Harvard Avenue and Michelson Drive Intersection Improvement Project (CIP 311906), Irvine, California – Initial Study

June 2020

Lead Agency:
City of Irvine
1 Civic Center Plaza
Irvine, CA 92623-9575

Proponent:
City of Irvine
Department of Public Works and Transportation
1 Civic Center Plaza
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Consultant:
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38 Technology Drive
Irvine CA 92618-5312

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Acronyms

AB	Assembly Bill
ADL	aerially deposited lead
AQMP	Air Quality Management Plan
BMP	best management practice
BSA	Biological Survey Area
CDFW	California Department of Fish and Wildlife
Central/Coastal Plan	Orange County Central/Coastal Natural Community Conservancy Plan/Habitat Conservation Plan
CEQA	California Environmental Quality Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
City	City of Irvine
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CRMP	Cultural Resources Monitoring Plan
CRPR	California Rare Plant Rank
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
Farmland	Prime Farmland, Unique Farmland, or Farmland of Statewide Importance

Acronyms
May 2020

FY	fiscal year
GHG	greenhouse gas
I-405	Interstate 405
IBC	Irvine Business Complex
ICU	intersection capacity utilization
IRWD	Irvine Ranch Water District
IS	Initial Study
LBP	lead-based paint
lbs/day	pounds per day
LED	light-emitting diode
L_{eq}	increase in noise
LID	low-impact development
L_{max}	maximum noise level
LOS	level of service
LUST	leaking underground storage tank
MBTA	Migratory Bird Treaty Act
MMRP	Mitigation Monitoring and Reporting Program
MND	Mitigated Negative Declaration
$MTCO_2e$	metric tons of carbon dioxide equivalent
MT/year	metric tons per year
NOI	Notice of Intent
NOx	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
OCTA	Orange County Transit Authority
$PM_{2.5}$	particulate matter that have a diameter of less than 2.5 microns

PM_{10}	particulate matter that have a diameter of greater than 2.5 microns but less than 10 microns
PPV	peak particle velocity
PS&E	Plans, Specifications & Estimates
Project	Harvard Avenue and Michaelson Drive Intersection Improvement Project
RCRA	Resource Conservation and Recovery Act
rms	root mean square
Roadmod	Road Construction Emissions Model, version 8.1.0
ROW	right-of-way
RWQCB	Regional Water Quality Control Board
SAMP	Special Area Management Plan
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central California Information Center
SCE	Southern California Edison
SMAQMD	Sacramento Metro Air Quality Management District
SR-73	State Route 73
SRA	Source Receptor Area
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TCE	Temporary Construction Easement
TMP	Traffic Management Plan
UCI	University of California, Irvine
USACE	United States Army Corps of Engineers

USFWS	United States Fish and Wildlife Service
UST	underground storage tank
VdB	velocity decibel
VMT	vehicle miles traveled
VOC	volatile organic compound
WQMP	Water Quality Management Plan

1.0 PROJECT INFORMATION SHEET

1.1 PROJECT TITLE

Harvard Avenue and Michelson Drive Intersection Improvement Project (Project) (CIP 311906)

1.2 LEAD AGENCY

City of Irvine
Department of Public Works and Transportation
1 Civic Center Plaza
Irvine, CA 92606
Attention: Wendy Wang, Associate Transportation Analyst
wwang@cityofirvine.org
949-724-7438

1.3 PROJECT PROPONENT

City of Irvine
Department of Public Works and Transportation
1 Civic Center Plaza
Irvine, CA 92606

1.4 GENERAL PLAN AND ZONING DESIGNATIONS

Harvard Avenue and Michelson Drive are designated by the City of Irvine General Plan's Circulation Element as Primary Highway (City of Irvine 2015). The City's Zoning Map does not provide a designation for either Harvard Avenue or Michelson Drive.

1.5 PROJECT LOCATION

The proposed Project is located on the west sides of southbound Harvard Avenue from approximately Interstate 405 (I-405) immediately past Michelson Drive and the north and south sides of east and westbound Michelson Drive, respectively, immediately past northbound Harvard Avenue in the City of Irvine (City) (see Figure 1 [Regional Location Map]).

