Draft Initial Study and Mitigated Negative Declaration

FOR

PLANNING AREA 5B ELEMENTARY SCHOOL

Prepared for:

Irvine Unified School District
100 Nightmist
Irvine, CA 92618

Prepared by:

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PROJECT INFORMATION SHEET

1. Project Title	Planning Area 5B Elementary School
2. Lead Agency and Address	Irvine Unified School District 100 Nightmist Irvine, CA 92618
3. Contact and Phone Number	Dana Grudem (949) 936-5327
4. Project Location	Northwest of Jeffrey Road and Irvine Boulevard Irvine, CA 92618 (Lot 15 of Tract 17523 Planning Area 5B)
5. Project Site General Plan Designation	Medium Density Residential
6. Project Site Zoning Designation	2.3I Medium Density Residential
7. Surrounding Land Uses and Setting	Currently, surrounding uses are characterized as vacant and undeveloped land; however; these areas are planned for single-family residential housing and a public park development.
8. Description of Project	Irvine Unified School District (District) proposes to construct a new elementary school on a 10-acre lot that is centrally located within Planning Area 5B. This proposed school would be designed to accommodate up to 1,000 students at peak enrollment. It would serve transitional kindergarten through sixth grade (TK-6) students and is anticipated to open around August 2017. Major components of the project would include: (1) Nearly 59,000 sq. ft. of permanent building space; (2) 10 classroom relocatables (portables) and three daycare classroom relocatables; (3) Outdoor play areas and amenities; (4) Two parking lots; and (5) A student drop-off/pick-up zone.
9. Selected Agencies whose Approval is Required	• California Department of Toxic Substances Control • California Department of Education – School Facilities Planning Division • California Department of General Services –

Division of State Architect (DSA)

- California Regional Water Quality Control Board, Region 8 - Santa Ana
- South Coast Air Quality Management District
- Orange County Fire Authority
- City of Irvine Public Works

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COMMON ACRONYMS AND ABBREVIATIONS

ADA	Americans with Disabilities Act
ADT	average daily traffic
AELUP	Airport Environ Land Use Plan
A.M.	ante meridiem
ANSI	American National Standards Institute
AOPC	Areas of Potential Concern
AQMP	Air Quality Management Plan
AST	aboveground storage tank
BAU	business as usual
BMPs	Best Management Practices
C&D	Construction and Demolition
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CALFIRE	California Department of Forestry and Fire Protection
CalRecycle	California Department of Resources Recycling and Recovery
CAOs	Cleanup and Abatement Orders
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDE	California Department of Education
CDFW	California Department of Fish and Wildlife
CDOs	Cease and Desist Orders
CEC	California Education Code
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFCs	chlorofluorocarbons
cfs	cube feet-per-second
CH_4	methane
CIWMP	Countywide Integrated Waste Management Plan
CMP	Congestion Management Program
CMPHS	Congestion Management Program High System
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO_2e	CO_2 equivalent
COPCs	Chemicals of Potential Concern
CPTED	Crime Prevention through Environmental Design
DAMP	Drainage Area Management Plan
dB	decibel

dBA	A-weighted decibel scale
DPM	Diesel particulate matter
DSA	Division of State Architect
DTSC	Department of Toxic Substances Control
EI	Expansion Index
EIR	Environmental Quality Report
EPCRA	Emergency Planning Community Right to Know Act
FEMA	Federal Emergency Management Area
FHSZ	Fire Hazard Severity Zones
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
FWPCA	Federal Water Pollution Control Act
GHG	greenhouse gas
GIS	Geographic Information System
GPA	General Plan Amendment
GWP	global warming potential
HCM	Highway Capacity Manual
HCP	Habitat Conservation Plan
HFCs	perfluorocarbons
HGL	hydraulic gradient lines
HMBP	Hazardous Materials Business Plan
HSC	Health and Safety Code
Hz	hertz
I-5	Interstate 5
ICDC	Irvine Community Development Company
IEPR	California's Integrated Energy Policy Report
IPaC	Information, Planning and Conservation
IR	Interpretation of Regulations
IRWD	Irvine Ranch Water District
IS	Initial Study
TK-6	transitional kindergarten through 6th grade
L_{90}	noise level that is exceeded 90 percent of the time at a given location
L_{dn}	day-night average noise
L_{eq}	equivalent noise level
LOS	level of service
LRAs	Local Responsibility Areas
LRP	Legally Responsible Person
LSTs	localized significance thresholds
LUST	leaking underground storage tank
MBTA	Migratory Bird Treaty Act
mgd	million gallons per day

MMRP	Mitigation Monitoring and Reporting Program
MND	Mitigated Negative Declaration
mph	miles per hour
MRDS	Mineral Resources Data System
MS4	Municipal Separate Storm Sewer Systems permit
MSL	above mean sea level
MWD	Metropolitan Water District
MWRP	Michelson Water Recycling Plant
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NCCP	Natural Community Conservation Plan
ND	Negative Declaration
NO_2	nitrogen dioxide
NOI	Notice of Intent
NO_x	Nitrogen oxides
NPDES	National Pollutant Discharge Elimination
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
O_3	ozone
OCFA	Orange County Fire Authority
OCHCA	Orange County Health Care Agency
OCPs	organochlorine pesticides
OCTA	Orange County Transportation Authority
OPR	Office of Planning and Research
OPSC	Office of Public School Construction
OSHA	Occupational Health and Safety
PA 5B	Planning Area 5B
Pb	Lead
PD	police department
PEA	Preliminary Endangerment Assessment
PFCs	perfluorocarbons
phf	peak hour factor
P.M.	post meridiem
PM	particulate matter
PM_{10}	respirable particulates
$PM_{2.5}$	fine particulate matter
PPV	peak particle velocity
PRC	Public Resources Code
PRDs	Permit Registration Documents
RCP	reinforced concrete pipe
RCRA	Resource Conservation and Recovery Act
ROG	Reactive organic gases

RWQCB	Regional Water Quality Control Board
SARWQCB	Santa Ana Regional Water Quality Control Board
SB 18	California Senate Bill 18
SCAB	South Coast Air Basin
SCAG	Association of Governments
SCAQMD	South Coast Air Quality Management District
SCH	State Clearinghouse
SEMS	Standardized Emergency Management System
SF_6	sulfur hexafluoride
SIP	California State Implementation Plan
SMARA	Surface Mining and Reclamation Act
SO_2	sulfur dioxide
SRA	State Responsibility Area
SRAs	source receptor areas
STP	Standard temperature and pressure
SUSMP	Standard Urban Stormwater Mitigation Plan
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TIA	Traffic Impact Analysis
UBC	Uniform Building Code
UNFCCC	United Nations Framework Convention on Climate Change
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
USTs	underground storage tanks
VdB	vibration decibels
VOC	volatile organic compound
VTTM	Vested Tentative Tract Map
W	west
WQMP	Water Quality Management Plan
WSA	Water Supplies Assessment
WTP	Water Treatment Plan
ZC	Zone Change
ZEVs	Zero Emission Vehicles
§	Section
°F	Fahrenheit

EXECUTIVE SUMMARY

This Initial Study and Mitigated Negative Declaration (IS/MND) is presented to evaluate potential environmental impacts associated with the construction and operation of the Planning Area 5B (PA 5B) Elementary School in Irvine, California.

Overview of Proposed Project

The Irvine Unified School District (District) proposes the construction of a new elementary school on an approximately 10-acre lot that is centrally located within a master planned community (Planning Area 5B). The project site is currently owned and managed by the Irvine Company Community Development and the site will be acquired by the District before construction.

The proposed project is designed to accommodate up to 1,000 students at peak enrollment and serve students from transitional kindergarten through sixth grade (TK-6). During peak enrollment, the District anticipates to employ approximately 50 to 75 staff, including teachers, administrators, and custodial staff. The proposed elementary school is scheduled to open for the 2017/2018 school year. During opening year, approximately 211 students from the new residential community in Planning Area 5B are projected to attend the proposed elementary school. This number is expected to increase as the new housing units in Planning Area 5B are occupied.

The major project components include: (1) approximately 59,000 square feet of permanent building space; (2) 10 classroom relocatables and three daycare classroom relocatables; (3) outdoor play areas and amenities; and (4) two parking lots (5) a student drop-off/pick-up zone. Construction for the proposed project is tentatively scheduled to begin February 2016.

Initial Study

The Initial Study (IS) was completed according to CEQA requirements, and evaluated the following:

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

The IS identified potential adverse significant environmental effects associated with biological resources, geology and soils, hazards and hazardous materials, and transportation and traffic.

Mitigated Negative Declaration

Mitigation measures have been incorporated into the project to effectively minimize the potentially significant environmental impacts identified in the IS. Implementation of these mitigation measures would avoid or reduce impacts to less than significant levels, and no further environmental review is necessary. Mitigation measures required to reduce potential impacts are briefly listed below.

A detailed listing of mitigation measures will also be provided in a CEQA-required Mitigation Monitoring and Reporting Program (MMRP) (see Section 7.0) that will be formally adopted by the Irvine Unified School District Board of Education prior to project implementation.

Biological Resources
BR-1: Construction Outside of Breeding Season
BR-2: Construction During Breeding Season
BR-3: General Plant and Wildlife Avoidance Measures
BR-4: Project Landscaping
BR-5: Construction Best Management Practices (BMPs)

Geology and Soils
GS-1: Site-Specific Geotechnical Investigation

Hazards and Hazardous Materials
HZ-1: Completion of Preliminary Endangerment Assessment

Transportation and Traffic
TT-1: Suggested Route to School
TT-2: On-Street Parking Restrictions on Meander and Rotunda

1.0 INTRODUCTION

1.1 Project Overview

This Initial Study (IS) was prepared by UltraSystems Environmental, Inc. (UltraSystems) for the Irvine Unified School District (District) to assess whether there may be significant environmental impacts associated with the proposed elementary school located in the center of Planning Area 5B, a residential development west of Jeffrey Road between Portola Parkway to the north and Irvine Boulevard to the south, in the City of Irvine. Based on the responses to the IS checklist questions, the District finds that a Mitigated Negative Declaration (MND) is the appropriate level of CEQA environmental documentation. This MND was prepared on the basis that either there was no substantial evidence that there may be significant environmental impacts on specific environmental areas. If there was a potentially significant impact, the most appropriate mitigation measure(s) have been identified and would avoid or mitigate the potential impacts to a point where it is clear that no significant effects would occur.

1.2 Lead Agency

The District is the Lead Agency for this project pursuant to the California Environmental Quality Act (CEQA) and implementing regulations.[1] The Lead Agency has the principal responsibility for implementing and approving a project that may have a significant effect on the environment.

The purpose of an IS under § 15063(c) of the CEQA Statute and Guidelines is to:

- Provide the Lead Agency with information necessary to decide if an Environmental Impact Report (EIR), Negative Declaration (ND), or MND should be prepared.
- Enable a Lead Agency to modify a project to mitigate adverse impacts before an EIR is prepared, thereby enabling the project to qualify for a ND or MND.
- Assist in the preparation of an EIR, if required, by focusing the EIR on adverse effects determined to be significant, identifying the adverse effects determined not to be significant, explaining the reasons for determining that potentially significant adverse effects would not be significant, and identifying whether a program EIR, or other process, can be used to analyze adverse environmental effects of the project.
- Facilitate an environmental assessment early during project design.
- Provide documentation in the ND or MND that a project would not have a significant effect on the environment.
- Eliminate unnecessary EIRs.
- Determine if a previously prepared EIR could be used for the project.

In cases where no potentially significant impacts are identified, the Lead Agency may issue a ND, and no mitigation measures would be needed. Where potentially significant impacts are identified, the Lead Agency may determine that mitigation measures would adequately reduce these impacts to less than significant levels. The Lead Agency would then prepare a MND for the proposed project. If the Lead Agency determines that individual or cumulative effects of the proposed project would

[1] Public Resources Code §§21000 - 21177 and California Code of Regulations Title 14, Division 6, Chapter 3.

cause a significant adverse environmental effect that cannot be mitigated to less than significant levels, then the Lead Agency would require an EIR to further analyze these impacts.

1.3 Other Agencies

Other public agencies are provided the opportunity to review and comment on the IS/MND. Each of these agencies is described briefly below.

- A Responsible Agency (14 CCR § 15381) is a public agency, other than the Lead Agency, that has discretionary approval power over the project, such as permit issuance or plan approval authority.
- A Trustee Agency[2] (14 CCR § 15386) is a state agency having jurisdiction by law over natural resources affected by a project that are held in trust for the people of the State of California.
- Agencies with Jurisdiction by Law (14 CCR § 15366) are any public agencies who have authority (1) to grant a permit or other entitlement for use; (2) to provide funding for the project in question; or (3) to exercise authority over resources which may be affected by the project. Furthermore, a city or county will have jurisdiction by law with respect to a project when the city or county having primary jurisdiction over the area involved is: (1) the site of the project; (2) the area which the major environmental effects will occur; and/or (3) the area in which reside those citizens most directly concerned by any such environmental effects.

1.3.1 Requirements

CEQA Guidelines § 15063(d) identifies the following specific contents of an IS.

- A description and the location of the project.
- A description of the environmental setting.
- An assessment of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries. The brief explanation may be either through a narrative or a reference to another information source such as an attached map, photographs, or an earlier EIR or negative declaration. A reference to another document should include, where appropriate, a citation to the page or pages where the information is found.
- A discussion of measures to mitigate significant adverse environmental effects, if any.
- An examination of existing zoning, plans and other land use controls that apply to the project.
- The names of persons that participated in the preparation of the document.

2 The four Trustee Agencies in California listed in CEQA Guidelines § 15386 are California Department of Fish and Wildlife, State Lands Commission, State Department of Parks and Recreation, and University of California.

1.3.2 Mitigation Measures

Per § 15041, Authority to Mitigate, a lead agency for a project has authority to require feasible changes in any or all activities involved in the project in order to substantially lessen or avoid significant effects on the environment, consistent with applicable constitutional requirements such as the "nexus" and "rough proportionality" standards. As defined by 14 CCR § 15040, "feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal social, and technological factors.

If significant impacts are identified, then mitigation measures are adopted to reduce the impact to less than significant levels. Mitigation measures must meet the following criteria:

- An essential nexus (i.e., connection) must be established between the mitigation measure and a legitimate governmental interest.
- The mitigation measure must be "roughly proportional" to the impacts of the project.

There are several forms of mitigation under CEQA (§ 15370). These are summarized below.

- ***Avoiding*** the impact by preservation and maintenance operations during the life of the action.
- ***Minimizing*** impacts by limiting the degree or magnitude of the action and its implementation.
- ***Rectifying*** the impact by repairing, rehabilitating, or restoring the impacted environment.
- ***Reducing or eliminating*** the impact over time by preservation and maintenance operations during the life of the action.
- ***Compensating*** for the impact by replacing, or providing substitute resources for, the impacted environment(s) having similar functions of equal or greater ecological value.

Avoiding impacts is the preferred form of mitigation measure, followed by minimizing and rectifying the impact to less than significant levels. Compensating for impacts would be used only when the other mitigation measures are not feasible.

Moreover, a lead agency may approve a project even though the project would cause a significant effect on the environment if the agency makes a fully informed and publicly disclosed decision that:

a) There is no feasible way to lessen or avoid the significant effect.

b) Specifically identified expected benefits from the project outweigh the policy of reducing or avoiding significant environmental impacts of the project.

1.4 Incorporation by Reference

Pursuant to CEQA Guidelines, § 15150, this IS/MND incorporates by reference all or portions of other technical documents that are a matter of public record. Those documents either relate to the proposed project or provide additional information concerning the environmental setting for the project. Where all or a portion of another document is incorporated by reference, the incorporated language shall be considered to be set forth in full as part of the text of this IS/MND.

The information contained in this IS/MND (refer to Section 5.0, References) is based, in part, on the following related technical studies and/or planning documents that include the project site or provide information addressing the general project area:

- *City of Irvine General Plan* (adopted May 8, 2012 and Supplement 8, July 2012). The project site is located in an area mapped by the General Plan known as Planning Area 5. The proposed project is subject to the general plan policies related to the construction of public school in Planning Area 5.

- *City of Irvine Northern Sphere Area (2002) Draft Environmental Impact Report* (EIR) (SCH #2001051010). The Northern Sphere Area project consisted of a General Plan Amendment (GPA) and Zone Change (ZC) for the development of planning areas 5B, 6, 8A, & 9 in the City of Irvine. The GPA requested to convert Agriculture to Residential, Multi-Use Commercial, Research and Industrial and Open Space and change Jeffrey Road from a six- to four-lane arterial. The ZC would change areas designated Development Reserve and Exclusive Agriculture to Low, Medium, and Medium-High Residential, Multi-Use, Recreation, Institutional, and Medical and Science. Specifically, the GPA changed PA 5B from Agricultural/Educational Facility to Medium Density Residential Use and the ZC changed PA 5B from 1.1 Exclusive Agriculture to 2.3I Medium Density Residential.

  City of Irvine Municipal Code. The Municipal Code covers all aspects of regulations including zoning and various development related requirements for the City of Irvine. Title 4 Public Safety and Title 5 Planning contains standards, requirements, restrictions, regulations, and review process that pertain to the construction and operation of a public school.

1.5 Organization of Initial Study/Mitigated Negative Declaration

This IS/MND is organized to satisfy CEQA requirements, and includes findings that no significant environmental impacts would occur when proposed mitigation measures are adopted. The IS/MND includes the following sections:

- Chapter 1*, Introduction*, which identifies the purpose and scope of the IS/MND.
- Chapter 2, *Environmental Setting*, which describes location, existing site conditions, land uses, zoning designations, topography, and vegetation associated with the project.
- Chapter 3, *Project Description*, which provides an overview of the project objectives, a description of the proposed development, project phasing during construction, and discretionary actions for the approval of the project.
- Chapter 4, *Environmental Checklist*, which presents checklist responses for each resource topic to identify and assess impacts associated with the proposed project, and proposes mitigation measures, where needed, to render potential environmental impacts less than significant, where feasible.
- Chapter 5, *References*, which includes a list of documents cited in the IS/MND.
- Chapter 6, *List of Preparers*, which identifies the persons who participated in preparing the IS/MND, and shows their technical specialties.

- Chapter 7, *Mitigation Monitoring and Reporting Plan* (MMRP), which specifies the recommended mitigation measures, the implementation stage, and the enforcement agency.

Technical studies and other documents, which include supporting information or analyses used to prepare the IS/MND, are included in the following appendices:

Appendix A	Geotechnical Report of Observation and Testing During Rough Grading for School Site, Eastwood Development, Lot 15 of Tract 17523, Planning Area 5B
Appendix B	Geological and Environmental Hazards Assessment
Appendix C	Drainage Report: Planning Area 5B, Tract Map 17523
Appendix D	Water Quality Management Plan (WQMP) for Planning Area 5B
Appendix E	Phase-I Environmental Site Assessment
Appendix F	Noise Analysis
Appendix G	Traffic Impact Analysis
Appendix H	Planning Area 5B Sub Area Master Plan Update
Appendix I	Verification of Sufficient Water Supplies for City of Irvine Planning Area 5B

1.6 Findings from the Initial Study

1.6.1 No Impacts or Impacts Considered Less than Significant

Based on IS findings, the project would have no impact or a less than significant impact on the following environmental categories listed from Appendix G of the CEQA Guidelines.

1) Aesthetics
2) Agriculture/ Forestry Resources
3) Air Quality
4) Biological Resources
5) Cultural Resources
6) Geology/Soils
7) Greenhouse Gas Emissions
8) Hazards/Hazardous Materials
9) Hydrology/Water Quality
10) Land Use/Planning
11) Mineral Resources
12) Noise
13) Population/Housing
14) Public Services
15) Recreation
16) Transportation/Traffic
17) Utilities/Service Systems
18) Mandatory Findings of Significance

1.6.2 Impacts Considered Less than Significant with Mitigation Measures

Based on IS findings, the project would have a less than significant impact on the following environmental categories listed in Appendix G of the CEQA Guidelines when proposed mitigation measures are adopted:

- Biological Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Transportation and Traffic
- Mandatory Findings of Significance

1.7 Process for Adoption of MND

Prior to MND and proposed project consideration, a Notice of Intent to Adopt a MND will be provided to Responsible Agencies, Trustee Agencies, Agencies with Jurisdiction by Law, and the public for 30 days to review and comment on the IS/MND.

Approval of the proposed project by the Lead Agency is contingent on adoption of the IS/MND after considering agency and any public comments. By adopting the IS/MND, the Lead Agency certifies that the analyses provided in the IS/MND were reviewed and considered by the Irvine Unified School District Board of Education, and reflect its independent judgment and analysis.

2.0 ENVIRONMENTAL SETTING

2.1 Project Site

The Planning Area 5B (PA 5B) Elementary School is proposed on a 10-acre undeveloped lot (i.e., Lot 15) within Tract 17523 in the northeastern portion of the city of Irvine (see **Figure 2-1**). The east-west running Jeffery Road, northwest-southeast running Irvine Boulevard, and northwest-southeast running Portola Parkway are the primary arterial roadways that connect the project site to the major freeways (i.e., Interstate 5 and Interstate 405) and transportation corridors (i.e., State Route 133 and State Route 241). Direct access to the project site would be available when street infrastructure in the immediate vicinity is completed in 2015. Upon completion, the project site would be bounded by two local residential streets: Rotunda to the west and Meander to the south (see **Figure 2-2**).

2.2 Planning Area 5B Development

The PA 5B Development comprises approximately of 297.23 acres of land owned by the Irvine Community Development Company and is currently in preparation for development as a medium-density residential neighborhood. Planning Area 5B is bounded by Portola Parkway and Hicks Canyon Wash to the north, Irvine Boulevard to the south, Jeffery Road to the east, and an existing Northwood residential neighborhood to the west. The land use for Planning Area 5B includes up to 1,900 residential dwelling units, an elementary school (project site), and neighborhood parks (see **Figure 2-3**). The project site is located in the west central portion of Planning Area 5B.

PA 5B is being developed consistent with the approved Vesting Tentative Tract Map 17523, which subdivided the 297.23-acre of land into 27 Numbered Lots[1] for future residential use, facilities, and infrastructure; and 43 Lettered Lots for landscaping, drainage, and trail access purposes.

Construction within the PA 5B Development is underway. PA 5B was recently mass graded and the construction of the street infrastructure has already begun. The construction of the residential units will start from the southern portion of Planning Area 5B and move northward. Initial housing occupation in PA 5B is anticipated to occur after September 2017[2].

2.3 Surrounding Land Use and Zoning

The project site and areas to the north, south, east and west are zoned 2.3I Medium Density Residential and are designated as Medium Density Residential by the City of Irvine General Plan. Although the project site and the surrounding area are currently vacant and undeveloped, the areas to the immediate east, west, and south are approved for single-family residential housing. These residential units immediately adjacent to the proposed elementary school are scheduled to be built and occupied after the completion of the proposed project. The land immediately north of the project site is planned as a public neighborhood park. Completion of the public park is anticipated to occur prior to the construction of the proposed project.

[1] Lot 15 is the project site.
[2] Stated by the Irvine Company Community Development representative at the November 20, 2014 meeting.

Figure 2-1
REGIONAL LOCATION

Document Path: J:\Projects\5948_IUSD_PB5_ISMND\MXDs\General\5948_IUSD_PB5_IS_MND_Regional_Overview_NGS_2014_10_29.mxd
October 21, 2014
Service Layer Credits: Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.; CDC, 2007; UltraSystems Environmental, Inc., 2014

Scale 1:253,440

N

0 2 4 Miles

0 2 4 Kilometers

Legend

Project Site Location

County Boundary

Planning Area 5B Elementary School

Regional Overview

UltraSystems environmental • management • planning

Figure 2-2
PROJECT LOCATION AND VICINITY

Source: VA Consulting, 2014

Project Location and Vicinity

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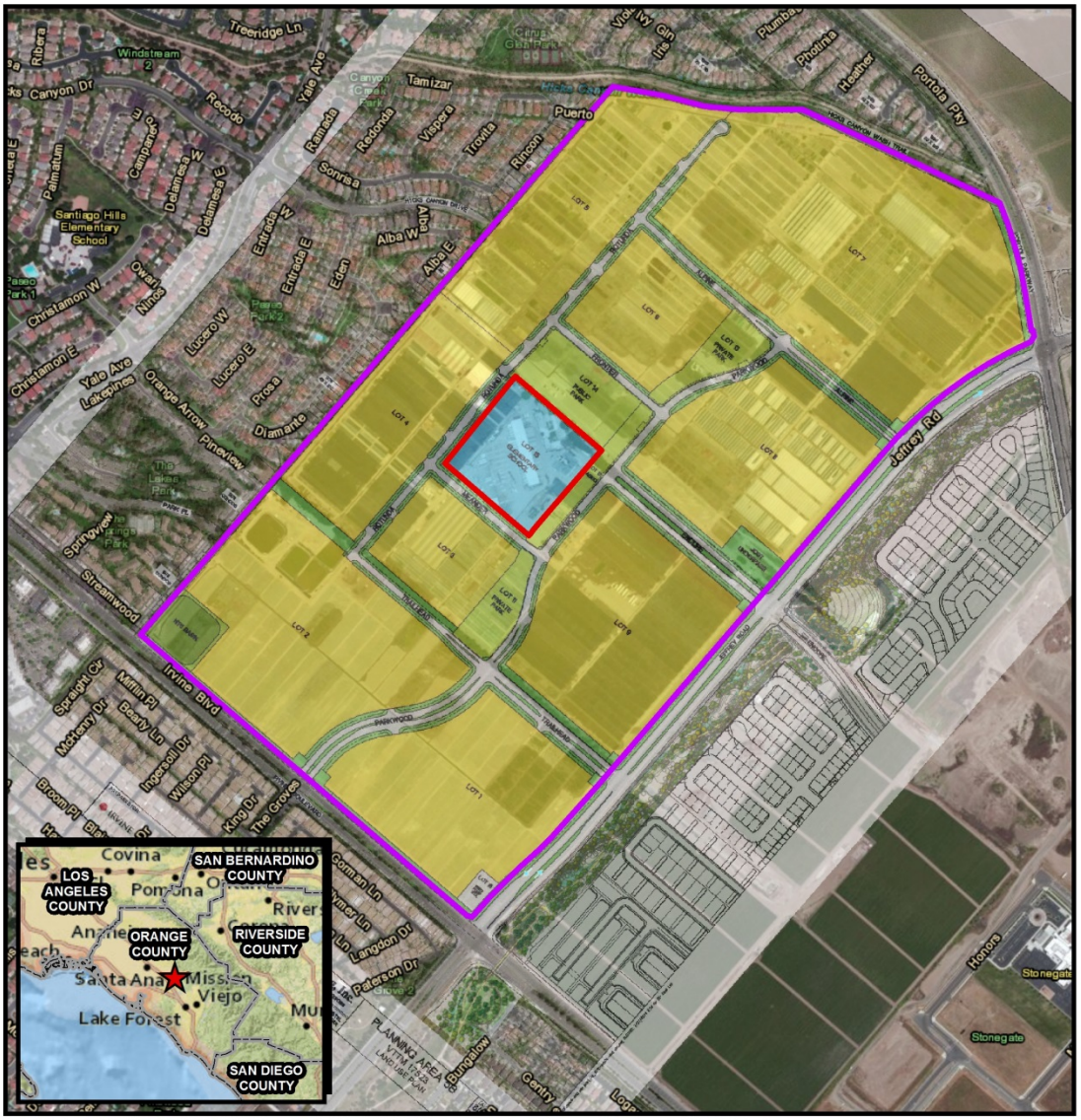
Not to Scale

January 20, 2015

Figure 2-3
PLANNING AREA 5B DEVELOPMENT



The City's General Plan land use designations and zoning in the vicinity of the project site are listed in **Table 2-1**, and shown in **Figures 2-4** and **2-5,** respectively.

Table 2-1
SUMMARY OF LAND USES AND ZONING

Area	Existing General Plan Land Use	Zoning	Existing Use[3]	Planned Use[4]
Project Site (Lot 15)	Medium Density Residential	2.3I Medium Density Residential	Vacant and undeveloped	Elementary School
North	Medium Density Residential	2.3I Medium Density Residential	Vacant and undeveloped	Public Park
East	Medium Density Residential	2.3I Medium Density Residential	Vacant and undeveloped	Community Paseo/Single-Family Residential
West	Medium Density Residential	2.3I Medium Density Residential	Vacant and undeveloped	Single-Family Residential
South	Medium Density Residential	2.3I Medium Density Residential	Vacant and undeveloped	Single-Family Residential

2.4 Former Uses

A large portion of PA 5B was leased to Hines Wholesale Nurseries (Hines) in the 1950s for cultivation of ornamental landscaping plants (box nursery). Former structures previously located on the project site included a two story wood-framed office building, slab on grade loading dock, slab-on-grade maintenance shop and storage warehouse, and vehicle wash-rack with earthen and plastic-lined collection sump west of the maintenance shop. Buildings, floor slabs, loading docks, associated hardscape, power poles, bushes, trees, and utility/irrigation lines within the project site were demolished and removed between 2011 and 2014 (UltraSystems, 2015b).

2.5 Existing Site Conditions

The project site was part of the mass grading that occurred from January 20, 2014 to July 25, 2014 for the Planning Area 5B Development (KCG, 2014). Undocumented fill and weathered alluvium were removed across the project site, and re-compacted up to a depth of approximately seven feet below proposed grade, and compacted to a minimum of 90 percent of the laboratory maximum dry density (NMG, 2014). Because the site was used formerly for agricultural purposes and the storage of ornamental plants, some pesticides and herbicides may have been used within the project site.

[3] As of October 2014.
[4] The City of Irvine has already approved the planned use of the project site and surrounding area through the approval of the Vesting Tentative Tract Map 17523.

For this reason, pesticides and herbicides may be present in the re-compacted fill and alluvium (UltraSystems, 2015b).

Currently, the site consists of a relatively flat graded pad that slopes gently to the southwest and into an interim drainage basin. Perimeter slopes exist along the eastern and western border of the school site and are up to 10 feet high. A chain-linked fence with wind screening material demarcates the project site boundary in Planning Area 5B.

Table 2-2
PHOTOS OF EXISTING SITE

	
Photo 1: View from center of site toward north.	**Photo 2**: View from center of site toward south.
	
Photo 3: View from center of site toward west.	**Photo 4**: View from center of site toward east.
	
Photo 5: Engineered slope on the western edge (chain-link fence with green wind screen) of the project site facing southwest.	**Photo 6**: Existing residential properties west of the project site.

2.6 Climate

The annual average temperature, as recorded at the Tustin-Irvine Ranch weather station (1.7 miles west-southwest of and about 40 feet lower elevation than the proposed project site at 33.7025° N, 117.75389° W), is 63 degrees Fahrenheit (°F). The average maximum recorded temperatures are 81°F during the summer and 66°F during the winter. The annual average of total precipitation in the proposed project area is approximately 14.3 inches, which occurs mostly during the winter and relatively infrequently during the summer. Winds in this region are generally light, tempered by afternoon sea breezes. Severe weather is uncommon, but strong easterly winds known as the Santa Ana winds can reach 25 to 35 miles per hour below the passes and canyons.

2.7 Geologic and Soil Setting

The property is within the foothills of the Santa Ana Mountains within the Peninsular Ranges Geomorphic Province. The Peninsular Ranges are a series of northwest-trending igneous and metamorphic mountain ridges, valleys, and fault zones that extend approximately 900 miles north from the southern extent of Baja California. Valleys within the Peninsular Ranges are filled with poorly consolidated alluvial river-channel and alluvial fan deposits of Holocene age underlain by older alluvial/terrace deposits of Pleistocene age. The project site is underlain by over 70 feet of Quaternary alluvium fan deposits beneath Hicks Canyon wash which drains the local foothills. Alluvium is composed of heterogeneous mixtures of clays, silts and sands. The upper five to seven feet of material consists of silty fine to coarse engineered fill (NMG, 2014).

Groundwater is approximately 70 to 100 feet below ground surface (bgs) in the area; although; locally perched groundwater may be present from irrigation water infiltration (NMG, 2013).

2.8 Project Topography and Hydrology

Apart from the engineered slopes along the western and eastern boundaries, the project site is relatively flat at an elevation of approximately 274 feet above mean sea level (MSL). It is located within the tributary regional watershed of San Diego Creek and is under the jurisdiction of the Santa Ana Regional Water Quality Control Board (SARWQCB). The entire San Diego Creek watershed consists of approximately 122 square miles that ultimately drains into Upper Newport Bay (VA Consulting, 2013b).

The project site slopes from a northeast to southwest direction. The runoff in Planning Area 5B generally flows in a southwesterly direction and drains to an existing storm drain system at Irvine Boulevard and ultimately discharges into the Central-Irvine Channel. This existing storm drain system has a design flow rate of 174 cube feet-per-second (cfs) (VA Consulting, 2013a).

2.9 Biological Setting

The project site has been highly disturbed by rough grading, which resulted in barren land with a few patches of ruderal vegetation. Vegetative cover is less than 1% and there is no apparent dominant plant species. The sparse vegetation comprises mostly of remnant weedy annual, non-native species that is persistent in habitat that has been affected by human activities.

Figure 2-4
EXISTING GENERAL PLAN LAND USE DESIGNATIONS

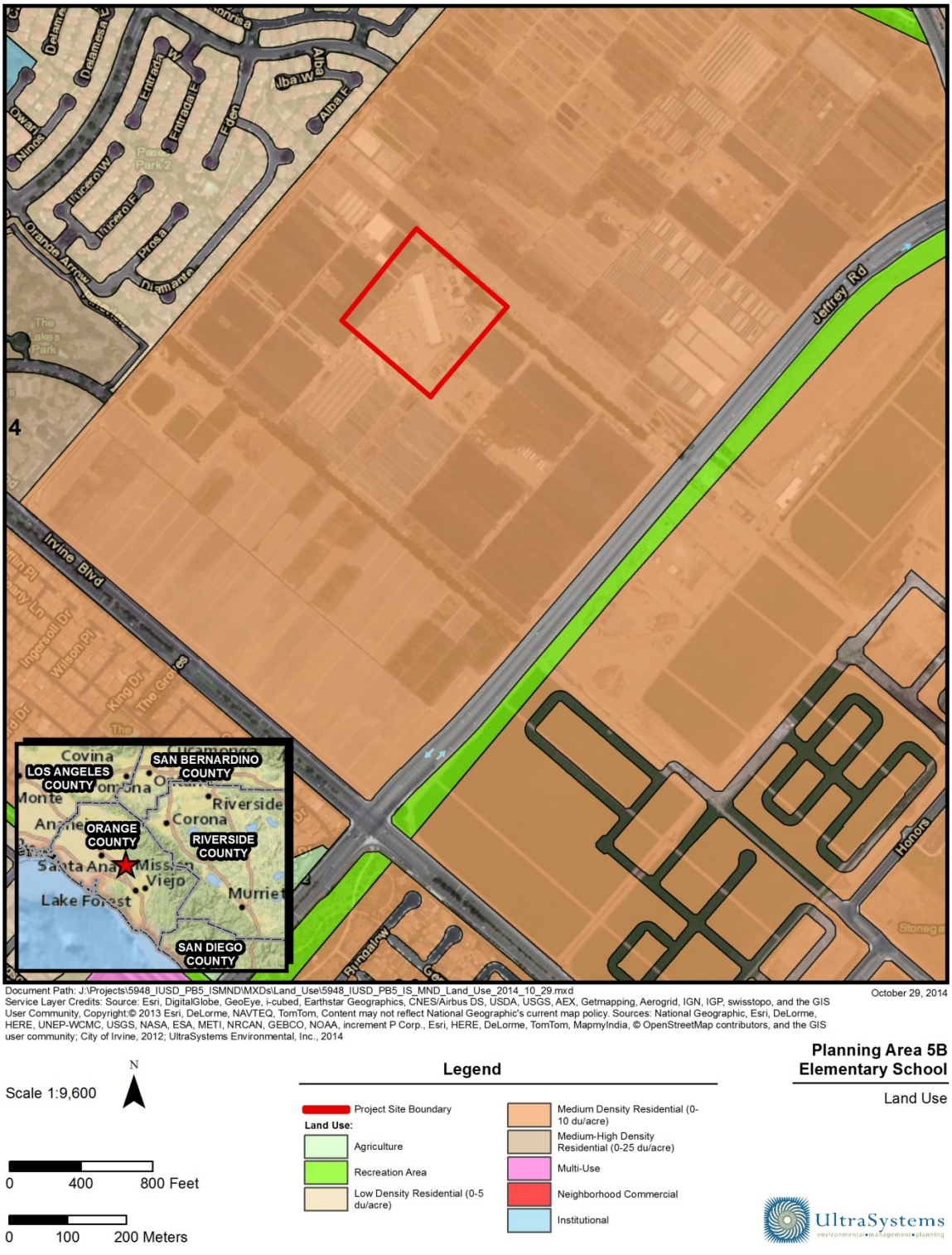
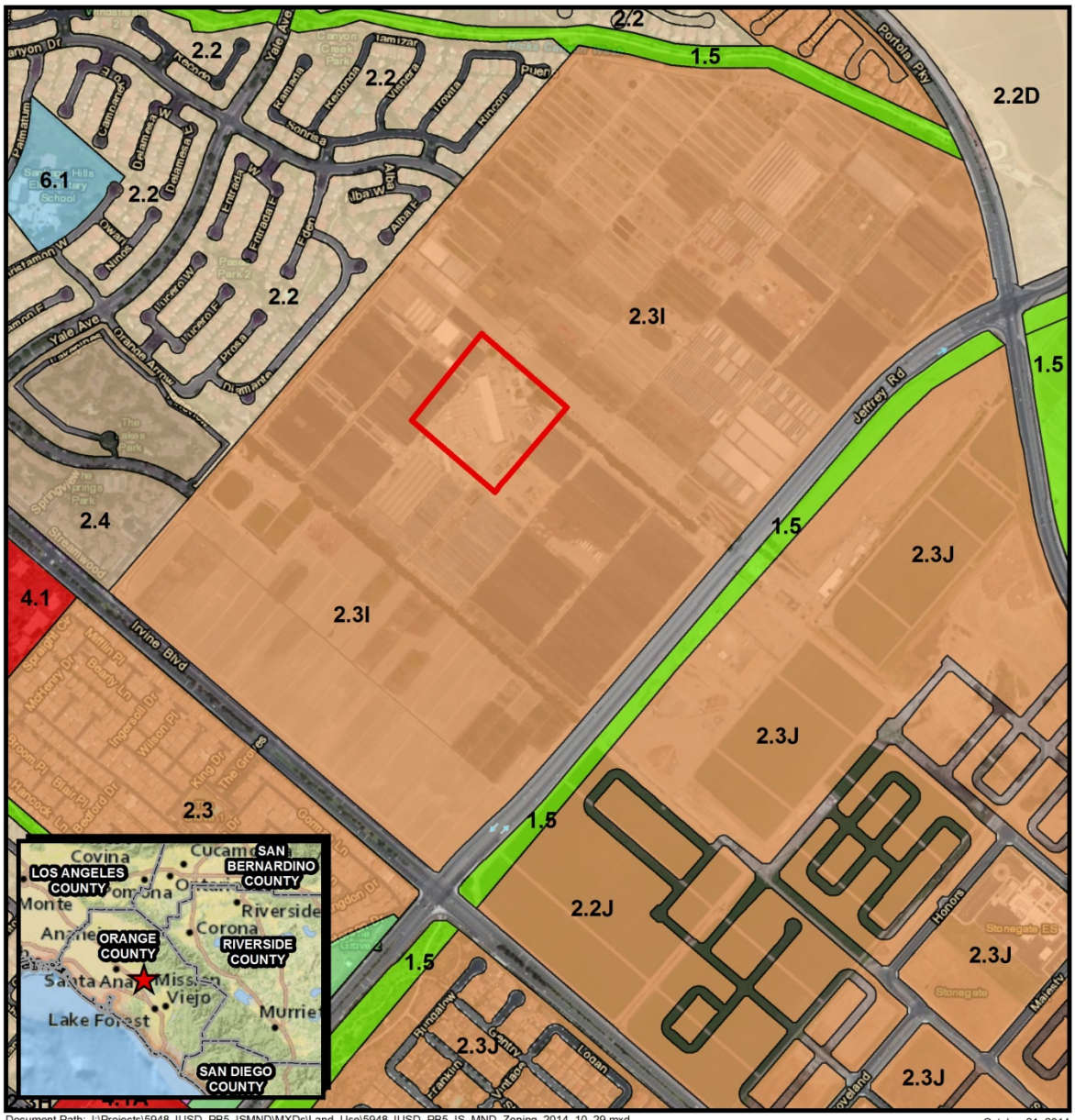


Figure 2-5
ZONING



Document Path: J:\Projects\5948_IUSD_PB5_ISMND\MXDs\Land_Use\5948_IUSD_PB5_IS_MND_Zoning_2014_10_29.mxd
October 21, 2014

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, Copyright:© 2013 Esri, DeLorme, NAVTEQ, TomTom, Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp., Esri, HERE, DeLorme, TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS user community; City of Irvine, 2013; UltraSystems Environmental, Inc., 2014

N

Scale 1:9,600

0 400 800 Feet

0 100 200 Meters

Legend

- Project Site Boundary
- ZONING:
- 1.1, Exclusive Agriculture
- 1.5, Recreation
- 2.2, Low Density Residential
- 2.2D, Low Density Residential
- 2.3, Medium Density Residential
- 2.3H, Medium Density Residential
- 2.3I, Medium Density Residential
- 2.3J, Medium Density Residential
- 2.4, Medium-High Density Residential
- 3.1G, Multi-Use
- 4.1, Neighborhood Commercial
- 4.1A, Neighborhood Commercial
- 6.1, Institutional

Planning Area 5B
Elementary School
Zoning

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3.0 PROJECT DESCRIPTION

3.1 Project Background

On August 1, 2013, the City of Irvine (City) approved the Vesting Tentative Tract Map (VTTM) No. 17523[1] for the residential development of 297.93 acres of land in Planning Area 5B[2] (PA 5B) (see **Figure 3-1**), known as the PA 5B Development. The PA 5B Development would include up to 1,900 residential dwelling units, several neighborhood parks and an elementary school (proposed project). Mass grading for PA 5B Development was completed in July 2014. The construction of roadways and installation of underground utilities are currently in progress.

