) 3205 (Health and Safety Code Sections 42301.6–42301.9) addresses stationary sources of TACs near schools. It also requires public notice to the parents or guardians of children enrolled in any school located within one-quarter mile of the source and to each address within a 1,000-foot radius of a TAC source. Senate Bill (SB) 352 (Education Code Section 17213, Public Resources Code Section 21151.8) expands previous requirements to review sources of TACs near school sites. SB 352 directs school districts to include in the school site analysis any emissions sources, including, but not limited to, freeways and other busy traffic corridors, large agricultural operations, and rail yards within one-quarter mile of a school site. SB 352 requires that any school site located within 500 feet of the edge of the closest travel lane of a freeway or other busy traffic corridor be reviewed for potential health risks.

California Air Resources Board's Truck and Bus Regulation

This regulation requires fleets that operate in California to reduce diesel truck and bus emissions by retrofitting or replacing existing engines. Amendments were adopted in December 2010 to provide more time for fleets to comply. The amended regulation required installation of PM retrofits beginning January 1, 2012 and replacement of older trucks starting January 1, 2015. By January 1, 2023, nearly all vehicles would need to have 2010 model year engines or equivalent.

The regulation applies to nearly all privately and federally owned diesel fueled trucks and buses and privately and publicly owned school buses with a gross vehicle weight rating greater than 14,000 pounds. The regulation has provisions to provide extra credit for PM filters installed prior to July 2011, has delayed requirements for fleets with 3 or fewer vehicles, provisions for agricultural vehicles and other situations.

Lower-Emission School Bus Program 2007

Proposition 1B, which was approved by the voters on November 7th, 2006, enacts the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006. This bond act authorizes \$200 million for replacing and retrofitting school buses. The primary goal of the ARB's Lower-Emission School Bus Program is to reduce school children's exposure to both cancer-causing and smog-forming pollution. The program provides grant funding for new, safer school buses and to put air pollution control equipment (i.e., retrofit devices) on buses that are already on the road.

Airborne Toxic Control Measure to Limit School Bus Idling at Schools

ARB has approved an airborne toxic control measure (ATCM) that limits school bus idling and idling at or near schools to only when necessary for safety or operational concerns. The ATCM requires a driver of a school bus or vehicle, transit bus, or other commercial motor vehicle to manually turn off the bus or vehicle engine upon arriving at a school and to restart no more than 30 seconds before departing. A driver of a school bus or vehicle is subject to the same requirement when operating within 100 feet of a school and is prohibited from idling more than five minutes at each stop beyond schools, such as parking or maintenance facilities, school bus stops, or school activity destinations. A driver of a transit bus or other

commercial motor vehicle is prohibited from idling more than five minutes at each stop within 100 feet of a school. Idling necessary for health, safety, or operational concerns is exempt from these restrictions. In addition, the ATCM requires a motor carrier of an affected bus or vehicle to: ensure that drivers are informed of the idling requirements, track complaints and enforcement actions, and keep records of these driver education and tracking activities. This ATCM became effective in July 2003.

SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT

The SJVAPCD is the agency primarily responsible for ensuring that NAAQS and CAAQS are not exceeded and that air quality conditions are maintained in the SJVAB, within which the proposed project is located. Responsibilities of the SJVAPCD include, but are not limited to, preparing plans for the attainment of ambient air quality standards, adopting and enforcing rules and regulations concerning sources of air pollution, issuing permits for stationary sources of air pollution, inspecting stationary sources of air pollution and responding to citizen complaints, monitoring ambient air quality and meteorological conditions, and implementing programs and regulations required by the FCAA and the CCAA. The SJVAPCD Rules and Regulations that are applicable to the proposed project include, but are not limited to, the following:

- *Regulation VIII (Fugitive Dust Prohibitions). Regulation VIII (Rules 8011-8081).* This regulation is a series of rules designed to reduce particulate emissions generated by human activity, including construction and demolition activities, carryout and trackout, paved and unpaved roads, bulk material handling and storage, unpaved vehicle/traffic areas, open space areas, etc.
- *Rule 4002 (National Emissions Standards for Hazardous Air Pollutants).* This rule may apply to projects in which portions of an existing building would be renovated, partially demolished or removed. With regard to asbestos, the NESHAP specifies work practices to be followed during renovation, demolition or other abatement activities when friable asbestos is involved. Prior to demolition activity, an asbestos survey of the existing structure may be required to identify the presence of any asbestos containing building materials (ACBM). Removal of identified ACBM must be removed by a certified asbestos contractor in accordance with CAL-OSHA requirements.
- *Rule 4102 (Nuisance).* Applies to any source operation that emits or may emit air contaminants or other materials.
- *Rule 4103 (Open Burning).* This rule regulates the use of open burning and specifies the types of materials that may be open burned. Section 5.1 of this rule prohibits the burning of trees and other vegetative (non-agricultural) material whenever the land is being developed for non-agricultural purposes.
- *Rule 4601 (Architectural Coatings).* Limits volatile organic compounds from architectural coatings.
- *Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations).* This rule applies to the manufacture and use of cutback, slow cure, and emulsified asphalt during paving and maintenance operations.
- *Rule 9510 (Indirect Source Review - ISR).* Requires developers of larger residential, commercial, recreational, and industrial projects to reduce smog-forming and particulate emissions from their projects' baselines. If project emissions still exceed the minimum baseline reductions, a project's developer will be required to mitigate the difference by paying an off-site fee to the District, which would then be used to fund clean-air projects. For projects subject to this rule, the ISR rule requires developers to mitigate and/or offset emissions sufficient to achieve: (1) 20-percent reduction of construction equipment exhaust NOx; (2) 45-percent reduction of construction equipment exhaust PM₁₀; (3) 33-percent reduction of operational NOx over 10 years; and (4) 50-percent reduction of operational PM₁₀ over 10 years. SJVAPCD ISR applications must be filed "no later than applying for a final discretionary approval with a public agency."

REGULATORY ATTAINMENT DESIGNATIONS

Under the CCAA, ARB is required to designate areas of the state as attainment, nonattainment, or unclassified with respect to applicable standards. An "attainment" designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A "nonattainment" designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An "unclassified" designation signifies that the data does not support either an attainment or nonattainment designation. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The U.S. EPA designates areas for ozone, CO, and NO₂ as "does not meet the primary standards," "cannot be classified," or "better than national standards." For SO₂, areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, ARB terminology of attainment, nonattainment, and unclassified is more frequently used. The U.S. EPA uses the same sub-categories for nonattainment status: serious, severe, and extreme. In 1991, U.S. EPA assigned new nonattainment designations to areas that had previously been classified as Group I, II, or III for PM₁₀ based on the likelihood that they would violate national PM₁₀ standards. All other areas are designated "unclassified."

The state and national attainment status designations pertaining to the SJVAB are summarized in Table 2. The SJVAB is currently designated as a nonattainment area with respect to the state PM₁₀ standard, ozone, and PM_{2.5} standards. The SJVAB is designated nonattainment for the national 8-hour ozone and PM_{2.5} standards. On September 25, 2008, the U.S. EPA redesignated the San Joaquin Valley to attainment for the PM₁₀ NAAQS and approved the PM₁₀ Maintenance Plan (SJVAPCD 2016).

Table 2
SJVAB Attainment Status Designations

Pollutant	National Designation	State Designation
Ozone, 1 hour	No Standard	Nonattainment/Severe
Ozone, 8 hour	Nonattainment/Extreme	Nonattainment
PM ₁₀	Attainment	Nonattainment
PM _{2.5}	Nonattainment	Nonattainment
Carbon Monoxide	Attainment	Unclassified/Attainment
Nitrogen dioxide	Unclassified/Attainment	Attainment
Sulfur dioxide	Unclassified/Attainment	Attainment
Lead (particulate)	No Designation/Classification	Attainment
Hydrogen sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility-reducing particulates	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment
Source: SJVAPCD 2016		

AMBIENT AIR QUALITY

Air pollutant concentrations are measured at several monitoring stations in Fresno County. The Fresno-Drummond Street Monitoring Station is the closest representative monitoring site to the proposed project site with sufficient data to meet U.S. EPA and/or ARB criteria for quality assurance. This monitoring station monitors ambient concentrations of ozone, nitrogen dioxide and PM₁₀. Ambient monitoring data was

obtained for the last three years of available measurement data (i.e., 2013 through 2015) and are summarized in Table 3. As depicted, the state and federal ozone standards were exceeded on numerous occasions during the past 3 years. The state standards for PM₁₀ have also been exceeded on various occasions during the past 3 years.

Table 3
Summary of Ambient Air Quality Monitoring Data¹

	2013	2014	2015
Ozone			
Maximum concentration (1-hour/8-hour average)	0.107/0.094	0.110/0.094	0.135/0.110
Number of days state/national 1-hour standard exceeded	9/0	9/0	12/1
Number of days state/national 8-hour standard exceeded	24/46	20/44	21/41
Nitrogen Dioxide (NO₂)			
Maximum concentration (1-hour average)	64.0	66.0	103.0
Annual average	NA	12	NA
Number of days state standard exceeded	0/0	0/0	NA
Suspended Particulate Matter (PM₁₀)			
Maximum concentration (state/national)	138.1	102.9	102.9
Number of days state standard exceeded (measured/calculated ²)	122.3/20	108.9/16	NA/2
Number of days national standard exceeded (measured/calculated ²)	0/0	0/0	NA/0
<p>ppm = parts per million by volume, µg/m³ = micrograms per cubic meter, NA=Not Available</p> <p>1 Ambient data was obtained from the Fresno-Drummond Street Monitoring Station.</p> <p>2 Measured days are those days that an actual measurement was greater than the standard. Calculated days are the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day.</p> <p>Source: ARB 2016b</p>			

SENSITIVE RECEPTORS

One of the most important reasons for air quality standards is the protection of those members of the population who are most sensitive to the adverse health effects of air pollution, termed "sensitive receptors." The term sensitive receptors refer to specific population groups, as well as the land uses where individuals would reside for long periods. Commonly identified sensitive population groups are children, the elderly, the acutely ill, and the chronically ill. Commonly identified sensitive land uses would include facilities that house or attract children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Residential dwellings, schools, parks, playgrounds, childcare centers, convalescent homes, and hospitals are examples of sensitive land uses.