1.6 DESCRIPTION OF PROJECT

The proposed Project would entail minor widening of the west sides of southbound Harvard Avenue and the north and south sides of east and westbound Michelson Drive to provide one additional left turn lane from southbound Harvard Avenue onto eastbound Michelson Drive. Additional improvements include a

shared use path, Class II on-street[1] bike lane and other associated roadway improvements (e.g., signage, traffic signals, streetlights, utility relocations, drainage and water quality improvements, landscape, and lighting). The proposed Project is one of the mitigations identified in both 2009 and 2015 Irvine Business Complex Vision Plan Traffic Studies and would improve circulation in both the short- and long-term (see below) to the intersection by adding a second southbound left-turn lane on Harvard Avenue (see Section 2.3 [Project Background and History] for more details).

1.7 SURROUNDING LAND USES AND SETTING

The proposed Project is located within an urbanized area and is largely built-out. Land uses include I-405 to the north, open space and religious to the south, commercial/retail to the west, and residential to the east.

1.8 OTHER AGENCIES OR ENTITIES WHOSE APPROVAL IS REQUIRED

- City of Irvine City Council
- City of Irvine, Department of Public Works and Transportation
- Irvine Ranch Water District (IRWD)
- AT&T
- Cox Communications
- Southern California Edison (SCE)

1.9 NATIVE AMERICAN CONSULTATION

Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

As part of its Assembly Bill (AB) 52 consultation requirements, on October 7, 2019, the City sent letters to four tribal representatives making them aware of the proposed Project. On October 17, 2019, the City received a request for tribal consultation from Andrew Salas, Chairman of the Gabrieleño Band of Mission Indians - Kizh Nation. In his request, Mr. Salas noted that the proposed Project is located within their Ancestral Tribal Territory and requested consultation. During the consultation, the City shared information about the project, project limits, proposed construction activities, and proposed schedule. The City will continue to communicate any updates during the final design and construction phases.

[1] Class II bike lanes are on-street facilities designated for bicyclists using stripes and stencils. Bike lanes may include buffer striping to provide greater separation between bicyclists and parked or moving vehicles.

1.10 PURPOSE OF THE INITIAL STUDY

Pursuant to California Environmental Quality Act (CEQA) (California Public Resources Code, Sections 21000, et seq.), the Guidelines for Implementation of CEQA (State CEQA Guidelines, California Code of Regulations, Title 14, Sections 15000 et seq.), and the City of Irvine's CEQA Manual (Volumes 1 through 3, approved June 2012), this Initial Study (IS) has been prepared to determine whether the proposed Project may have a significant effect on the environment, thereby requiring preparation of an Environmental Impact Report (EIR).

1.11 INCORPORATION BY REFERENCE

Pursuant to CEQA Guidelines, Section 15150, this IS 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 it. 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. As such, the information contained in this IS is based, in part, on the technical studies and/or planning documents that include the project site or provide information addressing the general project area and are identified within the Appendix section of the IS (see Table of Contents) and within Section 7.0, References.

1.12 FINDINGS FROM THE INITIAL STUDY

Based upon the analysis contained in the IS, the proposed Project would have no impact or a less than significant impact on the following environmental categories listed from Appendix G of the CEQA Guidelines.

- Aesthetics
- Agricultural and Forest Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- 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
- Utilities and Service Systems
- Wildfire
- Mandatory Findings of Significance

Based upon the analysis contained in the IS, the proposed Project would have a less than significant with mitigation incorporated impact on the following environmental categories listed from Appendix G of the CEQA Guidelines.

- Biological Resources
- Cultural Resources
- Hazards and Hazardous Materials

- Public Services
- Tribal Cultural Resources

Based upon the analysis contained in the IS, the proposed Project would not result in a potentially significant impact.

1.13 PROCESS FOR ADOPTING A MITIGATED NEGATIVE DECLARATION

Based on the responses to the IS checklist questions (described above and analyzed below), the City has determined that a Mitigated Negative Declaration (MND) is the appropriate level of CEQA environmental documentation. As such, prior to adoption of the MND and consideration of the proposed Project, the City will issue a Notice of Intent (NOI) to Adopt an MND and the Initial Study and will be provided to Responsible Agencies, Trustee Agencies, Agencies with jurisdiction by law, and the public for 30 days to review and comment.

Approval of the proposed Project by the Lead Agency (City) 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 City and reflect its independent judgment and analysis.

1.14 MITIGATION MONITORING AND REPORTING PROGRAM

As noted above and contained within the analysis provided below, mitigation measures are required in order to reduce impacts for some environmental parameters analyzed in the IS. These will be included in the project's Mitigation Monitoring and Reporting Program (MMRP) and will be incorporated into the project's overall requirements. 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 (e.g., City Council) or authorized staff person.