In anticipation of the future enrollment demand resulting from the PA 5B Development, the Irvine Unified School District (District) proposes the construction and operation of the PA 5B Elementary School (proposed project) on a vacant lot (i.e., Lot 15 of Tract 17523) in the center of PA 5B. The proposed elementary school would accommodate both the planned student population from the PA 5B Development and the existing students from overcrowded neighboring schools within the school district.

3.2 Project Overview

The District proposes the construction of a new elementary school on an approximately 10-acre lot that is centrally located within the master planned community. The project site is currently owned and managed by The Irvine Company Community Development and the site will be acquired by the District before construction.

The proposed project is designed to accommodate up to 1,000 students at peak enrollment and serve students from transitional kindergarten through sixth grade (TK-6). During peak enrollment, the District anticipates employing approximately 50 to 75 staff, including teachers, administrators, and custodial staff. The proposed elementary school is scheduled to open in September 2017. The major project components include: (1) approximately 59,000 square feet of permanent building space, (2) 10 classroom relocatables (portables) and three daycare classroom relocatables, (3) outdoor play areas and amenities, (4) two parking lots, and (5) a student drop-off/pick-up zone.

3.2.1 Permanent Facilities

As shown in **Figure 3-2**, the proposed elementary school would be positioned with the main entrance facing southwest. The permanent buildings would not exceed the City's allowable maximum building height of 40 feet for 2.3I Medium Residential Zone. The permanent facilities associated with the elementary school operation are as follows.

- The administration, library, transitional kindergarten and kindergarten share a single large building (Building A) near the corner of Rotunda and Meander, within the southwest portion of the project site. The amenities for Building A include Innovation Lab; Design Lab;

[1] In addition to the VTTM No. 17523, the City of Irvine Planning Commission also approved the Master Landscape and Trail Plan and the Park Plan within the 2.31 Medium Density Residential Zoning District for PA 5B.

[2] In July 2000, the Irvine City Council authorized the City to enter into an agreement with The Irvine Company entitled "Implementing Protocol for the 1984 Memorandum of Understanding" (the "Protocol"). This agreement addresses the planning and phased annexation of the Northern Sphere Areas. The Protocol covers Planning Areas 3, 6, 9, and portions of Planning Areas 5 and 8. PA 5B is a part of this long-term planning effort between the City and The Irvine Company (ITC) for the development of the Northern Sphere Areas.

Resources Special Program (RSP) rooms; Learning Center; and offices for Speech, Psychologist, English Language Learners (ELL), etc.

- A music and multipurpose room (Building B) is located east of the administration/library/transitional kindergarten and kindergarten building, and is near the southeast corner of the project site.
- Three classroom buildings (Building C, D, and E), serving grades one through six, are centrally located east to west across the project site.
- A day care facility (Building G) is located in a building near the northwest corner of the site and is directly accessible through Parking Lot B on Rotunda. Day care services would be available for up to 105 enrolled PA 5B elementary school students before and after school.
- The food services building (Building F) with the associated lunch shelter is northwest of the 1st/2nd Grade Building (Building E) and west of the play structure.

Table 3-1 and **Figure 3-2** summarize these permanent building facilities and their functions.

Table 3-1
PROPOSED PERMANENT FACILITIES

Use	Building No.	Approx. Area (square feet)	Number of Classrooms
Administration	A	4,740	No dedicated classrooms
Library		9,456	No dedicated classrooms
Transitional Kindergarten/ Kindergarten		4,680	3
Music/Multipurpose Room	B	8,895	3
1st/2nd Grade Building	E	9,620	6
3rd/4th Grade Building	D	9,620	6
5th/6th Grade Building	C	9,620	6
Day Care Facility	G	2,880	3
Food Services	F	1,733	No dedicated classrooms
TOTAL		**59,000**[3]	

3.2.2 Relocatables (Portables)

Ten classroom relocatables (Building H) and three daycare classroom relocatables, providing approximately 9,600 square feet of floor space, are proposed to be located east of three 1st to 6th grade classroom buildings. They would accommodate future enrollment demand when capacity at the permanent classroom facilities has been reached. Approximately 300 to 330 students would be housed in the ten classroom relocatables, an average of 30 students per unit. Each relocatable is typically 960 square feet[4] , but the District may consider combining the relocatables into one building or adding collaboration spaces.

[3] The listed permanent facilities' square footages do not add up exactly to 59,000 because there may be some minor area adjustments in the final site plan.

[4] 24 feet long and 40 feet wide.

3.2.3 Outdoor Play Areas and Amenities

A separate outdoor play area designated for the transitional kindergarten and kindergarten students is located at the southwest corner of the project site and adjacent to the transitional kindergarten and kindergarten classroom facilities. Between the kinder play and classroom facilities is a kinder lunch shelter with covered overhangs for kindergarteners to eat their lunch. The food lunch shelter for the first through sixth graders is located between the hardscape playground and the food building. Hardscape playgrounds with play structures and basketball, tetherball and handball courts are planned directly north of the three 1st to 6th grade classroom buildings. The turf play fields occupy the northernmost portion of the site immediately south of the planned City's public park, which is part of the larger PA 5B Development.

3.2.4 Access, Parking, and Drop-off/Pick-up

The project site's surrounding local street network is currently being constructed in PA 5B. Once completed, access to the school site would be via Rotunda to the west and Meander to the south (see **Figure 3-2**). The Meander entrance would serve as the primary access and Rotunda would serve as the secondary access. Fire access would be provided via driveways and parking lots.

The two onsite parking lots are located along Meander (Parking Lot A) and along Rotunda (Parking Lot B). Parking Lot A has approximately 29 angled (60-degree) parking stalls and a designated student drop-off/pick-up zone. The westbound vehicles (traveling from Parkwood) on Meander would make a right turn into Parking Lot A ingress and eastbound vehicles (traveling from Rotunda) would make a left turn to enter the parking lot. All exiting vehicles from Parking Lot A would make a right turn only and merge into the westbound traffic on Meander to leave Parking Lot A.

Parking Lot B is located closer to the transitional kindergarten and kindergarten and day care facilities. Unlike Parking Lot A, Parking Lot B does not have a drop-off/pick-up zone. It has approximately 44 angled parking stalls, including three Americans with Disabilities Act (ADA) access spaces, for parents to park their vehicles and walk their children to the classroom facilities. The northbound vehicles on Rotunda would make a right turn to enter Parking Lot B and the southbound vehicles on Rotunda would make a left turn to enter. The Parking Lot B has a right-turn-out-only egress on the Rotunda and allows exiting vehicles to merge into the northbound traffic on Rotunda.

A turnout for school buses is located along the east side of Rotunda approximately 100 feet north of Meander. The proposed PA 5B elementary school will not have a special education program that requires bus service for students with special needs. For this reason, the use of the bus drop-off is anticipated for field trips and other special events.

3.2.5 Project Design Features

The proposed facilities would be designed and constructed in accordance with the specifications in the current California Building Code (CBC) for the construction of public school buildings, and would comply with ADA standards, with paths and ramps to accommodate handicap access into buildings and between facilities. Construction of school facilities would also follow the recommendations outlined in the Division of State Architect (DSA)'s Interpretation of Regulations (IR). The IRs was created by DSA as an acceptable method for achieving compliance with applicable building codes and regulations related to structural design, relocatable buildings, fire resistive

building materials, fire alarms, fire suppression equipment, safe occupant egress, and firefighting equipment access, etc.

The proposed project would comply with the building standards applicable to public school buildings set forth in Title 24 of California Code of Regulations (CCR), Part 2 Building Code, Part 3 Electrical Code, Part 4 Mechanical Code, Part 5 Plumbing Code, Part 6 Energy Code, Part 11 Green Building Standards Code (CALGreen Code), and Part 12 Reference Standards Code requirements. Satisfying these standards and code requirements would ensure implementation of structural safety, fire protection, energy efficient design, water conservation measures, and would aid in the reduction of greenhouse gas emissions.

3.2.6 School Lighting

Standard school lighting is planned for interior and exterior lighting of the classrooms, administration, library, food service, and corridors. Exterior lighting for parking lots and walkways would comply with the City of Irvine Municipal Code Section 5-9-517, Special Nonresidential Building Provisions, which set light and glare standards related to its design, height, installation, and maintenance. Outdoor lighting would be designed and installed so that all direct light rays are confined to the site and light would not spill onto adjacent properties. No exterior lighting is planned for the play fields and hard courts.

3.2.7 Landscaping/Hardscaping

The project site would be largely hardscaped, except for the turf play fields, kinder play, and selected areas for planters. The school site is designed to be an open campus with landscaping along the western and southern boundaries. Thicker vegetation would be planted at the southwest corner to screen the kinder play from traffic on Rotunda and Meander.

3.2.8 Drainage

PA 5B is divided in two drainage sub-areas, Area E (east) and Area W (west). The project site is within Area W. The runoff within Area W will be routed through a detention basin at the southwest corner of PA 5B (see **Figure 3-3**) and discharge into the existing Irvine Boulevard storm drain system. In addition to Area W, the runoff from the Irvine Boulevard (Area I, which is outside of the PA 5B) also drains into the existing Irvine Boulevard storm drain system. During the 100-year storm event, Area W and Area I would generate flows that exceed the existing Irvine Boulevard drain system's design flow rate of the 174 cubic-feet per second (cfs). To decrease the flow rate of the runoff from Area W before discharging into the existing storm drain system, a detention basin will be built at the southwest corner of the PA 5B as part of the Irvine Company's PA 5B Development. This detention basin will reduce flow rates to avoid exceeding the design capacity of the existing Irvine Boulevard drain system (VA Consulting, 2013a).

The project site's runoff would flow in a southwesterly direction and drain into the storm drain facilities on Meander and Rotunda. These storm drain facilities, which include catch basins, junction structures, 24-inch to 54-inch reinforced concrete pipe (RCP) main lines (trunk lines), and 18-inch to 36-inch RCP laterals, are currently being constructed as part of the PA 5B Development (Stantec, 2013a) and are scheduled to be completed in 2015. The following storm drain pipelines would be in place prior to project implementation:

- At Meander: a 24-inch RCP main line, and 18-inch or 36-inch RCP laterals.

- At Rotunda, north of Meander: a 36-inch to 48-inch RCP main line and 18-inch, 24-inch RCP, or 36-inch RCP laterals.
- At Rotunda, south of Meander: a 48-inch to 54-inch RCP main line, 18-inch or 36-inch laterals.

3.2.9 Utilities

As part of the street infrastructure improvement for the PA 5B Development, sewer collection, domestic water, and non-potable water pipelines would be installed beneath the street rights-of-way (see **Figure 3-4** through **Figure 3-6**) adjacent to the project site. The site has already been mass graded and provided with stub-outs for future utility connections. Onsite sewer, potable and nonpotable water pipelines would connect to the PA 5B utility systems from Rotunda or Meander.

Dry utilities such as electricity, gas, and internet would be available through the infrastructure improvements part of the PA 5B Development. These services would be extended to the project site from the nearest service connections.

3.2.10 School Operation

A typical elementary school within the school district operates on a traditional school calendar with 180 school days that are broken into two 90-day semesters. Classes begin in late August and end in mid-June the following year. Standard hours of operation will be 8:00 a.m. to 2:30 p.m., Monday through Friday for students. Peak-hour drop-off time is anticipated at 7:30 a.m. to 8:00 a.m. The administration staff, custodial staff, and teachers would be onsite from 7:30 a.m. to 4:00 p.m. The operational hours for the day care facility are planned between 7:00 a.m. and 6:00 p.m.

Based on the District's 2014 enrollment projection, approximately 211 students residing in PA 5B will attend the proposed elementary school for the 2017 opening year. By 2018, the enrollment from PA 5B will increase to 542 students.

3.2.11 School Security

The District security policies for traditional kindergarten and kindergarten children require parents to walk in and sign-in their children. Other site related security features may include the ability to lock down the campus in case of an emergency. Additional security features would include, but not limited to, security cameras, communication systems, and operational techniques.

3.3 Construction Activities and Schedule

The proposed project would be constructed in a single phase with construction scheduled to begin in February 2016. The specific start date for construction will depend on approvals from the California Department of Education (CDE), Department of Toxic Substances Control (DTSC), and the Division of State Architect (DSA) for the use of state funds and participation in the State Facilities Program.

The entire PA 5B site was rough graded from January 20, 2014 to July 25, 2014, and building pads and utility trenches have been established. Precise grading for drainage contours, landscaped areas and amenities for the project site would occur when construction of the proposed project begins.

After precise grading, infrastructure such as water, sewer and drainage lines would be installed. Then foundations would be poured and framing of structures would begin. It is anticipated that the construction would occur over 17 months. The final stage of construction would involve interior furnishings and detail work, as well as completion of entry plaza, play areas and landscaping. The proposed elementary school is scheduled to be open for 2017-2018 school year.

3.4 Reviewing Agencies

The following agencies would be provided an opportunity to review the IS/MND for compliance with applicable requirements, and to submit written comments, if any, to the Lead Agency.

State

- California Office of Planning and Research – State Clearinghouse
- Native American Heritage Commission
- Department of Conservation
- California Department of Fish and Wildlife
- Department of General Services
- Department of Health Services
- Office of Emergency Services
- State Water Resources Control Board

Regional and Local

- Orange County Fire Authority
- County of Orange Planning and Development
- Orange County Flood Control District
- Irvine Ranch Water District
- City of Irvine Community Development Department
- Irvine Police Department

3.5 Discretionary Action

Following Lead Agency approval of this IS/MND (see Section 1.0), the following permits and approvals would be required prior to construction.

Agency	Permit or Approval
California Department of Toxic Substances Control	Determination of "No Further Action" regarding the environmental condition of the property
California Department of Education – School Facilities Planning Division	Approval of site and plans
California Regional Water Quality Control Board, Region 8 – Santa Ana	Issuance of National Pollutant Discharge Elimination (NPDES) permit, construction stormwater runoff permit and Stormwater

Agency	Permit or Approval
	Pollution Prevention Plan (SWPPP)
South Coast Air Quality Management District	Issuance of applicable air quality permits for equipment
Orange County Fire Authority	Emergency access approval
City of Irvine Public Works	Street and utilities improvements

Figure 3-1
PLANNING AREA 5B DEVELOPMENT
(Vesting Tentative Tract Map 17523)

Source: VA Consulting, 2013

January 21, 2015

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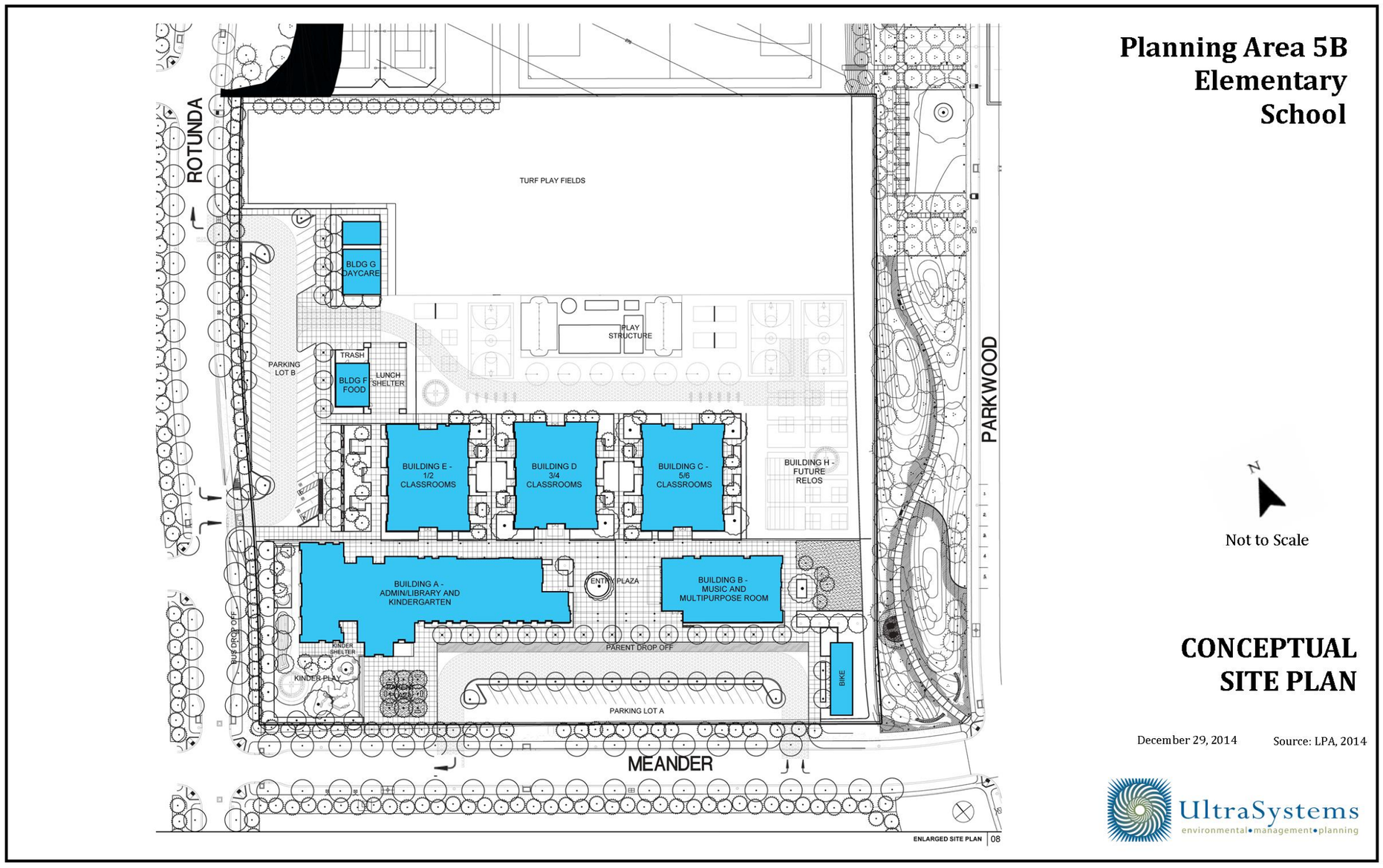
N

Not to Scale

Figure 3-2
CONCEPTUAL SITE PLAN



Planning Area 5B Elementary School

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Not to Scale

CONCEPTUAL SITE PLAN

December 29, 2014

Source: LPA, 2014

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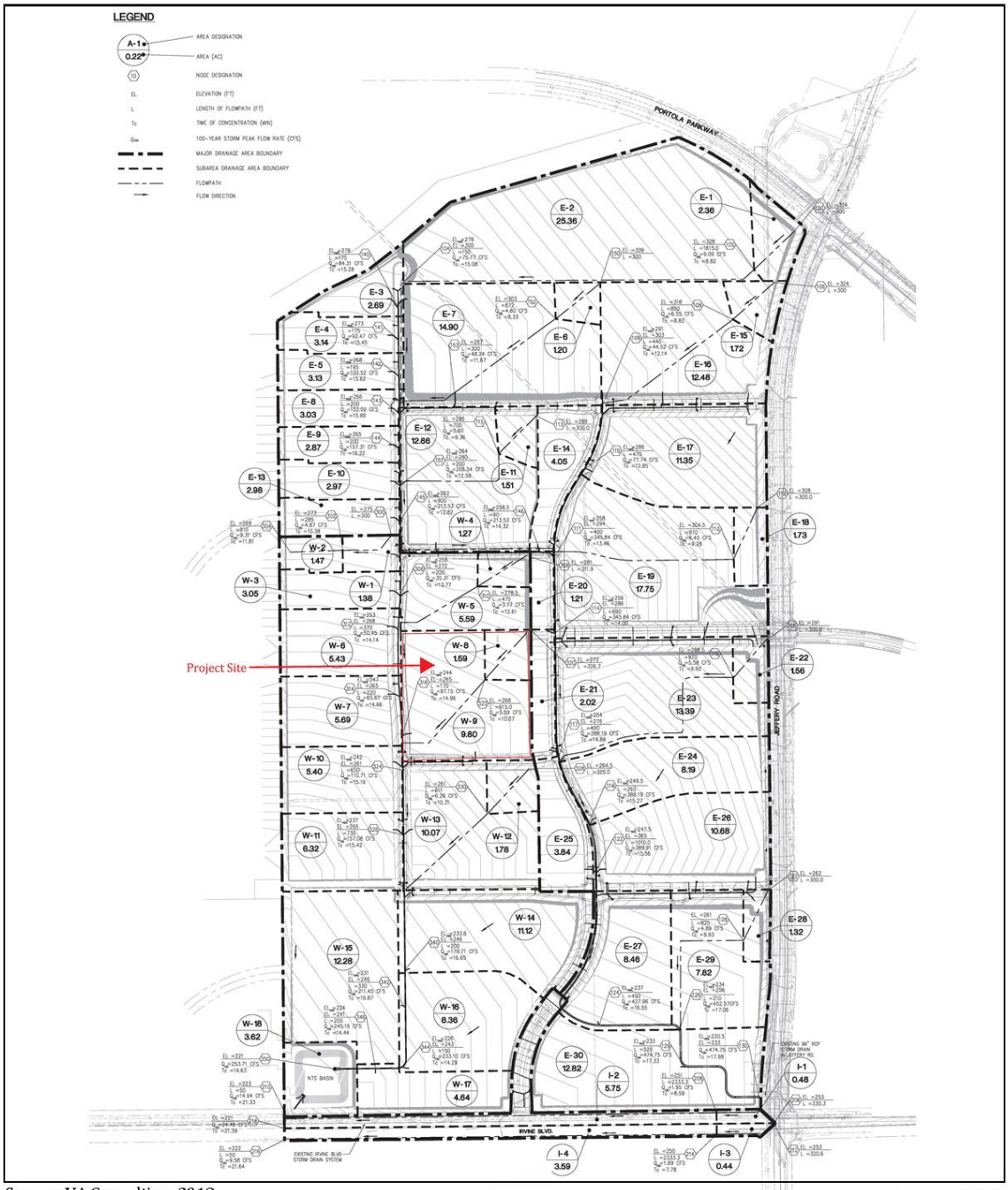
Figure 3-3
HYDROLOGY MAP



Source: VA Consulting, 2013

January 7, 2015

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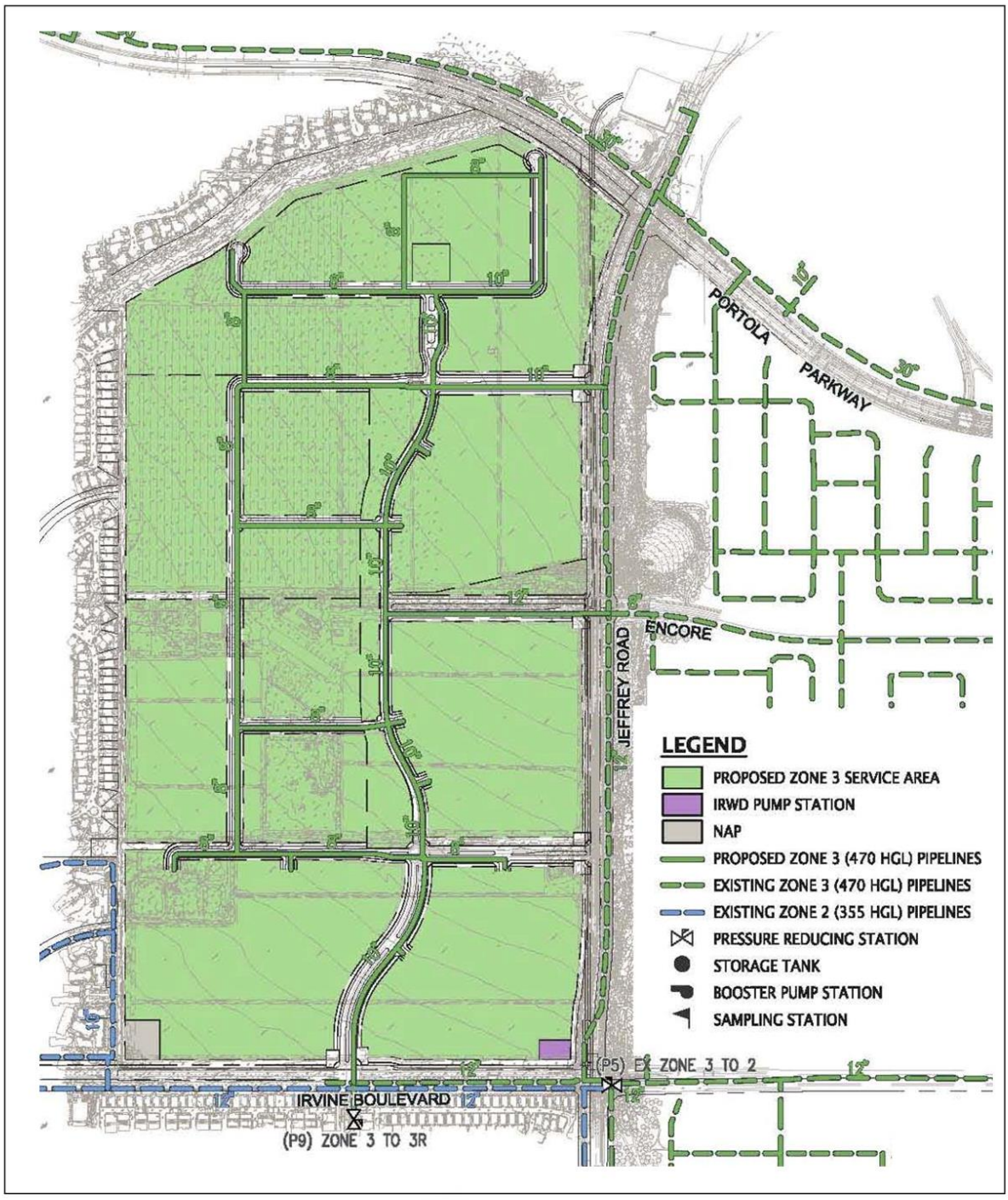
Not to Scale

Figure 3-4
DOMESTIC WATER SYSTEM



Source: Stantec, 2013

January 7, 2014

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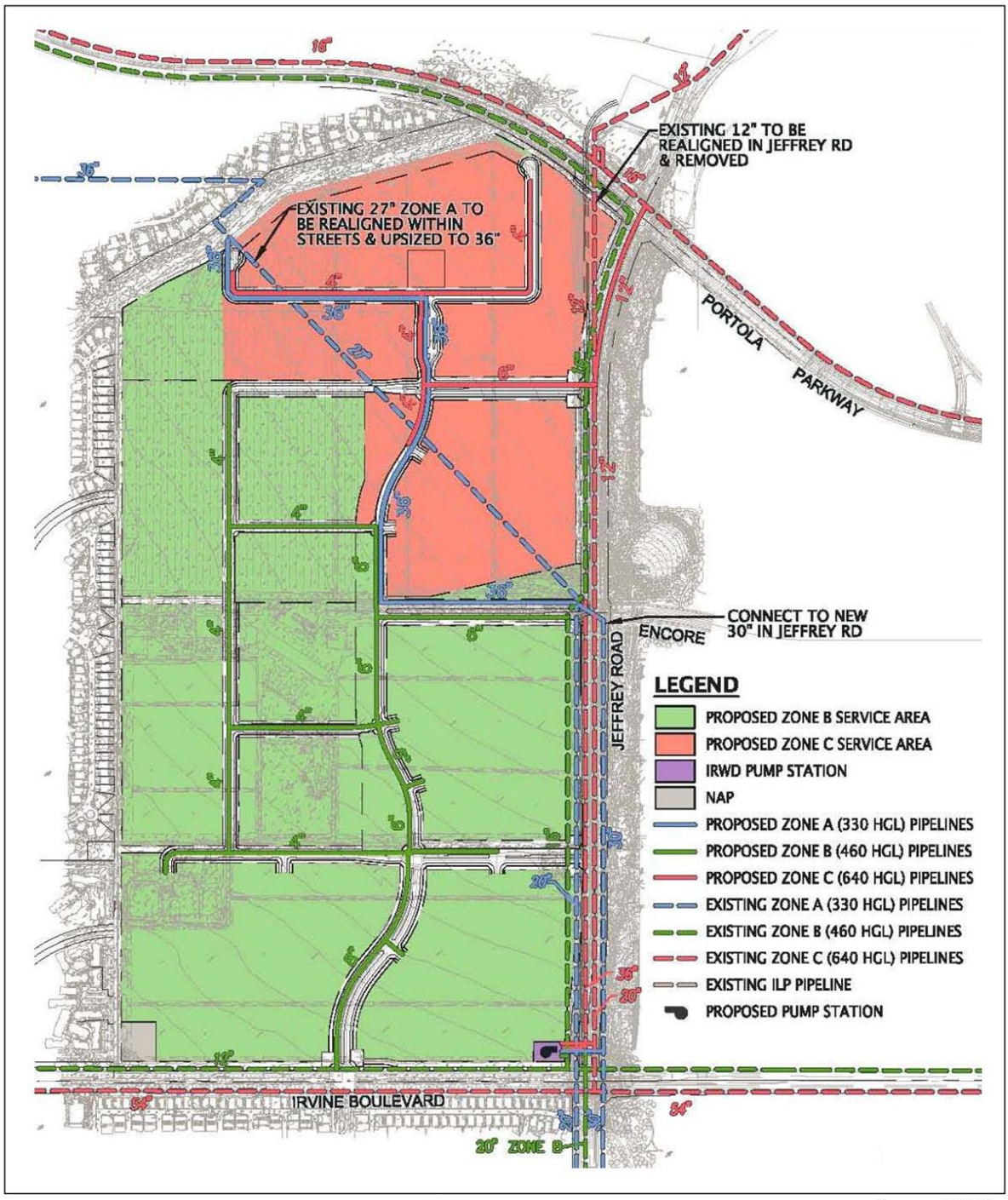
Not to Scale

Figure 3-5
NONPOTABLE WATER SYSTEM



Source: Stantec, 2013

January 7, 2014

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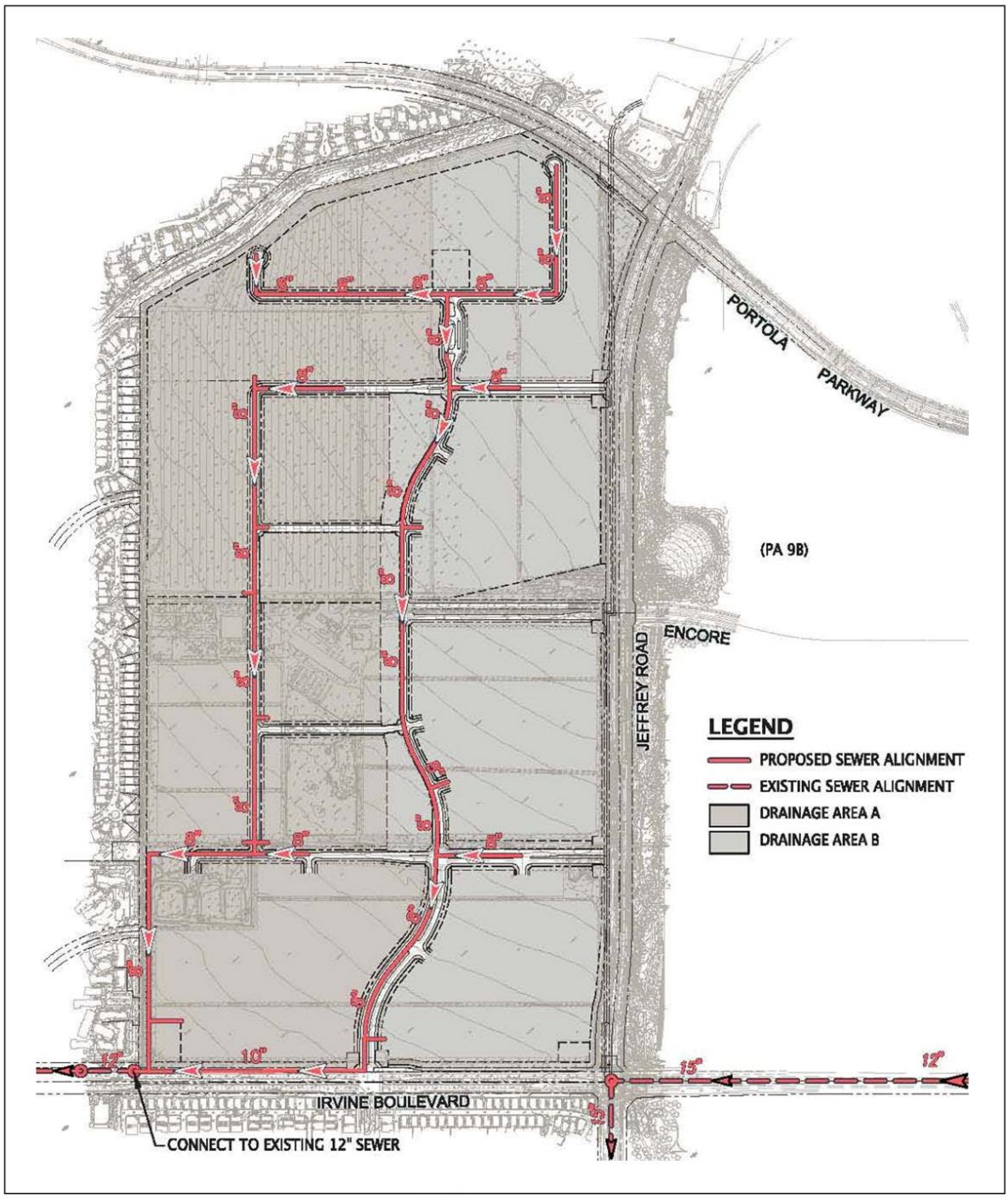
Figure 3-6
SEWER COLLECTION SYSTEM



Source: Stantec, 2013

January 7, 2014

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Not to Scale

4.0 ENVIRONMENTAL CHECKLIST

Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" or as a "Potentially Significant Unless Mitigation Incorporated," as indicated by the checklist on the following pages.

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

Determination (To Be Completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLRATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigat ion measures that are imposed upon the proposed project, nothing further is required.

Signature	Date
Dana Grudem	Irvine Unified School District
Printed Name	For

Special Requirements under the State School Facility Program

In addition to the CEQA Guidelines, primary and secondary public schools have several additional requirements established by the California Code of Regulations and California Education Code. **Table 4.0-1** identifies the specific health and safety requirements for a state-funded new school or a state-funded addition to an existing school site. These health and safety requirements are outlined in the California Department of Education (CDE) School Site Selection and Approval Guide. The analyses and response is included under the relevant section identified in the table below.