Sensitive land uses located in the vicinity of the proposed project site include nearby schools and residential land uses. The nearest residential land uses are generally located adjacent to the southwestern boundary of the project site and to the north of the project site, across E. Church Avenue. Phoenix Secondary School is located within the western portion of the project site and Edith B. Storey Elementary School is located east of the project site, across S. Peach Avenue.

IMPACTS & MITIGATION MEASURES

Air quality impacts attributable to the proposed project are summarized in Table 4.

Table 4
Summary of Project-Related Air Quality Impacts

Air Quality Impacts	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
A) Would the project conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B) Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D) Would the project expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E) Would the project create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

METHODOLOGY

Short-term Impacts

Short-term construction emissions associated with the proposed project were calculated using the CalEEMod computer program. Emissions were quantified for demolition, site preparation/grading, asphalt paving, facility construction, and application of architectural coatings. Detailed construction information, including construction schedules and equipment requirements, has not been identified for the proposed project. Default construction phases and equipment assumptions contained in the CalEEMod model were, therefore, relied upon for the calculation of construction-generated emissions. No offsite material transport is anticipated to be required. Modeling assumptions and output files are included in Appendix A of this report.

Long-term Impacts

Long-term operational emissions of criteria air pollutants associated with the proposed project were calculated using the CalEEMod computer program. Modeling was conducted based on traffic data derived, in part, from the *traffic analysis prepared for the proposed project* (JLB 2016). Mobile source emissions were conservatively based on the default fleet distribution assumptions contained in the model. An estimated overall student ridership of 20 percent was assumed associated with implementation of the District's bus program, based on data obtained from similar projects. All other modeling assumptions were based on the default parameters contained in the CalEEMod computer model. Modeling assumptions and output files are included in Appendix A of this report. Localized concentrations of TACs, mobile-source CO, and odors were qualitatively assessed.

THRESHOLDS OF SIGNIFICANCE

To assist local jurisdictions in the evaluation of air quality impacts, the SJVAPCD has published the Guide for Assessing and Mitigating Air Quality Impacts (SJVAPCD 2015). This guidance document includes recommended thresholds of significance to be used for the evaluation of short-term construction, long-term operational, odor, toxic air contaminant, and cumulative air quality impacts. Accordingly, the SJVAPCD-recommended thresholds of significance are used to determine whether implementation of the proposed project would result in a significant air quality impact. The thresholds of significance are summarized below.

- Short-term Emissions—Construction impacts associated with the proposed project would be considered significant if project-generated emissions would exceed 100 tons per year (TPY) of CO, 10 TPY of ROG or NO_x, 27 TPY of SO_x, or 15 TPY of PM₁₀ or PM_{2.5}.
- Long-term Emissions—Operational impacts associated with the proposed project would be considered significant if project generated emissions would exceed 100 tons per year (TPY) of CO, 10 TPY of ROG or NO_x, 27 TPY of SO_x, or 15 TPY of PM₁₀ or PM_{2.5}.
- Conflict with or Obstruct Implementation of Applicable Air Quality Plan—Due to the region's non-attainment status for ozone, PM_{2.5}, and PM₁₀, if project-generated emissions of ozone precursor pollutants (i.e., ROG and NO_x) or PM would exceed the SJVAPCD's significance thresholds, then the project would be considered to conflict with the attainment plans.
- Local Mobile-Source CO Concentrations—Local mobile source impacts associated with the proposed project would be considered significant if the project contributes to CO concentrations at receptor locations in excess of the CAAQS (i.e., 9.0 ppm for 8 hours or 20 ppm for 1 hour).
- Exposure to toxic air contaminants (TAC) would be considered significant if the probability of contracting cancer for the Maximally Exposed Individual (i.e., maximum individual risk) would exceed 20 in 1 million or would result in a Hazard Index greater than 1.
- Odor impacts associated with the proposed project would be considered significant if the project has the potential to frequently expose members of the public to objectionable odors.

In addition to the above thresholds, the SJVAPCD also recommends the use of daily emissions thresholds for the evaluation of project impacts on localized ambient air quality. Accordingly, the proposed project would also be considered to result in a significant contribution to localized ambient air quality if onsite emissions of ROG, NO_x, PM₁₀, PM_{2.5}, CO, or SO₂ associated with either short-term construction or long-term operational activities would exceed a daily average of 100 pounds per day (lbs/day) for each of the pollutants evaluated (SJVAPCD 2015).

PROJECT IMPACTS

Impact AQ-A. Would the project conflict with or obstruct implementation of the applicable air quality plan?

In accordance with SJVAPCD-recommended methodology for the assessment of air quality impacts, projects that result in significant air quality impacts at the project level are also considered to have a significant cumulative air quality impact. As noted in Impact AQ-B, short-term construction and long-term operational emissions would not exceed applicable thresholds. In addition, the proposed project's contribution to localized concentrations of emissions, including emissions of CO, TACs, and odors, are considered less than significant. However, as noted in Impact AQ-D, the proposed project could result in a significant cumulative contribution of *criteria pollutants for which the SJVAB is currently designated non-attainment*. For this reason, implementation of the proposed project could conflict with air quality attainment or maintenance planning efforts. This impact would be considered **potentially significant**.

Mitigation Measure: Implement Mitigation Measure AQ-1 (refer to Impact AQ-D).

Significance after Mitigation: With implementation of Mitigation Measure AQ-1 this impact would be considered less than significant.

Impact AQ-B. Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Short-term Construction Emissions

Short-term increases in emissions would occur during the construction process. Construction-generated emissions are of temporary duration, lasting only as long as construction activities occur, but have the potential to represent a significant air quality impact. The construction of the proposed project would result in the temporary generation of emissions associated with site grading and excavation, paving, motor vehicle exhaust associated with construction equipment and worker trips, as well as the movement of construction equipment on unpaved surfaces. Short-term construction emissions would result in increased emissions of ozone-precursor pollutants (i.e., ROG and NO_x) and emissions of PM. Emissions of ozone-precursors would result from the operation of on-road and off-road motorized vehicles and equipment. Emissions of airborne PM are largely dependent on the amount of ground disturbance associated with site preparation activities and can result in increased concentrations of PM that can adversely affect nearby sensitive land uses. Estimated construction-generated annual emissions associated with the proposed project alternatives are summarized in Table 5.

Table 5
Short-term Construction-Generated Emissions

Project Alternative	Uncontrolled Maximum Annual Emissions (TPY) ¹					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Project Alternative 1 ²	1.5	4.9	4.7	0.01	0.6	0.4
Project Alternative 2 ³	3.1	5.9	5.9	0.01	0.8	0.5
Significance Thresholds:	10	10	None	None	15	15
Exceeds Thresholds/Significant Impact (Alternative 1/Alternative 2)?:	No/No	No/No	No/No	No/No	No/No	No/No
Project Alternative	Uncontrolled Average Daily Onsite Emissions (lbs/day) ⁴					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Project Alternative 1 ²	9.6	23.0	15.5	0	2.3	1.8
Project Alternative 2 ³	17.4	31.2	21.1	0	3.1	2.3
Significance Thresholds:	100	100	100	100	100	100
Exceeds Thresholds/Significant Impact (Alternative 1/Alternative 2)?:	No/No	No/No	No/No	No/No	No/No	No/No
¹ Based on CalEEMod computer modeling. Totals may not sum due to rounding. To be conservative, construction emissions were based on year 2016-2017 conditions assuming that both the proposed high school and elementary school would be constructed simultaneously. Does not include emission control measures. ² Project Alternative 1 includes construction of a 750-student elementary school and a 1,000-student high school. ³ Project Alternative 2 includes construction of a 750-student elementary school and a 2,500-student high school. ⁴ Average daily onsite emissions are based on total onsite emissions divided by the total number of construction days. Refer to Appendix A for modeling results and assumptions.						

Assuming the simultaneous construction of all proposed facilities, Project Alternative 1 would generate maximum uncontrolled annual emissions of approximately 1.5 tons/year of ROG, 4.9 tons/year of NO_x, 4.7 tons/year of CO, 0.6 tons/year of PM₁₀, and 0.4 tons/year of PM_{2.5}. Project Alternative 2 would generate maximum uncontrolled annual emissions of approximately 3.1 tons/year of ROG, 5.9 tons/year of NO_x, 5.9 tons/year of CO, 0.8 tons/year of PM₁₀, and 0.5 tons/year of PM_{2.5}. Emissions of SO₂ for both project alternatives would be negligible (e.g., less than 0.1 tons/year). Estimated construction-generated emissions would not exceed the SJVAPCD's significance thresholds of 10 tons/year of ROG, 10 tons/year of NO_x, or 15 tons/year PM₁₀. It is also important to note that estimated average-daily onsite emissions for both Alternative 1 and Alternative 2 would not exceed the SJVAPCD's recommended localized ambient air quality significance thresholds of 100 lbs/day for each of the criteria air pollutants evaluated. As a result, short-term construction of the proposed project would not result in a significant impact to regional or local air quality conditions. Furthermore, it is important to note that the proposed project would be required to comply with SJVAPCD Regulation VIII (Fugitive PM₁₀ Prohibitions). Mandatory compliance with SJVAPCD Regulation VIII would further reduce emissions of fugitive dust from the project site, and minimize the project's potential to adversely affect nearby sensitive receptors. With compliance with SJVAPCD Regulation VIII, maximum annual emissions of PM would be reduced by approximately 50 percent, or more. Given that project-generated emissions would not exceed applicable SJVAPCD significance thresholds, this impact would be considered **less than significant**.