As discussed in the IS, impacts that would require mitigation, include the following:

- Biological Resources
- Cultural Resources
- Hazards and Hazardous Materials
- Public Services
- Tribal Cultural Resources

The MMRP (Appendix A), contains a table which includes the mitigation measures denoting impacts, mitigation measures adopted by the City 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.

1.15 PROJECT SCHEDULE

The proposed Project schedule is as follows:

- Fiscal year (FY) 2020-21 – Initiate Final Plans, Specifications, and Estimates (PS&E) Phase
- FY 2021-22 – Complete PS&E Phase
- FY 2021-22 – Complete Right of Way Acquisition/Ready to Bid
- FY 2022-23 – Complete Construction

2.0 ENVIRONMENTAL SETTING

2.1 PROJECT LOCATION

The City is located within Orange County, approximately four miles east of the Pacific Ocean and some 35 miles southeast of downtown Los Angeles. The Project site (intersection of Harvard Avenue and Michelson Drive) is located within the southwestern portion of the City. Figure 1 (Regional Location Map) shows the location of the Project site. As shown in Figure 1, the proposed Project is located at the intersection of Harvard Avenue and Michelson Drive. The project limits are generally I-405 to the north, University Synagogue and San Joaquin Golf Course to the south, San Diego Creek to the west (approximately 500 feet easterly of the roadway intersection), and San Joaquin Channel to the east. Both the I-405 and State Route 73 (SR-73) provide regional access to the project site.

2.2 EXISTING CONDITIONS

The City of Irvine General Plan Circulation Element's Master Plan of Arterial Highways identifies Michelson Drive and Harvard Avenue both as "Primary Highway," with operational characteristics noted as "Parkway" for Harvard Avenue and "Collector" for Michelson Drive. This intersection serves the Rancho San Joaquin, Irvine Business Complex and Westpark Communities, or Planning Areas 19, 36, and 14, respectively. As noted in Figure 1, the area is urbanized and largely built-out. Land uses include transportation (I-405) to the north, open space (Rancho San Joaquin Golf Course) and religious (University Synagogue and Shir Ha-Ma'alot Synagogue) to the south, open space (San Joaquin Channel) and residential (Park West Apartment Homes) to the east and commercial (Boomers!, Irvine Lanes, Kings Carousel) to the west. Corresponding land uses/zoning for these areas includes CR-Commercial recreation/4.4A, PF – Public Facilities/6.1, Recreation/1.5, and Residential – Medium High Density/2.4.

Harvard Avenue and Michelson Drive are both two-lane primary arterials within the City's roadway network. The existing lane configurations of the Harvard Avenue and Michelson Drive intersection are as follows:

- Northbound Harvard Avenue:
  - One left-turn lane, two through lanes, and a Class II bike lane;
- Southbound Harvard Avenue:
  - One left-turn lane, two through lanes, and one right-turn lane;
- Eastbound Michelson Drive:
  - Two left-turn lanes, two through lanes and one free right-turn lane;
- Westbound Michelson Drive:
  - One left-turn lane and two through lanes.

Study Area

0 170 340 metres
(At original document size of 11x17)
1:9,000

N

Notes
1. Coordinate System: NAD 1983 2011 StatePlane California VI FIPS 0406 Ft US
2. Data Sources:
3. Background: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

Stantec

Project Location
Irvine, California

Prepared by DL on 2019-09-10
TR by RB on 2019-09-10
IR Review by JV on 2019-09-10

Client/Project
2042557300
Harvard Avenue and Michelson Drive Intersection Improvement Project

Figure No.
1

Title
Project Location

In addition, east and westbound Michelson Drive (west of north and southbound Harvard Avenue) contain an approximately 5 feet wide and 400 feet in length center median dividing the roadway, while eastbound Michelson Drive contains a "pork chop" along the eastbound portion of Michelson Drive at Harvard Avenue, which facilitates free (yield) right turns to southbound Harvard Avenue.