Table 4.0-1
SPECIAL REQUIREMENTS FOR SCHOOL SITE SELECTION AND APPROVAL

Topic	Applicable Code	Environmental Checklist
AIR QUALITY		
Is the boundary of the proposed school site within 500 feet of the edge of the closest traffic lane of a freeway or busy traffic corridor? If yes, would the project create an air quality health risk due to the placement of the School?	PRC § 21151.8(a)(1)(D); Ed. Code § 17213(c)(2)(C)	Section 4.3 Air Quality, Question (f)
Would the project create an air quality hazard due to the placement of a school within one-quarter mile of: (a) permitted and non-permitted facilities identified by the jurisdictional air quality control board or air pollution control district; (b) freeways and other busy traffic corridors; (c) large agricultural operations; and/or (d) a rail yard, which might reasonably be anticipated to emit hazardous air emissions, or handle hazardous or acutely hazardous material, substances, or waste?	PRC § 21151.8 (a)(2); Ed. Code § 17213 (b)	Section 4.3 Air Quality, Question (g)
GEOLOGY AND SOILS		
Does the site contain an active earthquake fault or fault trace, or is the site located within the boundaries of any special studies zone or within an area designated as geologically hazardous in the safety element of the local general plan?	CCR, Title 5 § 14010(f); Ed. Code, §17212	Section 4.6 Geology and Soils, Question (a) i)
Would the project involve the construction, reconstruction, or relocation of any school building on a site subject to moderate-to-high liquefaction?	CCR, Title 5 § 14010(i)	Section 4.6 Geology and Soils, Question (a) ii)
Would the project involve the construction, reconstruction, or relocation of any school building on a site subject to landslides?	CCR, Title 5 § 14010(i)	Section 4.6 Geology and Soils, Question (a) iv)
Would the project involve the construction, reconstruction, or relocation of any school building on the trace of a geological fault along which surface rupture can reasonably be expected to occur within the life of the school building?	CCR, Title 5 §14010(f); Ed. Code §17212	Section 4.6 Geology and Soils, Question (a) i)
HAZARDS AND HAZARDOUS MATERIALS		
Is the property line of the proposed school site less than the following distances from the edge of respective powerline easements: (1) 100 feet of a 50-133 kV line; (2) 150 feet of a 220-230 kV line; or (3) 350 feet of a 500-550 kV line?	CCR, Title 5 § 14010(c)	Section 4.8 Hazards and Hazardous Materials, Question (j)

Topic	Applicable Code	Environmental Checklist
Is the proposed school site located near an aboveground water or fuel storage tank or within 1,500 feet of an easement of an aboveground or underground pipeline that can pose a safety hazard to the site?	CCR, Title 5 § 14010(h)	Section 4.8 Hazards and Hazardous Materials, Question (i)
Is the proposed school site situated within 2,000 feet of a significant disposal of hazardous waste?	CCR, Title 5 § 14010(t)	Section 4.8 Hazards and Hazardous Materials, Question (g)
Does the proposed school site contain one or more pipelines, situated underground or aboveground, which carry hazardous substances, acutely hazardous materials, or hazardous wastes, unless the pipeline is a natural gas line that is used only to supply natural gas to that school or neighborhood?	PRC § 21151.8 (a)(1)(C)	Section 4.8 Hazards and Hazardous Materials, Question (h)
Is the school site in an area designated in a city, county, or city and county general plan for agricultural use and zoned for agricultural production, and if so, do neighboring agricultural uses have the potential to result in any public health and safety issues that may affect the pupils and employees at the school site? *(Does not apply to school sites approved by CDE prior to January 1, 1997.)*	Ed. Code § 17215.5 (a)	Section 4.8 Hazards and Hazardous Materials, Question (p)
Does the project site contain a current or former hazardous waste disposal site or solid waste disposal site and, if so, have the wastes been removed?	PRC § 21151.8 (a)(1)(A)	Section 4.8 Hazards and Hazardous Materials, Question (e)
Is the project site a hazardous substance release site identified by the state Department of Health Services in a current list adopted pursuant to §25356 for removal or remedial action pursuant to Chapter 6.8 of Division 20 of the Health and Safety Code?	PRC § 21151.8 (a)(1)(B)	Section 4.8 Hazards and Hazardous Materials, Question (d)
If prepared, has the risk assessment been performed with a focus on children's health posed by a hazardous materials release or threatened release, or the presence of naturally occurring hazardous materials on the school site?	Ed. Code § 17210.1 (a)(3)	Section 4.8 Hazards and Hazardous Materials, Question (c)
If a response action is necessary and proposed as part of this project, has it been developed to be protective of children's health, with an ample margin of safety?	Ed. Code § 17210.1 (a)(4)	Section 4.8 Hazards and Hazardous Materials, Question (s)
Is the proposed school site within two miles, measured by air line, of that point on an airport runway or potential runway included in an airport master plan that is nearest to the site? *(Does not apply to school sites acquired prior to January 1, 1966.)*	Ed. Code § 17215 (a)&(b)	Section 4.8 Hazards and Hazardous Materials, Question (k & l)
HYRDOLOGY AND WATER QUALITY		
Is the project site subject to flooding or dam inundation?	CCR, Title 5 § 14010(g); Ed. Code § 17212;	Section 4.9 Hydrology and Water Quality, Question (k)

Topic	Applicable Code	Environmental Checklist
LAND USE AND PLANNING		
Would the proposed school conflict with any existing or proposed land uses, such that a potential health or safety risk to students would be created?	CCR, Title 5 § 14010(m)	Section 4.10 Land Use and Planning, Question (d)
NOISE		
Is the proposed school site located adjacent to or near a major arterial roadway or freeway whose noise generation may adversely affect the education program?	CCR, Title 5 § 14010(e)	Section 4.12 Noise, Question (g)
PUBLIC SERVICES		
Does the site promote joint use of parks, libraries, museums, and other public services?	CCR, Title 5 § 14010(o)	Section 4.14 Public Services, Question (f)
TRANSPORTATION AND TRAFFIC		
Is the proposed school site within 1,500 feet of a railroad track easement?	CCR, Title 5 § 14010(d)	Section 4.16 Transportation and Traffic, Question (g)
Is the site easily accessible from arterials and is the minimum peripheral visibility maintained for driveways per Caltrans' Highway Design Manual?	CCR, Title 5 § 14010(k)	Section 4.16 Transportation and Traffic, Question (h)
Are traffic and pedestrian hazards mitigated per Caltrans' School Area Pedestrian Safety manual?	CCR, Title 5 § 14010(l)	Section 4.16 Transportation and Traffic, Question (a) and (d)

Evaluation of Environmental Impacts

(1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors, as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

(2) All answers must take into account the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

(3) Once the lead agency has determined that a particular physical impact may occur then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

(4) "Negative Declaration: Less than Significant with Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less than Significant Impact." The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to less than significant level.

(5) Earlier analyses may be use where, pursuant to the tiering, program EIR, or other CEQA process, an affect has been adequately analyzed in an earlier EIR or negative declaration. (See Section 15063(c)(3)(D) of the CEQA Guidelines. In this case, a brief discussion should identify the following:

(a) Earlier Analyses Used. Identify and state where the earlier analysis available for review.

(b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

(c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures that were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

(6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated. A source list should be attached and other sources used or individuals contacted should be cited in the discussion.

(7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

(8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

(9) The explanation of each issue should identify:

(a) The significance criteria or threshold, if any, used to evaluate each question; and

(b) The mitigation measure identified, if any, to reduce the impact to less than significant.

4.1 AESTHETICS				
Would the project:	**Potentially Significant Impact**	**Less than Significant Impact with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Have a substantial adverse effect on a scenic vista?				**X**
b) Substantially damage scenic resources, including, but not limited to, trees, outcroppings, and historic buildings within a state scenic highway?				**X**
c) Substantially degrade the existing visual character or quality of the site and its surroundings?			**X**	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			**X**	

a) Would the project have a substantial adverse effect on a scenic vista?

No Impact

The Irvine Unified School District (District) proposes to construct and develop an elementary school (project) within Planning Area 5B (PA 5B). The City of Irvine (City) has designated PA 5B as a Development Area.[1] The project site (site) is directly adjacent to and surrounded by vacant and undeveloped land. Beyond PA 5B, the primary land uses within the immediate surrounding vicinity are residential.

The site is generally located within an area known as the Northern Flatlands (also known as Tustin Plain) which extends from the Santiago Hills to the Santa Ana Freeway (I-5). This area is relatively flat and gradually slopes from the northeast to the southeast. Most recently, PA 5B and the site has been subject to mass grading (see **Appendix A**).

The City encourages the use and preservation of geophysical resources[2], including, but not limited to, ridgelines, hillsides, and waterways.[3]. Eucalyptus Windrows are located throughout PA 5B and east of the site. These resources are protected by the City's Conservation and Open Space Dedication Program, Municipal Code, and Zoning Ordinance.[4] Prominent features are listed in **Table 4.1-1** below.[5]

1 See City of Irvine General Plan (2012) Conservation and Open Space Element, Objective L-3: Implementation District.
2 The City considers both human-made and natural physical features as visual resources.
3 See City of Irvine General Plan (2012) Conservation and Open Space Element, Objective L-5: Geophysical Resources.
4 See City of Irvine Municipal Code Section 9-5-7. Special development requirements for New Community (Area 2.3I).
5 This table is an excerpt from the City of Irvine CEQA Manual, Volume 2: Technical Guidelines (May 2012), see Table 3.1-1 for Notable Visual Resources in the City of Irvine.

Table 4.1-1
NOTABLE VISUAL RESOURCES IN THE CITY OF IRVINE

Type of Resource	Examples In Irvine
Hills	The Santiago Hills and San Joaquin Hills, including canyons, plateaus, narrow ridges, and rock outcroppings
Natural watercourses*	San Diego Creek, Agua Chinon Wash, Bee Canyon Wash, Borrego Canyon Wash, Hicks Canyon Wash, Peters Canyon Wash, Sand Canyon Wash, and San Joaquin Freshwater Marsh
Artificial lakes	Woodbridge Lakes and the William R. Mason Regional Park lakes
Source: City of Irvine CEQA Manual, Volume 2 (2012). *Notes: Notable visual resources are the natural portions of those watercourses only.	

A site visit was conducted on November 17, 2014 to document surrounding views of notable visual resources (refer to **Figure 4.1-1**, Photograph Map Key and **Figure 4.1-2**, Views from Project Site). Photographs were taken of the site and properties directly adjacent from it. Views from the site are depicted by their cardinal direction in photographs 1 through 8.

Northern Views

- Photograph 1: Facing away from the site, the Santiago Hills are visible in the background.
- Photograph 5: Facing the site, is near the future public park where no visual resources were observable.

Southern Views

- Photograph 3: Facing away from the site, the San Joaquin Hills are barely visible behind Eucalyptus Windrows.
- Photograph 7: Facing the site, the Santiago Hills were visible in the background.

Eastern Views

- Photograph 2: Facing away from the site, no visual resources were observable.
- Photograph 6: Facing the site, no visual resources were observable.

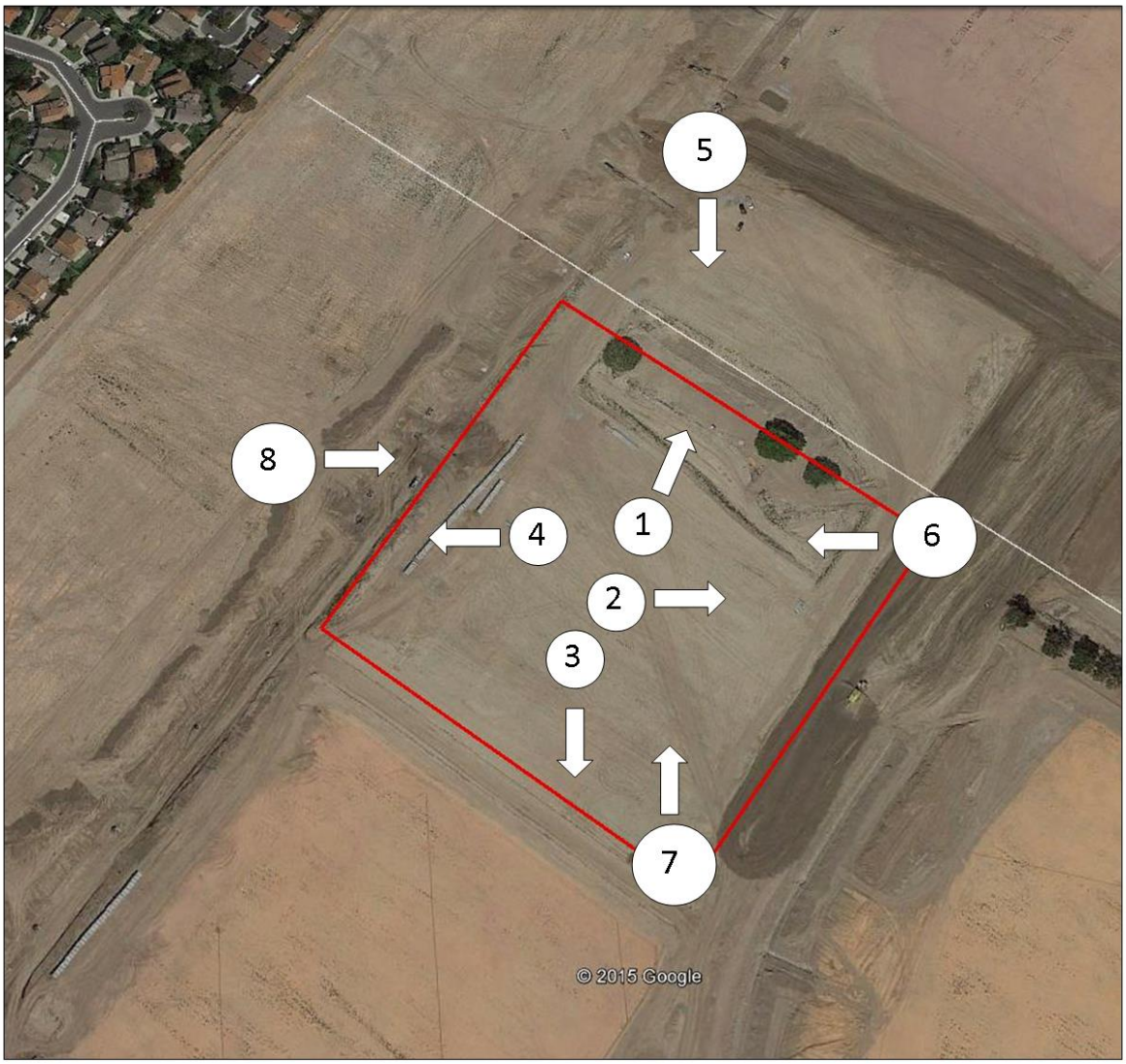
Western Views

- Photograph 4: Facing away from the site, no visual resources were observable.
- Photograph 8: Facing the site, the Santiago Hills were visible in the background.

The site is not designated within or immediately near a preservation area for geophysical resources.[6] The nearest notable visual resources are the Santiago Hills Ridgeline and Hicks Canyon Wash to the north. The photographs in **Figure 4.1-1** depict northern views from the site and demonstrate that views to scenic resources would not be obstructed by the project. Hence, development of an elementary school would not have a substantial adverse effect on scenic resources. Therefore, no impact would occur.

[6] See City of Irvine General Plan (2012) Conservation and Open Space Element, Figure L-2 and Conservation/Open Space Dedication Program.

Figure 4.1-1
PHOTOGRAPH MAP KEY



Source: Google Earth (2015)

Photograph Map Key

Planning Area 5B Elementary School

N

Not to Scale

UltraSystems
environmental•management•planning

January 8, 2015

Figure 4.1-2
VIEWS FROM PROJECT SITE

Northern Views

Photograph 1: Facing Away from the Project Site

Photograph 5: Facing the Project Site

Figure 4.1-2
VIEWS FROM PROJECT SITE
(Continued)

Southern Views

Photograph 3: Facing Away from the Project Site

Photograph 7: Facing the Project Site

Figure 4.1-2
VIEWS FROM PROJECT SITE
(Continued)

Eastern Views

Photograph 2: Facing Away from the Project Site

Photograph 6: Facing the Project Site

Figure 4.1-2
VIEWS FROM PROJECT SITE
(Continued)

Western Views

Photograph 4: Facing Away from the Project Site

Photograph 8: Facing the Project Site

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact

According to the California Department of Transportation[7], there are no officially designated or eligible state scenic highways located within Irvine; however, the City does recognize locally designated scenic highways[8]. The nearest locally designated scenic highway is Jeffrey Road which is 0.25 mile to the south and is considered a Highways of Urban Character.

The project would adhere to the City's General Plan (2012) and Zoning Ordinance which imposes development guidelines and standards to reduce the obstruction of public views from locally designated scenic highways. Therefore, no impact would occur.

c) Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

Less than Significant Impact

The vacant land immediately surrounding the site has a General Plan (2012) Land Use designation of Medium Density Residential (0-10 dwelling units per acre) and is zoned as 2.3I Medium Density Residential. The site is currently vacant and undeveloped land which is located within a new community that is undergoing residential development.[9] Beyond PA 5B, the primary land uses within the immediate vicinity are residential (to the north, south, east, and west). This proposed 10-acre District site would be built at the center of PA 5B which would serve current and future students.

The project would not exceed the City's allowable maximum building height of 40 feet for 2.3I[10] Medium Density Residential Zone. The school site would be designed as an open campus with landscaping along the western and southern boundaries. Thicker vegetation would be planted at the southwest corner to screen the kinder play from traffic on Rotunda and Meander. Lines of trees would also be planted to screen the classroom facilities from the parking lots.

The project would comply with the City's Development Standards[11] and Special Development Requirements for Schools zoned within 2.3I which address land use density, minimum site size, maximum site coverage, maximum building height, and minimum site landscaping.[12] Implementation of this project would be compatible with existing and proposed surrounding residential land uses and would aid the District in serving current and future student needs. Hence, this project would not substantially degrade the existing visual character or quality of the site and its surroundings. Therefore, a less than significant impact would be anticipated.

7 http://earth.dot.ca.gov/ Accessed November 10, 2014.
8 See Figure A-4, Scenic Highways, in the City of Irvine General Plan (2012) Land Use Element.
9 See Section 3.0, Project Description, in this Initial Study.
10 See Category 2.3 (Medium Density) within Land Use Matrix in Zoning Ordinance, Division 9 - Planning Areas, Chapter 9-5, Planning Area 5 (Northwood Point), Section 9-5-5: Development Standards for Area 2.3I.
11 See City of Irvine Zoning Code, Section 9-5-5: Development Standards for Area 2.3I.
12 See City of Irvine Zoning Code, Section 9-5-7: Special Development Requirements for New Community (Area 2.3I) and Schools.

d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less than Significant Impact

Currently, there are no existing sources of light onsite; however; beyond the adjacent vacant land there are existing sources of light from surrounding residential communities and commercial establishments. Standard school lighting is planned for exterior lighting of classrooms, administration, library, food service buildings, and corridors. Exterior lighting for parking lots and walkways would be planned and designed as deemed necessary. No exterior lighting is planned for the play fields and hard courts.

The City's Zoning Code requires that outdoor lighting be designed and installed so that all direct light rays are confined to the site and adjacent properties are protected from its glare. [13] The City's Uniform Security Code limits light and glare by establishing requirements in levels of lighting for newly constructed buildings. [14] For nonresidential development, the City has light and glare standards related to its design, height, installation, and maintenance (this includes uses in parking lots and with signage). [15] Prior to the issuance of a building permit, these lighting requirements are reviewed and verified by the City under Standard Condition 3.6 (Site Lighting Requirements).

Adherence to all applicable sections of the City' Municipal Code, Uniform Security Code, Zoning Code, and Standard Condition 3.6 would ensure that new sources of light or glare would not adversely affect day or nighttime views in the area. Therefore, a less than significant impact would be incurred as a result of this project.

[13] See Irvine Zoning Ordinance, Chapter 3-16 (Lighting) and See City of Irvine Zoning Ordinance, Division 9 - Planning Areas, Chapter 9-5. Planning Area 5 (Northwood Point), Section 9-5-7. Special Development Requirements for New Community (Area 2.3I), (E.) Neighborhood Design. (6.) Light and Glare.

[14] See Irvine Municipal Code, Title 5, Division 9, Chapter 5 (Uniform Security Code).

[15] See Irvine Municipal Code, Title 5 (Planning), Division 9 (Building Regulations), Chapter 5 (Uniform Security Code). Section 5-9-517 (Special Nonresidential Building Provisions).

4.2 AGRICULTURE AND FORESTRY RESOURCES				
Would the project:	**Potentially Significant Impact**	**Less than Significant Impact with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) 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?			**X**	
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				**X**
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Codes section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				**X**
d) Result in the loss of forest land or conversion of forest land to non-forest use?				**X**
e) 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 forest land to non-forest use?				**X**

The California Department of Conservation administers the Farmland Mapping and Monitoring Program (FMMP), California's statewide agricultural land inventory. The FMMP is an information service only and does not constitute state regulation of local land use decisions. The FMMP is updated every two years and utilizes an automated map and database system to record changes in the use of agricultural lands.

Public Resources Code (PRC) Section 4526 defines Timberland as land, other than federal land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products including Christmas trees.

PRC Section 12220(g) defines forest land as land that can support, under natural conditions, 10 percent native tree cover of any species, including hardwoods, and that allows for the preservation or management of forest-related resources such as timber, aesthetic value, fish and wildlife, biodiversity, water quality, recreational facilities, and other public benefits.

a) Would the 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?

Less than Significant Impact

Agricultural land uses within City of Irvine are controlled by the General Plan and City zoning ordinances. These documents identify the type of land uses permitted and call out the development parameters within each land use category. According to the FMMP 2010 Orange County Important Farmland map[1], the project site is designated as Unique Farmland[2]. However, FMMP also allows for an optional land use overlay called "Land Committed to Development," which is defined as "land that is permanently committed by local elected officials to nonagricultural development by virtue of decisions which cannot be reversed simply by a majority vote of a city council or county board of supervisors" (DOC, 1997). The "committed" land must be so designated in an adopted local general plan and must meet either one of two requirements: 1) receive final discretionary approval (e.g., tentative subdivision map, recorded development agreement, etc.) from the local government; 2) be subject to final fiscal commitments to finance the capital improvements specifically required for future development of the land in question (DOC, 1997). In the City of Irvine, the Land Committed to Nonagricultural Use overlay encompasses lands owned by the Irvine Company, such as the project site (Irvine, 2012). The project site meets the requirements of "committed" land under FMMP because:

- The City of Irvine General Plan Land Use Element officially designated the project site under the Medium Density Residential land use category. The map exhibits[3] in Conservation and Open Space Element also delineated the project site for development and not for agriculture or preservation.

- On August 1, 2013, the City of Irvine City Council approved the Vesting Tentative Tract Map (VTTM) No. 17523 for the residential development of 297.93 acres of land in Planning Area 5B (PA 5B). The subdivision of Tract 17523 includes Lot 15, which is the project site and is planned for the proposed PA 5B Elementary School.

Furthermore, the certified 2002 Northern Sphere Area EIR, which consisted of the General Plan Amendment (48403-GA) and Zone Change (48405-ZC) to convert agricultural land to nonagricultural uses in planning areas 5B, 6, 8A, and 9, already addressed the environmental impacts of farmland conversion as significant and unavoidable. Although two mitigation measures[4] were listed to reduce impact of agricultural land conversion, the two mitigation measures do not apply to the proposed project. Development of Planning Area 5B under Northern Sphere Area EIR

1 The 2010 Orange County Important Farmland map is referenced because the 2012 FMMP map for the County has not been released by the Department of Conservation.

2 http://www.conservation.ca.gov/dlrp/fmmp/mccu/Pages/map_categories.aspx. Accessed November 17, 2014. This designation is defined as "farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include nonirrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date."

3 Figure L-2 and Figure L-3 of the Conservation and Open Space Element.

4 First mitigation measure 2.1 specifies that "The City shall permit agricultural uses within the Northern Sphere Area until the time of development." Second mitigation measure 2.2, requires "The landowner shall coordinate with the City to identify areas within the City and the City's sphere of influence that may be appropriate for continued small scale, specialty, heritage or multi-use agricultural operations."

would result in a permanent loss of 298.9 acres of Prime Farmland and Unique Farmland (TPG, 2002). The conversion of the project site to nonagricultural use was included as a part of this analysis.

In sum, the City's approval of the Northern Sphere Area project[5] and the VTTM No. 17523 has committed the project site to nonagricultural uses. The proposed project would result in no additional farmland conversion. Given the above and no new impact to agricultural resources is anticipated, the proposed project would be less than significant impacts.

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact

According to the 2012 State of California Williamson Act Contract Land Map,[6] the project site is identified as "Non-Enrolled Land" and does not contain land enrolled in a Williamson Act contract. The project site is not located within an area zoned for agricultural use and is currently zoned as 2.3I Medium Density Residential. Therefore, no impact would occur.

c) Would the project (c) conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Codes section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

No Impact

In accordance with the definition provided in Government Code section 51104(g), there are no timberland production zones within the City of Irvine (Irvine, 2012a). The project site is located on a vacant tract of land already rough graded for urban development. The surrounding setting is developed residential community. The site's existing zoning "2.3I Medium Density Residential" does not support the definitions provided by PRC Section 42526 for timberland, PRC Section 12220(g) for forestland, or Government Code Section 51104(g) for timberland zoned for production. Therefore, no impacts related to the conversion of timberlands or forest land would occur.

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact

As previously stated in the above Section 4.2(c), project site is located on a vacant tract of land that does not contain forest land. The project site is currently disturbed vacant lot that has been rough graded. Implementation of the project would not result in the loss of forest land or conversion of forest land to non-forest use. No impact would occur.

5 City Council Resolution No.2, adopted on June 4, 2002.

6 ftp://ftp.consrv.ca.gov/pub/dlrp/wa/Orange_WA_03_04.pdf
ftp://ftp.consrv.ca.gov/pub/dlrp/wa/2012%20Statewide%20Map/WA_2012_36x42.pdf
Accessed on October 8, 2014.

e) Would the 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 forest land to non-forest use?

Less than Significant Impact

As discussed in the above sections 4.2(a) and (c), the project site consists of a vacant lot that has been rough graded and is surrounded by residential housing and recreational open space. No forest land is located within the project site or the vicinity of the project site. Implementation of the proposed project would not result in changes to the environment which, due to its location or nature, could result in the conversion of farmland to non-agricultural use or converting forest land to non-forest use.

Although the project site falls under the Unique Farmland category defined by FMMP, no agricultural activity currently occurs at the site. The project site is disturbed, graded with exposed soils and weeds. Because there is no existing farmland or forest land at the project site, no impact would occur.

4.3 AIR QUALITY				
Would the project:	**Potentially Significant Impact**	**Less than Significant Impact with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Conflict with or obstruct implementation of the applicable air quality plan?			**X**	
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			**X**	
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?			**X**	
d) Expose sensitive receptors to substantial pollutant concentrations?			**X**	
e) Create objectionable odors affecting a substantial number of people?			**X**	
f) Is the boundary of the proposed school site within 500 feet of the edge of the closest traffic lane of a freeway or busy traffic corridor? If yes, would the project create an air quality health risk due to the placement of the school?			**X**	
g) Create an air quality hazard due to the placement of a school within one-quarter mile of: (a) permitted and nonpermitted facilities identified by the jurisdictional air quality control board or air pollution control district; (b) freeways and other busy traffic corridors; (c) large agricultural operations; and/or (d) a rail yard, which might reasonably be anticipated to emit hazardous air emissions?			**X**	

Pollutants of Concern – Criteria Pollutants

The criteria air pollutants of concern are nitrogen dioxide (NO_2), carbon monoxide (CO), particulate matter (PM), sulfur dioxide (SO_2), lead (Pb), and ozone (O_3), and their precursors. Criteria pollutants are air pollutants for which acceptable levels of exposure can be determined and an ambient air quality standard has been established by the U.S. Environmental Protection Agency (USEPA) and/or the California Air Resources Board (CARB). Since the proposed project would not generate appreciable SO_2 or Pb emissions, it is not necessary for the analysis to include those two

pollutants.[1] Presented below is a description of the air pollutants of concern and their known health effects.

Nitrogen oxides (NO_x): NO_x serve as integral participants in the process of photochemical smog production, and are precursors for certain particulate compounds that are formed in the atmosphere.[2] The two major forms of NO_x are nitric oxide (NO) and NO_2. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO_2 is a reddish-brown pungent gas formed by the combination of NO and oxygen. NO_2 acts as an acute respiratory irritant and eye irritant, and increases susceptibility to respiratory pathogens. A third form of NO_x, nitrous oxide (N_2O), is a greenhouse gas (GHG).

Carbon monoxide (CO): CO is a colorless, odorless non-reactive pollutant produced by incomplete combustion of carbon-containing fuels (e.g., gasoline, diesel, and biomass). CO levels tend to be highest during the winter months and low wind speed when the meteorological conditions favor the accumulation of the pollutants. This occurs when relatively low inversion levels trap pollutants near the ground and concentrate the CO. CO is essentially inert to plants and materials but can have significant effects on human health. The primary adverse health effect associated with CO is its binding with hemoglobin in red blood cells, which decreases the ability of these cells to transport oxygen throughout the body. Prolonged exposure can cause headaches, drowsiness, or loss of equilibrium; high concentrations are lethal.

Particulate matter (PM): PM is a mixture of microscopic solids and liquid droplets suspended in air. This pollution is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, soil or dust particles, and allergens (such as fragments of pollen or mold spores). Two forms of fine particulate matter are now regulated. Respirable particulates, or PM_{10}, include that portion of the particulate matter with an aerodynamic diameter of 10 micrometers (i.e., 10 one-millionths of a meter or 0.0004 inch) or less. Fine particulates, or $PM_{2.5}$, have an aerodynamic diameter of 2.5 micrometers (i.e., 2.5 one-millionths of a meter or 0.0001 inch) or less. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. However, wind action on the arid landscape also contributes substantially to the local particulate loading. Fossil fuel combustion accounts for a significant portion of $PM_{2.5}$. In addition, particulate matter forms in the atmosphere through reactions of NO_x and other compounds (such as ammonia) to form inorganic nitrates. Both PM_{10} and $PM_{2.5}$ may adversely affect the human respiratory system, especially in those people who are naturally sensitive or susceptible to breathing problems.

Reactive organic gases (ROG): ROG are compounds comprised primarily of atoms of hydrogen and carbon that have high photochemical reactivity. The major source of ROG is the incomplete combustion of fossil fuels in internal combustion engines. Other sources of ROG include the evaporative emissions associated with the use of paints and solvents, the application of asphalt paving and the use of household consumer products. Adverse effects on human health are not caused directly by ROG, but rather by reactions of ROG to form secondary pollutants. ROG are also transformed into organic aerosols in the atmosphere, contributing to higher levels of fine particulate matter and lower visibility. The term ROG is used by the CARB for air quality analysis and is defined essentially the same as the federal term volatile organic compound (VOC).

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1 At worst case sulfur dioxide emissions will be approximately 0.03 pound per day.

2 A precursor is a directly emitted air contaminant that, when released into the atmosphere, forms, causes to be formed, or contributes to the formation of a secondary air contaminant for which an ambient air standard has been adopted, or whose presence in the atmosphere will contribute to the violation of one or more standards.

Ozone (O_3): O_3 is a secondary pollutant produced through a series of photochemical reactions involving ROG and NO_x. O_3 creation requires ROG and NO_x to be available for approximately three hours in a stable atmosphere with strong sunlight. Because of the long reaction time, peak O_3 concentrations frequently occur downwind of the sites where the precursor pollutants are emitted. Thus, O_3 is considered a regional, rather than a local, pollutant. The health effects of O_3 include eye and respiratory irritation, reduction of resistance to lung infection and possible aggravation of pulmonary conditions in persons with lung disease. O_3 is also damaging to vegetation and untreated rubber.

Meteorology and Climate

Air quality is affected by both the rate and location of pollutant emissions and by meteorological conditions that influence movement and dispersal of pollutants. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients, along with local topography, provide the link between air pollutant emissions and air quality.

The South Coast Air Basin (SCAB) is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the southwest and high mountains around its remaining perimeter. The general region lies in the semi-permanent high pressure zone of the eastern Pacific resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The usually mild climatological pattern is interrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds.

The vertical dispersion of air pollutants in the SCAB is hampered by the presence of persistent temperature inversions. An upper layer of dry air that warms as it descends characterizes high-pressure systems, such as the semi-permanent high-pressure zone in which the SCAB is located. This upper layer restricts the mobility of cooler marine-influenced air near the ground surface and results in the formation of subsidence inversions. Such inversions restrict the vertical dispersion of air pollutants released into the marine layer and, together with strong sunlight, can produce worst-case conditions for the formation of photochemical smog.

The atmospheric pollution potential of an area is largely dependent on winds, atmospheric stability, solar radiation, and terrain. The combination of low wind speeds and low inversions produces the greatest concentration of air pollutants. On days without inversions, or on days of winds averaging over 15 mph, smog potential is greatly reduced.

The annual average temperature, as recorded at the Tustin-Irvine Ranch weather station (1.7 miles west-southwest of and about 40 feet lower elevation than the proposed project site at 33.7025° N, 117.75389° W), is 63 degrees Fahrenheit (°F). The station has an average winter (December, January, and February) temperature of approximately 55°F and an average summer (June, July, and August) temperature of approximately 71°F. The average maximum recorded temperatures are 81°F during the summer and 66°F during the winter. The annual average of total precipitation in the proposed project area is approximately 14.3 inches, which occurs mostly during the winter and relatively infrequently during the summer. Precipitation averages approximately 8.6 inches during the winter, approximately 3.4 inches during the spring (March, April, and May), approximately 2.2 inches during the fall (September, October, and November), and approximately 0.2 inch during the summer (Western Regional Climate Center, 2013).[3] Winds in the SCAB are generally light, tempered by afternoon sea breezes. Severe weather is uncommon in the Basin, but strong easterly winds

[3] http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca9087. Accessed December 12, 2013.

known as the Santa Ana winds can reach 25 to 35 miles per hour below the passes and canyons. During the spring and summer months, air pollution is carried out of the region through mountain passes in wind currents or is lifted by the warm vertical currents produced by the heating of the mountain slopes. From the late summer through the winter months, because of the average lower wind speeds and temperatures in the proposed project area and its vicinity, air contaminants do not readily disperse, thus trapping air pollution in the area.

Regional Air Quality

Table 4.3-1 shows the area designation status of the SCAB for each criteria pollutant for both the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). Based on regional monitoring data, the SCAB is currently designated as a non-attainment area for O_3 and $PM_{2.5}$; a federal maintenance area for CO and NO_2; and an attainment area for PM_{10} and SO_2.[4] Designation of the SCAB as a maintenance area means that, although the Basin has achieved compliance with the NAAQS for CO and NO_2, control strategies that were used to achieve compliance must continue. The Federal ozone classification is "extreme."[5] An extreme non-attainment area has an 8-hour ozone design value of 0.187 ppm,[6] and has the attainment deadline of June 15, 2024. On June 26, 2013, the USEPA approved, as a revision to the California State Implementation Plan (SIP), the State's request to re-designate the South Coast Air Basin to attainment for the 24-hour PM_{10} NAAQS. The USEPA is also approving the PM_{10} maintenance plan and the associated PM_{10} motor vehicle emissions budgets for use in transportation conformity determinations necessary for the South Coast PM_{10} area. Finally, the USEPA approved the attainment year emissions inventory. The USEPA took these actions because the SIP revision meets the requirements of the Clean Air Act (CAA) and USEPA guidance for such plans and motor vehicle emissions budgets.[7]

4 According to the SCAQMD, the "Basin has met the PM_{10} standards at all stations and a request for re-designation to attainment is pending with U.S. EPA." (SCAQMD Board Meeting, December 7, 2012, Agenda Item 30, p. 6.)

5 U.S. Environmental Protection Agency. 2011. "8-Hour Ozone Nonattainment State/Area/County Report." Green Book. http://www.epa.gov/air/oaqps/greenbook/gncs.html#CALIFORNIA. Updated December 14, 2012.

6 U.S. Environmental Protection Agency. 2011. "Designations." Green Book. www.epa.gov/air/oaqps/greenbook/define.html. Updated August 30, 2011.

7 "Approval and Promulgation of Implementation Plans; Designation of Areas for Air Quality Planning Purposes; California; South Coast Air Basin; Approval of PM10 Maintenance Plan and Redesignation to Attainment for the PM10 Standard." *Federal Register* 78 (123): 38223-38226. http://www.gpo.gov/fdsys/pkg/FR-2013-06-26/html/2013-15145.htm.

Table 4.3-1
FEDERAL AND STATE ATTAINMENT STATUS

Pollutants	Federal Classification	State Classification
Ozone (O_3)	Non-Attainment (Extreme)	Non-Attainment
Particulate Matter (PM_{10})	Attainment	Non-Attainment
Fine Particulate Matter ($PM_{2.5}$)	Non-Attainment	Non-Attainment
Carbon Monoxide (CO)	Maintenance	Attainment
Nitrogen Dioxide (NO_2)	Maintenance	Non-Attainment[a]
Sulfur Dioxide (SO_2)	Attainment	Attainment

Sources:
U.S. Environmental Protection Agency, "California 8-Hour Ozone Nonattainment Areas in Blue Borders." Green Book. [www.epa.gov/air/oaqps/greenbook/ca8.html]. Updated December 14, 2012;
U.S. Environmental Protection Agency, "Counties Designated Nonattainment for PM-10." Green Book. [http://www.epa.gov/air/oaqps/greenbook/map/mappm10.pdf]. Accessed January 15, 2013;
California Air Resources Board, "Area Designations Maps/State and National." [www.arb.ca.gov/desig/adm/adm.htm]. Accessed January 15, 2013.
[a]The California Air Resources Board is proposing to reclassify the SCAB to attainment for the state NO2 ambient air quality standard. http://www.arb.ca.gov/desig/desig13/2013_workshop_presentation_text.pdf.

Local Air Quality

The South Coast Air Quality Management District (SCAQMD) has divided the SCAB into source receptor areas (SRAs), based on similar meteorological and topographical features. The proposed project site is located in SCAQMD's Saddleback Valley SRA 19, which is served by the Mission Viejo Monitoring Station, located 9 miles southeast of the proposed project site at 26081 Via Pera. Criteria pollutants monitored at the Mission Viejo Monitoring Station include O_3, PM_{10}, $PM_{2.5}$, and CO. This station does not monitor NO_2 or SO_2. The nearest, most representative monitoring station that gathers NO_2 and SO_2 data is located approximately 14 miles west of the proposed project site at 2850 Mesa Verde Drive in Costa Mesa (Costa Mesa Monitoring Station). The ambient air quality data in the proposed project vicinity as recorded at the Mission Viejo and Costa Mesa Monitoring Stations from 2011 to 2013 and the applicable state standards are shown in **Table 4.3-2**.

Table 4.3-2
AMBIENT AIR QUALITY MONITORING DATA

Air Pollutant	Standard/Exceedance	2011	2012	2013
Carbon Monoxide (CO)	Year Coverage	98%	42%	ND
	Max. 8-hour Concentration (ppm)	1.03	0.79	ND
	# Days > Federal 1-hour Std. of 35 ppm	0	0	0
	# Days > Federal 8-hour Std. of 9 ppm	0	0	0
	# Days > California 8-hour Std. of 9.0 ppm	0	0	0
Ozone (O_3)	Year Coverage	98%	92%	98%
	Max. 1-hour Concentration (ppm)	0.094	0.096	0.104
	Max. 8-hour Concentration (ppm)	0.083	0.079	0.082
	# Days > Federal 8-hour Std. of 0.075 ppm	2	1	2
	# Days > California 1-hour Std. of 0.09 ppm	0	2	2
	# Days > California 8-hour Std. of 0.07 ppm	5	6	5
Nitrogen Dioxide[a] (NO_2)	Year Coverage	60%	96%	84%
	Max. 1-hour Concentration (ppm)	0.060	0.074	0.075
	Annual Average (ppm)	ND	ND	ND
	# Days > California 1-hour Std. of 0.18 ppm	0	0	0
Sulfur Dioxide (SO_2)[a]	Year Coverage	46%	26%	ND
	Max. 24-hour Concentration (ppm)	0.002	0.001	0.001
	Annual Average (ppm)	ND	ND	ND
	# Days > California 24-hour Std. of 0.04 ppm	0	0	0
Respirable Particulate Matter (PM_{10})	Year Coverage	100%	98%	100%
	Max. 24-hour Concentration (µg/m³)	47.0	36.0	50.0
	#Days > Fed. 24-hour Std. of 150 µg/m³	0	0	0
	#Days > California 24-hour Std. of 50 µg/m³	0	0	0
	Annual Average(µg/m³)	18.8	17.0	19.0
Fine Particulate Matter ($PM_{2.5}$)	Year Coverage	86%	100%	97%
	Max. 24-hour Concentration (µg/m³)	33.4	27.6	28.0
	State Annual Average (µg/m³)	ND	7.9	8.1
	#Days > Fed. 24-hour Std. of 35 µg/m³	0.0	0.0	0.0
	Federal Annual Average (µg/m³)	8.5	7.9	8.0

Source:
California Air Resources Board, "iADAM Air Quality Data Statistics." Internet URL: http://www.arb.ca.gov/adam/ (January 22, 2015)
South Coast Air Quality Management District, "Historical Data by Year." Internet URL: http://www.aqmd.gov/smog/historicaldata.htm (April 23, 2013)
ND: There were insufficient (or no) data available to determine the value.
a: The Mission Viejo Monitoring Station does not test for NO_2 or SO_2. The nearest station that monitors for these pollutants is the Costa Mesa Monitoring Station.

Sensitive Receptors

Some people, such as individuals with respiratory illnesses or impaired lung function because of other illnesses, the elderly over 65 years of age, and children under 14, are particularly sensitive to certain pollutants. Facilities and structures where these sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses identified to be sensitive receptors by SCAQMD in the CEQA Handbook include residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. Sensitive receptors may be at risk of being affected by air emissions released from the construction and operation of the proposed project.