Long-term Operational Emissions

Estimated annual operational emissions for Project Alternative 1 and Project Alternative 2 are summarized in Table 6 and Table 7, respectively. As depicted, Project Alternative 1 would result in a net increase of approximately 2.8 tons/year of ROG, 3.9 tons/year of NO_x, 13.8 tons/year of CO, 1.9 tons/year of PM₁₀, and 0.6 tons/year of PM_{2.5} during the initial year of operation. Project Alternative 2 would result in a net increase of approximately 5.0 tons/year of ROG, 8.1 tons/year of NO_x, 28.2 tons/year of CO, 4.0 tons/year of PM₁₀, and 1.2 tons/year of PM_{2.5}. Emissions of SO₂ for both project alternatives would be negligible (e.g., less than 0.1 tons/year). Operational emissions would not exceed SJVAPCD's mass-emissions significance thresholds. It is also important to note that estimated average-daily onsite emissions for both Alternative 1 and Alternative 2 would not exceed the SJVAPCD's recommended localized ambient air quality significance thresholds of 100 lbs/day for each of the criteria air pollutants evaluated. As a result, long-term operation of the proposed project would not result in a significant impact to regional or local air quality conditions. It is important to note that estimated operational emissions are conservatively based on the default vehicle fleet distribution assumptions contained in the model, which include contributions from medium and heavy-duty trucks. Mobile sources associated with schools typically consist largely to light-duty vehicles and buses. Based on data received from the FUSD, roughly 65 percent of FUSD's existing bus fleet is alternatively fueled (e.g., compressed natural gas or hybrid electric vehicles). For these reasons, actual mobile source emissions would likely be less than estimated. Long-term operational emissions associated with the proposed project alternatives would not exceed applicable thresholds. As a result, this impact is considered **less than significant**.

Table 6
Long-term Operational Emissions – Project Alternative 1 (Unmitigated)

Season	Uncontrolled Annual Emissions (tons/year) ¹					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Area Source	1.80	0.0	0.02	0.0	0.0	0.0
Energy Use	0.03	0.25	0.21	0.0	0.02	0.02
Mobile Source	1.24	3.73	13.89	0.03	1.97	0.57
Total:	3.02	3.98	14.12	0.03	1.99	0.59
Existing Land Uses to be Removed:	0.20	0.05	0.35	0.0	0.05	0.03
Net Increase (tons):	2.82	3.93	13.77	0.03	1.94	0.56
Significance Thresholds (tons):	10	10	None	None	15	None
Exceeds Thresholds/Significant Impact?:	No	No	--	--	No	--
Average Daily Onsite Emissions (lbs) ² :	14.9	2.1	1.9	0.0	0.2	0.2
Significance Thresholds (lbs):	100	100	100	100	100	100
Exceeds Thresholds/Significant Impact?:	No	No	No	No	No	No
¹ Emissions were calculated using the CalEEMod computer program. Does not include implementation of emissions control measures. ² Average daily onsite emissions are based on total onsite emissions divided by the total number of operational days. Totals may not sum due to rounding. Refer to Appendix A for modeling assumptions and results.						

Table 7
Long-term Operational Emissions – Project Alternative 2 (Unmitigated)

Season	Uncontrolled Annual Emissions (tons/year) ¹					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Area Source	2.67	0.0	0.03	0.0	0.0	0.0
Energy Use	0.06	0.51	0.43	0.0	0.04	0.04
Mobile Source	2.49	7.59	28.05	0.07	4.03	1.16
Total:	5.21	8.10	28.50	0.07	4.07	1.20
Existing Land Uses to be Removed:	0.20	0.05	0.35	0.0	0.05	0.03
Net Increase (tons):	5.01	8.05	28.15	0.07	4.02	1.17
Significance Thresholds (tons):	10	10	None	None	15	None
Exceeds Thresholds/Significant Impact?:	No	No	--	--	No	--
Average Daily Onsite Emissions (lbs) ² :	22.7	4.2	3.8	0.0	0.3	0.3
Significance Thresholds (lbs):	100	100	100	100	100	100
Exceeds Thresholds/Significant Impact?:	No	No	No	No	No	No
¹ Emissions were calculated using the CalEEMod computer program. Does not include implementation of emissions control measures. ² Average daily onsite emissions are based on total onsite emissions divided by the total number of operational days. Totals may not sum due to rounding. Refer to Appendix A for modeling assumptions and results.						

Impact AQ-C. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?

The SJVAB is currently designated non-attainment for the state and federal ozone and PM_{2.5} ambient air quality standards and the state PM₁₀ standard. As discussed in *Impact AQ-B*, short-term construction-generated emissions of ozone-precursor pollutants (e.g., ROG and NO_x) and PM would not exceed SJVAPCD's significance thresholds. However, as noted in *Impact AQ-D*, fugitive dust generated during construction may result in localized pollutant concentrations that could result in increased nuisance concerns to nearby residents. Uncontrolled increases of construction-generated PM emissions could contribute, on a cumulative basis, to existing non-attainment conditions. As a result, this impact is considered **potentially significant**.

Mitigation Measure: Implement Mitigation Measure AQ-1 (refer to *Impact AQ-D*).

Significance after Mitigation: With implementation of Mitigation Measure AQ-1 this impact would be considered less than significant.

Impact AQ-D. Would the project expose sensitive receptors to substantial pollutant concentrations?

Sensitive land uses located in the vicinity of the proposed project site include nearby schools and residential land uses. The nearest residential land uses are generally located adjacent to the southwestern boundary of the project site and to the north of the project site, across E. Church Avenue. Phoenix Secondary School is located within the western portion of the project site and Edith B. Storey Elementary School is located east of the project site, across S. Peach Avenue. Long-term operational and short-term construction activities and emission sources that could adversely impact these nearest sensitive receptors are discussed below:

Long-term Operation

Localized Mobile-Source CO Emissions

Carbon monoxide is the primary criteria air pollutant of local concern associated with the proposed project. Under specific meteorological and operational conditions, such as near areas of heavily congested vehicle traffic, CO concentrations may reach unhealthy levels. If inhaled, CO can be adsorbed easily by the blood stream and can inhibit oxygen delivery to the body, which can cause significant health effects ranging from slight headaches to death. The most serious effects are felt by individuals susceptible to oxygen deficiencies, including people with anemia and those suffering from chronic lung or heart disease.

Mobile-source emissions of CO are a direct function of traffic volume, speed, and delay. Transport of CO is extremely limited because it disperses rapidly with distance from the source under normal meteorological conditions. For this reason, modeling of mobile-source CO concentrations is typically recommended for sensitive land uses located near signalized roadway intersections that are projected to operate at unacceptable levels of service (i.e., LOS E or F). Localized CO concentrations associated with the proposed project would be considered less-than-significant impact if: (1) traffic generated by the proposed project would not result in deterioration of a signalized intersection to a level of service (LOS) of E or F; or (2) the project would not contribute additional traffic to a signalized intersection that already operates at LOS of E or F.

With implementation of the proposed transportation improvements, signalized intersections within the project area would operate at LOS D, or better, for existing-plus-project, near-term, and future cumulative conditions (JBL 2016). In comparison to the CO screening criteria, implementation of the proposed project

would not result in or contribute to unacceptable levels of service (i.e., LOS E, or worse) at nearby signalized intersections. As a result, the proposed build alternatives would not be anticipated to contribute substantially to localized CO concentrations that would exceed applicable standards. For this reason, this impact would be considered **less than significant**.

Toxic Air Contaminants

No major stationary sources of TACs or major agricultural operations are located within one-quarter mile of the project site. In addition, the project site is not located within 500 feet of a freeway or other busy traffic corridor (SJVAPCD 2016). Predicted onsite health risks for onsite student and staff are anticipated to be minor and would not be anticipated to exceed the SJVAPCD's significance thresholds. In addition, implementation of the proposed project would not result in the long-term operation of any major onsite stationary sources of TACs, nor would project implementation result in a significant increase in diesel-fueled vehicles traveling along area roadways. For these reasons, long-term exposure to TACs would be considered **less than significant**.

Short-term Construction

Asbestos Material in Demolition

Demolition activities can have potential negative air quality impacts, including issues surrounding proper handling, demolition, and disposal of asbestos containing material (ACM). Asbestos containing materials could be encountered during demolition of existing structures, particularly older structures constructed prior to 1970. Asbestos can also be found in various building products, including (but not limited to) utility pipes/pipelines (transite pipes or insulation on pipes). If a project will involve the disturbance or potential disturbance of ACM, various regulatory requirements may apply, including the requirements stipulated in the *National Emission Standard for Hazardous Air Pollutants (40CFR61, Subpart M - Asbestos NESHAP)*. These requirements include but are not limited to: 1) notification, within at least 10 business days of activities commencing, to the SJVAPCD, 2) an asbestos survey conducted by a Certified Asbestos Consultant, and, 3) applicable removal and disposal requirements of identified ACM.¹

The project site will require demolition of existing structures. As a result, demolition activities have the potential to result in the disturbance of ACM. The disturbance and potential exposure to ACM during demolition of the bridge is considered to have a **potentially significant** impact.

Naturally Occurring Asbestos

Naturally-occurring asbestos, which was identified by ARB as a TAC in 1986, is located in many parts of California and is commonly associated with ultramafic rock. The project site is not located near any areas that are likely to contain ultramafic rock (DOC 2000). As a result, risk of exposure to asbestos during the construction process would be considered **less than significant**.

Diesel-Exhaust Emissions

Implementation of the proposed project would result in the generation of DPM emissions during construction associated with the use of off-road diesel equipment for site grading and excavation, paving and other construction activities. Health-related risks associated with diesel-exhaust emissions are primarily associated with long-term exposure and associated risk of contracting cancer. For residential land uses, the calculation of cancer risk associated with exposure of to TACs are typically calculated based on a 70-year period of exposure. The use of diesel-powered construction equipment, however, would be temporary and episodic and would occur over a relatively large area. Assuming that construction activities involving the use of diesel-fueled equipment would occur over an approximate 18-month period, project-related construction activities would constitute less than three percent of the typical 70-year exposure period. As a

¹ The SJVAPCD's Asbestos Notification and Demolition Permit/Release Form will need to be completed prior to the start of demolition. Asbestos requirements for demolition are available on the SJVAPCD's website at URL: <http://www.valleyair.org/busind/comply/asbestosbuln.htm>.

result, exposure to construction-generated DPM would not be anticipated to exceed applicable thresholds (i.e., incremental increase in cancer risk of 10 in one million). As a result, this impact would be considered **less than significant**.