The overall roadway widths for these facilities range from approximately 75 feet for Harvard Avenue, and 65 to 90 feet for Michelson Drive. Both roadways contain curb returns, wheelchair curb cuts, and sidewalks (5 to 8 feet in width) with adjacent parkways or landscaping (associated with adjacent land uses). Street trees within the public right-of-way are largely absent, except two located between San Diego Creek and Boomers! driveway along Michelson Drive. There are, however, trees associated with the landscaping on the private property areas affected by the proposed Project. Street lighting is also present along portions of both Harvard Avenue and Michelson Drive. Orange County Transportation Authority (OCTA) bus stops for Routes 211, 213, and 473 are also located along or within close proximity to both roadways.

A Class I off-street trail exists along San Diego Creek west of the project, and two Class I off-street bike bridges cross San Joaquin Channel within the project limit along Michelson Drive, east of the intersection. Class II on-street bike lanes exist at the intersection along northbound Harvard Avenue. Class II bike lanes ending before the intersection exist along southbound Harvard Avenue, and each direction along Michelson Drive at distances ranging from approximately 200 to 400 feet.

2.3 PROJECT BACKGROUND AND HISTORY

The Project is one of the mitigations identified in both 2010 and 2015 Irvine Business Complex (IBC) Vision Plan Traffic Studies. The proposed Project would improve circulation to the intersection by adding a second southbound left-turn lane on Harvard Avenue and other improvements (see Section 3.0 [Project Characteristics] below). As indicated in Traffic Analysis Memorandum (see Appendix B) both Harvard Avenue and Michelson Drive currently experience high combined morning (AM) and evening (PM) traffic volumes during weekdays. Because of these volumes, level of service (LOS) [2] along these roadways can be adversely affected during these periods, resulting in motorists experiencing considerable traffic delays. This is especially true in the PM peak-period, where LOS drops to D along both Michelson Drive and Harvard Avenue (compared to LOS B during the AM peak-period). These conditions would be expected to further deteriorate to LOS D in the AM peak-period and LOS F in the PM peak-period, as additional growth in the area occurs. The proposed Project would be constructed using local funds associated with the IBC Vision Plan.

[2] Level of service (LOS) is a qualitative measure used to relate the quality of motor vehicle traffic service. LOS is used to analyze roadways and intersections by categorizing traffic flow and assigning quality levels of traffic based on performance measure like vehicle speed, density, congestion, and other factors. The City's General Plan Circulation Element includes definitions for these, with LOS A representing the best conditions, while LOS F represents unacceptable conditions for motorists.

3.0 PROJECT CHARACTERISTICS

The proposed Project is intended to improve the operation of the intersection, relieve congestion during both AM and PM peak hours, and to alleviate existing queuing conditions to accommodate projected traffic in the area through Build-out (2035). Figure 2 (Alternative 1B) shows the proposed roadway layout and associated improvements, including revised geometries for the Harvard Avenue and Michelson Drive intersection. Each of the summaries below describe the approach toward the intersection with Harvard Avenue considered running North/South:

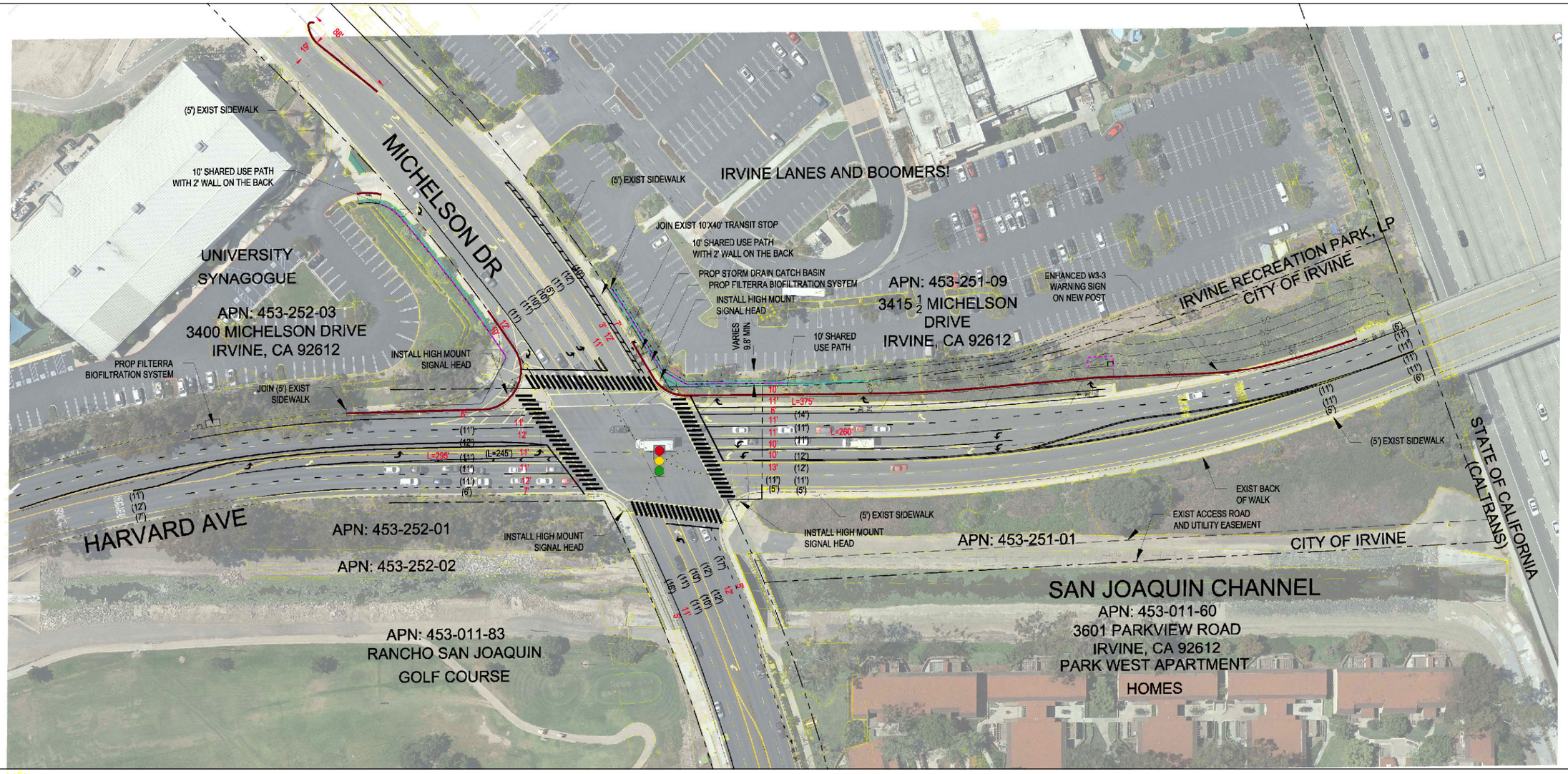
- Northbound Harvard Avenue:
  - Existing – One left-turn lane, two through lanes, and a Class II on-street bike lane;
  - Proposed – Re-stripe to lengthen left-turn lane, maintain two through lanes, and restripe to provide a de facto right turn lane.

- Southbound Harvard Avenue:
  - Existing – one left-turn lane, two through lanes, and one right-turn lane;
  - Proposed – Add one left turn lane for a total of two left-turn lanes, maintain two through lanes and one right turn lane, provide a Class II on-street bike lane towards intersection stop line, add 10-foot off-street shared use path for bikes and pedestrians;

- Eastbound Michelson Drive:
  - Existing – Two left-turn lanes, two through lanes and one non-standard free right-turn lane;
  - Proposed – Maintain two left-turn lanes, two through lanes and remove non-standard free right-turn lane and replace with designated right-turn lane, add a 10-foot off-street shared use path for bikes and pedestrians; narrow west end of existing median

- Westbound Michelson Drive:
  - Existing – One left-turn lane and two through lanes.
  - Proposed – Maintain one left-turn lane, two through lanes, restripe to provide a Class II on-street bike lane towards intersection stop line.

In order to accommodate the proposed roadway improvements and ensure its safe operation, widening of the north and south sidewalks along Michelson Drive, west of Harvard Avenue would be needed. This would entail minor or “sliver-takes” (acquisition) of permanent right-of-way (ROW) of existing City of Irvine and adjacent private properties, as shown in Figure 2. Table 1 (Anticipated/Proposed “Sliver-Takes” for Permanent ROW and Temporary Construction Easements (TCE) for Proposed Project Intersection Improvements) below shows the Orange County Assessor Parcel Numbers affected and the corresponding acreage that would be required for these needed permanent ROW acquisitions and TCE. These are needed in order to accommodate the roadway widening and utility relocation. Temporary construction easements would also be needed from the City of Irvine and private property owners. To the extent practicable, lane widths would be minimized to reduce the amount of ROW impacts.