The proposed project would be located in Irvine near an existing single-family residential neighborhood. Exposure to potential emissions would vary substantially from day to day depending on the amount of work being conducted, the weather conditions, the location of receptors, and the length of time that receptors would be exposed to air emissions. The construction phase emissions estimated in this analysis are based on conservative estimates and worst-case conditions, with maximum levels of construction activity occurring simultaneously within a short period of time. The nearest sensitive receptors to the proposed project site, with the highest potential to be impacted by the proposed project, are the single-family residences 670 feet northwest of the project boundary.

Air Quality Plans

The SCAQMD is required to produce plans to show how air quality will be improved in the region. The California Clean Air Act (CCAA) requires that these plans be updated triennially to incorporate the most recent available technical information.[8] A multi-level partnership of governmental agencies at the federal, state, regional, and local levels implements the programs contained in these plans. Agencies involved include the USEPA, CARB, local governments, Southern California Association of Governments (SCAG), and SCAQMD. The SCAQMD and the SCAG are responsible for formulating and implementing the Air Quality Management Plan (AQMP) for the SCAB. The SCAQMD updates its AQMP every three years. The 2012 AQMP was adopted by the SCAQMD Board on December 6, 2012 and submitted to the CARB and the USEPA for concurrent review on December 20, 2012. The plan identifies control measures needed to demonstrate attainment with the federal 24-hour standard for $PM_{2.5}$ by 2014 in the South Coast Air Basin. In addition, the 2012 AQMP provides updates on progress towards meeting the 8-hour O_3 standard for 2023, an attainment demonstration for the revoked 1-hour O_3 standard, a vehicle miles traveled (VMT) offset demonstration for O_3 standards, and a report on the health effects of $PM_{2.5}$.

On January 25, 2013 the CARB approved the South Coast 2012 AQMP as an amendment to the State Implementation Plan (CARB, 2013). On February 13, 2013, the CARB submitted the approved plan to the USEPA (Goldstene, 2013).[9]

Air Quality Thresholds

The significance thresholds for air quality, presented in **Table 4.3-3**, have been established by the SCAQMD for construction and operations daily emissions. During construction or operation, if any of the identified daily air pollutant thresholds are exceeded by the proposed project, then the air

[8] CCAA of 1988.

[9] http://www.arb.ca.gov/planning/sip/planarea/2012%20AQMP%20Submittal%20Letter%20to%20U.S.%20EPA.pdf.

quality impacts may be considered significant. The SCAQMD indicates in Chapter 6 of its CEQA Handbook that it considers a project to be mitigated to a level of insignificance if its primary effects are mitigated below the thresholds provided below.

Table 4.3-3
REGIONAL THRESHOLDS OF SIGNIFICANCE

Pollutant	Emissions in lbs/day	
	Construction	Operations
ROG	75	55
NO_X	100	55
CO	550	550
PM_{10}	150	150
$PM_{2.5}$	55	55
SO_X	150	150
Source: Air Quality Significance Thresholds. South Coast Air Quality Management District. Revised March 2011.		

The SCAQMD Governing Board adopted a methodology for calculating localized air quality impacts through localized significance thresholds (LSTs), which is consistent with SCAQMD's Environmental Justice Enhancement Initiative I-4. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable state or national ambient air quality standard (SCAQMD 2009). The LSTs are developed based on the ambient concentrations of that pollutant for each source receptor area and are applicable to NO_X, CO, PM_{10}, and $PM_{2.5}$.

The project site is located in Source Receptor Area 19 (Saddleback Valley). It is assumed that construction will disturb no more than five acres per day and that sensitive receptors are within 200 meters. **Table 4.3-4** shows the appropriate LSTs for construction activity. LSTs for operational emissions only apply to onsite sources. Since the primary source of emissions for this project is associated with offsite vehicle trips, an LST analysis of long-term emissions is not required.

Table 4.3-4
SCAQMD LOCALIZED THRESHOLDS FOR CONSTRUCTION

Pollutant	Localized Significance Threshold (lbs/day)
Nitrogen Dioxide (NO_2)	222
Carbon Monoxide (CO)	4,387
Inhalable Particulate Matter (PM_{10})	18
Fine Particulate Matter ($PM_{2.5}$)	8
Source: Air Quality Significance Thresholds. South Coast Air Quality Management District. Revised October 21, 2009.	

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact

Typically, assessments for air quality plan consistency uses four criteria for determining project consistency with the current Air Quality Management Plan (AQMP). The first and second criteria are from the SCAQMD. According to the SCAQMD, there are two key indicators of AQMP consistency: (1) whether the project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP; and (2) whether the project will exceed the assumptions in the AQMP based on the year of project build out and phase (SCAQMD 2006). The third criterion is compliance with the control measures in the AQMP. The fourth criterion is compliance with the SCAQMD regional thresholds.

- *Project's Contribution to Air Quality Violations*

  As shown in Impact 4.3-b the project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Therefore, the project meets the first indicator.

- *AQMP Assumptions*

  One way to assess project compliance with the AQMP assumptions is to ensure that the population density and land use are consistent with the growth assumptions used in the air plans for the air basin. According to CARB transportation performance standards, the rate of growth in vehicle miles traveled (VMT) and trips should be held to the rate of population growth (SCAQMD 2006). Compliance with this performance standard is one way suggested by CARB of showing compliance with the growth assumptions used in the AQMP. If the total VMT generated by the proposed project at build-out is at or below that predicted by the AQMP, then the proposed project's mobile emissions is consistent with the AQMP. It is assumed that the existing and future pollutant emissions computed in the AQMP were based on land uses from area general plans.

In 2012, when the current AQMP was prepared, the site and the surrounding area were designated in the City of Irvine General Plan as medium density residential,[10] as they are now. Therefore, the proposed project is consistent with the growth assumptions upon which the current AQMP are based and would not conflict with AQMP. Impacts would be less than significant.

b) Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less than Significant Impact

Construction activities, including soil disturbance dust emissions and combustion pollutants from on-site construction equipment and from off-site trucks hauling materials and construction waste would create a temporary addition of pollutants to the local airshed. Construction emissions were estimated using CalEEMod Version 2013.2.2. As shown in **Table 4.3-5**, all construction emissions associated with the Project would be below the regional significance thresholds and LST thresholds.

Table 4.3-5
ESTIMATED CONSTRUCTION EMISSIONS

Stage	Maximum Daily Emissions (lbs/d)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Grading	2.85	29.95	19.63	0.02	8.22	4.90
Building Construction	3.70	24.63	16.72	0.02	1.63	1.56
Paving	1.81	16.46	12.06	0.02	1.02	0.94
Architectural Coating	9.79	2.19	1.87	0.00	0.17	0.17
Project Maximum Daily	**9.79**	**29.95**	**19.63**	**0.02**	**8.22**	**4.90**
SCAQMD Daily Threshold	75	100	550	150	150	55
Exceed Thresholds?	No	No	No	No	No	No
LST Threshold		222	4,387		18	8
Exceed Thresholds?	N/A	No	No	N/A	No	No

Operational emissions were also calculated using CalEEMod, to take into account area, energy, and mobile source emissions. Because the majority of the emissions are attributable to on-road vehicles, the LST methodology is not appropriate and emissions were not compared with LSTs. **Table 4.3-6** shows the estimated operational emissions from the proposed project.

[10] For example, see City of Irvine Zoning Ordinance, Division 9 (Planning Areas), Chapter 9-5 (Planning Area 5)l, Section 9-5-1. Land Use Zoning Map, Zoning Ordinance Map (Planning Area 5), and Zoning Map. http://www.cityofirvine.org/cityhall/cd/planningactivities/zoning/default.asp. Accessed on January 29, 2015.

Table 4.3-6
SUMMARY OF TOTAL OPERATIONAL EMISSIONS

Emission Source	Annual Emissions (tons/year)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Mobile	0.52	1.38	6.12	0.02	1.22	0.34
Area	0.39	0.00	0.01	0.00	0.00	0.00
Energy	0.00	0.04	0.03	0.00	0.00	0.00
Project Total	**0.91**	**1.42**	**6.16**	**0.02**	**1.22**	**0.34**
SCAQMD Daily Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Exceed Thresholds?	No	No	No	No	No	No

The proposed project would not exceed SCAQMD thresholds during construction or operation of the proposed project. Impacts would be less than significant.

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

Less than Significant Impact

According to the CEQA Guidelines, a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved air quality attainment or maintenance plan.[11] As described above in Section 4.3(b), the project would not exceed any of the SCAQMD daily criteria pollutant thresholds. In general, cumulative *regional* impacts of construction and operation of all projects in the SCAB at any given time are accounted for in the AQMP. The proposed project is compliant with the AQMP so the incremental contribution of the project would not be cumulatively considerable.

The only cumulative impacts with the potential for significance would be localized impacts during construction. The analysis in Section 4.3(d) shows that localized impacts from the project would be less than significant. The question is whether these impacts, in combination with those of other projects, would be locally significant. According to the City of Irvine, the nearest other project currently under construction is Portola Springs.[12] That project is about 4,200 feet east of the proposed school site, making it farther away from the residential area than is the school site. Localized impacts from Portola Springs would be lower than those estimated in Section 4.3(d), which were themselves less than significant. Therefore cumulative impacts would be less than significant.

11 CEQA Guidelines, §15064(h)(3).
12 Email from Bill Rodrigues, City of Irvine, California, to Jon Rodrigues, UltraSystems Environmental, Inc., Irvine, California. January 30, 3015.

d) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact

During construction activities, diesel equipment would be operating. Diesel particulate matter (DPM) is known to the State of California as a toxic air contaminant (TAC). The risks associated with exposure to substances with carcinogenic effects are typically evaluated based on a lifetime of chronic exposure, which is defined in the California Air Pollution Control Officers' Association Air Toxics "Hot Spots" Program Risk Assessment Guidelines as 24 hours per day, 7 days per week, 365 days per year, for 70 years. DPM would be emitted during the short term of construction assumed for the proposed project from heavy equipment used in the construction process. Because diesel exhaust particulate matter is considered carcinogenic, long-term exposure to diesel exhaust emissions have the potential to result in adverse health impacts. Due to the short-term nature of project construction, impacts from exposure to diesel exhaust emissions during construction would be less than significant.

e) Would the project create objectionable odors affecting a substantial number of people?

Less than Significant Impact

The CEQA guidelines indicate that a significant impact would occur if the proposed project would create objectionable odors affecting a substantial number of people.

Diesel exhaust and VOCs will be emitted during construction of the proposed project, which are objectionable to some; however, emissions will disperse rapidly from the project site and the activity would be temporary. Impacts due to objectionable odors would be less than significant.

f) Is the boundary of the proposed school site within 500 feet of the edge of the closest traffic lane of a freeway or busy traffic corridor? If yes, would the project create an air quality health risk due to the placement of the school?

Less than Significant Impact

The project site is not within 500 feet of the edge of a freeway or busy traffic corridor. The nearest traffic corridors bordering the project site are Portola Parkway, located 0.60 mile northeast, and Irvine Boulevard, 0.46 mile southwest. Impacts due to freeway or traffic corridors would be less than significant.

g) Create an air quality hazard due to the placement of a school within one-quarter mile of: (a) permitted and nonpermitted facilities identified by the jurisdictional air quality control board or air pollution control district; (b) freeways and other busy traffic corridors; (c) large agricultural operations; and/or (d) a rail yard, which might reasonably be anticipated to emit hazardous air emissions?

Less than Significant Impact

The project site is located in an area designated for Medium Density Residential. There are no anticipated permitted or non-permitted facilities as identified by SCAQMD. The nearest traffic corridors bordering the project site are Portola Parkway, located 0.60 mile northeast, and Irvine Boulevard, 0.46 mile southwest. The project site is not within 0.25 mile of large agricultural operations or rail yards. Impacts due to hazardous air emission would be less than significant.

4.4 BIOLOGICAL RESOURCES				
Would the project:	**Potentially Significant Impact**	**Less than Significant Impact with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Have a substantial adverse effect, either directly or through habitat modifications, on any 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[1] or U.S. Fish and Wildlife Service?		**X**		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?				**X**
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				**X**
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native nursery sites?				**X**
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				**X**
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				**X**

[1] Beginning January 1, 2013, the California Department of Fish and Game (CDFG) officially changed its name to California Department of Fish and Wildlife (CDFW). However, CEQA Guidelines Appendix G: Environmental Checklist Form has not been updated to reflect this name change

Methodology

Relevant literature, maps, databases, agency web sites, Geographic Information System (GIS) data, and aerial imagery were obtained from public domain sources to: (1) assess habitats, special-status plant and wildlife species, jurisdictional waters, critical habitats, and wildlife corridors that potentially may occur in and near the project site, and (2) identify local or regional plans, policies, and regulations that may apply to the project. Plant and wildlife species protected by federal agencies, state agencies, and nonprofit resource organizations, such as the California Native Plant Society (CNPS), are collectively referred to as "special-status species."[2] Some of these plant and wildlife species are afforded special legal or management protection because they are limited in population size, and typically have a limited geographic range and/or habitat. The following data sources were accessed.

- United States Geological Survey (USGS) 7.5-Minute Topographic Map *Tustin and El Toro* Quadrangles[3] and current aerial imagery.[4]
- Web Soil Survey provided by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS).[5]
- California Natural Diversity Database (CNDDB) provided by the California Department of Fish and Wildlife (CDFW).[6]
- Information, Planning and Conservation (IPaC) provided by the United States Fish and Wildlife Service (USFWS).[7]
- Inventory of Rare and Endangered Plants of California, 8th Edition, provided by the CNPS.[8]
- National Wetlands Inventory (NWI) provided by the USFWS.[9]
- National Hydrography Dataset (NHD) provided by the USGS. [10]
- Critical Habitat Portal provided by the USFWS.[11]

Aerial imagery from these sources was overlaid with geospatial data using Geographic Information System (GIS) software (ArcGIS 10.1) to identify: (1) presence and the geographic range of candidate, sensitive, or special-status species and potentially suitable habitats; and (2) proposed and final designated critical habitats, wetlands, Waters of the United States, and Waters of the State in the vicinity of the project site. A project-specific list of sensitive habitats and special-status plants and wildlife was prepared from the above data sources.

Following the literature and data review, UltraSystems senior biologist Amanda Beck conducted a reconnaissance-level field survey on November 19, 2014 in and near the project site to: (1) assess

2 Avian species protected by the Migratory Bird Treaty Act (MBTA) are not considered "special-status species."
3 Cal-Atlas: http://atlas.ca.gov/imagerySearch.html. Accessed on October 29, 2014.
4 Google Earth©. Accessed on October 29, 2014.
5 USDA NRCS Web Soil Survey: http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx. Accessed on October 29, 2014.
6 CDFW CNDDB: https://map.dfg.ca.gov/rarefind/view/RareFind.aspx. Accessed on October 29, 2014.
7 USFWS IPaC: http://ecos.fws.gov/ipac/. Accessed on October 29, 2014.
8 CNPS Topo Quad Search: http://cnps.site.aplus.net/cgi-bin/inv/inventory.cgi/BrowseAZ?name=quad. Accessed October 29, 2014
9 USFWS NWI: http://www.fws.gov/wetlands/Data/mapper.html. Accessed on October 29, 2014.
10 USGS NHD: http://nhd.usgs.gov/. Accessed on October 29, 2014.
11 USFWS Critical Habitat Portal: http://ecos.fws.gov/crithab/. Accessed on October 29, 2014.

the potential for sensitive habitats and presence of special-status plant and wildlife species; (2) identify plant communities, jurisdictional waters, and potential wildlife corridors; and (3) identify potential impacts to these biological resources.

DISCUSSION OF IMPACTS

a) Could the project have a substantial adverse impact, either directly or through habitat modifications, on any 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 Game or U.S. Fish and Wildlife Service?

Less than Significant Impact with Mitigation Incorporated

The project site has been mass graded and is completely barren with a few patches of ruderal vegetation. This habitat type is persistent in California where habitat has been affected by human activities resulting in remnant weedy annual, non-native species. Barren land occurs where the majority of the area has no living vegetation growing upon it. Vegetative cover is less than 1% and there is no apparent dominant plant species. Russian thistle (*Salsola tragus*), tree tobacco (*Nicotiana glauca*), mule fat (*Baccharis salicifolia* ssp. *salicifolia*), field bindweed (*Convolvulus arvensis*), prickly sow-thistle (*Sonchus asper*), and remnant vegetation from nursery operations was sparsely scattered throughout the project site. Generally, barren and disturbed lands provide little to no wildlife habitat value.

No special-status plants or wildlife[12] were observed within the project site. According to the literature review and reconnaissance-level survey, the project site contains barren, compacted soils with little to no vegetation and lacks suitable soils, biological resources and physical features, such as small mammal burrows, to support special-status plant or wildlife species for the area. For this reason, no direct or indirect impacts on special-status plant or wildlife species are anticipated as a result of project activities.

Though the site lacks suitable vegetation that could potentially provide cover and nesting habitat for bird species, some urban adapted bird species are known to nest on bare ground within construction sites. These species lay their eggs in a scrape on the bare ground or in low vegetation. They have even been known to nest in plantings in the middle of paved parking lots. Killdeers are protected by the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code, which render it unlawful to take native breeding birds, and their nests, eggs, and young. Indirect impacts on breeding birds could occur from increased noise, vibration, and dust during construction, which could adversely affect the breeding behavior of some birds, and lead to the loss (take) of eggs and chicks, or nest abandonment. To be in compliance with the MBTA and the California Fish and Game Code, and to avoid or reduce direct and indirect impacts to migratory non-game breeding birds, and their nests, young, and eggs to less than significant levels, the following measures will be implemented.

[12] Special status species include candidate and sensitive species.

Mitigation Measures

BR-1: ***Construction Outside of Breeding Season***

- Project activities that will remove or disturb potential nest sites will be scheduled outside the breeding bird season. The breeding bird nesting season is typically from February 15 through September 15, but can vary slightly from year to year, usually depending on weather conditions.

BR-2: ***Construction During Breeding Season***

- If construction cannot be avoided during the breeding season, a qualified biologist will conduct a pre-construction survey for breeding birds, and active and potential nesting sites within the limits of project disturbance up to seven days prior to mobilization, staging and other disturbances.

- If no breeding birds or active nests are observed during the pre-construction survey, or if they are observed and will not be impacted, then project activities may begin and no further breeding bird monitoring will be required.

- If an active bird nest is located during the pre-construction survey and potentially will be impacted, a no-activity buffer zone will be delineated on maps and marked by fencing, stakes, flagging, or other means up to 500 feet for special-status avian species and raptors, or 100 feet for non-special-status avian species. The biologist will determine the appropriate size of the buffer zone based on the type of activities planned near the nest and bird species because some bird species are more tolerant than others to noise and other disturbances. Buffer zones will not be disturbed until a qualified biologist determines that the nest is inactive, the young have fledged, the young are no longer being fed by the parents, the young have left the area, or the young will no longer be impacted by project activities. Periodic monitoring by a biologist will be performed to determine when nesting is complete. After the nesting cycle, project activities may begin within the buffer zone.

- A breeding bird territory is an area that is defended by a bird during part of the breeding season to forage, perform courtship rituals, mate, and nest. If a breeding bird territory is located during the pre-construction survey, a breeding bird deterrence and removal program will be implemented, as approved by the resource agencies, within and near the project site for non-special-status birds. Such deterrence methods may include removal of previous years' nesting materials and partially completed nests, where feasible. If nest deterrence is not feasible, then the identified nests with eggs or hatched young will be monitored until nests are inactive, the young have fledged, the young are no longer being fed by the parents, the young have left the area, or the young will no longer be impacted by project activities.

- If special-status species are observed within the project site during the pre-construction survey, then a qualified biologist will delineate individual species nesting territory, and notify the appropriate resource agency to: (1) determine if additional or focused protocol surveys are necessary, and (2) select suitable mitigation measures. Project activities may begin within the area after concurrence is received from the appropriate resource agency.

- Birds or their active nests will not be disturbed, captured, handled or moved except as noted above. Inactive nests may be moved by a qualified biologist, if necessary, to avoid disturbance by project activities.

BR-3: ***General Plant and Wildlife Avoidance Measures***

- To minimize construction-related mortalities of nocturnally active species such as mammals and snakes, it is recommended that all work be conducted during daylight hours. Night-time work (and use of artificial lighting) will not be permitted unless specifically authorized. If required, night lighting will be shielded to protect species from direct night lighting. All unnecessary lights will be turned off at night to avoid attracting wildlife such as insects, migratory birds, and bats.

- If any wildlife is encountered during the course of project activities, said wildlife will be allowed to freely leave the area unharmed.

- Wildlife will not be disturbed, captured, harassed, or handled. Animal nests, burrows and dens will not be disturbed without prior survey and authorization from a qualified biologist.

- Active nests cannot be removed or disturbed. Nests can be removed or disturbed if determined inactive by a qualified biologist.

- To avoid impacts on wildlife, the applicant will comply with all litter and pollution laws and will institute a litter control program throughout project construction. All contractors, subcontractors, and employees will adhere to this program. Trash and food items will be disposed of promptly in predator-proof containers with resealing lids. These covered trash receptacles will be placed at each designated work site and the contents will be properly disposed at least once a week. Trash removal will reduce the attractiveness of the area to opportunistic predators such as common ravens (*Corvus corax*), coyotes (*Canis latrans*), northern raccoons (*Procyon lotor*), and Virginia opossums (*Didelphis virginiana*).

- Contractors, subcontractors, employees, and site visitors will be prohibited from feeding wildlife and collecting plants and wildlife.

- To avoid the potential for mortality and harassment of wildlife, all non-security related firearms, weapons, and domestic dogs will be prohibited from the project site.

- All excavated holes or trenches greater than two feet deep shall be covered at the end of each work day, or escape ramps provided.

BR-4: ***Project Landscaping***

- Where possible, plant species and seed mixes will contain native drought resistant species with no invasive, non-native plant species listed on the "California Invasive Plant Inventory, February 2006" and updates. A copy of the complete list can be obtained at California Invasive Plant Council (Cal-IPC) website at www.cal-ipc.org. Cal-IPC is a nonprofit organization that is dedicated to protecting California's lands and waters from ecologically-damaging invasive plants through science, education and policy. Cal-IPC maintains an inventory that categorizes non-native invasive plants that threaten the state's Wildlands.

BR-5: ***Construction Best Management Practices (BMPs)***

- Project work crews will be directed to use BMPs where applicable. These measures will be identified prior to construction and incorporated into the construction operations.

b) Could the project have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

No Impact

The project site has been mass graded and is completely barren with a few patches of ruderal vegetation. Neither the literature review nor the results of the reconnaissance-level field survey indicate that riparian habitat or other sensitive natural communities exist on or adjacent to the project site. For this reason, no direct or indirect impacts to riparian habitat or other sensitive natural communities are anticipated as a result of project activities.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact

According to the literature review and reconnaissance-level field survey, no wetlands occur in or adjacent to the project site. For this reason, no direct or indirect impacts to federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means are anticipated as a result of project activities.

d) Could the project interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?

No Impact

The literature review and field survey determined that the project site does not function as a wildlife movement corridor. The project site is mostly barren and does not contain wildlife travel routes, such as a riparian strip, ridgeline, drainage, or wildlife crossings, such as a tunnel, culvert, or underpass. In addition, the project contains a chain-linked fence around the boundary. This fence inhibits wildlife travel through the site. Common wildlife species such as coyotes, northern raccoons, striped skunks (*Mephitis mephitis*), and Virginia opossums could be expected to travel within the areas surrounding the site.

Implementation of BMPs to control sediment runoff from construction and operating sites would reduce potential impacts to off-site areas. In addition, the project site and adjacent areas do not support resident or migratory fish species or wildlife nursery sites. According to the findings of the literature review and reconnaissance-level survey, no established resident or migratory wildlife corridors occur within the project site. For these reasons, the project would not interfere substantially with or impede: (1) the movement of any resident or migratory fish or wildlife species, (2) established resident or migratory wildlife corridors, or (3) the use of wildlife nursery sites.

e) Could the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact

No native trees or shrubs protected by local policies or ordinances were observed within the project site during the reconnaissance-level field survey. For these reasons, the project would not conflict with local policies or ordinances protecting biological resources.

The City of Irvine General Plan also lays out specific preservation and maintenance policies, including adherence to the Natural Community Conservation Plan/Habitat Conservation Plan for the Central/Coastal Subregion of Orange County (Central/Coastal Orange County NCCP/HCP), as part of the Open Space Element. In compliance with the Central/Coastal Orange County NCCP/HCP and the General Plan policies regarding maintenance and preservation of biotic species, the project would not conflict with any local policies or ordinances protecting biological resources.

f) Could the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact

The project site is located in the City of Irvine within areas covered by Central/Coastal Orange County NCCP/HCP, specifically within the Central Subregion of the plan. The City of Irvine is a signatory to the Central/Coastal Orange County NCCP/HCP Implementation Agreement; therefore the City is required to comply with the terms of the Implementation Agreement and make sure that any project that is in its jurisdiction and that requires its approval must meet the requirements and conditions of the plan.

The project site is not located within the designated Reserve System or classified as Special Linkage Area; therefore there are no construction or development restrictions for the project. The project site and the immediate vicinity do not contain protected or covered habitats, such as coastal sage scrub, or wildlife species such as the coastal California gnatcatcher (*Polioptila californica californica*); therefore the project will have no direct or indirect impacts on protected or covered habitats or species. For this reason, the project would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP. No impacts would occur and mitigation is not required.

4.5 CULTURAL RESOURCES				
Would the project:	**Potentially Significant Impact**	**Less than Significant Impact with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?			**X**	
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?			**X**	
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			**X**	
d) Disturb any human remains, including those interred outside of formal cemeteries?			**X**	

a) Would the project cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

Less than Significant Impact

The project (project) proposes to construct an elementary school within Planning Area 5B (PA 5B). Currently, the entire extent of PA 5B has been mass graded (see **Appendix A**). The project site (site) would be subject to precise grading permit requirements by City of Irvine (City). No historical or archaeological resources were identified within PA 5B during previous investigations[1]; however; unknown or unrecorded resources may potentially be revealed during precise grading activities. This may occur if ground disturbance activities penetrate deeper than previous work performed.

The City's Standard Condition 2.5[2] requires that a qualified paleontologist and/or archaeologist be consulted prior to the first preliminary or precise grading permit is issued by the City. Furthermore, a qualified paleontologist or archaeologist must always be on call or available during ground disturbance/construction activities when there is potential for resources to be discovered. The City's Municipal Code[3] requires the protection of natural, cultural, structural, and archaeological resources. California Public Resources Code[4] (PRC) protects archeological, paleontological, and historical sites with a wide variety of state policies and regulations in conjunction with the California Environmental Quality Act (CEQA). Furthermore, all construction activities must comply with PRC Sections 21083.2-21084.1 and CEQA Guidelines Sections 15064.5 and 15126.4(b) which

1 See Northern Sphere Area Environmental Impact Report (EIR), Section 4.5: Cultural Resources, Page 4-191 for Archaeological Project Impacts in PA 5B.
2 See Irvine CEQA Manual, Volume III, Appendix C: Plans, Policies, and Programs for Cultural Resources, Page C-5.
3 See City of Irvine Municipal Code, Title 3 (Community Services), Division 4 (Parks), Chapter 1 (In General). Section 3-4-132: Protection of Natural, Cultural, Structural and Archaeological Resources.
4 See California Public Resources Code 5020–5029.5, 5079–5079.65, and 5097.9.–5097.998.

address the protection of archeological and historical resources. California Senate Bill 18 (SB 18) requires local government agencies to consult with Native American tribes in the land development process in order to preserve traditional tribal cultural places.

With adherence to City Standard Condition 2.5, City of Irvine Municipal Code (Plans, Policies, and Programs for Cultural Resources), applicable California PRC sections, and SB 18 consultation less than significant impacts would be anticipated for any substantial adverse changes to historical or archaeological resources.

c) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than Significant Impact

As previously mentioned in Section 4.5(a) of this initial study, the site and surrounding properties have already been mass graded. Previous grading activities were conducted in accordance with the City's Grading Code[5] standards. Furthermore, this project requires a precise grading[6] permit and may be subject to City Standard Condition 2.5 as well as other additional standard "Conditions of Approval(s)" established by the City.

According to the City's General Plan (2012) Cultural Resources Element[7], this site is located within a Low Paleontological Sensitivity Zone. Areas located within this zone have already been severely altered or may be geologically young. Although this project proposes precise grading activities, it is not anticipated to directly or indirectly destroy any paleontological resources or site or unique geologic feature since previous grading activities have yielded negative results.

In the unlikely event that a unique paleontological resource or unique geologic feature is discovered during precise grading activities, then City Standard Condition 2.5, City's Municipal Code, and California Public Resources Code requirements would become effective immediately[8]. Therefore, with adherence to all applicable requirements, less than significant impacts would be anticipated.

d) Would the project disturb any human remains, including those interred outside of formal cemeteries?

Less than Significant Impact

As previously mentioned in Section 4.5(a) of this initial study, PA 5B has been mass graded and the site would require precise grading permits from the City. During previous ground disturbance activities, no human remains were identified or recorded onsite. In the unlikely event that human remains are discovered, during precise grading or construction activities, the project would be subject to California Health and Safety Code Section 7050.5, CEQA Section 15064.5, and California Public Resources Code Section 5097.98.

5 See IMC Title 5. (Planning), Division 10 (Grading Code and Encroachment Regulations), Chapter 1 (Grading Code).
6 City Standard Condition 2.5 applies to the first preliminary or precise grading permit that would be issued.
7 See Figure E-2 for Paleontological Sensitivity Zones.
8 See City Standard Condition 2.5. The City requires a paleontologist and/or archaeologist to be on call during ground disturbing activities when there is potential for resources to be uncovered.

California Health and Safety Code Section 7050.5 have procedures during the unlikely discovery of human remains. CEQA Section 15064.5 indicates the process for determining the significance of impacts to archeological and historical resources. California Public Resources Code Section 5097.98 stipulates the notification process during the discovery of Native American human remains, descendants, disposition of human remains, and associated artifacts. Therefore, adherence to all applicable codes and regulations would result in a less than significant impact.

4.6 GEOLOGY AND SOILS				
Would the project:	**Potentially Significant Impact**	**Less than Significant Impact with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) 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, or (2) placement of a school within an area designated as geologically hazardous in the safety element of the local general plan, or (3) construction, reconstruction, or relocation of any school building on the trace of a geological fault along which surface rupture can reasonably be expected to occur within the life of the school building?? Refer to Division of Mines and Geology Special Publication 42.			**X**	
ii) Strong seismic ground shaking?			**X**	
iii) the construction, reconstruction, or relocation of any school building on a site subject to moderate-to-high liquefaction??			**X**	
iv) the construction, reconstruction, or relocation of any school building on a site subject to landslides?			**X**	
b) Result in substantial soil erosion or the loss of topsoil?			**X**	
c) 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 or off site landslide, lateral spreading, subsidence, liquefaction or collapse?			**X**	
d) Be located on expansive soil, as defined in Table 18-1 B of the Uniform Building Code (1994), creating substantial risks		**X**		

to life or property?				
e) 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 waste water?				**X**

The following sections are cited from the Geological and Environmental Hazards Assessment (see **Appendix B**) prepared by UltraSystems Environmental, Inc.

a) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) 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? Refer to Division of Mines and Geology Special Publication 42.

Less than Significant Impact

In California, an "Alquist-Priolo Earthquake Fault Zone" (formerly Special Study Zone) is a seismic hazard area that varies in width, but averages approximately 0.25 mile around active faults. A fault is a fracture in the crust of the earth, where the rock mass on one side moves relative to the rock mass on the other side. Most faults are the result of repeated displacements over a long period of time. A fault trace is the line on the land surface defining the fault that can be delineated on a map. Surface rupture occurs when movement on a fault occurs at the surface. These faults may pose a risk of rupture to existing or future structures.

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. This law was a direct result of the 1971 San Fernando Earthquake, which was associated with extensive surface fault ruptures that damaged numerous homes, commercial buildings, and other structures. Surface rupture is the most easily avoided seismic hazard. For the purposes of the Act, an active fault is one that has ruptured in the last 11 thousand years (Holocene time), and a potentially active fault is one that has ruptured in the last 1.6 million years (Pleistocene time). The law requires the State Geologist to establish regulatory zones (Earthquake Fault Zones), and prepare maps showing surface traces of active faults.

The proposed project site is not within a designated State of California Alquist-Priolo Earthquake Fault Zone,[1] or within an area designated as geologically hazardous in the safety element of the local general plan. No known active or potentially active faults trend toward or through the project site (see **Figure 4.6-1**). For these reasons, impacts from rupture of a known earthquake fault during the project life would be less than significant.

[1] http://cluster3.lib.berkeley.edu/EART/UCONLY/CDMG/south/socal_index.pdf. Accessed November 15, 2013.

ii) Strong seismic ground shaking?

Less than Significant Impact

The nearest major active fault to the project site is the San Joaquin Hills Blind Thrust, located 3.9 miles southwest of the project site. The maximum moment magnitude from the San Joaquin Hills Blind Thrust Fault is 7.0 Mw[2] (see **Appendix A**). The approximate location of the project site in relation to the traces of regionally active faults is shown in **Figure 4.6-1** (blind thrust faults are not shown). The proposed project is within a seismically active region, which could potentially cause collapse of structures, buckling of walls, and damage to foundations from strong seismic ground shaking. Proposed structures would be constructed in accordance with applicable California Building Code (CBC) (Title 24, Part 2, California Code of Regulations) adopted by the legislature and used throughout the state, and requirements from State of California's Department of General Services, Division of the State Architect (DSA).

The CBC provides minimum standards to protect property and the public welfare by regulating the design and construction of excavations, foundations, building frames, retaining walls, and other building elements to mitigate the effects of seismic shaking and adverse soil conditions. The CBC contains provisions for earthquake safety based on factors including occupancy type, the types of soil and rock onsite, and the strength of ground motion with specified probability of occurring at the site. It requires the preparation of project-specific geotechnical reports prepared by a Certified Engineering Geologist or Geotechnical Engineer prior to construction of proposed structures. Site specific requirements are incorporated into project plans that are reviewed by building officials prior to issuance of permits and improvements are inspected in the field prior to permit sign off to ensure that these requirements are implemented. Furthermore, California Department of Education requires that state-funded school districts submit final plans, including grading, for approval (Title 5, Division 1, Chapter 13, Subchapter 1. School Facilities Construction, Article 1. General Standards, § 14031. Plan Approval Procedures for State-Funded School Districts). For these reasons, impacts from strong seismic ground shaking would be less than significant.

iii) Seismic-related ground failure, including liquefaction?

Less than Significant Impact

Liquefaction is the loss of soil strength from a rapid increase in pore-water pressure during severe ground shaking and occurs primarily in loose (low density), cohesion-less, and fine- to medium-grained soils in areas where groundwater is approximately 20 feet below the ground surface (bgs) or less. The project site is not within a known liquefaction hazard zone according to the California Seismic Hazard Zone Report (CGS, 2001) (see **Figure 4.6-2**). Because surface soils up to a depth of seven feet bgs are re-compacted to engineered specifications, groundwater is deeper than 20 feet bgs, and accelerations expected from seismicity are relatively small (0.604g), potential for liquefaction within the proposed project site would be less than significant.

[2] The moment magnitude scale (Mw) reports the size of earthquakes in terms of energy released. The magnitude is based on the seismic moment of the earthquake, which is equal to the rigidity of the earth multiplied by the average amount of slip on the fault and the size of the area that slipped. The Mw scale was developed in the 1970s to succeed the 1930s-era Richter scale. Although the formulae are different, the Mw scale retains the familiar magnitude values used in the Richter scale. The Mw scale is now used by the United States Geological Survey to estimate magnitudes for modern large earthquakes.

iv) Landslides?

Less than Significant Impact

Landslides occur when the stability of the slope changes from a stable to an unstable condition. A change in the stability of a slope can be caused by a number of factors, acting together or alone. Natural causes of landslides include groundwater (pore water) pressure acting to destabilize the slope, loss of vegetative structure, erosion of the toe of a slope by rivers or ocean waves, weakening of a slope through saturation by snow melt or heavy rains, earthquakes adding loads to barely stable slope, earthquake-caused liquefaction destabilizing slopes, and volcanic eruptions.

The project site is not within a landslide hazard zone according to the California Seismic Hazard Zone Report (CGS, 2001), and the topography within and surrounding the property is relatively flat (see **Figure 4.6-2**). There are engineered slopes along the eastern and western boundaries of the project site. Proposed structures are located within the center of the project site. For these reasons, impacts to people or structures due to landslides would be less than significant.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact

Section 402 of the federal Clean Water Act requires construction projects that may potentially result in soil erosion to implement best management practices (BMPs) to eliminate or reduce sediment and other pollutants in stormwater runoff. If one or more acres of soil would be disturbed, a National Pollutant Discharge Elimination System (NPDES) permit would be obtained. NPDES permits establish enforceable limits on discharges, require effluent monitoring, designate reporting requirements, and require construction and post-construction BMPs to eliminate or reduce point and non-point source discharges of pollutants, including soil.[3]

A General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (NPDES permit) would be required for this construction project. This NPDES Permit would require the Legally Responsible Person (LRP), such as the project owner, to prepare a Storm Water Pollution Prevention Plan (SWPPP) prior to construction to identify construction BMPs to eliminate or reduce soils and pollutants in storm water and non-storm water discharged to storm water sewer systems and other drainages. Prior to NPDES permit issuance, the LRP would upload Permit Registration Documents (PRDs) to the State Water Resources Control Board (SWRCB) on-line Stormwater Multi-Application and Report Tracking System (SMARTS). PRDs include a Notice of Intent (NOI), site map, risk assessment, SWPPP, post-construction water balance, annual fee, and signed certification statement by the LRP attesting to the validity of the information. These preventive measures during construction are intended to eliminate or reduce soil and topsoil erosion.

The project site has a low potential for soil erosion because it is relatively flat, and would be hardscaped, except for the turf play fields, kinder play, and selected areas for planters. According to the Drainage Report for PA 5B (see **Appendix C**), runoff from the project site would flow in a southwesterly direction and drain into the storm drain facilities on Meander and Rotunda, and

[3] California State Water Resources Control Board, http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml. Accessed October 2013.

routed through a detention basin at the southwest corner of PA 5B and discharged into the existing Irvine Boulevard storm drain system.

Additionally, a Water Quality Management Plan (WQMP) for PA 5B (see **Appendix D**) was already prepared and approved by City of Irvine (City) prior to mass grading of the planned development area. The WQMP specifies post-construction BMPs that would comply with the City's Water Quality Ordinance No. 94-17, Orange County Drainage Area Management Plan (DAMP), intent of the non-point source NPDES Permit for Waste Discharge Requirements for the County of Orange, Orange County Flood Control District and incorporated cities of County of Orange within the Santa Ana Region Storm Water Runoff Management Program. The WQMP lists BMPs that would adequately avoid and minimize erosion, and transport of soil or contaminants off-site. For these reasons, the potential for substantial soil erosion or the loss of topsoil would be less than significant.

c) Would the 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 or off site landslide, lateral spreading, subsidence, liquefaction or collapse?

Less than Significant Impact

The potential impact of landslides, lateral spreading, subsidence, liquefaction or collapse on proposed buildings and other structures is discussed below.