Localized PM Concentrations

Construction of the proposed project may result in the generation of fugitive dust. Fugitive dust emissions would be primarily associated with earth-moving, material handling and demolition activities, as well as, vehicle travel on unpaved and paved surfaces. Onsite off-road equipment and trucks would also result in short-term emissions of diesel-exhaust PM. Fugitive dust can also be generated during the clearing of vegetation, including the burning of vegetative material. Uncontrolled emissions of fugitive dust may contribute to increased occurrences of Valley Fever and may also result in increased nuisance impacts to nearby land uses and receptors. As a result, localized uncontrolled concentrations of construction-generated PM would be considered to have a **potentially-significant** impact.

Mitigation Measure AQ-1: The following measures shall be implemented to reduce potential exposure of sensitive receptors to localized concentrations of asbestos-containing material and to reduce localized concentrations of fugitive dust at nearby sensitive receptors and land uses during project construction:

- a. Demolition of onsite structures shall comply with the *National Emission Standards for Hazardous Air Emissions (NESHAP) requirements (NESHAP, 40 CFR, Part 61, Subpart M)* for the demolition of existing structures. The SJVAPCD is delegated authority by the Environmental Protection Agency (EPA) to implement the Federal Asbestos NESHAP. Prior to demolition of onsite structures, the SJVAPCD shall be notified, per NESHAP requirements. Additional information and compliance information can be obtained on the SJVAPCD's website at URL: https://www.valleyair.org/busind/comply/AssistanceDocuments/CAB_asbestos_july2006.pdf
- b. On-road diesel vehicles shall comply with Section 2485 of Title 13 of the California Code of Regulations. This regulation limits idling from diesel-fueled commercial motor vehicles with gross vehicular weight ratings of more than 10,000 pounds and licensed for operation on highways. It applies to California and non-California based vehicles. In general, the regulation specifies that drivers of said vehicles:
 - 1) Shall not idle the vehicle's primary diesel engine for greater than 5 minutes at any location, except as noted in Subsection (d) of the regulation; and,
 - 2) Shall not operate a diesel-fueled auxiliary power system to power a heater, air conditioner, or any ancillary equipment on that vehicle during sleeping or resting in a sleeper berth for greater than 5.0 minutes at any location when within 1,000 feet of a restricted area, except as noted in Subsection (d) of the regulation.
- c. Off-road diesel equipment shall comply with the 5 minute idling restriction identified in Section 2449(d)(2) of the California Air Resources Board's In-Use off-Road Diesel regulation. The specific requirements and exceptions in the regulations can be reviewed at the following web sites: www.arb.ca.gov/msprog/truck-idling/2485.pdf and www.arb.ca.gov/regact/2007/ordiesl07/frooad.pdf.
- d. Signs shall be posted at the project site construction entrance to remind drivers and operators of the state's 5 minute idling limit.
- e. To the extent available, replace fossil-fueled equipment with alternatively-fueled (e.g., natural gas) or electrically-driven equivalents.
- f. Construction truck trips shall be scheduled, to the extent feasible, to occur during non-peak hours.
- g. The burning of vegetative material shall be prohibited.
- h. The proposed project shall comply with SJVAPCD Regulation VIII for the control of fugitive dust emissions. Regulation VIII can be obtained on the SJVAPCD's website at website URL: <https://www.valleyair.org/rules/1ruleslist.htm>. At a minimum, the following measures shall be implemented:

- 1) All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover.
 - 2) All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.
 - 3) All land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.
 - 4) With the demolition of buildings up to six stories in height, all exterior surfaces of the building shall be wetted during demolition.
 - 5) When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained.
 - 6) All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions.) (Use of blower devices is expressly forbidden.)
 - 7) Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.
 - 8) On-road vehicle speeds on unpaved surfaces of the project site shall be limited to 15 mph.
 - 9) Sandbags or other erosion control measures shall be installed sufficient to prevent silt runoff to public roadways from sites with a slope greater than one percent.
 - 10) Excavation and grading activities shall be suspended when winds exceed 20 mph (Regardless of wind speed, an owner/operator must comply with Regulation VIII's 20 percent opacity limitation).
- i. The above measures for the control of demolition and construction-generated emissions shall be included on site grading and construction plans.

Impact AQ-E. Would the project create objectionable odors affecting a substantial number of people?

The occurrence and severity of odor impacts depends on numerous factors, including: the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies.

No major sources of odors have been identified in the project area. However, construction of the proposed project would involve the use of a variety of gasoline or diesel-powered equipment that would emit exhaust fumes. Exhaust fumes, particularly diesel-exhaust, may be considered objectionable by some people. In addition pavement coatings and architectural coatings used during project construction would also emit temporary odors. However, construction-generated emissions would occur intermittently throughout the workday and would dissipate rapidly within increasing distance from the source. As a result, short-term construction activities would not expose a substantial number of people to frequent odorous emissions. This impact would be considered **less than significant**.

GREENHOUSE GASES AND CLIMATE CHANGE

EXISTING SETTING

To fully understand global climate change, it is important to recognize the naturally occurring "greenhouse effect" and to define the greenhouse gases (GHGs) that contribute to this phenomenon. Various gases in the earth's atmosphere, classified as atmospheric GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space and a portion of the radiation is absorbed by the earth's surface. The earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation. Greenhouse gases, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Primary GHGs attributed to global climate change, are discussed, as follows:

- **Carbon Dioxide.** Carbon dioxide (CO₂) is a colorless, odorless gas. CO₂ is emitted in a number of ways, both naturally and through human activities. The largest source of CO₂ emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities, and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production, and the use of petroleum-based products can also lead to CO₂ emissions. The atmospheric lifetime of CO₂ is variable because it is so readily exchanged in the atmosphere (U.S. EPA 2016).
- **Methane.** Methane (CH₄) is a colorless, odorless gas that is not flammable under most circumstances. CH₄ is the major component of natural gas, about 87% by volume. It is also formed and released to the atmosphere by biological processes occurring in anaerobic environments. Methane is emitted from a variety of both human-related and natural sources. Human-related sources include fossil fuel production, animal husbandry (enteric fermentation in livestock and manure management), rice cultivation, biomass burning, and waste management. These activities release significant quantities of methane to the atmosphere. Natural sources of methane include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. Methane's atmospheric lifetime is about 12 years (U.S. EPA 2016).
- **Nitrous Oxide.** Nitrous oxide (N₂O) is a clear, colorless gas with a slightly sweet odor. N₂O is produced by both natural and human-related sources. Primary human-related sources of N₂O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. N₂O is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N₂O is approximately 120 years (U.S. EPA 2016).
- **Hydrofluorocarbons.** Hydrofluorocarbons (HFCs) are man-made chemicals, many of which have been developed as alternatives to ozone-depleting substances for industrial, commercial, and consumer products. The only significant emissions of HFCs before 1990 were of the chemical HFC-23, which is generated as a byproduct of the production of HCFC-22 (or Freon 22, used in air conditioning applications). The atmospheric lifetime for HFCs varies from just over a year for HFC-152a to 260 years for HFC-23. Most of the commercially used HFCs have atmospheric lifetimes of less than 15 years (e.g., HFC-134a, which is used in automobile air conditioning and refrigeration, has an atmospheric life of 14 years) (U.S. EPA 2016).
- **Perfluorocarbons.** Perfluorocarbons (PFCs) are colorless, highly dense, chemically inert, and nontoxic. There are seven PFC gases: perfluoromethane (CF₄), perfluoroethane (C₂F₆), perfluoropropane (C₃F₈), perfluorobutane (C₄F₁₀), perfluorocyclobutane (C₄F₈), perfluoropentane (C₅F₁₂), and perfluorohexane (C₆F₁₄). Natural geological emissions have been responsible for the PFCs that have accumulated in the atmosphere in the past; however, the largest current source is aluminum

production, which releases CF₄ and C₂F₆ as byproducts. The estimated atmospheric lifetimes for CF₄ and C₂F₆ are 50,000 and 10,000 years, respectively (U.S. EPA 2016).

- **Nitrogen Trifluoride.** Nitrogen trifluoride (NF₃) is an inorganic, colorless, odorless, toxic, nonflammable gas used as an etchant in microelectronics. Nitrogen trifluoride is predominantly employed in the cleaning of the plasma-enhanced chemical vapor deposition chambers in the production of liquid crystal displays and silicon-based thin film solar cells. It has a global warming potential of 17,200 carbon dioxide equivalents (CO₂e). While NF₃ may have a lower global warming potential than other chemical etchants, it is still a potent GHG. In 2009, NF₃ was listed by California as a high global warming potential GHG to be listed and regulated under Assembly Bill (AB) 32 (Section 38505 Health and Safety Code).
- **Sulfur Hexafluoride.** Sulfur hexafluoride (SF₆) is an inorganic compound that is colorless, odorless, nontoxic, and generally nonflammable. SF₆ is primarily used as an electrical insulator in high voltage equipment. The electric power industry uses roughly 80% of all SF₆ produced worldwide. Leaks of SF₆ occur from aging equipment and during equipment maintenance and servicing. SF₆ has an atmospheric life of 3,200 years (U.S. EPA 2016).

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO₂e), which weight each gas by its global warming potential (GWP). Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO₂ were being emitted. Table 8 shows the GWP for the GHG emissions of typical concern with regard to community development projects, based on a 100-year time horizon. As indicated, Methane traps over 25 times more heat per molecule than CO₂, and N₂O absorbs roughly 298 times more heat per molecule than CO₂. Additional GHG with high GWP include Nitrogen trifluoride, Sulfur hexafluoride, Perfluorocarbons, and black carbon.