LEGEND

- EXIST PARCEL LINE
- EXIST STREET R/W
- EXIST LOT LINE
- PROP RET. CURB
- PROP CURB
- EXIST TOPO
- PROP STRIPING
- (11') EXIST LANE WIDTH
- 11' PROP LANE WIDTH
- PROP PCC PAVEMENT
- ADDITIONAL ROW (APPROX 2,007 SF)
- SIGNALIZED INTERSECTION

Notes

1. Coordinate System: NAD 1983 2011 StatePlane California VI FIPS 0406 Ft US
2. Data Sources: Stantec 2019.
3. Background: NASource: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

0 100 200 Feet

(At original document size of 11x17)
1:1,174

Stantec

Project Location
Irvine, California

Prepared by DL on 2020-05-18
TR by GR on 2020-05-18

Client/Project
2042557300

Harvard Avenue and Michelson Drive Intersection Improvement Project

Figure No.
2

Alternative 1B

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Table 1: Anticipated/Proposed "Sliver-Takes" for Permanent Right-of-Way and Temporary Construction Easements for Proposed Project Intersection Improvements

Affected Assessor Parcel Number	Address	Permanent Right-of-Way (square feet)	Temporary Construction Easement (square feet)
453-251-09	3415 ½ Michelson Drive	1,198	10,394
453-252-03	3400 Michelson Drive	809	767
Total		**2,007**	**11,161**

Source: Stantec 2020

The proposed Project also includes the construction and/or relocation of a number of new or existing public and private infrastructure facilities and/or amenities, discussed below.

3.1 PEDESTRIAN/ACTIVE TRANSIT

- *Shared Use Path* – An approximate 10 feet wide concrete shared use path extending approximately 700 feet in length along the west side of southbound Harvard Avenue, adjacent to the Irvine Lanes parking lot would be constructed and serve as a replacement to the existing sidewalk. An additional 10 feet wide concrete shared use path extending approximately 130 feet would also be constructed along south side of eastbound Michelson Drive, adjacent to the University Synagogue. These off-street concrete shared use paths would provide access to both pedestrians and bicyclists along these sections of the roadways.

- *Sidewalks* – With the exception of the two new shared use paths, all sidewalks associated with the project area and associated intersection would remain in their current condition and would be 5 feet in width.

- *Class II On-Street Bike Lane* – A new 6 feet wide Class II on-street bike lane would be constructed along the west side of southbound Harvard Avenue (immediate vicinity of the I-405 bridge) and would also provide a connection to the shared use path. A new 5 feet wide Class II on-street bike lane will also be provided along the east side of westbound Michelson Drive.

3.2 PUBLIC TRANSIT

- *Bus Stops* – The proposed Project is currently served by OCTA Routes 211, 213, and 473. No existing OCTA bus stops or benches would need to be temporarily or permanently closed or relocated as part of the proposed Project. The transit stop also serves the shuttle services for University of California, Irvine (UCI) Anteater Express and the City's iShuttle Service.

3.3 ROADWAY

- *Curb Returns* – New curb returns along the southwest and northwest quadrants of Harvard Avenue would be constructed.
- *"Pork Chop"* – The existing "Pork Chop" along eastbound Michelson Drive at southbound Harvard Avenue would be eliminated in order to improve the intersection's operational characteristics and a standard right turn lane would be provided.
- *Lane and Crosswalk Restriping* – In order to accommodate the new intersection geometries and lane configurations, restriping of the roadway and intersection are needed and would include all through and turning lanes and crosswalks for all roadway quadrants.
- *Parkway/Landscaping* – Roadway improvements would require the removal and/or trimming of existing landscaping along the west side of southbound Harvard Avenue and the north and south sides of Michelson Drive west of the intersection and adjacent slope. A total of 0.956 acres (see Table 2 below) pervious and impervious surfaces would be affected and 28 trees would potentially be removed, relocated, or replaced. To the extent practicable, replacement trees would be planted, based upon a City-approved landscaping plan. The particular specie of street/landscaping tree and its diameter at breast height for the replacement would be included in the landscaping plan during final design.