Landslides

Landslides occur when the stability of the slope changes from a stable to an unstable condition. A change in the stability of a slope can be caused by a number of factors, acting together or alone. Natural causes of landslides include groundwater (pore water) pressure acting to destabilize the slope, loss of vegetative structure, erosion of the toe of a slope by rivers or ocean waves, weakening of a slope through saturation by snow melt, or heavy rains, earthquakes adding loads to barely stable slope, earthquake-caused liquefaction destabilizing slopes, and volcanic eruptions.

The project site was part of the mass grading that occurred from January 20, 2014 to July 25, 2014 for the Planning Area 5B (PA 5B) Development (KCG, 2014). Undocumented fill and weathered alluvium were removed across the project site, and re-compacted up to approximately seven feet below proposed grade, and compacted to a minimum of 90 percent of the laboratory maximum dry density (see **Appendix A**). The project site is flat with engineered slopes along the east and west boundaries, and not within a landslide hazard zone. For these reasons, potential impacts to people or structures due to landslides would be less than significant.

Lateral Spreading

Lateral spreading occurs on mild slopes of 0.3 to 5% underlain by loose sands and a shallow water table. Lateral spreading can range from a few centimeters to a few meters, and can cause significant damage to buildings, bridges, pipelines, and other infrastructure. Lateral spreading often occurs along riverbanks and shorelines where loose, saturated sandy soils are commonly encountered at shallow depths. During lateral spreading, unsaturated overburden soil slides as intact blocks over a lower liquefied deposit. Surface displacements proceed down-slope or toward a steep free face, such as a stream bank, and may form fissures, scarps, and grabens. The topography within and surrounding the property is relatively flat, subsurface soils are re-compacted engineered fill to depths up to seven feet bgs, and groundwater occurs more than 70 feet bgs. The conditions for

lateral spreading are not present at the proposed site. For this reason, the potential for lateral spreading would be less than significant.

Subsidence

Seismically induced differential settlement may occur in loose to moderately dense, unsaturated granular soils and result in subsidence. Subsidence may also occur in areas of excessive overdraft during oil and groundwater production. Because no subsidence from oil or groundwater overdraft occurs in this area, the potential for seismicity is low, and subsurface soils are re-compacted engineered fill, potential for damage to buildings within the proposed property from subsidence would be less than significant.

Liquefaction

Liquefaction is the loss of soil strength from a rapid increase in pore-water pressure during severe ground shaking and occurs primarily in loose (low density), cohesion-less, and fine- to medium-grained soils in areas where groundwater is approximately 20 feet bgs or less. subsurface soils are re-compacted engineered fill, groundwater is deeper than 20 feet bgs, and accelerations expected from seismicity are relatively small (0.604g), potential for liquefaction within the proposed project site would be less than significant.

Collapse

Collapsible soils consist of loose, dry, low-density materials that collapse and compact with the addition of water or excessive loading. These soils are distributed throughout the southwestern United States, specifically in areas of young alluvial fans, debris flow sediments, and loess (wind-blown sediment) deposits. Soil collapse occurs when the land surface is saturated at depths greater than those reached by typical rain events. This saturation eliminates the clay bonds holding the soil grains together. Similar to expansive soils, collapsible soils result in structural damage such as cracking of the foundation, floors, and walls in response to settlement. Because subsurface soils are re-compacted engineered fill, and groundwater is deeper than 20 feet bgs, potential for soil collapse within the proposed project site would be less than significant.

d) Would the project be located on expansive soil, as defined in Table 18-1 B of the Uniform Building Code (1994), creating substantial risks to life or property?

Less than Significant Impact with Mitigation Incorporated

Expansive soils shrink and swell with changes in soil moisture. Soil moisture may change from landscape irrigation, rainfall, and utility leakage. Repeated changes in soil volume due to water content fluctuations may compromise structure foundations. Expansive soils are commonly very fine-grained with high to very high percentages of clay. Soils with an Expansion Index (EI) greater than 20 are considered expansive according to Section 1803.5.3 of the 2013 Uniform Building Code (UBC).[4] The laboratory test result of one soil sample collected within Lot 15 had an EI of 22 (KCG, 2014). Based on this result, soils within the project site have been classified as expansive (see **Appendix A**).[5] For this project, the County Building and Planning Department would require the

[4] http://www.ecodes.biz/ecodes_support/free_resources/2013California/13Building/PDFs/Chapter%2018%20-%20Soils%20and%20Foundations.pdf. Accessed January 19, 2015.

[5] EI = 100 x .h x F. Where .h = percent swell and F = fraction passing No. 4 sieve. EI= 0 to 20 Very Low, 21 to 50 Low , 51 to 90 Medium, 91 to 130 High, >130 Very High.

project to comply with the applicable soil and foundation codes of the CBC and UBC that specify special foundation design for construction on soils that exceed certain expansion thresholds. Mitigation measure **GS-1** would be adopted to reduce substantial risks to life or property due to expansive soils to less than significant levels.

Mitigation Measure

GS-1: ***Site-Specific Geotechnical Investigation***

- Prior to the issuance of building permits, a site-specific geotechnical investigation will be performed by a qualified geotechnical engineer as part of the design process to assess the adequacy of existing soils to support the proposed structures, and establish soil conditions susceptible to expansion. A Geotechnical Investigation Report would provide recommendations to satisfy applicable design and performance criteria in the most recent edition of the California Building Standard Code. These recommendations would be reviewed and approved by the City of Irvine Building and Safety Department to ensure that structural and foundation designs: (1) are appropriate for the subsurface soil conditions beneath proposed structures, and (2) will mitigate potential damage due to soil expansion.

e) Would the 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 waste water?

No Impact

The proposed project would not include septic tanks or alternative waste water disposal systems. For this reason, no impact from septic tanks or alternative waste water disposal systems within the proposed project site would occur.

Figure 4.6-1
REGIONALLY ACTIVE FAULTS

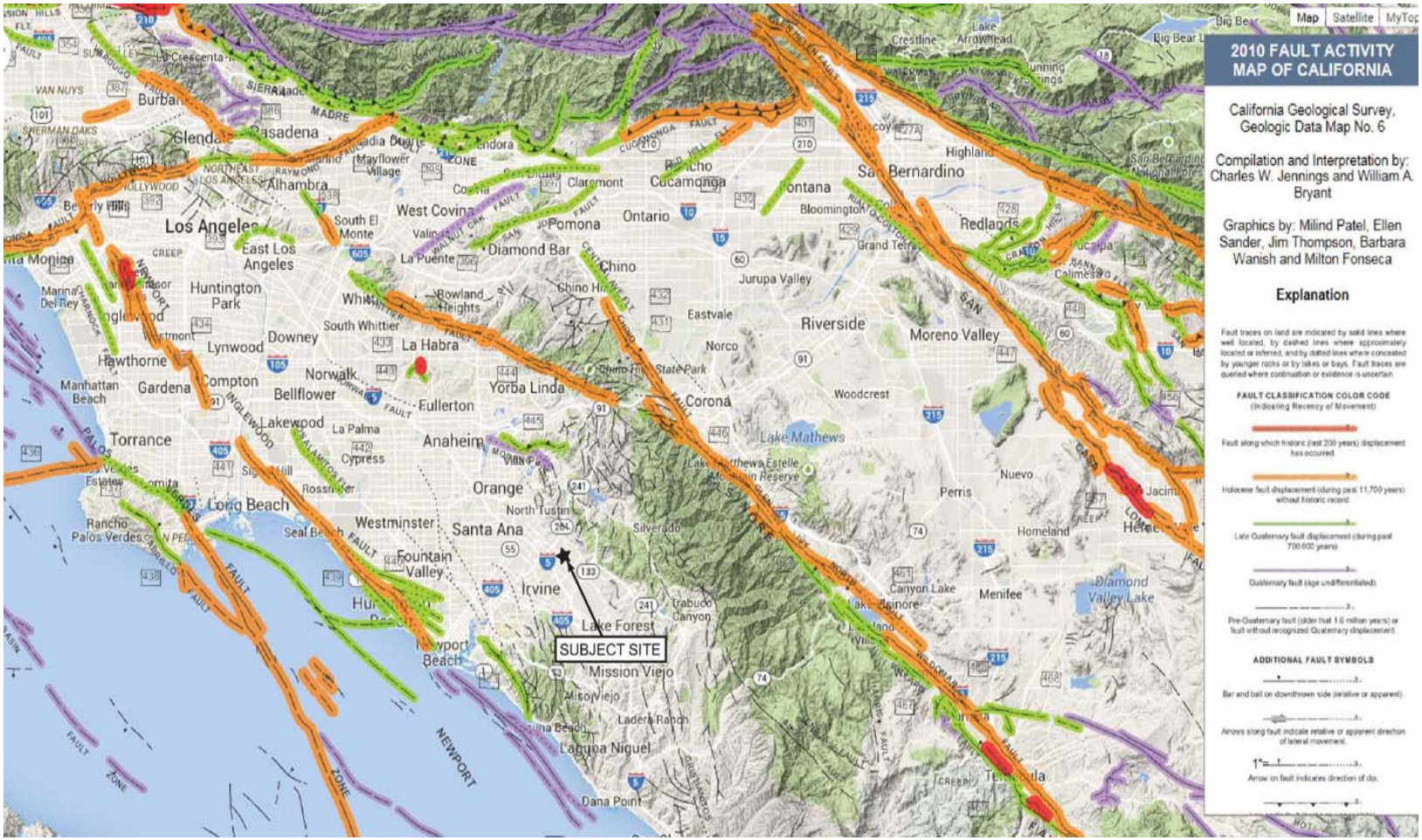
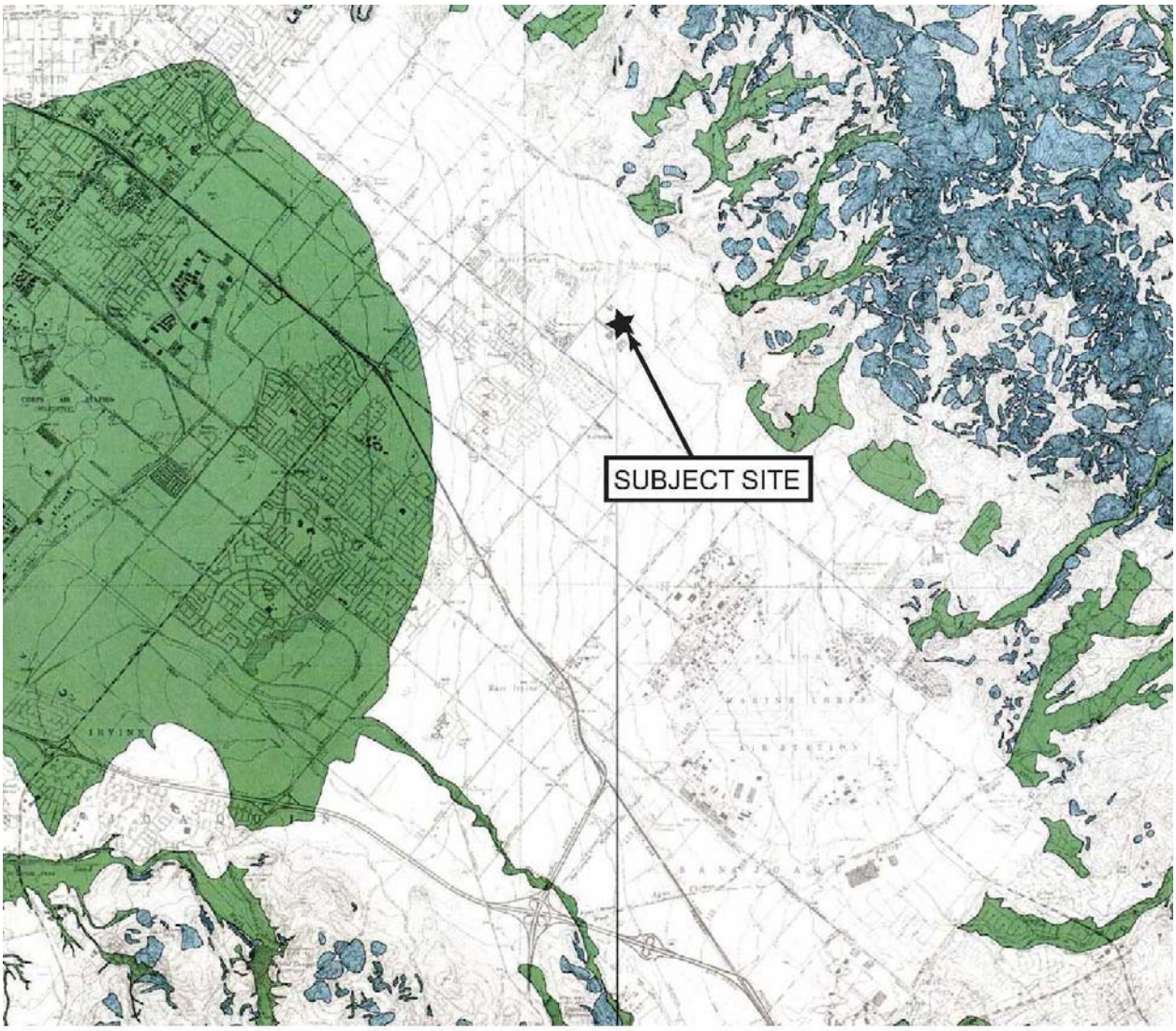


Figure 4.6-2
LIQUEFACTION AND LANDSLIDE HAZARD ZONES



Liquefaction
Areas where historic occurrence of liquefaction, or local geological, geotechnical and groundwater conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

Earthquake-Induced Landslides
Areas where previous occurance of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

4.7 GREENHOUSE GAS EMISSIONS				
Would the project:	**Potentially Significant Impact**	**Less than Significant Impact with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			**X**	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			**X**	

GHG Constituents

Constituent gases that trap heat in the Earth's atmosphere are called greenhouse gases (GHGs), analogous to the way a greenhouse retains heat. GHGs play a critical role in the Earth's radiation budget by trapping infrared radiation emitted from the Earth's surface, which would otherwise escape into space. Prominent GHGs contributing to this process include carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs). Without the natural heat-trapping effect of GHG, the earth's surface would be about 34°F cooler. This natural phenomenon, known as the Greenhouse Effect, is responsible for maintaining a habitable climate. However, anthropogenic emissions of these GHGs in excess of natural ambient concentrations are responsible for the enhancement of the Greenhouse Effect. It has led to a trend of unnatural warming of the Earth's natural climate known as "global warming" or "climate change," or, more accurately, "global climate disruption." Emissions of these gases that induce global climate disruption are attributable to human activities in the industrial/manufacturing, energy, transportation, residential, and agricultural sectors.

The global warming potential (GWP) is the potential of a gas or aerosol to trap heat in the atmosphere. Individual GHG compounds have varying GWP and atmospheric lifetimes. The reference gas for the GWP is CO_2; CO_2 has a GWP of one. The calculation of the CO_2 equivalent (CO_2e) is a consistent methodology for comparing GHG emissions since it normalizes various GHG emissions to a consistent metric. Methane's warming potential of 21 indicates that methane has a 21 times greater warming effect than CO_2 on a molecule per molecule basis. A CO_2e is the mass emissions of an individual GHG multiplied by its GWP. GHGs are often presented in units of metric tons (tonnes) of CO_2e.

Types of Greenhouse Gases

Carbon Dioxide (CO_2): The natural production and absorption of CO_2 is achieved through the terrestrial biosphere and the ocean. However, humankind has altered the natural carbon cycle by burning coal, oil, natural gas, and wood. Since the industrial revolution began in the mid-1700s, each of these activities has increased in scale and distribution.

Methane (CH_4): CH_4 has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at

the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other anthropogenic sources include fossil-fuel combustion and biomass burning.

Nitrous Oxide (N_2O): N_2O is produced naturally by microbial processes in soil and water, including those reactions that occur in nitrogen-containing fertilizer. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. N_2O is used as an aerosol spray propellant, e.g., in whipped cream bottles. It is also used in potato chip bags to keep chips fresh, in rocket engines and in racecars.

GHG Emissions Levels

In 2010, total worldwide GHG emissions were estimated to be 46 billion tonnes of CO_2e, excluding emissions and removals from land use, land use change, and forestry.[1] In 2012, total GHG emissions in the U.S. were 6.525.6 billion tonnes CO_2e.[2] In 2012, total California greenhouse gas emissions were 459 million tonnes CO_2e. The transportation sector accounted for approximately 37% of the total emissions, while the industrial sector accounted for approximately 22%. Emissions from electricity generation were about 21%.[3]

GHG Thresholds

To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, the South Coast Air Quality Management District (SCAQMD) Board adopted an Interim CEQA GHG Significance Threshold for Stationary Sources, Rules, and Plans.[4] The Interim Guidance uses a tiered approach to determining significance. Although this Interim Guidance was developed primarily to apply to stationary source industrial projects where the SCAQMD is the lead agency under CEQA, in absence of more directly applicable policy, the SCAQMD's Interim Guidance is often used as general guidance by local agencies to address the long-term adverse impacts associated with global climate change.

The SCAQMD proposes that if a project generates GHG emissions below 3,000 tonnes CO_2e annually, it could be concluded that the proposed project's GHG contribution is not cumulatively considerable and is therefore less than significant under CEQA. If the proposed project generates GHG emissions above the threshold, the analysis must identify mitigation measures to reduce GHG emissions.

Regulatory Setting

Federal Climate Change Regulations

The federal government has been involved in climate change issues at least since 1978, when Congress passed the National Climate Program Act (92 Stat. 601), under authority of which the National Research Council prepared a report predicting that additional increases in atmospheric CO_2 would lead to non-negligible changes in climate. At the "Earth Summit" in 1992 in Rio de

1 U.S. Environmental Protection Agency. Climate Change Indicators in the United States, 2014. Third Edition. 2014.
2 U.S. Environmental Protection Agency. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2012. April 15, 2014.
3 California Environmental Protection Agency Air Resources Board. California Greenhouse Gas Emission Inventory: 2000-2012. May, 2014.
4 Interim CEQA GHG Significance Threshold for Stationary Sources, Rules, and Plans. South Coast Air Quality Management Board. Adopted December 5, 2008.

Janeiro, President George H. W. Bush signed the United Nations Framework Convention on Climate Change (UNFCCC), a nonbinding agreement among 154 nations to reduce atmospheric concentrations of carbon dioxide and other greenhouse gases. The treaty was ratified by the U.S. Senate. However, when the UNFCCC signatories met in 1997 in Kyoto, Japan, and adopted a protocol that assigned mandatory targets for industrialized nations to reduce greenhouse gas emissions, the U.S. Senate expressed its opposition to the treaty. The Kyoto Protocol was not submitted to the Senate for ratification.

In 2007, Massachusetts et al. v. Environmental Protection Agency et al. (549 U.S. 497), the U.S. Supreme Court ruled that CO_2 was an air pollutant under the Clean Air Act, and that consequently, the U.S. Environmental Protection Agency (USEPA) had the authority to regulate its emissions. The Court also held that the Administrator must determine whether emissions of greenhouse gases 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. On April 24, 2009, the USEPA published its intention to find that: (1) the current and projected concentrations of the mix of six key greenhouse gases—CO_2, CH_4, N_2O, HFCs, PFCs and SF_6—in the atmosphere threaten the public health and welfare of current and future generations, and that (2) the combined emissions of GHG from new motor vehicles and motor vehicle engines contribute to the atmospheric concentrations of these key greenhouse gases and hence to the threat of climate change (74 Fed. Reg. 18886). These findings are required for subsequent regulations that would control GHG emissions from motor vehicles.

California Climate Change Regulations

Executive Order S-3-05 (GHG Emissions Reductions). Executive Order #S-3-05, signed by Governor Arnold Schwarzenegger on June 1, 2005, calls for a reduction in GHG emissions to 1990 levels by 2020 and for an 80% reduction in GHG emissions to below 1990 levels by 2050.

The California Global Warming Solutions Act of 2006 (AB 32)*.* In September 2006, Governor Arnold Schwarzenegger signed AB 32, the California Global Warming Solutions Act of 2006 (Health and Safety Code § 38500 et seq.), into law. AB 32 was intended to effectively end the scientific debate in California over the existence and consequences of global warming. In general, AB 32 directs the California Air Resources Board (CARB) to do the following:

- On or before June 30, 2007, publicly make available a list of discrete early action GHG emission reduction measures that can be implemented prior to the adoption of the statewide GHG limit and the measures required to achieve compliance with the statewide limit;
- By January 1, 2008, determine the statewide levels of GHG emissions in 1990, and adopt a statewide GHG emissions limit that is equivalent to the 1990 level (an approximately 25% reduction in existing statewide GHG emissions);
- On or before January 1, 2010, adopt regulations to implement the early action GHG emission reduction measures;
- On or before January 1, 2011, adopt quantifiable, verifiable, and enforceable emission reduction measures by regulation that will achieve the statewide GHG emissions limit by 2020, to become operative on January 1, 2012, at the latest. The emission reduction measures may include direct emission reduction measures, alternative compliance mechanisms, and potential monetary and non-monetary incentives that reduce GHG

emissions from any sources or categories of sources as CARB finds necessary to achieve the statewide GHG emissions limit; and

- Monitor compliance with and enforce any emission reduction measure adopted pursuant to AB 32.

On December 11, 2008, the CARB approved the *Climate Change Scoping Plan* (CARB, 2008a) pursuant to AB 32. The Scoping Plan recommends a wide range of measures for reducing GHG emissions, including (but not limited to):

- Expanding and strengthening of existing energy efficiency programs;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a GHG emissions cap-and-trade program;
- Establishing targets for transportation-related GHG emissions for regions throughout the state, and pursuing policies and incentives to meet those targets;
- Implementing existing state laws and policies, including California's clean car standards, goods movement measures and the Low Carbon Fuel Standard; and
- Targeted fees to fund the state's long-term commitment to administering AB 32.

Executive Order S-01-07 (Low Carbon Fuel Standard). Executive Order #S-01-07 (January 18, 2007) establishes a statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020 through establishment of a Low Carbon Fuel Standard. Carbon intensity is the amount of CO_2e per unit of fuel energy emitted from each stage of producing, transporting and using the fuel in a motor vehicle. On April 23, 2009 the Air Resources Board adopted a regulation to implement the standard.

Senate Bill 97. Senate Bill 97 was signed by the governor on August 24, 2007. The bill required the Office of Planning and Research (OPR), by July 1, 2009, to prepare, develop and transmit to the resources agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, including, but not limited to, effects associated with transportation or energy consumption. On April 13, 2009 OPR submitted to the Secretary for Natural Resources its proposed amendments to the State CEQA Guidelines for greenhouse gas emissions. The Resources Agency adopted those guidelines on December 30, 2009, and they became effective on March 18, 2010. The amendments treat GHG emissions as a separate category of impacts; i.e. they are not to be addressed as part of an analysis of air quality impacts.

Section 15064.4, which was added to the CEQA Guidelines, specifies how the significance of impacts from GHGs is to be determined. First, the lead agency should "make a good faith effort" to describe, calculate or estimate the amount of GHG emissions resulting from a project. After that, the lead agency should consider the following factors when assessing the impacts of the GHG emissions on the environment:

- The extent to which the project may increase or reduce GHG emissions, relative to the existing environmental setting;
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and

- The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional or local plan for the reduction or mitigation of GHG emissions.

The Governor's Office of Planning and Research (OPR) asked the CARB to make recommendations for GHG-related thresholds of significance. On October 24, 2008, the CARB issued a preliminary draft staff proposal for *Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act* (CARB, 2008b). After holding two public workshops and receiving comments on the proposal, CARB staff decided not to proceed with threshold development (Ito, 2010). Quantitative significance thresholds, if any, are to be set by local agencies.

Senate Bill 375*.* Senate Bill 375 requires coordination of land use and transportation planning to reduce GHG emissions from transportation sources. Regional transportation plans, which are developed by metropolitan transportation organizations such as the Southern California Association of Governments (SCAG), are to include "sustainable community strategies" to reduce GHG emissions.

Title 24. The Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, Part 6, of the *California Code of Regulations*) were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Compliance with Title 24 will result in decreases in GHG emissions. The California Energy Commission adopted the 2008 changes to the Building Energy Efficiency Standards on April 23, 2008 with an aim to promote the objectives listed below (CEC, 2008).[5]

- Provide California with an adequate, reasonably-priced and environmentally-sound supply of energy.
- Respond to Assembly Bill 32, the Global Warming Solutions Act of 2006, which mandates that California must reduce its greenhouse gas emissions to 1990 levels by 2020.
- Pursue California energy policy that energy efficiency is the resource of first choice for meeting California's energy needs.
- Act on the findings of California's Integrated Energy Policy Report (IEPR) that Standards are the most cost effective means to achieve energy efficiency, expects the Building Energy Efficiency Standards to continue to be upgraded over time to reduce electricity and peak demand, and recognizes the role of the Standards in reducing energy related to meeting California's water needs and in reducing greenhouse gas emissions.
- Meet the West Coast Governors' Global Warming Initiative commitment to include aggressive energy efficiency measures into updates of state building codes.
- Meet the Executive Order in the Green Building Initiative to improve the energy efficiency of nonresidential buildings through aggressive standards.

The provisions of Title 24, Part 6 apply to all buildings for which an application for a building permit or renewal of an existing permit is required by law. They regulate design and construction of the building envelope, space-conditioning and water-heating systems, indoor and outdoor lighting systems of buildings, and signs located either indoors or outdoors. Title 24, Part 6 specifies

[5] The 2008 changes to Building Energy Efficiency Standards became effective January 1, 2010.

mandatory, prescriptive and performance measures, all designed to optimize energy use in buildings and decrease overall consumption of energy to construct and operate residential and nonresidential buildings. Mandatory measures establish requirements for manufacturing, construction and installation of certain systems; equipment and building components that are installed in buildings.

Recent Developments: On May 22, 2014 the CARB approved the First Update to the Climate Change Scoping Plan Pursuant to AB 32 (CARB, 2014). The updated scoping plan evaluates the effectiveness of policies from the original scoping plan and adds recommendations for expanding and improving upon those programs including, but not limited to:

- Leveraging public money to fund technologies including medium and heavy duty Zero Emission Vehicles (ZEVs).
- Expanding local, regional, and state transportation plan goals to improve transit efficiency.
- Supporting the High-Speed Rail Authority and Sustainable Freight Strategy.
- Extending Low Carbon Fuel Standards beyond 2020 with more aggressive goals.
- Developing accurate methods for estimating agricultural emissions so that greenhouse gas reduction techniques can be assessed.
- Eliminating disposal of organic matter and promote methane recovery at landfills.
- Instituting the Forest Carbon Plan to model and understand the carbon cycle of forestry.
- Implementing economic incentives for the destruction of short-lived climate pollutants.
- Allowing limited future allowances for Cap-and-Trade to reduce cost spikes.
- Setting interim goals to reach greenhouse gas emissions of 80% of 1990 levels by 2050.

DISCUSSION OF IMPACTS

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant Impact

Short-term construction GHG emissions and long-term operational emissions were assessed using CalEEMod Version 2013.2.2. Modeled emissions were compared with SCAQMD Interim Thresholds to determine potential significance.[6] In addition to emissions from on- and off-road equipment usage during construction, CalEEMod estimates GHG emissions related to operational sources, such as mobile, energy, area, waste, and water.

Even though construction equipment would emit minor amounts of CH_4 and N_2O, the predominant GHG emissions during construction would be CO_2 from construction equipment. **Table 4.7-1** shows the estimated total CO_2 emissions from construction activity from the proposed project.

[6] Ibid.

Table 4.7-1
CONSTRUCTION GHG EMISSIONS

Emission Source	GHG Emissions 2016-2017 (tonnes)			
	CO_2	CH_4	N_2O	CO_2e
Onsite	249.8	0.06	N/A	251.1
Offsite	73.9	0.002	0.000	73.9
Total	**324**	**0.06**	**0.00**	**325**

The largest source of operational emissions would be from mobile sources, i.e. the combustion of fossil fuels (primarily gasoline and diesel) in vehicle engines. The CalEEMod model estimates vehicle emissions by first calculating trip rate, trip length, trip purpose, and trip type percentages (e.g., home to work, home to shop, home to other) for each land use type, based on the land use types and quantities entered by the user in the land use module.

GHGs are also emitted as a result of activities in buildings for which electricity and natural gas are used as energy sources. GHGs are produced during the generation of electricity from fossil fuels off-site in power plants. The emissions are considered indirect emissions, since they are not emitted directly at the source but are indirectly attributed to the source. CalEEMod estimated project GHG emissions from energy use by multiplying average rates of energy consumption by the square footage entered in the land use module to obtain total projected energy use. This value is then multiplied by electricity and natural gas GHG emission factors applicable to the project location and utility provider.

The amount of water used and wastewater generated by a project has indirect GHG emissions associated with it. These emissions are a result of the energy used to supply, distribute, and treat the water and wastewater. In addition to the indirect GHG emissions associated with energy use, wastewater treatment can directly emit both methane and nitrous oxide.

The disposal of solid waste produces GHG emissions from anaerobic decomposition in landfills, incineration, and transportation of waste. CalEEMod determines the GHG emissions associated with disposal of solid waste into landfills. To estimate GHG emissions that would be generated by disposing of the solid waste associated with the project, the total volume of solid waste associated with the project was first estimated in the model using waste disposal rates identified by CalRecycle. CalEEMod methods for quantifying GHG emissions from solid waste are based on the Intergovernmental Panel on Climate Change (IPCC) method using the degradable organic content of waste.

Table 4.7-2 shows a summary of operational GHG emissions from the Project. Because of the persistence of GHG in the atmosphere, all the impacts addressed in this section are defined as long-term. Greenhouse gas emissions from construction are amortized over the next 30 years and added to operational emissions for the purpose of estimating annual emissions. Since the SCAQMD proposes that if a project generates GHG emissions below 3,000 tonnes CO_2e, it could be concluded that the proposed project's GHG contribution is not "cumulatively considerable" and is therefore less than significant under CEQA. Based on the SCAQMD threshold, impacts due to greenhouse gas emissions would be less than significant. No mitigation measures are required.

Table 4.7-2
UNMITIGATED ANNUAL PROJECT GHG EMISSIONS, 2017 AND BEYOND
(Emissions in tonnes)

Emission Source		CO_2	CH_4	N_2O	CO_2e
Construction[a]		10.79	0.00	N/A	11
Operations	Area	0.03	0.00	N/A	0.03
	Energy	164.44	0.01	0.00	165
	Mobile	1,255.25	0.05	N/A	1,256
	Waste	37.05	2.19	N/A	83
	Water	29.62	0.08	0.00	32
Totals		**1,497.17**	**2.33**	**0.00**	**1,547**

Note: Proposed project is expected to be operational in 2017.
[a] Amortized over 30 years per SCAQMD Interim CEQA GHG Significance Threshold.

Source: UltraSystems Environmental Inc. with CalEEMod (Version 2013.2.2)

b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less than Significant Impact

Assembly Bill 32 (AB 32) identified a 2020 target level for GHG emissions in California of 427 million tonnes of CO_2e, which is approximately 28.5% less than the year 2020 business as usual (BAU) emissions estimate of 596 million tonnes CO_2e. To achieve these GHG reductions, there will have to be widespread reductions of GHG emissions across California. Some of those reductions will need to come in the form of changes in vehicle emissions and mileage standards, changes in the sources of electricity, and increases in energy efficiency by existing facilities. The remainder will need to come from requiring new facility development to have lower carbon intensity than BAU conditions. Therefore, this analysis uses a threshold of significance that is in conformance with the state's goals.

On December 12, 2008, CARB adopted the AB 32 Scoping Plan, which details specific GHG emission reduction measures that target specific GHG emissions sources. Project-related GHG emissions would be reduced as a result of several AB 32 Scoping Plan measures. The Scoping Plan considers a range of actions that include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market based mechanisms (e.g., cap-and-trade system.

Some examples include the following:

- Mobile-source GHG emissions reduction measures
- Pavley emissions standards (19.8% reduction)
- Low carbon fuel standard (7.2% reduction)
- Vehicle efficiency measures (2.8% reduction)
- Energy production related GHG emissions reduction measures

- Natural gas transmission and distribution efficiency measures (7.4% reduction)
- Renewables (electricity) portfolio standard (33.0% reduction)

These reductions in mobile-source and energy production GHG emissions would occur with or without development of the proposed project. Overall, the proposed project would be consistent with the AB 32 goal of reducing statewide GHG emissions to 1990 levels by year 2020. The proposed project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs; therefore, impacts would be less than significant. No mitigation measures are required.

4.8 HAZARDS AND HAZARDOUS MATERIALS				
Would the project:	**Potentially Significant Impact**	**Less than Significant Impact with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			**X**	
b) 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?			**X**	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one quarter mile of an existing or proposed school?			**X**	
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 or a list of hazardous substance release sites identified by the state Department of Health Services pursuant to Section 25356 of the Health & Safety Code and, as a result, would it create a significant hazard to the public or the environment? [PRC § 21151.8 (a)(1)(B)]		**X**		
e) Does the project site contain a current or former hazardous waste disposal site or solid waste disposal site and, if so, have the wastes been removed? [PRC § 21151.8 (a)(1)(A)]		**X**		
f) Is the proposed school site located on a site containing or underlain by naturally occurring hazardous materials?				**X**
g) Is the proposed school site situated within 2,000 feet of significant disposal of hazardous waste? [CCR, Title 5 § 14010(t)]				**X**

4.8 HAZARDS AND HAZARDOUS MATERIALS				
Would the project:	**Potentially Significant Impact**	**Less than Significant Impact with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
h) Does the proposed school site contain one or more pipelines, situated underground or aboveground, which carry hazardous substances, acutely hazardous materials or hazardous wastes, unless the pipeline is a natural gas line that is used only to supply natural gas to that school or neighborhood? [PRC § 21151.8 (a)(1)(C)]				**X**
i) Is the proposed school site located near an aboveground water or fuel storage tank or within 1,500 feet of an easement of an aboveground or underground pipeline that can pose a safety hazard to the site? [CCR, Title 5 § 14010 (h)]			**X**	
j) Is the property line of the proposed school site less than the following distances from the edge of respective power line easements: (1) 100 feet for 50-133 kV line; (2) 150 feet for 220-230 kV line; or (3) 350 feet for 500-550 kV line? [CCR, Title 5 §14010(c)]			**X**	
k) 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 project result in a safety hazard for people residing or working in the project area?				**X**
l) Is the proposed school site within two miles, measured by air line, of that point on an airport runway or potential runway included in an airport master plan that is nearest to the site? [Ed. Code § 17215 (a)&(b)] (Two nautical miles = 12,152 feet) (Does not apply to school sites acquired prior to January 1, 1996.)				**X**
m) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				**X**

4.8 HAZARDS AND HAZARDOUS MATERIALS				
Would the project:	**Potentially Significant Impact**	**Less than Significant Impact with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
n) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			**X**	
o) 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?			**X**	
p) Is the school site in an area designated in a city, county, or city and county general plan for agricultural use and zoned for agricultural production, and if so, do neighboring agricultural uses have the potential to result in any public health and safety issues that may affect the pupils and employees at the school site? [Ed. Code § 17215.5 (a)] (Does not apply to school sites approved by CDE prior to January 1, 1997).				**X**

The following sections are partially cited from the Geological and Environmental Hazards Assessment (see **Appendix B**) prepared by UltraSystems Environmental, Inc.

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

b) 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?

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less than Significant Impact

The proposed project would include the transport, storage, and use of chemical agents, solvents, paints, and other hazardous materials commonly associated with construction activities. Chemical transport, storage, and use would comply with Resource Conservation and Recovery Act (RCRA); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); California hazardous waste control law[1]; Occupational Safety and Health Administration (OSHA), Orange County Fire Authority (OCFA), and the Orange County Health Care Agency (OCHCA) requirements.

The operation of the proposed project is anticipated to include the minimal use of hazardous materials, including janitorial and landscaping supplies, such as commercial cleansers, paints, and lubricants. The use of these materials would be subject to Irvine Unified School District (District) guidelines and would be stored, handled, and disposed of in accordance with applicable regulations. School operation would not involve the routine transport, use, or disposal of quantities of hazardous materials that may create a significant hazard to the public or environment.

A Hazardous Materials Business Plan (HMBP) would be prepared and submitted by the District to the OCFA if the quantity of hazardous materials onsite would equal or exceed 55 gallons of a liquid, 500 pounds of a solid, 200 cubic feet of gas at standard temperature and pressure (STP), or extremely hazardous substances above threshold planning quantities as required by the Emergency Planning Community Right to Know Act (EPCRA) §§ 311 and 312.[2,3] The HMBP would include provisions for proper training for employees that would use, store and dispose of hazardous materials or waste, and safety procedures to be implemented in the unlikely event of unauthorized releases of hazardous materials. Based on the above analysis, potential impacts from the transport, storage, and use of chemical agents, solvents, paints, and other hazardous materials to the public or the environment would be less than significant.

1 Codified in California Health and Safety Code, Division 20, Chapter 6.5, Hazardous Waste Control.

2 U.S. Environmental Protection Agency. "Emergency Planning and Community Right-To-Know Act (EPCRA)". Internet URL: http://www.epa.gov/oecaagct/lcra.html. Updated June, 27, 2012.

3 A California Accidental Release Program (CalARP) Risk Management Plan (RMP) would not be needed because the quantity of hazardous material onsite would not exceed State Regulated Substance List threshold quantities specified in Title 19 California Code of Regulations (CCR), Division 2, Chapter 4.5 and Title 40 of the Code of Federal Regulations (CFR), Part 68.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 or a list of hazardous substance release sites identified by the state Department of Health Services pursuant to Section 25356 of the Health & Safety Code and, as a result, would it create a significant hazard to the public or the environment?

e) Does the project site contain a current or former hazardous waste disposal site or solid waste disposal site and, if so, have the wastes been removed?

Less than Significant Impact with Mitigation Incorporated

Government Code §65962.5 requires the Department of Toxic Substances control (DTSC) to compile and update, at least annually, lists of the following:

- Hazardous waste and substances sites from the DTSC EnviroStor database.
- Leaking underground storage tank (LUST) sites by county, and fiscal year from the State Water Resources Control Board (SWRCB) GeoTracker database.
- Solid waste disposal sites identified by the SWRCB with waste constituents above hazardous waste levels outside the waste management unit.
- SWRCB Cease and Desist Orders (CDOs) and Cleanup and Abatement Orders (CAOs).[4]
- Hazardous waste facilities subject to corrective action by DTSC pursuant to Health and Safety Code (HSC) §25187.5.[5]

These lists are collectively referred to as the "Cortese List." The project site is included in the following federal, state, regional or local database listings.

HAZNET Database: These data are extracted from the copies of hazardous waste manifests received each year by the DTSC. Data from non-California manifests and continuation sheets are not included. Data are from manifests submitted without correction, and therefore, may contain some invalid values for data elements. The source is the DTSC.

AST Database: The Aboveground Storage Tank (AST) database contains registered ASTs. The data are provided by the SWRCB Hazardous Substance Storage Container database. Environmental Data Resources (EDR) reports that STICE Inc., a former on-site contractor, maintained a 1,320-gallon AST that contained oil or waste oil.