Table 8
Global Warming Potential for Greenhouse Gases

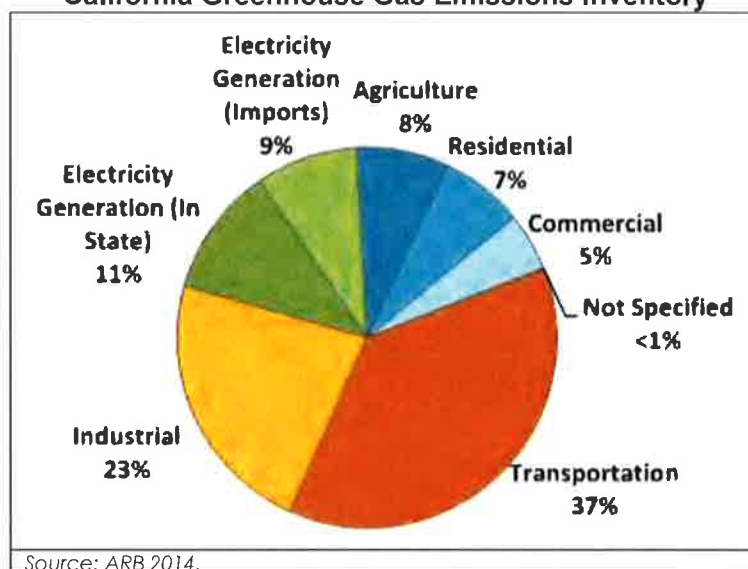
Greenhouse Gas	Global Warming Potential (100-year)
Carbon Dioxide (CO ₂)	1
Methane (CH ₄)	25
Nitrous Dioxide (N ₂ O)	298
*Based on IPCC GWP values for 100-year time horizon Source: IPCC 2007	

SOURCES OF GHG EMISSIONS

On a global scale, GHG emissions are predominantly associated with activities related to energy production; changes in land use, such as deforestation and land clearing; industrial sources; agricultural activities; transportation; waste and wastewater generation; and commercial and residential land uses. World-wide, energy production including the burning of coal, natural gas, and oil for electricity and heat is the largest single source of global GHG emissions (U.S. EPA 2015d).

In 2013, GHG emissions within California totaled 459 million metric tons (MMT) of CO₂e. GHG emissions, by sector, are summarized in Figure 1. Within California, the transportation sector is the largest contributor, accounting for approximately 37 percent of the total state-wide GHG emissions. Emissions associated with industrial uses are the second largest contributor, totaling roughly 23 percent. Electricity generation totaled roughly 20 percent (ARB 2014).

Figure 1
California Greenhouse Gas Emissions Inventory



EFFECTS OF GLOBAL CLIMATE CHANGE

There are uncertainties as to exactly what the climate changes will be in various local areas of the earth. There are also uncertainties associated with the magnitude and timing of other consequences of a warmer planet: sea level rise, spread of certain diseases out of their usual geographic range, the effect on agricultural production, water supply, sustainability of ecosystems, increased strength and frequency of storms, extreme heat events, increased air pollution episodes, and the consequence of these effects on the economy.

Within California, climate changes would likely alter the ecological characteristics of many ecosystems throughout the state. Such alterations would likely include increases in surface temperatures and changes in the form, timing, and intensity of precipitation. For instance, historical records are depicting an increasing trend toward earlier snowmelt in the Sierra Nevada. This snow pack is a principal supply of water for the state, providing roughly 50 percent of state's annual runoff. If this trend continues, some areas of the state may experience an increased danger of floods during the winter months and possible exhaustion of the snowpack during spring and summer months. An earlier snowmelt would also impact the State's energy resources. Currently, approximately 20 percent of California's electricity comes from hydropower. An early exhaustion of the Sierra snowpack, may force electricity producers to switch to more costly or non-renewable forms of electricity generation during spring and summer months. A changing climate may also impact agricultural crop yields, coastal structures, and biodiversity. As a result, resultant changes in climate will likely have detrimental effects on some of California's largest industries, including agriculture, wine, tourism, skiing, recreational and commercial fishing, and forestry.

REGULATORY FRAMEWORK

FEDERAL

INTERNATIONAL REGULATION AND THE KYOTO PROTOCOL

The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC). While the United States signed the Kyoto Protocol, which would have required reductions in GHGs, Congress never ratified the protocol. The federal government chose voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science.

In 2002, the United States announced a strategy to reduce the greenhouse gas intensity of the American economy by 18 percent over a 10-year period from 2002 to 2012.

As part of the commitments to the UNFCCC, the U.S. EPA has developed an inventory of anthropogenic emissions by sources and removals by sinks of all GHGs. This inventory is periodically updated, with the latest update in 2010. The U.S. EPA reports that total US emissions rose by 14 percent from 1990 to 2007, while the US gross domestic product increased by 59 percent over the same period. A 2.9 percent decrease in emissions was noted from 2007 to 2008, which is reported to be attributable to climate conditions, reduced use of petroleum products for transportation, and increased use of natural gas over other fuel sources. The inventory notes that the transportation sector emits about 32 percent of CO₂ emissions, with 53 percent of those emissions coming from personal automobile use. Residential uses, primarily from energy use, accounted for 21 percent of CO₂ emissions (U.S. EPA 2010).

As a part of the U.S. EPA's responsibility to develop and update an inventory of US greenhouse gas emissions and sinks, the U.S. EPA compared trends of other various US data. Over the period between 1990 and 2008, GHG emissions grew at an average rate of about 0.7 percent per year. Population growth was slightly higher at 1.1 percent, while energy and fossil fuel consumption grew at 0.9 and 0.8 percent, respectively. Gross domestic product and energy generation grew at much higher rates.

Executive Order 13514

Executive Order 13514 is focused on reducing GHGs internally in federal agency missions, programs and operations, but also direct federal agencies to participate in the Interagency Climate Change Adaptation Task Force, which is engaged in developing a national strategy for adaptation to climate change (Caltrans 2016).

On April 2, 2007, in *Massachusetts v. U.S. EPA*, 549 U.S. 497 (2007), the Supreme Court found that GHGs are air pollutants covered by the Clean Air Act and that the U.S. EPA has the authority to regulate GHG. The Court held that the U.S. EPA Administrator must determine whether or not emissions of GHGs from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision (Caltrans 2016).

On December 7, 2009, the U.S. EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the Clean Air Act:

- **Endangerment Finding:** The Administrator found that the current and projected concentrations of the six key well-mixed GHGs (CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆) in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The Administrator found that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution which threatens public health and welfare.

Although these findings did not themselves impose any requirements on industry or other entities, this action was a prerequisite to finalizing the U.S. EPA's Proposed Greenhouse Gas Emission Standards for Light-Duty Vehicles, which was published on September 15, 2009. On May 7, 2010 the final Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards was published in the Federal Register.

U.S. EPA and the National Highway Traffic Safety Administration (NHTSA) are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced GHG emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first-ever GHG regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle GHG regulations. These steps were outlined by President Obama in a Presidential Memorandum on May 21, 2010.

The final combined U.S. EPA and NHTSA standards that make up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards require these vehicles to meet an estimated combined average emissions level of 250 grams of CO₂ per mile, (the equivalent to 35.5 miles per gallon if the automobile industry were to meet this CO₂ level solely through fuel economy improvements). Together, these standards will cut GHG emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016). On August 28, 2012, U.S. EPA and NHTSA issued their joint rule to extend this national program of coordinated greenhouse gas and fuel economy standards to model years 2017 through 2025 passenger vehicles (Caltrans 2016).

STATE

Assembly Bill 1493

AB 1493 (Pavley) of 2002 (Health and Safety Code Sections 42823 and 43018.5) requires the California Air Resources Board (ARB) to develop and adopt the nation's first GHG emission standards for automobiles. These standards are also known as Pavley I. The California Legislature declared in AB 1493 that global warming is a matter of increasing concern for public health and the environment. It cites several risks that California faces from climate change, including a reduction in the state's water supply, an increase in air pollution caused by higher temperatures, harm to agriculture, an increase in wildfires, damage to the coastline, and economic losses caused by higher food, water, energy, and insurance prices. The bill also states that technological solutions to reduce GHG emissions would stimulate California's economy and provide jobs. In 2004, the State of California submitted a request for a waiver from federal clean air regulations, as the State is authorized to do under the Clean Air Act, to allow the State to require reduced tailpipe emissions of CO₂. In late 2007, the U.S. EPA denied California's waiver request and declined to promulgate adequate federal regulations limiting GHG emissions. In early 2008, the State brought suit against the U.S. EPA related to this denial.

In January 2009, President Obama instructed the U.S. EPA to reconsider the Bush Administration's denial of California's and 13 other states' requests to implement global warming pollution standards for cars and trucks. In June 2009, the U.S. EPA granted California's waiver request, enabling the State to enforce its GHG emissions standards for new motor vehicles beginning with the current model year.

Also in 2009, President Obama announced a national policy aimed at both increasing fuel economy and reducing GHG pollution for all new cars and trucks sold in the US. The new standards would cover model years 2012 to 2016 and would raise passenger vehicle fuel economy to a fleet average of 35.5 miles per gallon by 2016. When the national program takes effect, California has committed to allowing automakers who show compliance with the national program to also be deemed in compliance with state requirements. California is committed to further strengthening these standards beginning in 2017 to obtain a 45 percent GHG reduction from the 2020 model year vehicles.

Executive Order No. S-3-05

Executive Order S-3-05 (State of California) proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra's snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the Executive Order established total greenhouse gas emission targets. Specifically, emissions are to be reduced to the 2000 level by 2010, to the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

The Executive Order directed the secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce greenhouse gas emissions to the target levels. The secretary will also submit biannual reports to the governor and state legislature describing (1) progress made toward reaching the emission targets, (2) impacts of global warming on California's resources, and (3) mitigation and adaptation plans to combat these impacts. To comply with the Executive Order, the secretary of CalEPA created a Climate Action Team made up of members from various state agencies and commissions. The Climate Action Team released its first report in March 2006 and continues to release

periodic reports on progress. The report proposed to achieve the targets by building on voluntary actions of California businesses, local government and community actions, as well as through state incentive and regulatory programs.

Executive Order S-6-06

Executive Order S-6-06 (State of California), signed on April 25, 2006, established two primary goals related to the use of biofuels within California, including: (1) by 2010, 20 percent of its biofuels need to be produced within California; increasing to 40 percent by 2020 and 75 percent by 2050; and (2) by 2010, 20 percent of the renewable electricity should be generated from biomass resources within the state, maintaining this level through 2020.