3.4 UTILITIES & DRAINAGE

- *Storm Drain/Catchment Basins* – An existing drainage (earthen swale) catchment located within the landscaping of the west side of southbound Harvard Avenue would need to be moved westerly. In addition, an existing catchment basin located on the north side of Michelson Drive west of the intersection would need to be re-constructed and would tie-in to the existing storm drain system.
- *Street Lighting* – A total of four street lights associated with southbound Harvard Avenue would need to be removed and reinstalled along this section of the roadway. Two street lights on new traffic signal poles at the intersection, and two along the west side of southbound Harvard Avenue. An additional two street lights associated with northbound Harvard Avenue and located on traffic signal poles at the northeast and southeast quadrants of Michelson Drive will be removed and reinstalled.
- *Electrical* – SCE owns a high voltage underground system along the westerly parkway of southbound Harvard Avenue. The system would be impacted and may require either under-grounding in-place or relocation and undergrounding behind the newly constructed curb.
- *Water* –IRWD owns domestic water lines and sewer lines in the project area. The underground pipelines would be protected in place. Manholes and valves may either be protected or adjusted to grade with the roadway improvements and the fire hydrant located at the northwest quadrant will be relocated or replaced.

- *Telecommunications* – Both COX Communications and AT&T have underground facilities that run along the westerly parkway of southbound Harvard Avenue and southerly parkway of eastbound Michelson. In addition, Wilcon and Zayo have underground facilities that run along the south side of Michelson Drive that may be protected in place. CenturyLink (previously Level 3 Communications) responded they do have facilities in the area but the location has not been provided or determined. Any displacement necessary to construct the project would be coordinated with each affected telecommunications company and be relocated by their contractors.

- Common utilities who replied they have no facilities in the area include Southern California Gas-transmission, Verizon, and Crown Castle fiber facilities,

3.5 TEMPORARY AND PERMANENT DISTURBANCE AREAS

The proposed Project would require roadway modifications resulting in both temporary and permanent disturbances. As shown in Figure 2 (Alternative 1B), these would be focused on the northwest and southwest quadrants along Harvard Avenue in locations where the roadway subgrade needs to be widened and the corresponding slope re-graded. Table 2 (Proposed Project Disturbance Areas) below indicates the total temporary or permanent disturbances associated with the proposed Project.

Table 2: Proposed Project Disturbance Areas

Disturbance	Square Feet	Acreage
Area of Permanent Disturbance/Impervious Area	11,865	0.272
Area of Temporary Disturbance/Pervious Area	29,795	0.684
Area of Permanent Disturbance/Impervious to Pervious Area	1,430	0.033
Total	**43,090**	**0.956**

Source: Stantec 2020

3.6 PROJECT AND CONSTRUCTION PHASING

Table 3 (Proposed Project and Construction Phasing Schedule) shows the project and construction phasing schedule. A brief description of these activities is provided below:

- *Mobilization* – This phase would entail mobilization of equipment and personnel to the work site

- *Clearing & Grubbing* – This phase would include the clearing of any vegetation, trees and associated roots or stumps from the project site

- *Grading* – This phase involves making sure that there is a level base and appropriate slopes for the roadway and drainage improvements

- *Trenching & Structure*s – This phase includes preparing trenches for the relocation of utilities and other underground components of the roadway. It also entails the construction of any above or below structures
- *Roadway Subgrade Preparation* – This phase entails preparation of the soil materials in order to provide support for the roadway pavement
- *Paving & Flat Work* – This phase involves the use of asphalt or concrete in paving the roadway service, while flat work involves the actual laying down of the material
- *Traffic Signal Installation* – This phase includes the installation and testing of the traffic signals for the modified roadway/intersection
- *Signing & Striping* – This phase would entail placing roadways signage and striping of lanes and other roadway features in order to meet required roadway safety standards
- *Landscaping & Demobilization* – This phase includes removing equipment, material, and personnel from the worksite and installing the landscaping and associated irrigation (if required), including removal and replacement of trees

Table 3: Proposed Project and Construction Phasing Schedule

Phase	Description	Duration (weeks)
1	Mobilization	5
2	Clearing & Grubbing	2
3	Grading	3
4	Trenching & Structures	5
5	Roadway Subgrade Preparation	4
6	Paving & Flat Work	3
7	Traffic Signal Installation	2
8	Signing & Striping	2
9	Landscape & Demobilization	4
Total		**30 (8 months)**

3.7 TEMPORARY PROJECT CONSTRUCTION COMPONENTS

Both Harvard Avenue and Michelson Drive and the associated intersection would be accessible to motorist and pedestrians during the estimated eight-month construction period. However, during the

morning and evening peak-hours in which construction activities are occurring[3], there may be the need for temporary lane closures, resulting in increased delays and queuing at the approaches to the intersection. To reduce these impacts and in order to ensure continuous and safe operation of the roadways and intersections and worker safety during project construction, a Traffic Management Plan (TMP) would be prepared and implemented. The TMP would assist to minimize delays by ensuring proper signage is posted to advise motorist and pedestrian of activities in the construction zone. In addition, it is also intended to ensure that safe traffic and work zones areas are in place during roadside construction activities. The TMP provides worker and public safety from vehicles and equipment both outside and within roadside worksites.