According to the Phase I Environmental Site Assessment (see **Appendix E**), the project site was leased by Hines Wholesale Nurseries, Inc. (Hines) from the 1950s to late 2010, and used for agricultural purposes, administrative offices, vehicle maintenance, and storage of ornamental plants. The property owner, Irvine Company Community Development (ICCD) used the administrative, maintenance and warehouse facilities from late 2010 to July 2013. From 2011 through 2014, three former underground storage tanks (USTs), gasoline and diesel dispensers, lube oil piping, two septic tanks, five seepage pits, and impacted soils were removed from the project

[4] CDOs and CAOs may be issued for discharges of domestic sewage, food processing wastes, or sediment that do not contain hazardous materials,

[5] If corrective action is not taken on or before the date specified in a CDO or CAO, or if immediate corrective action is necessary to remedy or prevent an imminent substantial danger to the public health, domestic livestock, wildlife, or the environment, the DTSC may take, or contract for, corrective action and recover the cost for a responsible party.

site. Two hydraulic hoists and impacted soils were removed immediately south of the project site. From January 20 through July 25, 2014 undocumented fill and weathered alluvium were removed across the project site, and re-compacted up to seven feet below proposed grade to a minimum of 90 percent of the laboratory maximum dry density. No fill was imported to the project site.

Based on these activities, the following Areas of Potential Concern (AOPCs) were identified.

- **Former Fueling Area** in the vicinity of the former USTs, dispensers, lube oil line and hoists along the southeast project boundary that could be impacted with volatile organic compounds (VOCs) from fuel releases.

- **Former Septic Tank Area** in the vicinity of former septic tanks and seepage pits in the northeast portion of the project site that could be impacted with VOCs in solvents or other wastes that may have been inadvertently disposed with sewage.

- **Surface Soil** that could be impacted by the former application of pesticides and other activities through the project site.

Organochlorine pesticides (OCPs) were used on California agricultural lands from about 1944 to 1974, when their usage was banned for agricultural purposes. VOCs may be associated with fuel or solvent releases at the project site. Arsenic, in the form of arsenical herbicides, may have been used within the project site since at least the 1950s. Lead may be associated with former vehicle maintenance activities. Chemicals of Potential Concern (COPCs) associated with each AOPC are listed below in **Table 4.8-1**(UltraSystems, 2013a).

Table 4.8-1
CHEMICALS OF POTENTIAL CONCERN

Area of Potential Concern	VOCs	OCPs	Arsenic	Lead
Medium	*Soil Gas*	*Soil*	*Soil*	*Soil*
Former Fueling Area	x	-	-	-
Former Septic Tank Area	x	-	-	-
Surface Soil	-	x	x	x

A Preliminary Endangerment Assessment (PEA) is currently (January to May 2015) being completed by UltraSystems to evaluate the potential risk, if any, to human health and the environment at the project site. The PEA will be reviewed and approved by the Department of Toxic Substances Control (DTSC) to satisfy California Education Code (CEC) §17268 and §17213.1. Based on the information developed through the PEA, the DTSC will render an informed decision regarding potential risks associated with the proposed project site. Possible outcomes of the PEA decision include: 1) requirement for further investigation through a Supplemental Site Investigation, 2) need to perform a removal action if localized impacts by hazardous substances release(s) are found, or 3) issuance of a "No Further Action" finding if the proposed project site is found not to be significantly impacted and risks to human health and the environment are found to be within acceptable levels based on a conservative screening level risk assessment.

After mitigation measure **HZ-1** (below) is fully satisfied, the property would conform to environmental requirements specified in CEC §§ 17210, 17210.1 & 17213.1 and 22 California code of Regulations (CCR) Chapter 51.5 § 69100 et seq., and the project site would be suitable for school citing and construction according to California Department of Education (CDE) requirements.

Mitigation Measure

HZ-1: ***Completion of Preliminary Endangerment Assessment***

- Prior to acquisition and construction of the proposed school site, the Preliminary Endangerment Assessment (PEA) currently in progress, will be completed, reviewed and approved by the DTSC to satisfy CEC §17268 and §17213.1. DTSC stipulations, if any, for further assessment and/or site cleanup (CEC § 17213.1(10)), will be fully satisfied before construction begins. If the DTSC disapproves the PEA, it will inform the District of the decision, the basis for the decision, and actions necessary to secure DTSC approval of the PEA. The District will take actions necessary to secure DTSC approval of the PEA, or elect not to pursue acquisition or construction of the proposed project pursuant to CEC § 17213.1(8).

f) Is the proposed school site located on a site containing or underlain by naturally occurring hazardous materials?

g) Is the proposed school site situated within 2,000 feet of significant disposal of hazardous waste?

h) Does the proposed school site contain one or more pipelines, situated underground or aboveground, which carry hazardous substances, acutely hazardous materials or hazardous wastes, unless the pipeline is a natural gas line that is used only to supply natural gas to that school or neighborhood?

No Impact

According to the Phase I Environmental Site Assessment (see **Appendix E**), no evidence for mines, debris, naturally occurring hazardous materials or pipelines containing hazardous substances, acutely hazardous materials or hazardous wastes within the project site was observed or reported. Furthermore, a review of regulatory databases indicated there was no significant disposal of hazardous waste reported within 2,000 feet of the project site. Based on these findings, no impact from naturally occurring hazardous materials or hazardous materials disposal would be anticipated.

i) Is the proposed school site located near an aboveground water or fuel storage tank or within 1,500 feet of an easement of an aboveground or underground pipeline that can pose a safety hazard to the site?

j) Is the property line of the proposed school site less than the following distances from the edge of respective power line easements: (1) 100 feet for 50-133 kV line; (2) 150 feet for 220-230 kV line; or (3) 350 feet for 500-550 kV line?

Less than Significant Impact

According to an online records search[6] and database review provided by EDR (see **Appendix B**), no high-pressure gas and oil pipelines, or electrical power lines occur within 1,500 feet of the project site. According to the Sub Area Master Plan Update for PA 5B (see **Appendix H**), domestic and non-potable water would be supplied by existing 12- and eight-inch pipelines, respectively, beneath Jeffrey Road approximately 1,350 feet to the southeast. Local sewer water would discharge by gravity flow into an existing 12-inch sewer line beneath Irvine Boulevard approximately 1,950 feet to the south. Eight-to 12-inch domestic water pipelines would operate at between 47 and 100 pounds per square inch (PSI), and four- to eight-inch non-potable water pipelines would operate at between 132 and 156 PSI beneath Rotunda, Meander and Parkwood roadways adjacent to the project site.

An analysis for the rupture of high-pressure water pipelines beneath roadways within 1,500 feet of the project site was completed using the CDE Proposed Standard Protocol for Pipeline Risk Assessment (CDE, 2007, page 4-61). If flooding occurred entirely on the "school side" of a ruptured pipeline at the edge of adjacent roadways, then the "surface pools" may reach the school boundary, but would not affect school buildings or other facilities. Under these conservative conditions, risk to the faculty and student population would be less than significant.

k) 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 project result in a safety hazard for people residing or working in the project area?

l) Is the proposed school site within two miles, measured by air line, of that point on an airport runway or potential runway included in an airport master plan that is nearest to the site?

m) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Impact

The project site is outside the boundaries of an Airport Environs Land Use Plan (AELUP). The John Wayne Airport is located approximately six miles west of the project site. No airport or airstrip occurs within two miles of the project site. Based on these findings, impacts from the proximity of an airport, runway or airstrip are not anticipated.

[6] According to the online National Pipeline Mapping System (NPMS), the nearest high pressure gas pipelines are approximately 2,400 feet to the northwest beneath Portola Parkway, and approximately 3,100 feet to the southwest beneath Irvine Boulevard. http://www.socalgas.com/safety/pipeline-maps/orange.shtml. The nearest oil pipeline is approximately 13,700 feet southwest parallel to Interstate I-5. https://www.npms.phmsa.dot.gov/PublicViewer/.

n) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than Significant Impact

The proposed project would not impair or physically interfere with the City of Irvine Emergency Management Plan or Standardized Emergency Management System (SEMS), which provide for an effective response to multi-agency and multi-jurisdiction emergencies in California (Irvine, 2004). It would comply with the emergency plan, and would not obstruct the City's evacuation routes or impede emergency ingresses or egresses. For these reasons, the potential for the project to impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan would be less than significant.

o) 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?

Less than Significant Impact

The California Department of Forestry and Fire Protection (CALFIRE) developed Fire Hazard Severity Zones (FHSZ) for State Responsibility Areas (SRA) and Local Responsibility Areas (LRA). The proposed site is located in a LRA area with a non-fire hazard designation, and is approximately 0.75 mile southwest of a LRA "Very High" fire hazard designation area (see **Figure 4.8.1**). The project site is approximately 1.3 miles south from OCFA Station #55.

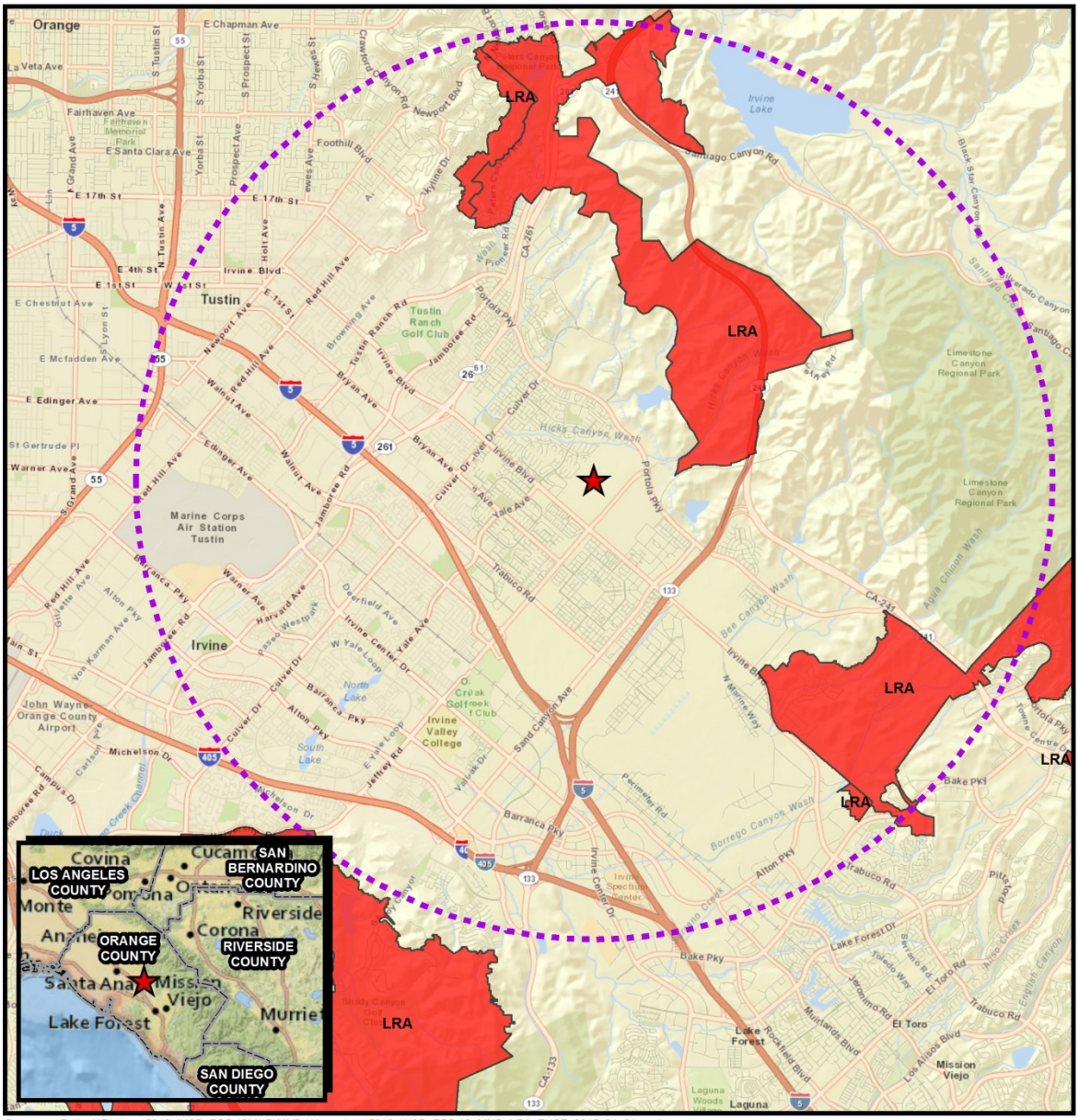
The proposed project would include required fire suppression design features identified in the latest edition of the California Building Code (CBC), and would comply with California's Division of the State Architect requirements and the OCFA Fire Master Plan for Public Schools. The proposed project would also adhere to the OCFA Vegetation Management Technical Design for New Construction Fuel Modification Plans and Maintenance Program in compliance with the City of Irvine Fire Code. With adherence to applicable regulations and the proximity to the nearest fire station, impacts due to wildland exposure would be less than significant.

p) Is the school site in an area designated in a city, county, or city and county general plan for agricultural use and zoned for agricultural production, and if so, do neighboring agricultural uses have the potential to result in any public health and safety issues that may affect the pupils and employees at the school site?

No Impact

The project site is in an area designated for Medium Density Residential. Former agricultural operations on adjacent properties would be replaced with residential properties as part of the PA 5B Development. Based on these findings, impacts from agricultural use or production are not anticipated.

Figure 4.8-1
FIRE HAZARD SEVERITY ZONES



4.9 HYDROLOGY AND WATER QUALITY				
Would the project:	**Potentially Significant Impact**	**Less than Significant Impact with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Violate any water quality standards or waste discharge requirements?			**X**	
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			**X**	
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?				**X**
d) Substantially alter the existing drainage pattern of the site or area, including through the alternation 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?			**X**	
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?			**X**	
f) Otherwise substantially degrade water quality?			**X**	
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?				**X**
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				**X**
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, or dam inundation?			**X**	

4.9 HYDROLOGY AND WATER QUALITY				
Would the project:	**Potentially Significant Impact**	**Less than Significant Impact with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
j) Cause inundation by seiche, tsunami, or mudflow?				**X**

a) Would the project violate any water quality standards or waste discharge requirements?

Less than Significant Impact

Development of the proposed project may result in two types of water quality impacts: (1) short-term impacts due to construction related discharges; and (2) long-term impacts from operation or changes in site runoff characteristics. Runoff may carry on-site surface pollutants to water bodies such as lakes, streams, and rivers that ultimately drain to the ocean. Projects that increase urban runoff may indirectly increase local and regional flooding intensity and erosion.

Construction Pollutants Control

Construction of the proposed project would include the transport, storage, and use of chemical agents, solvents, paints, and other hazardous materials commonly associated with construction activities. Chemical transport, storage, and use would comply with the Resource Conservation and Recovery Act (RCRA); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); California's Hazardous Waste Control laws[1]; Occupational Health and Safety Administration (OSHA), Orange County Fire Authority, and Santa Ana Regional Water Quality Control Board (RWQCB) requirements.

Construction projects typically expose soil to erosion and may temporarily alter drainage patterns. Storm water runoff during construction may contain soil amendments such as fertilizers and pesticides, entrained soil, trash, waste oil, paints, solvents and other substances used during construction. Section 402 of the Federal Water Pollution Control Act (FWPCA) requires projects that would disturb one acre or more of soil to obtain a National Pollutant Discharge Elimination System (NPDES) General Construction Permit. As part of the permit conditions, the District is required to submit a Notice of Intent (NOI) and a Storm Water Pollution Prevention Plan (SWPPP) to the State Water Resources Control Board (SWRCB), which identifies site-specific best management practices (BMPs) to eliminate or reduce pollutants and soil in storm water and non-storm water discharges from the construction site. The NPDES permit requires enforceable limits on discharges, effluent monitoring, annual reporting, and construction and post-construction BMPs to eliminate or reduce point and non-point source discharges of pollutants.

For these reasons, potential violations of water quality standards or waste discharge requirements would be less than significant during project construction.

[1] See California's Health and Safety Code, Division 20. Miscellaneous Health And Safety Provisions, §§ 24000-26204, Chapter 6.5. Hazardous Waste Control.

Operational Pollutant Controls

NPDES Municipal Stormwater Permits mandated by the FWPCA require new development and significant redevelopment projects to incorporate post-construction BMPs to comply with the local Standard Urban Stormwater Mitigation Plan (SUSMP), Drainage Area Management Plan (DAMP) and/or Water Quality Management Plan (WQMP) to reduce the quantity of rainfall runoff and improve the quality of water that leaves a site. The local DAMP (VA Consulting, 2013a) requires new developments to implement appropriate routine structural and nonstructural BMPs. BMPs for new development projects are subject to the local WQMP (VA Consulting, 2013b). Examples of routine structural BMPs include filtration, common area runoff minimizing landscape, energy dissipaters, inlet trash racks, and catch basins. Routine nonstructural BMPs include litter control, inspection and maintenance of catch basins, and spill contingency plans.

For these reasons, potential violations of water quality standards or waste discharge requirements would be less than significant during project operation.

b) Would the 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 (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Less than Significant Impact

Development of the proposed school site would not result in substantial changes in the quantity of existing groundwater supplies because no groundwater extraction activities would occur. There would be a decrease in the potential infiltration of surface water from the 10-acre site into groundwater due to new impervious surfaces onsite; however, the site is not in an area used for direct groundwater recharge, which in the Orange County Groundwater Basin primarily occurs along the Santa Ana River and at Prado Dam in the Forebay, where the Upper, Principal, and Lower aquifers are merged.[2] Moreover, BMPs would be adopted to promote on-site infiltration, where feasible.

Based on the geotechnical field investigation (see **Appendix A**), depth to groundwater beneath the site is more than 70 feet below the ground surface, and would not be a constraint for the proposed design, construction, or development of the proposed school site. The Irvine Ranch Water District (IRWD) water system would supply the facilities with water and no new water supply wells would be constructed or used.

For these reasons, impacts to groundwater supplies or recharge would be less than significant.

[2] Metropolitan Water District (MWD) Groundwater Assessment Study, Orange County Groundwater Basin, September 2007.

c) Would the project 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?

No Impact

According to the Drainage Report for PA 5B (see **Appendix C**), the existing drainage pattern of the area is southwesterly to an existing storm drain system in Irvine Boulevard and ultimately to the Central-Irvine Channel. Runoff from the project site would flow southwesterly direction and drain into the storm drain facilities along Meander and Rotunda. These storm drain facilities, which include catch basins, junction structures, 24- to 54-inch reinforced concrete pipe (RCP) main lines (trunk lines), and 18- to 36-inch RCP laterals, are part of the PA 5B Development. No substantial changes in the existing drainage pattern of the area are proposed, and no streams, rivers, or drainage channels that contribute runoff to the local drainage network would be impacted by the project.

d) Would the project substantially alter the existing drainage pattern of the site or area, including through the alternation 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?

e) Would the project 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?

f) Would the project otherwise substantially degrade water quality?

Less than Significant Impact

According to the Drainage Report for PA 5B (see **Appendix C**), the existing drainage pattern is southwesterly to an existing storm drain system along Irvine Boulevard and ultimately to the Central-Irvine Channel. This existing storm drain system has a design flow rate of 174 cubic feet per second (cfs). PA 5B would be divided in two drainage sub-areas, Area E (east) and Area W (west). The school site would be located within drainage sub Area W. Runoff from Area W would be routed to a detention basin at the southwest corner of PA 5B (see Section 3.0, **Figure 3-3**, of this Initial Study). It would then discharge outside of PA 5B into the existing storm drain system along Irvine Boulevard. This storm drain system is located in drainage Area I. During a 100-year storm, Area W and Area I would generate flows rates that exceed the drainage system's designed flow rate (174 cfs). To decrease this flow rate, runoff from Area W would drain into a detention basin prior to discharging into the storm drain system. This detention basin would be built at the southwest corner of PA 5B and would reduce flow rates to satisfy the design capacity of the existing drain system on Irvine Boulevard.

No streams or rivers are adjacent to or within the project site. Runoff from the project site would flow in a southwesterly direction and drain into the storm drain facilities on Meander and Rotunda designed to accommodate project runoff volumes. Post-construction BMPs would be adopted to minimize runoff and potential pollutants from the project site, and enhance subsurface infiltration. For these reasons, the potential for the project to: (1) substantially alter the existing drainage pattern, (2) result in on- or off-site flooding, (3) create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems, (4) provide substantial

additional sources of polluted runoff, or (5) substantially degrade water quality would be less than significant.

g) Would the project 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?

h) Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?

No Impact

The project site is in Federal Emergency Management Area (FEMA) Flood Insurance Rate Map (FIRM), Zone X, which is outside the 100-year flood zone (see **Figure 4.9-1**)[3] Zone X is characterized as moderate to low risk areas for FEMA flood hazard zones. Flood Zone X identifies "areas outside the one percent annual chance floodplain, areas of one percent annual chance sheet flow flooding where average depths are less than one foot, areas of one percent annual chance stream flooding where the contributing drainage area is less than one square mile, or areas protected from the one percent annual chance flood by levees." The proposed school project is a public facility and would not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary, FEMA FIRM, or other flood hazard delineation map. No impacts to housing or flood-flow as a result of the proposed project are anticipated.

i) Would the project 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, or dam inundation?

Less than Significant Impact

The project site is not within a 100-year flood hazard area. According to the California Emergency Management Agency, the proposed school site is in or near an area of low hazard of flooding. Hence, no people or structures would be exposed to a significant risk of loss or death involving flooding, including flooding as a result of the failure of a levee or dam. For these reasons, exposure of 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, or dam inundation would be less than significant.

j) Would the project cause inundation by seiche, tsunami, or mudflow?

No Impact

A Seiche is an oscillating wave in a closed or partially closed water body such as a river, lake, reservoir, pond, and other large inland water body caused by wind, tidal forces, earthquakes, landslides and other phenomena. Tsunamis are long wave-length, earthquake-generated ocean waves. Mudflows are fast-moving landslides composed of mud and debris, typically caused by heavy rainfall or melting snow on steep hillsides.

[3] FEMA Flood Insurance Rate Map Flood Map Service Center. Internet URL: https://msc.fema.gov/portal. Accessed on January 5, 2015.

According to the California Emergency Management Agency, the project site is not within a Tsunami Inundation Area for Emergency Planning.[4] Because there are no existing large water storage reservoirs or other inland water bodies in the vicinity of the proposed project site, hazards from a seiche are considered negligible. The project site is not mapped within a landslide hazard zone in the state Seismic Hazard Zone Report.[5] The potential for seismically-induced landslides or mud debris flows within or near the proposed project site is considered negligible. For these reasons, no impacts from inundation by a seiche, tsunami, or mudflow are anticipated.

[4] http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/Orange/Pages/Orange.aspx Accessed on January 25, 2015.

[5] http://gmw.consrv.ca.gov/shmp/MapProcessor.asp?Action=Quad&Location=SoCal. Accessed on January 25, 2015 2014.

Figure 4.9-1
ZONE X FLOOD HAZARD AREA

Document Path: J:\Projects\5948_IUSD_PB5_ISMND\MXDs\Hydrology\5948_IUSD_PA5_FEMA_Map_2015_01_05.mxd
Service Layer Credits: Copyright: ©2012 Esri, DeLorme, NAVTEQ, Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, Copyright© 2013 Esri, DeLorme, NAVTEQ, TomTom, Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp., Esri, HERE, DeLorme, TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS user community; FEMA NFHL Database, Dec. 2014; UltraSystems Environmental, Inc., 2015

4.10 LAND USE AND PLANNING				
Would the project:	**Potentially Significant Impact**	**Less than Significant Impact with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Physically divide an established community?				**X**
b) Conflict with any 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, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				**X**
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?			**X**	
d) Would the proposed school conflict with any existing or proposed land uses, such that a potential health or safety risk to students would be created?			**X**	

a) Would the project physically divide an established community?

No Impact

The City of Irvine (City) approved Vesting Tentative Tract Map (VTTM) No. 17523,[1] which would develop 297.93 acres of land zoned by the City as 2.3I (Medium Density Residential)[2] and having a Land Use Element designation of Medium Density Residential (0-10 dwelling units per acre)[3] in Planning Area 5B (PA 5B). This approved development includes 1,900 residential dwelling units, several public/private parks, and a dedicated elementary school site (project).

VTTM No. 17523 was designed consistent with requirements of the 2.3I Zoning District, which requires that elementary schools be centrally located within their node areas. Also, schools should be located adjacent to and have common recreational facilities with public parks. Lastly,

1 In addition to the VTTM No. 17523, the City of Irvine Planning Commission also approved the Master Landscape and Trail Plan and the Park Plan within the 2.3I Medium Density Residential Zoning District for PA 5B.

2 See City of Irvine Zoning Ordinance, Division 9, Planning Areas, Chapter 9-5. Planning Area 5 (Northwood Point), Section 9-5-1. Land Use Zoning Map, Zoning Ordinance Map (Planning Area 5) and Zoning Map (Last Updated October 2013) http://www.cityofirvine.org/cityhall/cd/planningactivities/zoning/default.asp. Accessed on January 29, 2015.

3 See City of Irvine General Plan (2000), Land Use Element, Figure A-3: Land Use Map (Last Updated June 2012).

development in PA 5B would provide safe and convenient pedestrian and bicycle access to and from elementary schools which connect neighborhoods and parks.[4]

This ten-acre project site (site) is located near the center of PA 5B and serves as an integral part of the newly planned community, providing a new school and shared recreational facilities to serve residents. Rather than physically divide an established community, it would enhance connectivity between neighborhoods and parks in Irvine. Therefore, no impacts would be anticipated.

b) Would the project conflict with any 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, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact

As discussed in Section 4.10(a), of this Initial Study, the project would be located within the 2.3I[2] Zone with a land use designation of Medium Density Residential[3] in PA 5B. According to the City's Zoning Ordinance Land Use Matrix,[5] public schools are a permitted use within the 2.3I Zone. This project was included as part of a planned development project in VTTM No. 17523.

As an approved project, the City[6] adopted PA 5B Development in accordance with Irvine's General Plan (2000), Municipal Code, Uniform Security Code, and Zoning Code. Additionally, development of this project would follow the California Department of Education's School Site Selection and Approval[7] process, which provides guidelines for avoiding and mitigating potential environmental effects.

As discussed in Sections 4.1 through 4.17, of this Initial Study, the project would be consistent with all applicable plans, policies or regulations that have been adopted by local, county, regional, state or federal agencies with jurisdiction over this project for the purpose of avoiding or mitigating environmental effects. **Table 4.10-1** lists these adopted plans, policies and programs and references corresponding section(s) in this Initial Study. Therefore, with adherence to all applicable plans, policies or regulations, no impact would be anticipated.

4 See City of Irvine Zoning Ordinance, Division 9. Planning Areas, Chapter 9-5. Planning Area 5 (Northwood Point), Section 9-5-7. Special Development Requirements for New Community (Area 2.3I). (B.) Public and private facilities. (4.)(b.) Schools.

5 See City of Irvine Zoning Ordinance, Division 9. Planning Areas, Chapter 9-5. Planning Area 5 (Northwood Point), Section 9-5-4. Land Use Matrix.

6 See City of Irvine Planning Commission Meeting Minutes for August 1, 2013 (Resolution No.'s 13-3240, 13-3241, and 13-3242) and City Council Meeting Minutes for September 24, 2013 (Resolution No.'s 13-114, 13-115, and 13-116).

7 This authority is accordance with California's Education Code Section 17251 and the California Code of Regulations (CCR), Title 5, § 14001 through 14012.

TABLE 4.10-1
COUNTY, REGIONAL, STATE AND FEDERAL AGENCIES WITH JURISDICTION OVER THE PROJECT

POLICY, PLAN, PROGRAM	AGENCY	REFERENCED SECTION(S)
County Jurisdiction		
Orange County Congestion Management Program	County of Orange	Section 4.16 (Transportation and Traffic)
Countywide Integrated Waste Management Plan	County of Orange	Section 4.17 (Utilities and Services),
Orange County Drainage Area Management Plan	County of Orange	Section 4.17 (Utilities and Services) & Section 4.6 (Geology and Soils)
Orange County Health Care Agency requirements	County of Orange	Section 4.8 (Hazards and Hazardous Materials)
Hazardous Materials Business Plan	Orange County Fire Authority requirements	Section 4.8 (Hazards and Hazardous Materials)
Vegetation Management Technical Design for New Construction Fuel Modification Plans and Maintenance Program	Orange County Fire Authority requirements	Section 4.8 (Hazards and Hazardous Materials)
Regional Jurisdiction		
2012 Air Quality Management Plan	South Coast Air Quality Management District	Section 4.3 (Air Quality)
Regional Transportation Plan	Southern California Association of Governments	Section 4.13 (Population and Housing)
2012-2035 Sustainable Communities Strategy/Regional Comprehensive Plan[8]		
Compass Growth Vision		
State Jurisdiction		
California Air Resources Board Regulations	California Air Resources Board	Section 4.3 (Air Quality)
Central/Coastal Orange County Natural Community Conservation Plan/Habitat Conservation Plan California Endangered Species Act	California Department of Fish and Wildlife	Section 4.4 (Biological Resources) & Section 4.10 (Land Use and Planning)
California Wetlands Policy	California Environmental Protection Agency/State Water Resources Control Board	Section 4.4 (Biological Resources)

[8] http://www.scag.ca.gov/NewsAndMedia/Pages/RegionalComprehensivePlan.aspx. Accessed on November 18, 2014.

POLICY, PLAN, PROGRAM	AGENCY	REFERENCED SECTION(S)
California Public Resources Code, 21083.2-21084.1	California Legislature	Section 4.5 (Cultural Resources)
California State Health and Safety Code, Section 7050.5	California Legislature	Section 4.5 (Cultural Resources)
California Senate Bill 18	California Legislature	Section 4.5 (Cultural Resources)
Climate Change Scoping Plan	California Air Resources Board	Section 4.7 (Greenhouse Gas Emissions)
Executive Order S-3-05 (GHG Emissions Reductions)	Office of the Governor	Section 4.7 (Greenhouse Gas Emissions)
Executive Order S-01-07 (Low Carbon Fuel Standard)	Office of the Governor	Section 4.7 (Greenhouse Gas Emissions)
Senate Bill 375	California Legislature	Section 4.7 (Greenhouse Gas Emissions)
Senate Bill 97	California Legislature	Section 4.7 (Greenhouse Gas Emissions)
The California Global Warming Solutions Act of 2006	California Legislature	Section 4.7 (Greenhouse Gas Emissions)
California Department of Education Standards	Division of the State Architect	Section 4.10 (Land Use and Planning)
Preliminary Endangerment Assessment	Department of Toxic Substances Control	Section 4.8 (Hazards and Hazardous Materials)
California Health and Safety Code, Division 20, Chapter 6.5, Hazardous Waste Control	Department of Toxic Substances Control	Section 4.8 (Hazards and Hazardous Materials)
Caltrans Highway Design Manual	Caltrans	Section 4.16 (Transportation and Traffic)
Orange County Municipal Separate Storm Sewer Systems (MS4) permit	Santa Ana Regional Water Quality Control Board & Orange County Flood Control District	Section 4.17 (Utilities and Services), & Section 4.6 (Geology and Soils)
National Pollutant Discharge Elimination System (NPDES) permit program	State Water Resources Control Board	Section 4.17 (Utilities and Services), Section 4.6, (Geology and Soils) & Section 4.8 (Hazards and Hazardous Materials)
Stormwater Pollution Prevention Plan	State Water Resources Control Board	Section 4.17 (Utilities and Services), Section 4.6 (Geology and Soils) & Section 4.8 (Hazards and Hazardous Materials)
Drainage Area Management Plan	Santa Ana Regional Water Quality Control Board	Section 4.17 (Utilities and Services), Section 4.6 (Geology and Soils), & Section 4.9 (Hydrology and Water Quality)
Standard Urban Stormwater Mitigation Plan	Santa Ana Regional Water Quality Control Board	Section 4.17 (Utilities and Services), Section 4.6 (Geology and Soils), & Section 4.9 (Hydrology and Water Quality)
Water Quality Management Plan	Santa Ana Regional Water Quality Control Board	Section 4.17 (Utilities and Services), Section 4.6, (Geology and Soils), Section 4.8 (Hazards and Hazardous Materials) & Section 4.9 (Hydrology and Water Quality)

Federal Jurisdiction		
Migratory Bird Treaty Act	U.S. Fish and Wildlife Service	Section 4.4 (Biological Resources)
Resource Conservation and Recovery Act	U.S. Environmental Protection Agency	Section 4.8 (Hazards and Hazardous Materials)
Federal Water Pollution Control Act	U.S. Environmental Protection Agency	Section 4.9 (Hydrology and Water Quality)
National Pollutant Discharge Elimination System permit program	U.S. Environmental Protection Agency	Section 4.6 (Geology and Soils) & Section 4.8 (Hazards and Hazardous Materials)
Resource Conservation and Recovery Act	U.S. Environmental Protection Agency	Section 4.8 (Hazards and Hazardous Materials)
Comprehensive Environmental Response, Compensation, and Liability Act	U.S. Environmental Protection Agency	Section 4.8 (Hazards and Hazardous Materials)
Section 402 of the Federal Water Pollution Control Act	U.S. Environmental Protection Agency	Section 4.8 (Hazards and Hazardous Materials)
Emergency Planning Community Right to Know Act	U.S. Environmental Protection Agency	Section 4.8 (Hazards and Hazardous Materials)

c) Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

Less than Significant Impact

As previously mentioned in Section 4.4 of this Initial Study, the site is located within the Central/Coastal Orange County Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP). As a signatory to the NCCP/HCP Implementation Agreement the City of Irvine is required to ensure that all development projects within its jurisdiction satisfactorily meet the agreement's requirements and conditions.

Although this site is located within an NCCP/HCP, the site is not located within a designated Reserve System or classified as a Special Linkage Area; therefore; no construction or development restrictions are anticipated. This project's adherence to the City's NCCP/HCP Implementation Agreement would ensure that requirements and conditions of this agreement are satisfactorily implemented. Therefore, less than significant impacts would be anticipated.

d) Would the proposed school conflict with any existing or proposed land uses, such that a potential health or safety risk to students would be created?

Less than Significant Impact

As discussed in Sections 4.10(a) and (b), this project is a permitted use in the 2.3I Zone and is a compatible land use in PA 5B. According to the Northern Sphere Area Plan Environmental Impact Report, prior to its annexation to the City, PA 5B, including this site, was previously zoned as Agricultural by County of Orange (TPG, 2002). Previous activities at this site included agriculture, administrative work, vehicle maintenance, and the storage of ornamental plants. Currently, the site is vacant land and has already been mass graded.

The California Department of Education's (DOE) Standards for School Site Selection[9] (see **Table 4.10-2**) were addressed for potential impacts throughout this Initial Study. Adherence to California DOE standards ensures that the project would be suitable for school siting and construction. **Table 4.10-2** displays the significance of these standards in relation to this project. Based on the findings of this Initial Study, the project would not result in any significant impacts after the incorporation of mitigation measures.

Hence, with mitigation measures incorporated, the project would not conflict with any existing or proposed land uses, such that a potential health or safety risk to students would be created. Therefore, less than significant impacts would be anticipated.

[9] See Title 5, California Code of Regulations, Division 1, Chapter 13, Subchapter 1. School Facilities Construction, Article 1. General Standards and Article 2. School Sites and § 14010. Standards for School Site Selection.

Table 4.10-2
SUMMARY OF IMPACTS FOR SCHOOL SITE SELECTION AND APPROVAL

Topic	Applicable Code	Environmental Checklist	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
AIR QUALITY						
Is the boundary of the proposed school site within 500 feet of the edge of the closest traffic lane of a freeway or busy traffic corridor? If yes, would the project create an air quality health risk due to the placement of the School?	PRC § 21151.8(a)(1)(D); Ed. Code § 17213(c)(2)(C)	Section 4.3 Air Quality, Question (f)			**X**	
Would the project create an air quality hazard due to the placement of a school within one-quarter mile of: (a) permitted and non-permitted facilities identified by the jurisdictional air quality control board or air pollution control district; (b) freeways and other busy traffic corridors; (c) large agricultural operations; and/or (d) a rail yard, which might reasonably be anticipated to emit hazardous air emissions, or handle hazardous or acutely hazardous material, substances, or waste?	PRC § 21151.8 (a)(2); Ed. Code § 17213 (b)	Section 4.3 Air Quality, Question (g)			**X**	
GEOLOGY AND SOILS						
Does the site contain an active earthquake fault or fault trace, or is the site located within the boundaries of any special studies zone or within an area designated as geologically hazardous in the safety element of the local general plan?	CCR, Title 5 § 14010(f); Ed. Code, §17212	Section 4.6 Geology and Soils, Question (a) i)			**X**	
Would the project involve the construction, reconstruction, or relocation of any school building on a site subject to moderate-to-high liquefaction?	CCR, Title 5 § 14010(i)	Section 4.6 Geology and Soils, Question (a) ii)			**X**	
Would the project involve the construction, reconstruction, or relocation of any school building on a site subject to landslides?	CCR, Title 5 § 14010(i)	Section 4.6 Geology and Soils, Question (a) iv)			**X**	
Would the project involve the construction, reconstruction, or relocation of any school building on the trace of a geological fault along which surface rupture can reasonably be expected to occur within the life of the school building?	CCR, Title 5 §14010(f); Ed. Code §17212	Section 4.6 Geology and Soils, Question (a) i)			**X**	

Topic	Applicable Code	Environmental Checklist	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
HAZARDS AND HAZARDOUS MATERIALS						
Is the property line of the proposed school site less than the following distances from the edge of respective powerline easements: (1) 100 feet of a 50-133 kV line; (2) 150 feet of a 220-230 kV line; or (3) 350 feet of a 500-550 kV line?	CCR, Title 5 § 14010(c)	Section 4.8 Hazards and Hazardous Materials, Question (j)			**X**	
Is the proposed school site located near an aboveground water or fuel storage tank or within 1,500 feet of an easement of an aboveground or underground pipeline that can pose a safety hazard to the site?	CCR, Title 5 § 14010(h)	Section 4.8 Hazards and Hazardous Materials, Question (i)			**X**	
Is the proposed school site situated within 2,000 feet of a significant disposal of hazardous waste?	CCR, Title 5 § 14010(t)	Section 4.8 Hazards and Hazardous Materials, Question (g)				**X**
Does the proposed school site contain one or more pipelines, situated underground or aboveground, which carry hazardous substances, acutely hazardous materials, or hazardous wastes, unless the pipeline is a natural gas line that is used only to supply natural gas to that school or neighborhood?	PRC § 21151.8 (a)(1)(C)	Section 4.8 Hazards and Hazardous Materials, Question (h)				**X**
Is the school site in an area designated in a city, county, or city and county general plan for agricultural use and zoned for agricultural production, and if so, do neighboring agricultural uses have the potential to result in any public health and safety issues that may affect the pupils and employees at the school site? *(Does not apply to school sites approved by CDE prior to January 1, 1997.)*	Ed. Code § 17215.5 (a)	Section 4.8 Hazards and Hazardous Materials, Question (p)				**X**
Does the project site contain a current or former hazardous waste disposal site or solid waste disposal site and, if so, have the wastes been removed?	PRC § 21151.8 (a)(1)(A)	Section 4.8 Hazards and Hazardous Materials, Question (e)		**X**		

Topic	Applicable Code	Environmental Checklist	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
Is the project site a hazardous substance release site identified by the state Department of Health Services in a current list adopted pursuant to §25356 for removal or remedial action pursuant to Chapter 6.8 of Division 20 of the Health and Safety Code?	PRC § 21151.8 (a)(1)(B)	Section 4.8 Hazards and Hazardous Materials, Question (d)		**X**		
If prepared, has the risk assessment been performed with a focus on children's health posed by a hazardous materials release or threatened release, or the presence of naturally occurring hazardous materials on the school site?	Ed. Code § 17210.1 (a)(3)	Section 4.8 Hazards and Hazardous Materials, Question (c)			**X**	
If a response action is necessary and proposed as part of this project, has it been developed to be protective of children's health, with an ample margin of safety?	Ed. Code § 17210.1 (a)(4)	Section 4.8 Hazards and Hazardous Materials, Question (s)			**X**	
Is the proposed school site within two miles, measured by air line, of that point on an airport runway or potential runway included in an airport master plan that is nearest to the site? *(Does not apply to school sites acquired prior to January 1, 1966.)*	Ed. Code § 17215 (a)&(b)	Section 4.8 Hazards and Hazardous Materials, Question (K & l)				**X**
HYRDOLOGY AND WATER QUALITY						
Is the project site subject to flooding or dam inundation?	CCR, Title 5 § 14010(g); Ed. Code § 17212;	Section 4.9 Hydrology and Water Quality, Question (k)				**X**
LAND USE AND PLANNING						
Would the proposed school conflict with any existing or proposed land uses, such that a potential health or safety risk to students would be created?	CCR, Title 5 § 14010(m)	Section 4.10 Land Use and Planning, Question (d)			**X**	
NOISE						
Is the proposed school site located adjacent to or near a major arterial roadway or freeway whose noise generation may adversely affect the education program?	CCR, Title 5 § 14010(e)	Section 4.12 Noise, Question (g)			**X**	

Topic	Applicable Code	Environmental Checklist	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
PUBLIC SERVICES						
Does the site promote joint use of parks, libraries, museums, and other public services?	CCR, Title 5 § 14010(o)	Section 4.14 Public Services, Question (f)				**X**
TRANSPORTATION AND TRAFFIC						
Is the proposed school site within 1,500 feet of a railroad track easement?	CCR, Title 5 § 14010(d)	Section 4.16 Transportation and Traffic, Question (g)				**X**
Is the site easily accessible from arterials and is the minimum peripheral visibility maintained for driveways per Caltrans' Highway Design Manual?	CCR, Title 5 § 14010(k)	Section 4.16 Transportation and Traffic, Question (h)				**X**
Are traffic and pedestrian hazards mitigated per Caltrans' School Area Pedestrian Safety manual?	CCR, Title 5 § 14010(l)	Section 4.16 Transportation and Traffic, Question (h)				**X**

4.11 MINERAL RESOURCES				
Would the project:	**Potentially Significant Impact**	**Less than Significant Impact with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
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?				**X**
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				**X**

a) Would the project 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?

b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact

Assessment of mineral resources is based on the State of California's Mineral Land Classification/Designation Program established after the adoption of the Surface Mining and Reclamation Act (SMARA) in 1975. The primary objectives of SMARA are the assurance of adequate supplies of mineral resources important to California's economy and the reclamation of mined lands. These objectives are implemented through land use planning and regulatory programs administered by local government with the assistance of the California Department of Conservation, Division of Mines and Geology (Division). Information on the location of important mineral deposits is developed by the Division through a land use planning process termed mineral land classification.