Assembly Bill 32 - California Global Warming Solutions Act of 2006

AB 32 requires that statewide GHG emissions be reduced to 1990 levels by the year 2020. The gases that are regulated by AB 32 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, nitrogen trifluoride, and sulfur hexafluoride. The reduction to 1990 levels will be accomplished through an enforceable statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs ARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then ARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires that ARB adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrives at the cap, institute a schedule to meet the emissions cap, and develop tracking, reporting, and enforcement mechanisms to ensure that the state achieves reductions in GHG emissions necessary to meet the cap. AB 32 also includes guidance to institute emissions reductions in an economically efficient manner and conditions to ensure that businesses and consumers are not unfairly affected by the reductions.

Climate Change Scoping Plan

In October 2008, ARB published its Climate Change Proposed Scoping Plan, which is the State's plan to achieve GHG reductions in California required by AB 32. The Scoping Plan contains the main strategies California will implement to achieve reduction of 169 million metric tons of CO₂e, or approximately 30 percent from the state's projected 2020 emissions level of 596 MMTCO₂e under a business-as-usual scenario (this is a reduction of 42 MMTCO₂e, or almost 10 percent, from 2002–2004 average emissions). The Scoping Plan also includes ARB-recommended GHG reductions for each emissions sector of the state's GHG inventory. The largest proposed GHG reduction recommendations are from improving emissions standards for light-duty vehicles (estimated reductions of 31.7 MMTCO₂e), implementation of the Low Carbon Fuel Standard (15.0 MMTCO₂e) program, energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 MMTCO₂e), and a renewable portfolio standard for electricity production (21.3 MMTCO₂e). The Scoping Plan identifies the local equivalent of AB 32 targets as a 15 percent reduction below baseline GHG emissions level, with baseline interpreted as GHG emissions levels between 2003 and 2008.

A key component of the Scoping Plan is the Renewable Portfolio Standard, which is intended to increase the percentage of renewables in California's electricity mix to 33 percent by year 2020, resulting in a reduction of 21.3 MMTCO₂e. Sources of renewable energy include, but are not limited to, biomass, wind, solar, geothermal, hydroelectric, and anaerobic digestion. Increasing the use of renewables will decrease California's reliance on fossil fuels, thus reducing GHG emissions.

The Scoping Plan states that land use planning and urban growth decisions will play important roles in the state's GHG reductions because local governments have primary authority to plan, zone, approve, and permit how land is developed to accommodate population growth and the changing needs of their jurisdictions. (Meanwhile, ARB is also developing an additional protocol for community emissions.) ARB further acknowledges that decisions on how land is used will have large impacts on the GHG emissions that

will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emissions sectors. The Scoping Plan states that the ultimate GHG reduction assignment to local government operations is to be determined. With regard to land use planning, the Scoping Plan expects approximately 5.0 MMTCO₂e will be achieved associated with implementation of Senate Bill 375, which is discussed further below. The Scoping Plan was approved by ARB on December 11, 2008.

The first update of the Scoping Plan was approved by the ARB on May 22, 2014, which looked past 2020 to set mid-term goals (2030-2035) on the road to reaching the 2050 goals.

Senate Bill 1368

Senate Bill (SB) 1368 (codified at Public Utilities Code Chapter 3) is the companion bill of AB 32. SB 1368 required the California Public Utilities Commission (CPUC) to establish a greenhouse gas emissions performance standard for baseload generation from investor-owned utilities by February 1, 2007. The bill also required the California Energy Commission (CEC) to establish a similar standard for local publicly owned utilities by June 30, 2007. These standards cannot exceed the greenhouse gas emission rate from a baseload combined-cycle natural-gas-fired plant. The legislation further requires that all electricity provided to California, including imported electricity, must be generated from plants that meet the standards set by the CPUC and the CEC.

Senate Bill 1078 and Governor's Order S-14-08 (California Renewables Portfolio Standards)

Senate Bill 1078 (Public Utilities Code Sections 387, 390.1, 399.25 and Article 16) addresses electricity supply and requires that retail sellers of electricity, including investor-owned utilities and community choice aggregators, provide a minimum 20 percent of their supply from renewable sources by 2017. This Senate Bill will affect statewide GHG emissions associated with electricity generation. In 2008, Governor Schwarzenegger signed Executive Order S-14-08, which set the Renewables Portfolio Standard target to 33 percent by 2020. It directed state government agencies and retail sellers of electricity to take all appropriate actions to implement this target. Executive Order S-14-08 was later superseded by Executive Order S-21-09 on September 15, 2009. Executive Order S-21-09 directed ARB to adopt regulations requiring 33 percent of electricity sold in the State come from renewable energy by 2020. This Executive Order was superseded by statute SB X1-2 in 2011, which obligates all California electricity providers, including investor-owned utilities and publicly owned utilities, to obtain at least 33 percent of their energy from renewable electrical generation facilities by 2020, with interim targets of 20 percent by 2013 and 25 percent by 2016.

ARB is required by current law, AB 32 of 2006, to regulate sources of GHGs to meet a state goal of reducing greenhouse gas emissions to 1990 levels by 2020 and an 80 percent reduction of 1990 levels by 2050. The CEC and CPUC serve in advisory roles to help ARB develop the regulations to administer the 33 percent by 2020 requirement. ARB is also authorized to increase the target and accelerate and expand the time frame.

Mandatory Reporting of Greenhouse Gas Emissions

Reporting of GHGs by major sources is required by the California Global Warming Solutions Act (AB 32, 2006). Revisions to the existing ARB mandatory GHG reporting regulation were considered at the board hearing on December 16, 2010. The revised regulation was approved by the California Office of Administrative Law and became effective on January 1, 2012. The revised regulation affects industrial facilities, suppliers of transportation fuels, natural gas, natural gas liquids, liquefied petroleum gas, and carbon dioxide, operators of petroleum and natural gas systems, and electricity retail providers and marketers.

Cap-and-Trade Regulation

The cap-and-trade regulation is a key element in California's climate plan. It sets a statewide limit on sources responsible for 85 percent of California's greenhouse gas emissions, and establishes a price signal needed to drive long-term investment in cleaner fuels and more efficient use of energy. The cap-and-trade rules came into effect on January 1, 2013 and apply to large electric power plants and large industrial plants. In 2015, they will extend to fuel distributors (including distributors of heating and transportation fuels).

At that stage, the program will encompass around 360 businesses throughout California and nearly 85 percent of the state's total greenhouse gas emissions.

Under the cap-and-trade regulation, companies must hold enough emission allowances to cover their emissions, and are free to buy and sell allowances on the open market. California held its first auction of greenhouse gas allowances on November 14, 2012. California's GHG cap-and-trade system will reduce GHG emissions from regulated entities by approximately 16 percent, or more, by 2020.

California Building Code

The California Building Code contains standards that regulate the method of use, properties, performance, or types of materials used in the construction, alteration, improvement, repair, or rehabilitation of a building or other improvement to real property. The California Building Code is adopted every three years by the Building Standards Commission (BSC). In the interim, the BSC also adopts annual updates to make necessary mid-term corrections. The CBC standards apply statewide; however, a local jurisdiction may amend a CBC standard if it makes a finding that the amendment is reasonably necessary due to local climatic, geological, or topographical conditions (BSC 2016).

Green Building Standards

In essence, green buildings standards are indistinguishable from any other building standards. Both are contained in the California Building Code and regulate the construction of new buildings and improvements. The only practical distinction between the two is that whereas the focus of traditional building standards has been protecting public health and safety, the focus of green building standards is to improve environmental performance.

AB 32, which mandates the reduction in greenhouse gas emissions in California to 1990 levels by 2020, increased the urgency around the adoption of green building standards. In its scoping plan for the implementation of AB 32, ARB identified energy use as the second largest contributor to California's GHG emissions, constituting roughly 25 percent of all such emissions. In recommending a green building strategy as one element of the scoping plan, ARB estimated that green building standards would reduce GHG emissions by approximately 26 million metric tons of CO₂e (MMTCO₂e) by 2020.

The green buildings standards were most recently updated in 2013. The 2013 building energy efficiency standards are 25 percent more efficient than previous standards for residential construction and 30 percent more efficient for non-residential construction (CEC 2016).

SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT

SJVAPCD Climate Change Action Plan

On August 21, 2008, the SJVAPCD Governing Board approved the SJVAPCD's *Climate Change Action Plan* with the following goals and actions:

Goals:

- Assist local land-use agencies with California Environmental Quality Act (CEQA) issues relative to projects with GHG emissions increases.
- Assist Valley businesses in complying with mandates of AB 32.
- Ensure that climate protection measures do not cause increase in toxic or criteria pollutants that adversely impact public health or environmental justice communities.

Actions:

- Authorize the Air Pollution Control Officer to develop GHG significance threshold(s) or other mechanisms to address CEQA projects with GHG emissions increases. Begin the requisite public process, including public workshops, and develop recommendations for Governing Board consideration in the spring of 2009.
- Authorize the Air Pollution Control Officer to develop necessary regulations and instruments for establishment and administration of the San Joaquin Valley Carbon Exchange Bank for voluntary

GHG reductions created in the Valley. Begin the requisite public process, including public workshops, and develop recommendations for Governing Board consideration in spring 2009.

- Authorize the Air Pollution Control Officer to enhance the SJVAPCD's existing criteria pollutant emissions inventory reporting system to allow businesses subject to AB32 emission reporting requirements to submit simultaneous streamlined reports to the SJVAPCD and the state of California with minimal duplication.
- Authorize the Air Pollution Control Officer to develop and administer voluntary GHG emission reduction agreements to mitigate proposed GHG increases from new projects.
- Direct the Air Pollution Control Officer to support climate protection measures that reduce GHG emissions as well as toxic and criteria pollutants. Oppose measures that result in a significant increase in toxic or criteria pollutant emissions in already impacted area.

SJVAPCD CEQA Greenhouse Gas Guidance.