The availability of mineral resources in the vicinity of the project site was evaluated by reviewing the following:

- SMARA Mineral Land Classification Map for County of Orange;
- United States Geological Survey (USGS) Mineral Resources Data System (MRDS)[1],
- City of Irvine General Plan;
- Northern Sphere Area Initial Study (TPG, 2001) and Environmental Impact Report (EIR) (TPG, 2002).

According to the SMARA Generalized Mineral Land Classification Map for County of Orange, the project site is not classified within any of four SMARA designated mineral resource zones[2].

[1] http://www.quake.ca.gov/gmaps/WH/smaramaps.htm Accessed on November 12, 2014.

Although the project site is not classified under any mineral land designations, the project site is part of a larger area demarcated for urbanization in the General Mineral Land Classification Map. The boundaries of this area subject to urbanization are established from data supplied by the Office of Planning and Research with modification developed from information supplied by local government and other sources. The MRZ-1, defined as areas of no significant resources, is the nearest[3] classified mineral resources zone to the project site. Based on the available documentation, the proposed project is not in an existing site with known mineral resources or deposits of value to the region or state residents. Review of City of Irvine General Plan, Northern Sphere Initial Study and EIR found no locally important mineral resource recovery site on a local, general, or other land use plan applicable in the project area. The Northern Sphere Area Initial Study and EIR indicated that development of the Northern Sphere Area, including PA 5B, would not result in impacts to mineral resources.

For these reasons, no impacts are anticipated to: (1) the availability of known mineral resources of value to the region or state residents, or (2) a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

2 http://www.consrv.ca.gov/smgb/Guidelines/Documents/ClassDesig.pdf Accessed on October 14, 2014. Note: MRZ-1 are areas of no significant mineral resource deposits, MRZ-2 are areas that contain identified mineral resources, MRZ-3 are areas of undetermined mineral resource significance, and MRZ-4 are areas of unknown resource potential.

3 MRZ-1 is less than 0.25 mile southwest of the project site.

4.12 NOISE				
Would the project result in:	**Potentially Significant Impact**	**Less than Significant Impact with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Exposure of persons to or generation of noise level in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			**X**	
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			**X**	
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			**X**	
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			**X**	
e) 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 project expose people residing or working in the project area to excessive noise levels?				**X**
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				**X**
g) Is the proposed school site located adjacent to or near a major arterial roadway or freeway whose noise generation may adversely affect the education program?			**X**	

The following is summarized in part from the Noise Analysis (see **Appendix F**) prepared by UltraSystems.

Characteristics of Sound

Sound is a pressure wave transmitted through the air. It is described in terms of loudness or amplitude (measured in decibels), frequency or pitch (measured in hertz [Hz] or cycles per second), and duration (measured in seconds or minutes). The decibel (dB) scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Because the human ear is not equally sensitive to all frequencies, a special frequency-dependent rating scale is used to relate noise to

human sensitivity. The A-weighted decibel scale (dBA) provides this compensation by discriminating against upper and lower frequencies in a manner approximating the sensitivity of the human ear. The scale is based on a reference pressure level of 20 micropascals (zero dBA). The scale ranges from zero (for the average least perceptible sound) to about 130 (for the average human pain level).

Noise Measurement Scales

Several rating scales have been developed to analyze adverse effects of community noise on people. Since environmental noise fluctuates over time, these scales consider that the effect of noise on people depends largely upon the total acoustical energy content of the noise, as well as the time of day when the noise occurs. Those that are applicable to this analysis are as follows:

- L_{eq}, the equivalent noise level, is an average of sound level over a defined time period (such as 1 minute, 15 minutes, 1 hour or 24 hours). Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure.

- L_{90} is a noise level that is exceeded 90 percent of the time at a given location; it is often used as a measure of "background" noise.

- CNEL, the Community Noise Equivalent Level, is a 24-hour average L_{eq} with a 4.77-A-weighted decibel (dBA) "penalty" added to noise during the hours of 7:00 p.m. to 10:00 p.m., and a 10-dBA penalty added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime (Caltrans, 2009). The logarithmic effect of these additions is that a 60-dBA 24-hour L_{eq} would result in a calculation of 66.7 dBA CNEL.

- L_{dn}, the day-night average noise, is a 24-hour average L_{eq} with an additional 10-dBA "penalty" added to noise that occurs between 10 p.m. and 7 a.m. The L_{dn} metric yields values within 1 dBA of the CNEL metric. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent and are treated as such in this assessment.

Existing Noise

The main sources of noise near the project site are automobile and truck traffic on the roads surrounding PA 5B. Portola Parkway borders the site on the north and is designated as a primary arterial highway on the City of Irvine Master Plan of Arterial Highways (VA Consulting, 2015). The posted speed limit in vicinity of the project site is 50 miles per hour and no on-street parking is allowed. Irvine Boulevard borders the site on the south and is designated as a major arterial highway on the City of Irvine Master Plan of Arterial Highways. Irvine Boulevard provides three through lanes and a striped bike lane in each direction and a raised center landscaped median. The posted speed limit in vicinity of the Project site is 55 mph and no on-street parking is allowed.

On December 11, 2014, UltraSystems conducted ambient noise sampling at seven locations in the general project area. The sampling locations were chosen to provide an exposure baseline for evaluation of construction and operational impacts. Another selection criterion was that they be as close as practicable to the proposed project site. Measurements were taken as close to the sensitive receivers as possible. Two of the sampling sites were close to existing residences that are located near the proposed project, and four were near housing that is planned for PA 5B.

The samples were taken in the early afternoon on a Thursday. The measured average ambient noise level (L_{eq}) at the project site was 49.7 dBA. Noise levels at the property lines of the nearest existing sensitive receivers (in a residential neighborhood about 670 feet from the school site) were 52.8 and 47.5 dBA L_{eq}.

Sensitive Land Uses

The existing sensitive receptors that are nearest to the proposed elementary school site are listed in **Table 4.12-1**, Nearest Existing Sensitive Receivers. These receivers would be exposed to noise during project construction and operations.

Table 4.12-1
NEAREST EXISTING SENSITIVE RECEIVERS

Sensitive Land Use	Location With Respect to Project Features	Distance from Proposed Project (Feet)
Residential Neighborhood	Along northwest boundary of Planning Area 5B	670
Santiago Hills Elementary School	Northwest of project site, at 29 Christamon West, Irvine, CA 92620	2,345
Jeffrey Open Space Trail	East of project site	1,320
Source: UltraSystems with Google Earth. 2014.		

After the elementary school is built, residential neighborhoods will be developed around the school site. These include single-family housing northwest of Rotunda, a public park abutting the school's northeast boundary, and single-family housing southeast of Parkwood and southwest of Meander. These will be exposed only to operational noise from the school.

Regulatory Setting

The proposed project would be located in Irvine, California. The City of Irvine General Plan, Noise Element defines sensitive receivers as residential, convalescent and rest homes, hospitals, libraries, churches, and schools. [1]

The City of Irvine Noise Ordinance regulates the timing of construction activities. Section 6-8-205.A (Special Provisions) of the Municipal Code states that construction activities may occur between the hours of 7:00 AM and 7:00 PM Monday through Friday, and 9:00 AM to 6:00 PM on Saturdays. No construction is permitted outside of these hours or on Sundays and federal holidays unless a temporary waiver is granted by the Chief Building Official or authorized representative. Trucks, vehicles, and equipment that are making or involved with deliveries, loading, or transfer of materials, equipment service, or maintenance of any devices or appurtenances for or within any construction project in the City are also subject to these prohibitions.

The City of Irvine General Plan Noise Element identifies the maximum interior and exterior noise levels for land use categories as shown in **Table 4.12-2**. Exterior noise levels at school sites should not exceed 65 dBA CNEL, and noise levels should not exceed 45 dBA CNEL for classrooms. The City of Irvine Noise Ordinance (adopted in 1975 and revised in February 2005) establishes the maximum permissible noise level that may be emitted. These are as shown in **Table 4.12-3**.

[1] City of Irvine, General Plan (2012), Supplement No. 8, Noise Element.

Table 4.12-2
CITY OF IRVINE INTERIOR AND EXTERIOR NOISE STANDARDS

Land Use Categories		Energy Average (dBA CNEL)	
Categories	**Uses**	**Interior[1]**	**Exterior[2]**
Residential	Single family	45[3] / 55[4]	65[7]
	Multi-Family		
	Mobile Home	-	65[7]
Commercial/ Industrial	Hotel, motel, transient lodging	45	65[7]
	Commercial, retail, bank, restaurant	55	-
	Office building, professional office, research & development	50	-
	Amphitheater, concert hall, auditorium, meeting hall	45	-
	Gymnasium (Multipurpose)	50	-
	Health Clubs	55	-
	Manufacturing, warehousing, wholesale, utilities	65	-
Institutional	Hospital, school classroom	45	65
	Church, library	45	-
Open Space	Parks	45	-

Interpretation:
[1] Interior environment excludes bathroom, toilets, closets, and corridors.
[2] Outdoor environment limited to private yard of single-family or multi-family residences private patio which is accessed by a means of exit from inside the unit; mobile home park; hospital patio; park picnic area; school playground; and hotel and motel recreation area.
[3] Noise level requirement with closed windows. Mechanical ventilating system or other means of natural ventilation shall be provided pursuant to Appendix Chapter 12, Section 1208 of UBC.
[4] Noise level requirement with open windows, if they are used to meet natural ventilation requirement.
[5] Exterior noise level shall be such that interior noise level will not exceed 45 CNEL.
[6] Except those areas affected by aircraft noise.
[7] Multi-family developments with balconies that do not meet the 65 CNEL are required to provide occupancy disclosure notices to all future tenants regarding potential noise impacts.

Table 4.12-3
MAXIMUM ALLOWED NOISE LEVELS FOR A PERIOD NOT EXCEEDING (Minutes per Hour)

Noise Zone		Time Period	30 min.	15 min.	5 min.	1 min.	Anytime
Zone 1: Hospitals, libraries, churches, schools, and residential properties	Exterior	7:00 AM to 10:00 PM	55	60	65	70	75
		10:00 PM to 7:00 AM	50	55	60	65	70
	Interior	7:00 AM to 10:00 PM	-	-	55	60	65
		10:00 PM to 7:00 AM	-	-	45	50	55
Zone 2: Professional office and public institutional	Exterior	Anytime	55	60	65	70	75
	Interior	Anytime	-	-	55	60	65
Zone 3: Commercial, excluding professional office	Exterior	Anytime	60	65	70	75	80
	Interior	Anytime	-	-	55	60	65
Zone 4: Industrial	Exterior	Anytime	70	75	80	85	90
	Interior	Anytime	-	-	55	60	65
Noise standards shall be reduced by five dB for impact, or predominant tone noise or for noises consisting of speech or music. In the event that the noise source and the affected property are within different noise zones, the noise standards of the affected property shall apply.							
Source: City of Irvine Municipal Code §6-8-204.							

DISCUSSION OF IMPACTS

a) Would the project expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less than Significant Impact

Construction

Noise impacts from construction activities are a function of the noise generated by the operation of construction equipment and on-road delivery and worker commuter vehicles, the location of equipment, and the timing and duration of the noise-generating activities. For the purpose of this analysis, it was estimated that the construction of the proposed project would begin in February 2016 and finish in approximately 17 months.[2]

Methods used for estimating construction noise impacts are presented in the Noise Analysis in **Appendix F**. UltraSystems estimated noise exposures for each construction phase: fine grading, building construction, paving, and architectural coating. Each phase includes a different mix of construction equipment.

Table 4.12-4 summarizes the maximum construction-related short-term noise exposures at the existing residential receivers at which ambient exposures were measured. Attenuation due to the existing walls between some of the residences and the school site was not taken into account. One-

[2] Estimated schedule provided by the Irvine Unified School District.

hour L_{eq} values would be below the Municipal Code limits for residential and school exposures, as listed in **Table 4.12-3.**

Table 4.12-4
ESTIMATED ONE-HOUR CONSTRUCTION NOISE EXPOSURES AT NEAREST SENSITIVE RECEIVERS

Construction Activity	One-Hour Exposure (dBA L_{eq})		
	Residential Receiver "A"	Residential Receiver "B"	Santiago Hills Elementary School
Fine Grading	51.5	48.4	40.3
Building Construction	47.8	44.7	36.6
Paving	54.8	51.6	43.5
Architectural Coatings	41.9	38.8	30.7

Table 4.12-5 shows the projected increase in noise exposure (as CNEL) for the two residential locations where ambient sampling was conducted. For both Ambient Site A and Ambient Site B, increases in CNEL are less than or equal to 1 dBA.

Table 4.12-5
INCREASES IN CNEL, BY CONSTRUCTION PHASE

Construction Phase	Increase in Daily Exposure (dBA CNEL)	
	Receiver Site A	Receiver Site B
Fine Grading	0.3	0.5
Building Construction	0.1	0.2
Paving	0.7	1.0
Architectural Coatings	0.04	0.1

As noted above, the Irvine Municipal Code Section 6-8-205, Special Provisions, limits construction activities to the hours of 7:00 a.m. and to 7:00 p.m. Monday through Friday, and 9:00 a.m. to 6:00 p.m. on Saturdays. This would preclude construction noise exposures during the evening and nighttime hours, when people are most sensitive to noise. Except for building construction, construction phases will be less than or equal to 10 working days. In conclusion, short-term noise exposures due to the project would be less than significant, and no mitigation is necessary.

Operation

The proposed elementary school may generate noise onsite as a result of student activities. The student outdoor activities may impact existing residences that will be located near the school boundary. The number of students, the specific activity, and the amount of supervision can all greatly affect the amount of noise a group of playing children makes. Typical outdoor activities could create short-term noise levels between 60 to 70 dBA at land uses adjacent to the noise sources.[3] For example, noise measurements taken at designated play areas at Hammel Street Elementary School, a school in the Los Angeles Unified School District, during recess activities and immediately following recess showed a noise increase of approximately 2.6 dBA when students

[3] LAUSD, OEHS. 2004. *New School Construction Program, Final Program Environmental Impact Report (PEIR)*, Draft PEIR (incorporated in the Final PEIR). June 8. p. 3.3-10.

were at recess.[4] This noise level increase is not readily audible to the average listener and is not a significant impact.

The principal noise source in the project area is traffic on local roadways. The project may contribute to a permanent increase in ambient noise levels in the project vicinity due to project-generated vehicle traffic on neighborhood roadways and at intersections. A noise impact would occur if the project contributes to a permanent increase in ambient noise levels affecting sensitive receivers along roadways that would carry project-generated traffic. In addition, students and faculty at the proposed elementary school would be exposed to noise from traffic on local streets and from major roadways surrounding PA 5B. Both of these types of impacts were evaluated.

Table 4.12-6 shows the average daily traffic (ADT) for existing conditions and for the existing conditions with the project. For each roadway, the data are for the segments nearest the project site. Existing traffic volumes were obtained from the traffic study for PA 5B (Stantec, 2013b), while volumes of traffic induced by the project were obtained by the elementary school-specific traffic study. The project is estimated to generate 1,290 daily trips, 90% of which will be in the proposed new residential neighborhood surrounding the school site. About 5% of the daily volume will travel on Jeffrey Road and 5% will travel on Irvine Boulevard (VA Consulting, 2015). In general, traffic would have to at least double for an increase in roadway noise to have a significant impact on sensitive receivers. Because traffic in areas surrounding PA 5B would not double as a result of the project, those impacts would be less than significant.

Table 4.12-6
PROPOSED PROJECT AVERAGE DAILY TRAFFIC VOLUMES

Roadway	Existing ADT (without Project)	Existing ADT (with Project)	Traffic Doubles?
Portola Parkway	9,500 – 10,200	9,565 – 10,265	No
Irvine Boulevard	22,200	22,265	No
Jeffrey Road	6,900	6,900	No
Total Traffic	38,600 – 39,300	38,730 – 39,430	No
Sources: *Stantec, 2013a* ; *VA Consulting, 2015*			

Finally, the impacts of future traffic noise on future occupants of residential areas surrounding the school were estimated by methods described in the Noise Analysis (see **Appendix F**).

Because the housing is projected to be occupied after the school is built, there is no baseline with which to compare the noise due to the school. This analysis examined, as a maximum case, the combined school traffic and traffic generated from non-school activities. The PA 5B residential street with the highest projected traffic volume would be Encore east of Parkwood. The a.m. peak hour traffic volume is projected to be 275 vehicles per hour. Per the City of Irvine Zoning Code, six-foot-high walls will be required for streetside (i.e. not front) setback areas.[5] The resulting outdoor residential exposure was calculated to be 47.8 dBA L_{eq}. This short-term exposure would be less than the short-term standard of 55 dBA shown in the **Table 4.12-3**. A similar analysis of peak hour traffic on Parkwood South of Meander, where sound walls would not be required, estimated that

[4] LAUSD. 2005. *East Los Angeles High School No. 2/Central Region Elementary School No. 19 Final EIR*, September. Measurements cited were not a part of the study covered by this report.

[5] "Wall and Fence Requirements." City of Irvine Zoning Ordinance, §3-35.2(A)(1)(b).

maximum short-term exposures would be 54.8 dBA L_{eq}. Therefore short-term exposures would be less than significant and no mitigation would be needed.

The CNEL value for the same maximum residential receptor was calculated to be 54.5 dBA. This is far below the City of Irvine's exterior noise standard of 65 dBA CNEL for residences. Therefore the long-term exposure would be less than significant.

b) Would the project expose persons to or generate excessive groundborne vibration or groundborne noise levels?

Less than Significant Impact

Vibration is sound radiated through the ground. Groundborne noise is the rumbling sound caused by the vibration of building interior surfaces. The ground motion caused by vibration is measured as peak particle velocity (PPV) in inches per second and is referenced as vibration decibels (VdB). Typical outdoor sources of perceptible groundborne vibration are construction equipment and traffic on rough roads.

The American National Standards Institute (ANSI) indicates that vibration levels in critical care areas, such as hospital surgical rooms and laboratories, should not exceed 0.2 inch per second of PPV.[6] The Federal Transit Administration (FTA) also uses a PPV of 0.2 inch per second as a vibration damage threshold for fragile buildings and a PPV of 0.12 inch per second for extremely fragile historic buildings. The FTA criteria for infrequent groundborne vibration events (less than 30 events per day) that may cause annoyance are 80 VdB for residences and buildings where people normally sleep, and 83 VdB for institutional land uses with primarily daytime use. [7]

Construction

The project would not include any blasting, drilling, or pile driving. Construction equipment such as loaded trucks, jack hammers, and small bulldozers may temporarily increase groundborne vibration or noise at the project site.

The FTA has published standard vibration levels for construction equipment operations, at a distance of 25 feet. [8] The calculated vibration levels expressed in VdB and PPV for construction equipment at distances of 50, 100, and 670 feet are listed in **Table 4.12-7**.

6 American National Standards Institute (ANSI). 1983. *"Guide to the Evaluation of Human Exposure to Vibration in Buildings"*, ANSI S.329-1983.

7 *Transit Noise and Vibration Impact Assessment*, FTA-VA-90-1003-06. U.S. Department of Transportation, Federal Transit Administration (May 2006).

8 Ibid., p. 12-12.

Table 4.12-7
VIBRATION LEVELS OF CONSTRUCTION EQUIPMENT

Equipment	PPV at 50 feet (in/sec)	Vibration Decibels at 50 feet (VdB)	PPV at 100 feet (in/sec)	Vibration Decibels at 100 feet (VdB)	PPV at 670 feet (in/sec)[a]	Vibration Decibels at 670 feet (VdB)[a]
Large Bulldozer	0.0315	90	0.0111	81	0.00064	56
Loaded Truck	0.0269	89	0.0095	80	0.00055	55
Jackhammer	0.0124	82	0.0044	73	0.00025	48
Small Bulldozer	0.0011	61	0.0004	51	0.00002	27

Source:
Calculated by UltraSystems from Federal Transit Administration data.
[a]670 feet is representative of the nearest sensitive receiver to the proposed construction.

As shown in **Table 4.12-7**, the vibration level of construction equipment at the nearest sensitive receiver (670 feet) is at most 0.00064 inch per second, which is less than the FTA damage threshold of 0.12 inch per second PPV for fragile historic buildings, and 56 VdB, which is less than the FTA threshold for human annoyance of 80 VdB. Construction vibration impacts would therefore be less than significant.

Operations

Operation of the proposed project would not involve significant sources of groundborne vibration or groundborne noise. Thus, operation of the proposed project would result in a less than significant impact.

c) Would the project cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Less than Significant Impact

Because the housing that would surround the school site is projected to be occupied after the school is built, there is no baseline with which to compare the noise due to the school. This analysis examined, as a maximum case, the combined school traffic and traffic generated from non-school activities. The CNEL value for the maximum future residential receptor was calculated to be 54.5 dBA. This is far below the City of Irvine's exterior noise standard of 65 dBA CNEL for residences. Therefore the long-term exposure would be less than significant.

d) Would the project cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less than Significant Impact

As discussed in 4.12(a), noise impacts from project construction would be below the Municipal Code limits for residential and school exposures, on both an hourly basis and as a 24-hour, time-weighted average. Impacts would therefore be less than significant.

e) 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 project expose people residing or working in the project area to excessive noise levels?

No Impact

The nearest airport is John Wayne Airport, which is approximately six miles west of the project site. The site is not located within the Land Use Plan for John Wayne Airport (Airport Land Use Commission, 2008). No impact would occur. Therefore, the project would not expose people residing or working in the project area to excessive noise levels and no impact would occur.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact

The project site is not in the vicinity of a private airstrip. Therefore, the proposed project would not expose students or staff to excessive noise levels. No impact would occur.

g) Is the proposed school site located adjacent to or near a major arterial roadway or freeway whose noise generation may adversely affect the education program?

Less than Significant Impact

The nearest freeway, Interstate 5, is approximately two miles southwest of the project site. Noise generated by freeway traffic would be attenuated so much by distance and by intervening structures that it would not adversely affect operations at the school. The nearest arterial roadways are Irvine Boulevard, Jeffrey Road, and Portola Parkway. The minimum distances from the center of the school site to these roadways would be 2,370, 1,695, and 3,123 feet, respectively. Traffic noise modeling performed for Planning Area 5B (Stantec, 2013b) determined that the distances from these roadways to the 65-dBA CNEL contour would be 208, 223, and 162 feet, respectively. Therefore, the impact of traffic noise from major arterial roadways would be less than significant.

4.13 POPULATION AND HOUSING				
Would the project:	**Potentially Significant Impact**	**Less than Significant Impact with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			**X**	
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				**X**
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				**X**

a) Would the project induce substantial growth in an area either directly (for example, by proposing new homes and business) or indirectly (for example, through extension of roads or other infrastructure)?

Less than Significant Impact

Planning Area 5B (PA 5B) Development would include up to 1,900 residential dwelling units, several neighborhood parks and an elementary school (proposed project). Construction has already begun for PA 5B which was recently rough graded with street improvements scheduled to be completed by January 2015. Construction of residential units would begin implementation from the southern portion of PA 5B and progress northward. The occupation of residential housing in PA 5B may begin after September 2017.[1]

In anticipation of the future enrollment demand resulting from this residential development, the Irvine Unified School District (District) proposes the construction and operation of the project on a vacant lot within the heart of PA 5B.[2] This project would be designed to accommodate up to 1,000 students at peak enrollment and serve transitional kindergarten through sixth grade students. Hence, this project would accommodate both the planned student population from the PA 5B Development and current students from overcrowded elementary schools facilities within the District's boundary.

Impacts from population growth have been previously addressed in the City of Irvine (City) Northern Sphere Environmental Impact Report (TPG, 2002). Population growth in PA 5B has been planned for in the City's General Plan and Zoning Ordinance. Therefore, the project would not induce a significant population growth into the area; however; it would accommodate existing and future planned residential development. Direct population growth with residential development is already planned and expected for PA 5B. Indirect population growth resulting solely from the project is expected to be less than significant.

1 See Section 2.0, Environmental Setting, in this Initial Study.

2 See Section 3.0, Project Description, in this Initial Study.

b) Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

No Impact

Currently, the project site is vacant and undeveloped land that has been mass graded. The project would not displace any existing housing. Therefore, there would be no need for constructing replacement housing and no impact would occur.

c) Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact

The project would not result in the loss of residential units or displace any people with housing. Therefore, the construction of replacement housing would not be necessary and no impact would occur.

4.14 PUBLIC SERVICES				
Would the project:	**Potentially Significant Impact**	**Less than Significant Impact with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, 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:				
a) Fire protection?			**X**	
b) Police protection?			**X**	
c) Schools?				**X**
d) Parks?				**X**
e) Other public facilities?			**X**	
f) Does the site promote the joint use of parks, libraries, museums, and other public services?				**X**

a) Fire protection?

Less than Significant Impact

The Orange County Fire Authority (OCFA) provides fire protection and emergency medical services citywide. The nearest Fire Stations are No. 55 which is about 1.3 miles north and No. 26 which is 1.7 miles west from the site. The following 11 OFCA fire stations are located in and serve Irvine:

Fire Station No.	Address/Location
4	2 California Avenue
6	3180 Barranca Parkway
20	6933 Trabuco Road
26	4691 Walnut Avenue
28	17862 Gillette Avenue
27	12400 Portola Springs Road
36	301 East Yale Loop
38	26 Parker Way
47	47 Fossil
51	18 Cushing
55	4955 Portola Parkway

Equipment maintained by the OCFA includes structural engines (used for fighting structure fires), truck companies, paramedic units, airport crash trucks, hazardous materials response teams, water-dropping helicopters, and other various pieces of specialized equipment. The average response time for OCFA is six minutes and thirty-three seconds. This response time is within OCFA's adopted 7 minutes and 20 seconds standard. This typically occurs 80 percent of the time for emergency calls. [1] The OCFA's goals for emergencies response times are listed below:

[1] E-mail from M. Hernandez (from OCFA) to J. Rodriguez (UltraSystems) on December 23, 2014.

- First-in engines should be on-scene for medical aid and/or fires within 7 minutes and 20 seconds at least 80 percent of the time.
- First-in truck companies should be on-scene for fires within 12 minutes, at least 80 percent of the time.
- First-in paramedic companies should be on-scene for all medical aid within 10 minutes, at least 80 percent of the time.

The project would comply with all applicable sections of the City's Uniform Security Code and California Building Code with the interest in upholding the public's health, safety, and welfare. [2] Construction plans would be subject to approval by the Division of the State Architect[3]. The school would be built and operated in compliance with all applicable OCFA Codes[4], City ordinances, and standard conditions[5] for fire prevention and suppression. Additionally, the project would provide safety measures that address water improvement plans, fire hydrants, fire access, access gates, combustible construction activities, available/adequate water supply, automatic fire extinguishing systems, and fire sprinkler systems.

Construction and operation of this school project would increase the demand for fire protection services; however; as part of a newly planned residential community the City and OCFA would accommodate for future population growth and increases in demand for fire protection services. As part of VTTM No. 17523, the project would be served with adequate staffing levels, equipment, public facilities, and fire protection services with population growth. Hence, increases in average response times or degradation in performance standards would not be anticipated to affect OCFA goals. Therefore, impacts to fire protection services would be less than significant.

2 Irvine Municipal Code, Title 5 (Planning), Division 9 (Building Regulations), Chapter 5 (Uniform Security Code).

3 This division is an affiliate of State of California's Department of General Services.

4 See City of Irvine Municipal Code, Title 4 for Public Safety, Division 4 Fire Code.

5 See City Standard Condition 4.9 (Emergency Access Inspection) and Standard Condition 3.17 (Emergency Access Plan).

b) Police protection?

Less than Significant Impact

Irvine Police Department (PD) is located approximately 5 miles southwest from the site. Police protection services are provided within the Portola area for geographic policing. [6] Irvine PD provides patrol, traffic, school resources, and animal services through the employment of crime prevention officers, detectives, and public safety personnel.

Irvine PD establishes response time guidelines[7] for emergency and non-emergency calls and is listed below:

- Emergency calls: response within 6 minutes, 85 percent of the time
- "Crimes in progress": response within 10 minutes, 85 percent of the time
- "Less serious crimes occurring now": response within 20 minutes, 20 percent of the time
- "Routine calls for service": response within 60 minutes, 85 percent of the time

Additionally, as listed in the City's General Plan, Irvine PD has a staffing goal of 1.14 police officers per 1,000 residents.

Irvine PD responds to all "life threatening" emergency calls (Priority E) with lights and sirens and all felony "crimes in progress" (Priority 1) with urgency while ensuring public safety. During 2012, the average response time for Irvine PD from time of call received to the first officer on scene was 4.05 minutes for all Priority E calls and an average response of 6.56 minutes to all Priority 1 calls. During 2013, the average response time for Priority E calls was 4.04 minutes and 6.79 minutes for Priority 1 calls. [8] These average response times are within the established guidelines of Irvine PD.

Furthermore, proposed school buildings and facilities would be designed to avoid or minimize crime-related incidents in accordance with the Irvine Uniform Security Code and Crime Prevention through Environmental Design (CPTED) guidelines. According to the Northern Sphere Area Environmental Impact Report (TPG, 2002), no significant impacts to police protection would be anticipated since Irvine PD resources would expand proportionately with the City's projected population growth.

Therefore, impacts to government facilities, response times or other performance-related guidelines associated with police protection would be less than significant.

c) Schools?

No Impact

As part of VTTM 17523, a larger residential development community, this project would provide necessary facilities in response to projected student growth within the District. Therefore, no impact would occur.

6 http://www.cityofirvine.org/ipd/geo/default.asp. Accessed on December 19, 2014.

7 See City of Irvine CEQA Manual, Volume II, Section 3.14. Public Services.

8 E-mail from M. Mahoney (from Irvine PD) to J. Rodriguez (UltraSystems) on January 5, 2015.

d) Parks?

No Impact

There are about 19 neighborhood and 37 community parks located throughout Irvine. Alderwood Park is the nearest neighborhood park and is approximately 0.57 miles to the west. Carrotwood Park is the nearest community park which is approximately 0.70 miles to west of the site.[9] Demand for parks typically increases with housing or population growth in an area. The project is intended to alleviate overcrowding at other schools due to increases in student populations within the District.

The PA 5B Development includes a public park north of the turf play fields at the northernmost portion of the site. The operation of the project may increase the use of nearby parks; however, recreational facilities within the project would be available for public use during non-operational hours[10]. Since the project would not induce growth and would provide additional recreational facilities to the community, no adverse impacts to parks would be anticipated.

e) Other public facilities?

Less than Significant Impact

The project would alleviate overcrowding between schools due to an increase in student populations throughout the District. Although the project may cause a reallocation in the use of public facilities, such as libraries and hospitals, no net increase in the use of these facilities would be anticipated solely due to construction and operation of the project. Therefore, adverse impacts to other public facilities would be less than significant.

f) Does the site promote the joint use of parks, libraries, museums, and other public services?

No Impact

The project would be used for classroom instruction, recreation, and outdoor events, which would be beneficial to the community. Community members would be permitted to use District buildings and/or facilities through a "Use of Facility Application" and a monetary fee. Therefore, no impact would occur.

9 http://www.cityofirvine.org/cityhall/cs/commparks. Accessed on January 6, 2015.

10 See Section 3.0, Project Description of this Initial Study, for VTTM No. 17523 whereas the PA 5B Development would include up to 1,900 residential dwelling units, several neighborhood parks and an elementary school (proposed project).

4.15 RECREATION				
Would the project:	**Potentially Significant Impact**	**Less than Significant Impact with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			**X**	
b) 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?			**X**	

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less than Significant Impact

The PA 5B Development would include up to 1,900 residential dwelling units, several neighborhood parks and an elementary school (project).[1] The project proposes to develop an elementary within Planning Area 5B which would include a planned public park for students and public. The demand for parks and recreational facilities typically increase with new residential development or population growth within an area.

This project is intended to alleviate overcrowding from other public school facilities, throughout Irvine Unified School District (District), due to an increase in student attendance. Hence, the project would not directly induce overall population growth. Recreational facilities are included within the project's design which would be available to students and the public during non-operating hours.

With the inclusion of recreational facilities on the project site (site), use of nearby facilities would not increase significantly nor substantially deteriorate. Therefore, less than significant impacts are anticipated.

b) 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?

Less than Significant Impact

The project would include a hardscape playground with play structures, basketball, tetherball and handball courts are planned. Play fields, near the northernmost portion of the site, are directly adjacent to the planned public park, which is part of the larger PA 5B Development.

[1] See Section 3.0, Project Description, of this Initial Study.

Construction and operation of these recreational facilities would comply with federal, state, and local requirements. As discussed in Sections 4.1 through 4.17 of this Initial Study, no significant adverse physical effects on the environment are expected from construction and operation of the project. With adherence to all applicable regulations, adverse physical effects on the environment would be less than significant.

4.16 TRANSPORTATION AND TRAFFIC				
Would the project:	**Potentially Significant Impact**	**Less than Significant Impact with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) 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?		**X**		
b) 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?			**X**	
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location, which results in substantial safety risks?				**X**
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?		**X**		
e) Result in inadequate emergency access?				**X**
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?				**X**
g) Is the proposed school site within 1,500 feet of a railroad track easement?				**X**
h) Is the site easily accessible from arterials and is the minimum peripheral visibility maintained for driveways per Caltrans' Highway Design Manual?		**X**		

The following is summarized from the Traffic Impact Analysis (TIA) report for the proposed Planning Area 5B (PA 5B) Elementary School prepared by VA Consulting (VA, 2015). The TIA report is included as **Appendix G**.

Methodology

This TIA is consistent with the previous PA 5B Vesting Tentative Tract Map No.17523 Traffic Study (Stantec, 2013b), which included an analysis with a 900-student elementary school located on the same site. The PA 5B build-out traffic volumes based on the PA 5B Vesting Tentative Tract Map No. 17523 Traffic Study have been adjusted to produce forecasts of the PA 5B buildout conditions with a 1,000-student population at the proposed project site.

The TIA for the proposed project is a focused operational study of traffic conditions surrounding the school. It also considers the revised access locations, restrictions on turning movements at school driveways, and a maximum 1,000-student attendance. The study area's unsignalized intersections[1] and the types of traffic control at each intersection are shown in **Figure 4.16-1** and listed below:

1. Rotunda and Frontier (All-way stop control)
2. Parkwood and Frontier (All-way stop control)
3. Parkwood and Encore (All-way stop control)
4. Rotunda and Meander (All-way stop control)
5. Parkwood and Meander (All-way stop control)

A1. Meander Access Entrance

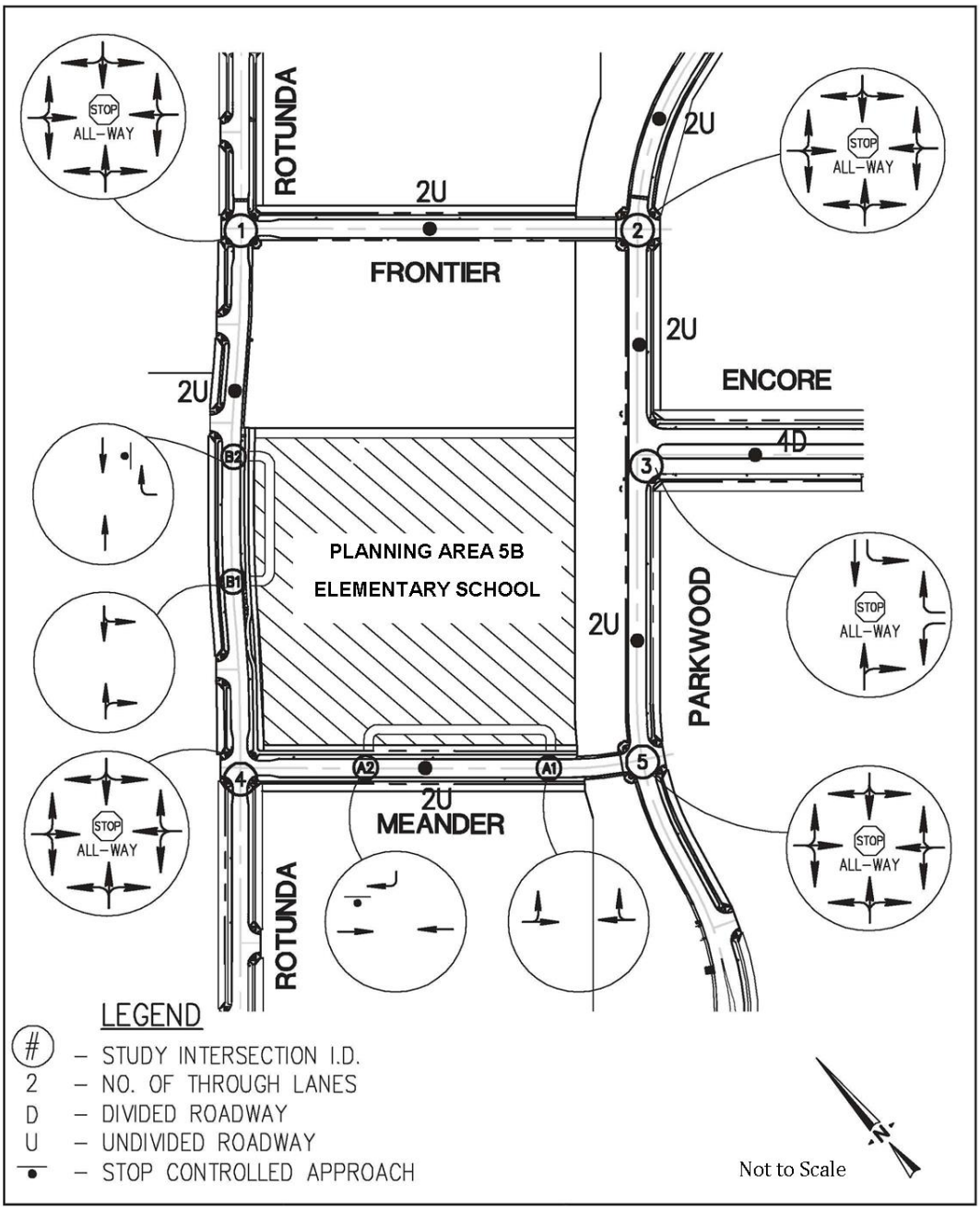
A2. Meander Access Exit (1-way stop control)

B1. Rotunda Access Entrance

B2. Rotunda Access Exit (1-way stop control)

[1] These unsignalized intersections are currently being constructed.

Figure 4.16-1
STUDY AREA INTERSECTION LOCATIONS



Source: VA Consulting, 2015

January 26, 2015

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Level of Service

The level of service (LOS) is a qualitative indicator of an intersection's operating conditions and is used to represent various degrees of congestion and delay. Table 4.16-1 illustrates the concept of LOS, which is defined in terms of control delay: a measure of driver discomfort, frustration, fuel consumption, and lost travel time. LOS ranges from A (excellent conditions) to F (extreme congestion). The City of Irvine General Plan Circulation Element considers D to be the minimum acceptable LOS.

The Highway Capacity Manual (HCM) unsignalized method was used to evaluate project impacts. Two significant assumptions incorporated into the LOS analysis should be noted:

- The project volumes used in the analysis represent full school occupancy (attendance of 1,000 students).
- A peak hour factor of 0.50 has been applied to school related traffic volumes. This assumption reflects the fact that school related traffic is spread out unevenly during the AM peak hour and most school related traffic occurs during a shorter, intense period within the hour. For this analysis it is assumed that school traffic activity occurs within a 30-minute period during the AM peak hour of adjacent street traffic. This assumption has the effect of doubling project generated traffic volumes before they are combined with existing traffic volumes.

Table 4.16-1
LEVEL OF SERVICE DESCRIPTIONS FOR UNSIGNALIZED INTERSECTIONS

Level of Service	Traffic Flow Description	Worse Case Approach Delay Per Vehicle (SEC)
A	Operations with delay less than or equal to 10.0 second per vehicle; most vehicles have a very short stop.	<10.0
B	Operations with delay in the range of 10.1 to 15.0 second per vehicle; higher levels of delay, longer stops than LOS A.	10.1 to 15.0
C	Operations with delay in the range of 15.1 to 25.0 second per vehicle; significant levels of delay.	15.1 to 25.0
D	Operations with delay in the range of 25.1 to 35.0 second per vehicle; noticeable congestion; increased queue lengths; long delays.	25.1 to 35.0
E	Operations with delay in the range of 35.1 to 50.0 second per vehicle; limit of acceptable delay; very long delay; long queue lengths.	35.1 to 50.0
F	Operations with delay in excess of 50.0 second per vehicle; considered unacceptable driver delay; congestion; oversaturation; > 50.0 unacceptable queuing.	> 50.0

Future Local Street Network

PA 5B currently does not have any existing or operating local circulation system within its boundaries. The construction of the local street network within PA 5B is underway and will be completed by early 2015. Access to the school site will be provided by two local residential streets, Meander to the south and Rotunda to the west. No other street access is available because the project site is separated from Parkwood by a community paseo to the east and is separated from Frontier by a neighborhood park to the north. These local roadways are typically 40-foot-wide undivided residential streets with no dedicated turn lanes on the local streets at the school entrances. At the intersection, a single 20-foot wide lane in each direction will provide space for "de facto" right-turn lanes allowing right-turn vehicles to separate from other movements.

DISCUSSION OF IMPACTS

a) Would the 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?

Less than Significant Impact with Mitigation Incorporated

Operation

Operation of the proposed elementary school is forecast to generate 1,290 trips on a typical school day. **Table 4.16-2** shows AM peak hour trip generation, which represents the highest volume of vehicles entering and exiting the site. The proposed project is projected to generate 248 inbound trips and 202 outbound trips during AM peak hours.

It is anticipated that 90% of the school traffic would be generated within PA 5B because the proposed school is designed to serve mostly students residing in the PA 5B. Up to 5% of the trips would come from outside PA 5B via Jeffrey Road and Encore and another 5% via Irvine Boulevard and Parkwood.

Table 4.16-2
PROJECT TRIP GENERATION

Land Use	Quantity	AM Peak Hour		PM Peak hour		PM Peak Hour		Daily Trips
		In	Out	In	Out	In	Out	
Elementary School	1,000 students	**248**	**202**	74	76	126	154	**1,290**

AM peak hour traffic conditions represent a worst case scenario for an elementary school use because the school-generated traffic during AM peak hour typically coincides with morning commuter peak hour for the surrounding street network. For this reason, the morning peak hour condition was the focus of this intersection analysis. Level of Service conditions for the PA 5B Build-out plus project conditions in the AM peak hour are listed in **Table 4.16-3**.

Table 4.16-3
PA 5B BUILD-OUT WITH PROJECT CONDITIONS
AM PEAK HOUR LEVEL OF SERVICE AT STUDY AREA INTERSECTIONS

Intersection	AM Peak Hour	
	Delay (seconds)	Level of Service
1. Rotunda and Frontier	7.8	A
2. Parkwood and Frontier	8.8	A
3. Parkwood and Encore	10.4	B
4. Rotunda and Meander	9.1	A
5. Parkwood and Meander	8.4	A
A1. Meander Access Entrance	N/A	---
A2. Meander Access Exit	9.2	A
B1. Rotunda Access Entrance	N/A	---
B2. Rotunda Access Exit	9.0	A

As shown in **Table 4.16-3**, the studied intersections have the capacity to accommodate vehicle traffic generated by operation of the school along with the projected PA 5B build-out conditions. All study area intersections operate at LOS A, except for Parkwood at Encore which has a forecast LOS of B. The 24-hour volumes on roadways within the study area also remain considerably below roadway capacity with project implementation. According to the TIA, all on- and off-site vehicle storage and queuing areas are anticipated to be adequate for forecast PA 5B build-out with the project volume conditions.

In sum, the traffic analysis concludes that the operation of the proposed project would not result in an increase in traffic that exceeds the traffic load and capacity of the street system. Thus, the project-related traffic impact would be less than significant.

Construction

The proposed project would also generate temporary construction-related truck and automobile traffic over a period of approximately 17 months. The newly constructed internal street network would provide access to the site. This traffic includes construction workers traveling to and from the project site as well as trucks hauling construction materials to the site and evacuation material away from the site. During construction, the project site would also be surrounded by on-going construction activities in PA 5B. Because the truck trips would be spread throughout the day and would generally occur during non-peak hours, the level of construction-related traffic would not result in significant impact on the study area street network.

Non-motorized Traffic and Mass Transit

The proposed project anticipates an increase in non-motorized traffic as some students and staff would walk or bike to school. The streets in the school vicinity would have sidewalks along both sides of the street and nearby unsignalized intersections would have painted crosswalk and pedestrian signals. Recommended school area signs, markings, lighting, and crosswalk lines at the unsignalized intersections would be installed in accordance with specifications in the Caltrans Traffic Manual for School Area Pedestrian Safety. Furthermore, a "Suggested Route to School" plan would be prepared, as outlined in mitigation measure **TT-1,** to provide information to students, parents, and staff for use in their travel planning.

Project site design includes bus loading/unloading zones and onsite bicycle facilities for use by students and staff, which is consistent with the City of Irvine General Plan and the Bicycle Transportation Plan (Irvine, 2011).

There is currently no Orange County Transportation Authority (OCTA) bus line within PA 5B. The nearest bus line[2] operates on Jeffrey Road and is an approximate 20-minute walk from the project site. Operation of the proposed school would not affect the transit route or bus facilities and not conflict with any plans or policies relative to these travel modes. The proposed project would not conflict with existing policies, plans, or programs supporting alternative transportation and less than significant impact would occur after mitigation.

Mitigation Measure

TT-1: ***Suggested Route to School***

- The Irvine Unified School District will develop, cooperatively with the City of Irvine, a "Suggested Route to School" plan showing all streets, school location, and the routes to be used by students to and from school. School routes should be planned to take advantage of the existing traffic control devices or take into consideration the factors specified in Caltrans Manual for School Area Pedestrian Safety Section 10.02.3. This plan will be annually distributed to students, parents, faculty, and staff and annually reviewed by the Irvine Unified School District for any necessary revisions or additions.

b) Would the 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?

Less than Significant Impact

The Orange County Congestion Management Program (CMP) requires the CMP High System (CMPHS) intersections to operate at LOS E or better, unless the baseline is lower than E (OCTA, 2013). The nearest CMPHS intersection to the project site is the Jeffrey Road and Irvine Boulevard Intersection, which is located outside of PA 5B.

As mentioned in the above response 4.16 (a), the proposed project would primarily serve future students residing in PA 5B; only about 10% of the school-generated traffic would access the site

[2] Route 167 has a stop on Jeffrey Road and Bryan.

from outside PA 5B. All intersections studied in the TIA would operate at LOS A or LOS B. The CMP also indicates that a significant impact would occur if a project generates 2,400 or more vehicle trips per day or contributes 1,600 or more vehicle trips per day directly into the CMP highway system. The proposed project is forecasted to generate approximately 1,290 inbound and outbound trips daily. Thus, the proposed project would not conflict with LOS standards or travel demand measures established by CMPHS, and a less than significant impact would occur.

c) Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location, which results in substantial safety risks?

No Impact

The nearest commercial airport, John Wayne Airport, is located approximately six miles west of the site and the project site is located outside of the Airport Environs Land Use Plan for John Wayne Airport (ALUC, 2008). The proposed project would not affect the operation of any airport because the proposed building height would not exceed Federal Aviation Administration height limits. For these reasons, the project would not result in a change in air traffic patterns that would result in safety risks and no impact would occur.

d) Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less than Significant Impact with Mitigation Incorporated

Operation of the proposed elementary school would increase vehicular traffic, number of vehicular turning movements at nearby intersections and at school entry/exit points, as well as generate an increase in the number of pedestrians and bicyclists. This increase in motorized and non-motorized traffic could result in a higher risk for traffic conflicts between the different travel modes at intersections and curb-cuts. However, this risk would be substantially reduced by installing such features as school area warning signs to notify drivers that they are approaching a school zone and by painting yellow school crosswalks at the intersections adjacent the school site. Such features would be designed and installed in accordance to the specification set in the Caltrans Manual for School Area Pedestrian Safety and subject to approval by the City of Irvine. Mitigation measure **TT-2** would also prohibit on-street parking during school hours on Meander and Rotunda along the school site frontage to reduce the potential conflicts between moving vehicles and bicyclists or jaywalking pedestrians. Furthermore, the proposed access driveways and aisle-ways are appropriately spaced, sized, and configured for the project volume and site use. All onsite access and sight-distance requirements would be in accordance with the District, Caltrans, and City of Irvine design requirements. The implementation of the mitigation measure **TT-1**, "Suggested Route to School" plan, would also inform parents, students, and staff of the school routes that provide traffic control devices, crossing, and off-roadway sidewalks areas. The project would not substantially alter or impact roads, sight lines or land uses. Therefore, the project would not increase hazards due to a design feature and no impact would occur.

Mitigation Measure

TT-2: ***On-Street Parking Restrictions on Meander and Rotunda***

- On-street parking on Meander and Rotunda along the school site frontage will not be allowed during school hours. Furthermore, if future residential housing units along the south side of Meander would front the proposed elementary school, on-street parking along the south curb of Meander will be prohibited during school hours.

e) Would the project result in inadequate emergency access?

No Impact

The proposed project must adhere to the Fire Master Plan for Public Schools (OCFA, 2014), which includes review of accessibility to all structures on the proposed site by the Orange County Fire Authority. Fire lanes would be provided for adequate emergency access. The site design for the proposed school would include access and fire lanes that would accommodate emergency ingress and egress by fire trucks, police units, and ambulance/paramedic vehicles. All onsite access and sight-distance requirements would be in accordance with the District, Caltrans, and City of Irvine design requirements, and no impacts would occur.

f) Would the 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?

No Impact

Project site design includes a bus drop-off zone and onsite bicycle facilities for use by students and staff, which is consistent with the City of Irvine General Plan and the Bicycle Transportation Plan. Pedestrian facilities would also be provided along the both sides of the streets in the school vicinity. Crosswalks, signals, and other pedestrian safety features would be installed in accordance with the Caltrans Manual for School Area Pedestrian Safety and the City of Irvine requirements. The proposed project also would not conflict with the City of Irvine Bicycle Transportation Plan or other existing policies, plans, or programs supporting alternative transportation. For these reasons, the project would not conflict with policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities and no impact would occur.

g) Is the proposed school site within 1,500 feet of a railroad track easement?

No Impact

The nearest rail line, Metrolink, is located approximately 2.4 miles southwest of the proposed site. No impacts due to railroad track easements would occur.

h) Is the site easily accessible from arterials and is the minimum peripheral visibility maintained for driveways per Caltrans' Highway Design Manual?

Less than Significant Impact with Mitigation Incorporated

The proposed site is within the vicinity of Irvine Boulevard and Jeffrey Road and access to these arterials from the project would be provided by local streets via Parkwood, Encore, and Alpine. The Sight Distance Standards from Table 201.1[3] of the Caltrans Highway Design Manual (Caltrans, 2014) specifies the minimum standards for sight distance related to design speed for motorists. The stopping sight distance is the minimum sight distance for a given design speed to be provided on multilane highways and on two-lane roads when passing sight distance is not economically obtainable. Stopping sight distances are applicable to exits prior to pedestrian crossings.

Direct access to the project site would be provided by driveways on two local streets, Rotunda on the west side and Meander on the south side. For the purpose of this analysis, it is assumed that the design speed for Rotunda and Meander would be 25 miles per hour (mph). Based on this design speed, the minimum sight distance from an access driveway would be 150 feet. As the local streets are currently being constructed, actual measurements of the sight distances at the proposed driveways cannot be taken. Nonetheless, the proposed driveways on Rotunda and Meander would be designed to meet the minimum sight distances. Implementation of mitigation measure **TT-2** would prevent peripheral visibility at the driveways from being obstructed by on-street parked vehicles. Therefore, impact related to peripheral visibility would be less than significant impact after mitigation.

[3] Chapter 200 Geometric Design and Structure Standards.

4.17 UTILITIES AND SERVICE SYSTEMS				
Would the project:	**Potentially Significant Impact**	**Less than Significant Impact with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board (RWQCB)?				**X**
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			**X**	
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			**X**	
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				**X**
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?				**X**
f) Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			**X**	
g) Would the project comply with federal, state, and local statutes and regulations related to solid waste?				**X**

a) Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board (RWQCB)?

No Impact

The project site (site) is within the jurisdiction of the Santa Ana Regional Water Quality Control Board (SARWQCB). Wastewater discharged into stormwater runoff and drainage facilities is regulated through RWQCB by requiring all projects to obtain an Orange County Municipal Separate Storm Sewer Systems (MS4) permit regulated by the National Pollutant Discharge Elimination System (NPDES) permit program.

In order to comply with the MS4 permit, the project would be required to prepare a water quality management plan (WQMP), to include best management plans (BMPs), prior to its construction phase. Additionally, the project's Stormwater Pollution Prevention Plan (SWPPP) would address methods for treating discharged water and minimizing water pollution.

Therefore, with adherence to all requirements of the MS4 permit, no impacts would be anticipated.

b) Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less than Significant Impact

Irvine Ranch Water District (IRWD) would provide wastewater collection services for this school site (see **Figure 3-6**). Currently, the IRWD sewer system has two treatment plants and approximately 900 miles of sewer distribution pipelines. The Michelson Water Recycling Plant (MWRP) has a permitted capacity to treat up to 18 million gallons per day (mgd) and the Los Alisos Water Reclamation Plant has a permitted capacity 5.5 mgd. Additionally, the MWRP Phase II Expansion Project is near its completion and would increase the plant's capacity from 18 mgd to 28 mgd to satisfy IRWD's service area projections for "final build out" by the year 2025.[1]

Furthermore, IRWD plans to construct the Baker Water Treatment Plan (Baker WTP) in partnership with other South Orange County water district agencies which would supply imported water from MWD and native Irvine Lake water supply. Following completion, the Baker WTP would provide 28.1 mgd of drinking water.

Therefore, since planned construction for a new wastewater treatment facility and an expansion of existing facilities has already been anticipated for development of PA 5B and Irvine, this impact would be less than significant.

c) Would the project require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less than Significant Impact

The project was included within Vesting Tentative Tract Map (VTTM) No. 17523[2] which would develop 297.93 acres of land in PA 5B. This planned development includes 1,900 residential dwelling units, several public/private parks, and an elementary school (project). This ten-acre school site would be located near the center of PA 5B and would provide school services to this planned community. As a planned community, the construction of new stormwater drainage facilities has already been proposed. According to the Drainage Report for PA 5B (see **Appendix C**), the existing drainage pattern of the area generally flows in a southwesterly direction and drains to an existing storm drain system in Irvine Boulevard and ultimately discharges to the Central-Irvine Channel.

1 http://www.irwd.com/construction/michelson-water-recycling-plant. Accessed on January 5, 2015.

2 In addition to the VTTM No. 17523, the City of Irvine Planning Commission also approved the Master Landscape and Trail Plan and the Park Plan within the 2.31 Medium Density Residential Zoning District for PA 5B.

PA 5B has been divided in two drainage sub-areas, Area E (east) and Area W (west). The school site is located within Area W. Runoff within Area W would route through a detention basin at the southwest corner of PA 5B (**Figure 3-3**) and discharge into an existing storm drain system along Irvine Boulevard. In addition to Area W, the runoff from the Irvine Boulevard (Area I is outside of PA 5B) also drains into the existing storm drain system along Irvine Boulevard.

During a 100-year storm event, Area W and Area I would generate flows exceeding the existing Irvine Boulevard drain system's design flow rate of the 174 cubic feet per second (cfs). To decrease the flow rate of the runoff from Area W before discharging into the existing storm drain system, a detention basin would be built at the southwest corner of PA 5B. This detention basin will reduce flow rates to help meet the design capacity of the existing Irvine Boulevard drain system.

Runoff from the site would flow in a southwesterly direction and drain into the storm drain facilities on Meander and Rotunda. These storm drain facilities, which include catch basins, junction structures, 24- to 54-inch reinforced concrete pipe (RCP) main lines (trunk lines), and 18- to 36-inch RCP laterals, are part of PA 5B. No substantial changes in the existing drainage pattern of the area are proposed.

Therefore, since the planned development and installation of stormwater drainage facilities have already been prepared and would not cause significant environmental effects, less than significant impacts would be anticipated.

d) Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

No Impact

IRWD would also provide supply services for potable and non-potable water to the site and PA 5B. According to the PA5B Sub Area Master Plan Update (see **Appendix H**), **Figure 3-4** and **Figure 3-5** illustrates the existing and proposed expansion of the Zone 3 service area which is east of PA 5B along Jeffrey Road. The proposed expansion of Zone 3 (both 470 hydraulic gradient lines (HGL)) pipelines would be installed below and along neighborhood streets which would link to existing access points along Jeffrey Road and Encore as well as a proposed street to the north.

At PA 5B's southern terminus, this segment of Zone 3 pipelines would link to existing pipeline segments along Irvine Boulevard near the existing Zone 2 (355 HGL) pipelines. An IRWD pumping station would be installed at the most southern corner of PA 5B near the intersection of Jeffrey Road and Irvine Boulevard. Two water pressure reducing stations are located at the intersections of Irvine Boulevard and Independence Way as well as Irvine Boulevard and Jeffrey Road.

Approximately 65 percent of domestic water is obtained from local groundwater pumped from 16 wells within the Orange County Groundwater Basin. The remaining 35 percent of potable water is purchased through the Metropolitan Water District (MWD) and imported through pipelines.[3] According to the approved IRWD Water Supplies Assessment (WSA), an adequate water supply is available to serve PA 5B (see **Appendix I**).

Therefore, since adequate water supplies would be available to serve the site and PA 5B, impacts would be less than significant.

[3] Also see IRWD's Board of Directors Meeting, Agenda Item No. 10, Verification of Sufficient Water Supplies for City of Irvine PA 5B (Tentative Tract Map 17523) was approved on September 9, 2013.

e) Would the project 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?

No Impact

As previously described in Section 4.17(b) and 4.17(c), wastewater generated by the project is anticipated to be minimal and only a fraction of the existing daily capacity for the existing wastewater treatment facilities that provides service to the area. Therefore, the project would be within the existing capacity of the wastewater treatment provider and no impacts would be anticipated.

f) Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Less than Significant Impact

The California Department of Resources Recycling and Recovery (CalRecycle) provides Estimated Solid Waste Generation Rates as a forecasting tool for development projects. For planning purposes, it provides a rough estimation of solid waste generated by particular land use activities (or waste generation source). These rates assist in predicting the amount of waste created by development projects. This rate accounts for all waste materials that are disposed of and does not consider recycling or landfill disposal.

This project is designed to accommodate up to 1,000 students at peak enrollment. A 0.007 generation rate, measured in pound per square feet per day, for institutional ("school")[4] uses was utilized to forecast daily solid waste generated by this project. Using a solid waste generation rate of 0.007, the school site would generate almost 400 pounds of solid waste per day. Additionally, the project would temporarily generate solid waste from construction materials and debris during its short-term construction phase.

Three landfills service County of Orange which is operated by Orange County Waste & Recycling. The Frank R. Bowerman (Bowerman) Landfill, estimated to close by the year 2053, serves the City of Irvine and accepts 5,000 tons of solid waste daily out of its maximum daily capacity of 11,500 tons.[5] Bowerman Landfill is about 725 acres large with 534 acres permitted for disposal. As of June 2013, Orange County Waste & Recycling estimates its remaining airspace capacity at about 52 million tons.

The Olinda Landfill and Prima Deshecha Landfill also serve the County of Orange, which are also used by City of Irvine when the Bowerman Landfill reaches its daily capacity. Olinda Landfill permits 8,000 tons of refuse daily with an expected closure date in the year 2021.[6] Prima Deshecha Landfill is scheduled to close by the year 2067 and permits 4,000 tons of refuse daily (UltraSystems, 2013).[7] Hence, the forecasted 400 pounds generated by this elementary school would be served by current landfills which have a sufficient amount remaining capacity to accommodate the project's solid waste needs.

4 ttp://www.calrecycle.ca.gov/wastechar/WasteGenRates/Institution.htm Accessed on January 5, 2015.
5 http://www.calrecycle.ca.gov/SWFacilities/Directory/30-AB-0360/Detail/ Accessed on January 5, 2015.
6 http://www.calrecycle.ca.gov/SWFacilities/Directory/30-AB-0035/Detail/ Accessed on January 5, 2015.
7 http://www.calrecycle.ca.gov/SWFacilities/Directory/30-AB-0019/Detail/ Accessed on January 5, 2015.

In addition to the available landfill capacity, the project would adhere to City Standard Condition 2.24 (Solid Waste Recycling), Standard Condition 3.7 (Solid Waste Recycling), the City's Construction and Demolition (C&D) Debris Recycling and Reuse Ordinance, and all applicable sections of the City's Zoning Ordinance[8]. Therefore, less than significant impacts would be anticipated.

g) Would the project comply with federal, state, and local statutes and regulations related to solid waste?

No Impact

The project would comply with AB 939 (Zero Waste program) for waste reduction and the County of Orange Countywide Integrated Waste Management Plan (CIWMP). AB 939 regulates reduction in the volume of solid waste by mandating local governments to meet diversion goals to reduce solid waste by 50 percent for the year 2000. AB 939 also mandates recycling, composting, and regulations for safe landfill disposal. All requirements established by AB 939 are implemented in the County of Orange CIWMP.

The CIWMP describes future solid waste disposal demands based on County population projections and requires 15 years of solid waste disposal capacity based on these numbers. Furthermore, prior to the issuance of grading permits, the project would demonstrate adherence to Standard Condition 2.24 and 3.7 for Solid Waste Recycling[9]. Therefore, with adherence to AB 939, County of Orange CIWMP, City Standard Conditions, and all applicable regulations no impacts would be anticipated.

8 See Chapter 3-23 (Solid Waste Collection Standards).

9 See Irvine Zoning Ordinance, Chapter 3-23 (Solid Waste Collection Standards) and the Construction and Demolition (C&D) Debris Recycling and Reuse Ordinance.

4.18 MANDATORY FINDINGS OF SIGNIFICANCE				
Would the project:	**Potentially Significant Impact**	**Less than Significant Impact with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) 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?		**X**		
b) Impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?			**X**	
c) Environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			**X**	

a) 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?

Less than Significant Impact with Mitigation Incorporated

Section 4.4 of this Initial Study (IS) addressed impacts on Biological Resources. The project site (site) has been mass graded and is completely barren with a few patches of ruderal vegetation. Although the site lacks suitable vegetation that would potentially provide cover and nesting habitat for bird species; conversely; some protected bird species have been known to nest on bare ground within barren construction sites.

Construction activities may have direct or indirect impacts on bird species protected under the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code. Therefore, incorporation of mitigation measures **BR-1** (Construction Outside of Breeding Season), **BR-2** (Construction during Breeding Season), **BR-3** (General Plant and Wildlife Avoidance Measures), **BR-4** (Project

Landscaping), and **BR-5** (Construction Best Management Practices (BMPs)) would reduce impacts to less than significant levels.

Section 4.5 of this IS addressed potential impacts on Cultural Resources. Previously, no known cultural resources were identified within PA 5B during previous investigations[1] or mass grading activities within PA 5B; however; unknown or unrecorded resources may potentially be revealed during precise grading activities. This may occur if ground disturbance activities penetrate deeper than previous work performed.

In the unlikely event that cultural resources are discovered during precise grading activities, adherence to all applicable City of Irvine (City) and state regulations[2] would reduce the potential for eliminating important examples of major periods in California history or prehistory would be less than significant.

b) 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 in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Less than Significant Impact

As part of the approved VTTM No. 17523, this project has been deemed consistent with the City's General Plan (2012) goals, objectives, and policies. Furthermore, forecasted growth and development within PA 5B was also deemed in compliance with regional plans and programs that address environmental factors such as air quality, water quality as well as transportation and traffic. Therefore, the District would construct and operate a school site that is consistent with planned residential development and growth projections approved in VTTM No. 17523.

Furthermore, cumulative impacts from population growth have been previously addressed in the City's Northern Sphere Environmental Impact Report (TPG, 2002). Population growth and residential development in PA 5B has been planned for in the City's General Plan (2012), Zoning Ordinance, and VTTM No. 17523. Therefore, the project would not induce a significant population growth into the area; however; it would accommodate existing and future planned residential development. Direct population growth with residential development is already planned and expected for PA 5B. Indirect population growth resulting solely from the project is expected to be less than significant.

Therefore, since the project would not increase environmental impacts after mitigation measures are incorporated, the incremental contribution to cumulative impacts would be anticipated as less than significant.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less than Significant Impact

As discussed in Sections 4.1 through 4.17 of this Initial Study, no environmental effects were identified as having any significant impacts after mitigation measures were incorporated. Hence, no

1 See Northern Sphere Area Environmental Impact Report, Section 4.5 for Cultural Resources, Page 4-191 for Archaeological Project Impacts in PA 5B.

2 See Section 4.5, Cultural Resources, in this Initial Study.

environmental factors or effects were found to cause a substantial adverse effect on human beings, either directly or indirectly. Therefore, impacts would be anticipated as less than significant.

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Subcontractors

VA Consulting
Traffic Impact Analysis

7.0 MITIGATION MONITORING AND REPORTING PROGRAM

The Mitigation Monitoring and Reporting Program (MMRP) has been prepared in conformance with Section 21081.6 of the Public Resources Code and Section 15097 of the California Environmental Quality Act (CEQA) Guidelines, which requires all state and local agencies to establish monitoring or reporting programs whenever approval of a project relies upon a Mitigated Negative Declaration (MND) or an Environmental Impact Report (EIR). The MMRP ensures implementation of the measures being imposed to mitigate or avoid the significant adverse environmental impacts identified through the use of monitoring and reporting. Monitoring is generally an ongoing or periodic process of project oversight; reporting generally consists of a written compliance review that is presented to the decision making body or authorized staff person.

It is the intent of the MMRP to: (1) provide a framework for document implementation of the required mitigation; (2) identify monitoring/reporting responsibility; (3) provide a record of the monitoring/reporting; and (4) ensure compliance with those mitigation measures that are within the responsibility of the Irvine Unified School District (District) to implement.

As discussed in the Environmental Analysis of the Initial Study/MND, impact areas requiring mitigation are:

- Biological Resources.
- Geology and Soils.
- Hazards and Hazardous Materials.
- Transportation and Traffic.

The following table lists impacts, mitigation measures adopted by the District in connection with approval of the proposed project, level of significance after mitigation, responsible and monitoring parties, and the project phase in which the measures are to be implemented.

MITIGATION MONITORING AND REPORTING PROGRAM

Impact	Mitigation Measure	Responsible/ Monitoring Party	Monitoring Action or Implementation Stage
BIOLOGICAL RESOURCES			
Threshold 4.4 (a): Indirect impacts on breeding birds could occur from increased noise, vibration, and dust during construction, which could adversely affect the breeding behavior of some birds, and lead to the loss (take) of eggs and chicks, or nest abandonment.	**BR-1:** ***Construction Outside of Breeding Season*** Project activities that will remove or disturb potential nest sites will be scheduled outside the breeding bird season. The breeding bird nesting season is typically from February 15 through September 15, but can vary slightly from year to year, usually depending on weather conditions.	Irvine Unified School District/ California Department of Fish and Wildlife	Prior to earthmoving activities or construction
	BR-2: ***Construction During Breeding Season*** • If construction cannot be avoided during the breeding season, a qualified biologist will conduct a pre-construction survey for breeding birds, and active and potential nesting sites within the limits of project disturbance up to seven days prior to mobilization, staging and other disturbances. • If no breeding birds or active nests are observed during the pre-construction survey, or if they are observed and will not be impacted, then project activities may begin and no further breeding bird monitoring will be required. • If an active bird nest is located during the pre-construction survey and potentially will be impacted, a no-activity buffer zone will be delineated on maps and marked by fencing, stakes, flagging, or other means up to 500 feet for special-status avian species and raptors, or 100 feet for non-special-status avian species. The biologist will determine the appropriate size of the buffer zone based on the type of activities planned near the nest and bird species because some bird species are more tolerant than others to noise and other disturbances. Buffer zones will not	Construction Contractor & Irvine Unified School District/ California Department of Fish and Wildlife	Prior to earthmoving activities or construction

Impact	Mitigation Measure	Responsible/ Monitoring Party	Monitoring Action or Implementation Stage
	be disturbed until a qualified biologist determines that the nest is inactive, the young have fledged, the young are no longer being fed by the parents, the young have left the area, or the young will no longer be impacted by project activities. Periodic monitoring by a biologist will be performed to determine when nesting is complete. After the nesting cycle, project activities may begin within the buffer zone. • A breeding bird territory is an area that is defended by a bird during part of the breeding season to forage, perform courtship rituals, mate, and nest. If a breeding bird territory is located during the pre-construction survey, a breeding bird deterrence and removal program will be implemented, as approved by the resource agencies, within and near the project site for non-special-status birds. Such deterrence methods may include removal of previous years' nesting materials and partially completed nests, where feasible. If nest deterrence is not feasible, then the identified nests with eggs or hatched young will be monitored until nests are inactive, the young have fledged, the young are no longer being fed by the parents, the young have left the area, or the young will no longer be impacted by project activities. • If special-status species are observed within the project site during the pre-construction survey, then a qualified biologist will delineate individual species nesting territory, and notify the appropriate resource agency to: (1) determine if additional or focused protocol surveys are necessary, and (2) select suitable mitigation measures. Project activities may begin within the area after concurrence is received from the appropriate resource agency.		

Impact	Mitigation Measure	Responsible/ Monitoring Party	Monitoring Action or Implementation Stage
	• Birds or their active nests will not be disturbed, captured, handled or moved except as noted above. Inactive nests may be moved by a qualified biologist, if necessary, to avoid disturbance by project activities.		
Threshold 4.4 (a): Construction-related impacts on general plant and wildlife.	**BR-3:** ***General Plant and Wildlife Avoidance Measures*** • To minimize construction-related mortalities of nocturnally active species such as mammals and snakes, it is recommended that all work be conducted during daylight hours. Night-time work (and use of artificial lighting) will not be permitted unless specifically authorized. If required, night lighting will be shielded to protect species from direct night lighting. All unnecessary lights will be turned off at night to avoid attracting wildlife such as insects, migratory birds, and bats. • If any wildlife is encountered during the course of project activities, said wildlife will be allowed to freely leave the area unharmed. • Wildlife will not be disturbed, captured, harassed, or handled. Animal nests, burrows and dens will not be disturbed without prior survey and authorization from a qualified biologist. • Active nests cannot be removed or disturbed. Nests can be removed or disturbed if determined inactive by a qualified biologist. • To avoid impacts on wildlife, the applicant will comply with all litter and pollution laws and will institute a litter control program throughout project construction. All contractors, subcontractors, and employees will adhere to this program. Trash and food items will be disposed of promptly in predator-proof containers with	Construction Contractor & Irvine Unified School District/ California Department of Fish and Wildlife	Field Verification/ Construction phase

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	resealing lids. These covered trash receptacles will be placed at each designated work site and the contents will be properly disposed at least once a week. Trash removal will reduce the attractiveness of the area to opportunistic predators such as common ravens (*Corvus corax*), coyotes (*Canis latrans*), northern raccoons (*Procyon lotor*), and Virginia opossums (*Didelphis virginiana*). • Contractors, subcontractors, employees, and site visitors will be prohibited from feeding wildlife and collecting plants and wildlife. • To avoid the potential for mortality and harassment of wildlife, all non-security related firearms, weapons, and domestic dogs will be prohibited from the project site. • All excavated holes or trenches greater than two feet deep shall be covered at the end of each work day, or escape ramps provided.		
Threshold 4.4 (a): Invasive non-native plant.	**BR-4:** ***Project Landscaping*** Where possible, plant species and seed mixes will contain native drought resistant species with no invasive, non-native plant species listed on the "California Invasive Plant Inventory, February 2006" and updates. A copy of the complete list can be obtained at California Invasive Plant Council (Cal-IPC) website at www.cal-ipc.org. Cal-IPC is a nonprofit organization that is dedicated to protecting California's lands and waters from ecologically-damaging invasive plants through science, education and policy. Cal-IPC maintains an inventory that categorizes non-native invasive plants that threaten the state's Wildlands.	Designer/ Irvine Unified School District	Project Design/Final Landscape Plan Check

Impact	Mitigation Measure	Responsible/ Monitoring Party	Monitoring Action or Implementation Stage
Threshold 4.4 (a): Construction-related impacts on nearby habitats.	**BR-5:** ***Construction Best Management Practices (BMPs)*** Project work crews will be directed to use BMPs where applicable. These measures will be identified prior to construction and incorporated into the construction operations.	Construction Contractor & Irvine Unified School District/ California Department of Fish and Wildlife	Construction Phase
GEOLOGY AND SOILS			
Threshold 4.6 (d): Soils with an Expansion Index (EI) greater than 20 are considered expansive. The laboratory test result of one soil sample collected within Lot 15 had an EI of 22. Based on this result, soils within the project site have been classified as expansive	**GS-1:** ***Site-Specific Geotechnical Investigation*** Prior to the issuance of building permits, a site-specific geotechnical investigation will be performed by a qualified geotechnical engineer as part of the design process to assess the adequacy of existing soils to support the proposed structures, and establish soil conditions susceptible to expansion. A Geotechnical Investigation Report will provide recommendations to satisfy applicable design and performance criteria in the most recent edition of the California Building Standard Code. These recommendations would be reviewed and approved by the City of Irvine Building and Safety Department to ensure that structural and foundation designs: (1) are appropriate for the subsurface soil conditions beneath proposed structures, and (2) will mitigate potential damage due to soil expansion.	Qualified Geotechnical Engineer/ City of Irvine Building and Safety	Prior to the issuance of building permits

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HAZARDS AND HAZARDOUS MATERIALS			
Threshold (d): The project site was leased by Hines Wholesale Nurseries, Inc. (Hines) from the 1950s to late 2010, and used for agricultural purposes, administrative offices, vehicle maintenance, and storage of ornamental plants. Based on these activities, several Areas of Potential Concern (AOPCs) were identified.	**HZ-1:** ***Completion of Preliminary Endangerment Assessment*** Prior to acquisition and construction of the proposed school site, the Preliminary Endangerment Assessment (PEA) currently in progress, shall be completed, reviewed and approved by the DTSC to satisfy CEC §17268 and §17213.1. DTSC stipulations, if any, for further assessment and/or site cleanup (CEC § 17213.1(10)), shall be fully satisfied before construction begins. If the DTSC disapproves the PEA, it shall inform the District of the decision, the basis for the decision, and actions necessary to secure DTSC approval of the PEA. The District shall take actions necessary to secure DTSC approval of the PEA, or elect not to pursue acquisition or construction of the proposed project pursuant to CEC § 17213.1(8).	Irvine Unified School District/ Department of Toxic Substances Control	Prior to land acquisition/ Construction Phase
Threshold (e): From 2011 through 2014, three former underground storage tanks (USTs), gasoline and diesel dispensers, lube oil piping, two septic tanks, five seepage pits, and impacted soils were removed from the project site. Two hydraulic hoists and impacted soils were removed immediately south of the project site.			

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TRANSPORTATION AND TRAFFIC			
Threshold 4.16 (a): The proposed project anticipates an increased in non-motorized traffic as some students/staff would walk or bike to school.	**TT-1**: ***Suggested Route to School*** The Irvine Unified School District will develop, cooperatively with the City of Irvine, a "Suggested Route to School" plan showing all streets, school location, and the routes to be used by students to and from school. School routes should be planned to take advantage of the existing traffic control devices or take into consideration the factors specified in Caltrans Manual for School Area Pedestrian Safety Section 10.02.3. This plan will be annually distributed to students, parents, faculty and staff, and annually reviewed by the Irvine Unified School District for any necessary revisions or additions.	Irvine Unified School District/ City of Irvine Planning and Development Services & City of Irvine Police Department	Operation Phase
Threshold 4.16 (d): This increase in motorized and non-motorized traffic could result in a higher risk for traffic conflicts between the different travel modes. Threshold 4.16 (h): The proposed driveways on Rotunda and Meander are required to meet the minimum standards for sight distances per Caltrans Pedestrian Safety Manual.	**TT-2**: ***On-Street Parking Restrictions on Meander and Rotunda*** On-street parking on Meander and Rotunda along the school site frontage will not be allowed. Furthermore, if future residential housing units along the south side of Meander would front the proposed elementary school, on-street parking along the south curb of Meander will be prohibited during school hours.	City of Irvine Planning and Development Services/ City of Irvine Planning and Development Services & City of Irvine Police Department	Operation Phase