On December 17, 2009, the SJVAPCD Governing Board adopted "Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA" and the policy, "District Policy—Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency." The SJVAPCD concluded that the existing science is inadequate to support quantification of the impacts that project specific greenhouse gas emissions have on global climatic change. The SJVAPCD found the effects of project-specific emissions to be cumulative, and without mitigation, that their incremental contribution to global climatic change could be considered cumulatively considerable. The SJVAPCD found that this cumulative impact is best addressed by requiring all projects to reduce their greenhouse gas emissions, whether through project design elements or mitigation.

The SJVAPCD's approach is intended to streamline the process of determining if project-specific greenhouse gas emissions would have a significant effect. Projects exempt from the requirements of CEQA, and projects complying with an approved plan or mitigation program would be determined to have a less than significant cumulative impact. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources and have a certified final CEQA document.

Best performance standards (BPS) would be established according to performance-based determinations. Projects complying with BPS would not require specific quantification of greenhouse gas emissions and would be determined to have a less than significant cumulative impact for greenhouse gas emissions. Projects not complying with BPS would require quantification of greenhouse gas emissions and demonstration that greenhouse gas emissions have been reduced or mitigated by 29 percent, as targeted by ARB's AB 32 Scoping Plan. Furthermore, quantification of greenhouse gas emissions would be required for all projects for which the lead agency has determined that an Environmental Impact Report is required, regardless of whether the project incorporates Best Performance Standards.

For stationary source permitting projects, best performance standards are "the most stringent of the identified alternatives for control of greenhouse gas emissions, including type of equipment, design of equipment and operational and maintenance practices, which are achieved-in-practice for the identified service, operation, or emissions unit class." For development projects, best performance standards are "any combination of identified greenhouse gas emission reduction measures, including project design elements and land use decisions that reduce project specific greenhouse gas emission reductions by at least 29 percent compared with business as usual." The SJVAPCD proposes to create a list of all approved Best Performance Standards to help in the determination as to whether a proposed project has reduced its GHG emissions by 29 percent.

CITY OF FRESNO

The City of Fresno (City) has prepared a *Greenhouse Gas Reduction Plan* (GHG-Reduction Plan) as part of its General Plan Update and Master Environmental Impact Report (MEIR). The GHG-Reduction Plan is designed to ensure that the development accommodated by the buildout of the General Plan supports the goals of Assembly Bill (AB) 32—the Global Warming Solutions Act of 2006. The GHG-Reduction Plan focuses on emissions generated by activities under the control or influence of the City. The GHG-Reduction Plan includes a commitment to meet the 2020 AB 32 goal and to achieve additional reductions in support

of the 2050 reduction goal of 80 percent, as stated in Executive Order S-03-05. Measures included in the plan related to the proposed project relate largely to the promotion of alternative means of transportation, increasing pedestrian and bicycle use/access, and increasing building energy efficiency (City of Fresno 2014).

IMPACTS & MITIGATION MEASURES

GHG impacts attributable to the proposed project are summarized in Table 9.

Table 9
Summary of Project-Related Greenhouse Gas Emissions Impacts

GHG Impacts	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
A) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B) Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

METHODOLOGY

Short-term Impacts

Short-term construction emissions associated with the proposed project were calculated using the CalEEMod computer program. Modeling includes emissions generated during site preparation/grading, asphalt paving, facility construction, and application of architectural coatings. Detailed construction information, including construction schedules and equipment requirements, has not been identified for the proposed project. Default construction phases and equipment assumptions contained in the CalEEMod model were, therefore, relied upon for the calculation of construction-generated emissions. Modeling assumptions and output files are included in Appendix A of this report.

Long-term Impacts

Long-term operational GHG emissions associated with the proposed project were calculated using the CalEEMod computer program. Modeling was conducted based on traffic data derived, in part, from the traffic analysis prepared for the proposed project (JLB 2016). Mobile-source emissions were conservatively based on the default fleet distribution assumptions contained in the model. An estimated overall bus ridership of approximately 20 percent was assumed associated with implementation of the District's bus program, based on ridership data obtained from similar projects. All other modeling assumptions were based on the default parameters contained in the CalEEMod computer model. Modeling assumptions and output files are included in Appendix A of this report.

THRESHOLDS OF SIGNIFICANCE

In accordance with Appendix G of the CEQA Guidelines Initial Study Checklist, a project would be considered to have a significant impact to climate change if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or,
- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

San Joaquin Valley Air Pollution Control District

In accordance with the SJVAPCD's *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects Under CEQA* (SJVAPCD 2009), a project would be considered to have a less than significant impact on climate change if it would comply with at least one of the following criteria:

- Comply with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions within the geographic area in which the project is located. Such plans or programs must be specified in law or approved by the lead agency with jurisdiction over the affected resource and supported by a CEQA compliant environmental review document adopted by the lead agency, or
- Implement approved best performance standards, or
- Quantify project GHG emissions and reduce those emissions by at least 29 percent compared to "business as usual" (BAU).

The SJVAPCD has not yet adopted best performance standards for development projects. In addition, although the City of Fresno has adopted a GHG-reduction plan for emissions generated by activities under the control or influence of the City, the City's GHG-reduction plan does not specifically address the development of schools for which the FUSD is the lead agency. The quantification of project-generated GHG emissions in comparison to BAU conditions to determine consistency with AB 32's reduction goals is considered appropriate in some instances. However, based on a recent California Supreme Court's decision in *Center for Biological Diversity v. California Department of Fish and Wildlife and Newhall Land and Farming* (2015) 224 Cal.App.4th 1105 (CBD vs. CDFW; also known as the "Newhall Ranch case"), substantial evidence would need to be provided to document that project-level reductions in comparison to a BAU approach would be consistent with achieving AB 32's overall statewide reduction goal. Given that AB 32's statewide goal includes reductions that are not necessarily related to an individual development project, the use of this approach may be difficult to support given the lack of substantial evidence to adequately demonstrate a link between the data contained in the AB 32 Scoping Plan and individual development projects. Alternatively, the Court identified potential options for evaluating GHG impacts for individual development projects, which included the use of GHG efficiency metrics. In general, GHG efficiency metrics can be used to assess the GHG efficiency of an individual project based on a per capita basis or on a service population basis.

A GHG efficiency threshold based on service population can be calculated by dividing the GHG emissions inventory goal (allowable emissions), by the estimated service population of the individual project. For most development projects, service population is traditionally defined as the sum of the number of jobs and the number of residents provided by a project. However, this traditional definition of service population may not be applicable to all projects, depending on the end use. For instance, with regard to schools, the student population is the primary generator of GHG emissions with a majority of the school's emissions being associated with student vehicle trips. Therefore, the calculated GHG efficiency of the proposed project was expanded to include the proposed student population. The methodology used for quantification of the target efficiency threshold applied to the proposed project is summarized in Table 10. Project-generated GHG emissions that would exceed the efficiency threshold of 4.9 MTCO₂e per service population (MTCO₂e/SP/year) would be considered to have a potentially significant impact on the environment that could conflict with GHG-reduction planning efforts. To be conservative, construction-generated GHG emissions were amortized based on an estimated 25-year project life and included in annual operational GHG emissions estimates.

Table 10
Project-Level GHG Efficiency Threshold Calculation

Land Use Sectors GHG Emissions Target ¹	287,000,000
Population ²	40,619,346
Employment ³	18,195,720
Service Population	58,815,066
GHG Efficiency Threshold (MTCO ₂ e/SP/yr)	4.9
<i>Based on AB 32 Scoping Plan's land use inventory sectors for year 2020; Includes transportation sources.</i> 1. California Air Resources Board. California 1990 Greenhouse Gas Emissions Level and 2020 Limit — by Sector and Activity (Land Use-driven sectors only) MMT CO ₂ e - (based upon IPCC Fourth Assessment Report Global Warming Potentials) 2. California Department of Finance Demographic Research Unit Report P-2 "State and County Population Projections by Race/Ethnicity and Age (5-year groups)" 2010 through 2060 (as of July 1). Published 12/15/2014 3. California Department of Finance Employment Development Department. Industry Employment Projections Labor Market Information Division 2010-2020 (Published 5/23/2012) and 2012-2022 (Published 9/19/2014)	

PROJECT IMPACTS

Impact GHG-A. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? and

Implementation of the proposed project would contribute to increases of GHG emissions that are associated with global climate change. Short-term and long-term GHG emissions associated with the development of the proposed project are discussed in greater detail, as follows:

Short-term Greenhouse Gas Emissions

Short-term annual GHG emissions for Project Alternative 1 and Project Alternative 2 are summarized in Table 11. Based on the modeling conducted, the highest annual emissions of GHGs associated with construction of Project Alternative 1 would total approximately 701 MTCO₂e. Project Alternative 2 would generate a total approximately 1,126 MTCO₂e. There would also be a small amount of GHG emissions from waste generated during construction; however, this amount is speculative. It is important to note that emissions were quantified based on the conservative assumption that all proposed facilities would occur simultaneously. Actual emissions would vary, depending on various factors including construction schedules, equipment required, and activities conducted. Assuming an average project life of 25 years, amortized construction-generated GHG emissions would total approximately 28 MTCO₂e/yr for Project Alternative 1 and approximately 45 MTCO₂e/yr for Alternative 2. Amortized construction-generated GHG emissions were included in the operational GHG emissions inventory for the evaluation of project-generated GHG emissions for each of the Project Alternatives (refer to Table 12 and Table 13, respectively).

Table 11
Short-Term Construction-Generated GHG Emissions

Project Alternative	Total GHG Emissions (MTCO ₂ e)	Amortized Emissions (MTCO ₂ e)
Alternative 1	701	28
Alternative 2	1,126	45
<i>Based on CalEEMod computer modeling. To be conservative, construction emissions assume that construction of all facilities (e.g., high school and elementary school) would occur simultaneously. Refer to Appendix A for modeling results and assumptions.</i>		

Long-term Greenhouse Gas Emissions

Estimated long-term increases in GHG emissions associated with Project Alternative 1 and Project Alternative 2 are summarized in Table 12 and Table 13, respectively. Based on the modeling conducted, operational GHG emissions associated with Project Alternative 1 total approximately 3,150 MTCO₂e/year.

With the inclusion of removed emissions and amortized construction emissions, Project Alternative 1 would result in a net increase of approximately 3,141 MTCO₂e/year. Based on this estimate and assuming a maximum population of 1,750 students, the calculated GHG efficiency for Project Alternative 1 would be 1.8 MTCO₂e/SP/yr. As noted in Table 13, operational GHG emissions associated with Project Alternative 2 total approximately 6353 MTCO₂e/year. With the inclusion of removed emissions and amortized construction emissions, Project Alternative 2 would result in a net increase of approximately 6,361 MTCO₂e/year. Based on this estimate and assuming a maximum population of 3,250 students, the calculated GHG efficiency for Project Alternative 2 would be 2.0 MTCO₂e/SP/yr.

Operational GHG emissions associated with both project alternatives would be predominantly associated with mobile sources. With the implementation of a Safe Routes to School (SRTS) program, mobile-source emissions would be reduced by approximately 6.5 percent, which would result in additional reductions in overall operational GHG emissions (SRTSNP 2015). It is also important to note that mobile-source emissions were conservatively calculated, based on the default fleet distribution assumptions contained in the model, which includes medium and heavy-duty vehicles. Mobile sources associated with schools typically consist largely to light-duty vehicles and buses. In addition, based on data received from FUSD, roughly 65 percent of FUSD's existing bus fleet is alternatively fueled (e.g., compressed natural gas or hybrid electric vehicles). As a result, actual mobile-source emissions would be less. Nonetheless, because the GHG efficiency for both project alternatives would be below the efficiency threshold of 4.9 MTCO₂e/SP/yr. This impact would be considered *less than significant*.

Table 12
Long-term Operational Greenhouse Gas Emissions – Project Alternative 1

Emissions Source	Emissions (MTCO ₂ e per year) ¹
Area Sources	0.03
Energy Use	663.8
Mobile Sources ²	2313.3
Waste Generation	145.3
Water Use	27.7
Total Project Operational Emissions:	3150.1
Less Emissions to be Removed ³ :	-36.9
Amortized Construction Emissions:	28.0
Net Increase:	3141.2
Project GHG Efficiency (MTCO ₂ e/SP/yr) ⁴ :	1.8
Project GHG Efficiency with SRTS Program (MTCO ₂ e/SP/yr) ⁵ :	1.7
GHG Efficiency Threshold (MTCO ₂ e/SP/yr):	4.9
Exceeds Threshold/Significant Impact?	No
¹ . Project-generated emissions were quantified using the CalEEMod computer program for year 2020 operational conditions. Does not include GHG-reduction measures. ² . Fleet distribution data for the project is not available. Mobile source emissions are conservatively based on default vehicle fleet distribution for Fresno County, which includes all vehicle types/classifications, including medium and heavy-duty vehicles. Actual emissions would likely be lower. Does not reflect reductions associated with FUSD's alternatively fueled bus program. ³ . Includes removal of existing residential land uses. ⁴ . Based on a student population of 1,750. ⁵ . Includes 6.5 percent reduction in mobile-source emissions with implementation of a Safe Routes to School (SRTS) program (SRTSNP 2015). Refer to Appendix A for modeling results and assumptions.	

Table 13
Long-term Operational Greenhouse Gas Emissions – Project Alternative 2

Emissions Source	Emissions (MTCO₂e per year)¹
Area Sources	0.06
Energy Use	1296.5
Mobile Sources ²	4729.9
Waste Generation	269.8
Water Use	57.0
Total Project Operational Emissions:	6353.3
Less Emissions to be Removed ³ :	-36.9
Amortized Construction Emissions:	45.0
Net Increase:	6361.4
Project GHG Efficiency (MTCO ₂ e/SP/yr) ⁴ :	2.0
Project GHG Efficiency with SRTS Program (MTCO ₂ e/SP/yr) ⁵ :	1.7
GHG Efficiency Threshold (MTCO ₂ e/SP/yr):	4.9
Exceeds Threshold/Significant Impact?	No
<p>1. Project-generated emissions were quantified using the CalEEMod computer program for year 2020 operational conditions. Does not include GHG-reduction measures.</p> <p>2. Fleet distribution data for the project is not available. Mobile source emissions are conservatively based on default vehicle fleet distribution for Fresno County, which includes all vehicle types/classifications, including medium and heavy-duty vehicles. Actual emissions would likely be lower. Does not reflect reductions associated with FUSD's alternatively fueled bus program.</p> <p>3. Includes removal of existing residential land uses.</p> <p>4. Based on a student population of 3250.</p> <p>5. Includes 6.5 percent reduction in mobile-source emissions with implementation of a Safe Routes to School (SRTS) program (SRTSNP 2015).</p> <p>Refer to Appendix A for modeling results and assumptions.</p>	

Impact GHG-B. Would the project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

As noted in Impact GHG-A, the proposed project would not result in increased GHG emissions that would conflict with AB 32 GHG-reduction targets. The proposed project would be designed to meet current building energy-efficiency standards, which are roughly 30% more energy efficient than previous building standards (CEC 2016). The project would also be designed to promote the use of alternative means of transportation, such as bicycle use, and to provide improved pedestrian access that would link the project site to nearby land uses. These improvements would help to further reduce the project's GHG emissions and would also help to reduce community-wide GHG emissions. For these reasons, the proposed project would not conflict with local or state GHG-reduction planning efforts. This impact would be considered **less than significant**.

REFERENCES

Air Quality

- California Air Resources Board (ARB). Aerometric Data Division. January 1992. *California Surface Wind Climatology*.
- . 2000. *Diesel Risk Reduction Plan*. Website URL: <http://www.arb.ca.gov/diesel/documents/rrpapp.htm>.
- . 2013. *California Almanac of Emissions & Air Quality*.
- . 2016(a). Accessed September 3, 2010. *ARB Health-Related Fact Sheets*. Website URL: <http://www.arb.ca.gov/research/health/fs/fs.htm>
- . 2016(b). Accessed September 3, 2010. *Air Quality Data*. Website URL: <http://www.arb.ca.gov/adam/index.html>
- . Accessed: May 2, 2016(c). *Air Quality Standards and Area Designations*. Website URL: <http://www.arb.ca.gov/design/design.htm>.
- California Building Standards Commission (BSC). April 2016. *CalGreen*. Website URL: <http://www.bsc.ca.gov>.
- California Department of Transportation (Caltrans). 1996. *Transportation Project-Level Carbon Monoxide Protocol*. University of California Davis, Institute of Transportation Studies, UCD-ITS-RR-96-1.
- California Department of Conservation (DOC). Division of Mines and Geology. August, 2000. *A General Location Guide for Ultramafic Rocks in California-Areas More Likely to Contain Naturally Occurring Asbestos*. Open File Report 2000-19.
- California Energy Commission (CEC). Accessed: April 2016. *Energy Commission Approves More Efficient Buildings for California's Future*. Website URL: http://www.energy.ca.gov/releases/2012_releases/2012-05-31_energy_commission_approves_more_efficient_buildings_nr.html.
- Centers for Disease Control and Prevention (CDC). Accessed: April 2016. *Valley Fever: Awareness is Key*. Website URL: <http://www.cdc.gov/features/valleyfever/>.
- JBL Traffic Engineering, Inc. April 2016. *Draft Traffic Impact Analysis: Fresno Unified School District High School & Elementary School Project*.
- National Oceanic and Atmospheric Administration (NOAA). 1992. *Monthly Station Normals of Temperature, Precipitation, and Heating and Cooling Degree Days 1961 – 1990*.
- Odell Planning & Research (OPR). 2016. Email Correspondence.
- Safe Routes to School National Partnership (SRSNP). Accessed: April 2016. *Air Quality Climate Change and the Environment*. Website URL: <http://saferoutespartnership.org/resources>.
- San Joaquin Valley Air Pollution Control District (SJVAPCD). March 19, 2015. *Guidance for Assessing and Mitigating Air Quality Impacts*.
- San Joaquin Valley Air Pollution Control District (SJVAPCD). Accessed: April 2016. *Ambient Air Quality Standards and Valley Attainment Status*. Website URL: <http://www.valleyair.org/aaqinfo/attainment.htm>.
- U.S. Environmental Protection Agency (U.S. EPA). Accessed: November 12, 2014. *Technology Transfer Network – Pollutants and Sources*. Website URL: <http://www.epa.gov/ttn/atw/pollsour.html>.

Greenhouse Gas

- California Air Resources Board (ARB). Assembly Bill 32 Overview. Accessed: April 2016. Website url: <http://www.arb.ca.gov/cc/ab32/ab32.htm>.
- . 2011. *California Greenhouse Gas Emissions Inventory: 2000-2009*. Website URL: http://www.arb.ca.gov/cc/inventory/pubs/reports/ghg_inventory_00-09_report.pdf.
- . May 22, 2014. *First Update to the Climate Change Scoping Plan*.

California Building Standards Commission (BSC). April 2016. *CalGreen*. Website URL: http://www.documents.dgs.ca.gov/bsc/CALGreen/2010_CA_Green_Bldg.pdf.

California Department of Transportation (Caltrans). Accessed: April 2016. Website URL: <http://www.dot.ca.gov/ser/forms.htm>.

City of Fresno. December 18, 2014. *Fresno General Plan*.

International Panel on Climate Change (IPCC). 2007. *Fourth Assessment Report: Climate Change 2007*.

JBL Traffic Engineering, Inc. April 2016. *Draft Traffic Impact Analysis: Fresno Unified School District High School & Elementary School Project*.

United States Environmental Protection Agency (U.S. EPA). 2016. *Overview of Greenhouse Gas Emissions*. Website URL: <https://www3.epa.gov/climatechange/ghgemissions/gases.html>

———. June 4, 2012. *SF₆ Emission Reduction Partnership for Electric Power Systems: Basic Information*. Website URL: <http://www.c2es.org/docUploads/mrv-workshop-rand.pdf>.

———. 2010. *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2008*.

Safe Routes to School National Partnership (SRSNP). Accessed: May 10, 2015. *Air Quality Climate Change and the Environment*. Website URL: saferoutespartnership.org/resourcecenter.com

San Joaquin Valley Air Pollution Control District (SJVAPCD). December 2009. *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA*.