3.8 CONSTRUCTION VEHICLE ACCESS AND STAGING

Construction vehicle access and staging would be identified pending finalization of design and construction documents. It is anticipated that these areas would include both public and private property and ROW areas associated with the Irvine Lanes parking lot areas adjacent to Harvard Avenue or Michelson Drive.

[3] Note: Per the City of Irvine Municipal Code, construction activities may occur from 7:00 a.m. and 7:00 p.m. Mondays through Fridays, and 9:00 a.m. and 6:00 p.m. on Saturdays. No construction activities would be permitted outside of these hours or on Sundays and federal holidays.

4.0 ENVIRONMENTAL CHECKLIST

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

☐	Aesthetics	☐	Land Use and Planning
☐	Agriculture and Forestry Resources	☐	Mineral Resources
☐	Air Quality	☐	Noise
☒	Biological Resources	☐	Population and Housing
☒	Cultural Resources	☒	Public Services
☐	Energy	☐	Recreation
☐	Geology and Soils	☐	Transportation
☐	Greenhouse Gas Emissions	☒	Tribal Cultural Resources
☒	Hazards and Hazardous Materials	☐	Utilities and Service Systems
☐	Hydrology and Water Quality	☐	Wildfire
☒	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.

Environmental Checklist
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☐ 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 mitigation measures that are imposed upon the proposed project, nothing further is required.

Melissa D

Signature

6-30-2020

Date

Melissa Dugan, AICP

Supervising Transportation Analyst

5.0 EVALUATION OF ENVIRONMENTAL IMPACTS

Provided below is an explanation of the evaluation criteria and requirements of the environmental impacts evaluated in the IS analysis and which include the following:

(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 used 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.

A detailed analysis of environmental impacts is presented below for each resource area (listed above) utilizing the model Environmental Checklist Form found in Appendix G of the CEQA Guidelines Section 15063(f). Impacts to the environment for construction and operation of the proposed Project will be assessed and described, and the level of significance of impacts will be measured against criteria that have been established by regulation, accepted standards, or other definable criteria. The use of an MND is only permissible if all potentially significant environmental impacts assessed in the IS are rendered less than significant with incorporation of mitigation measures.

Each environmental resource area is reviewed by analyzing a series of questions (i.e., Initial Study Checklist) regarding level of impact posed by the proposed Project. Substantiation is provided to justify each determination. One of four following conclusions is then provided as a determination of the analysis for each of the major environmental factors.

No Impact. A finding of no impact is made when it is clear from the analysis that the project would not affect the environment.

Less than Significant Impact. A finding of a less than significant impact is made when it is clear from the analysis that a project would cause no substantial adverse change in the environment and no mitigation is required.

Less than Significant Impact with Mitigation Incorporated. A finding of a less than significant impact with mitigation incorporated is made when it is clear from the analysis that a project would cause no substantial adverse change in the environment when mitigation measures are successfully implemented by the project proponent. In this case, the City of Irvine is the project proponent and would be responsible for implementing measures identified in a MMRP.

Potentially Significant Impact. A finding of a potentially significant impact is made when the analysis concludes that the Project could have a substantially adverse change in the environment for one or more

of the environmental resources assessed in the checklist. In this case, typically preparation of an EIR would be required.

5.1 AESTHETICS

5.1.1 Impact Analysis

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
I. AESTHETICS — Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Discussion of Impacts

a) Have a substantial adverse effect on a scenic vista?

The proposed Project and surrounding area are urbanized and largely built-out, containing typical landscaping, such as street trees, shrubs, and grassy areas. Land uses include transportation (I-405) to the north, open space (Rancho San Joaquin Golf Course) and religious (Congregation Shir Ha-Ma'alot Synagogue and University Synagogue) to the south, open space (San Joaquin Channel) and residential (Park West Apartment Homes) to the east and commercial (Boomers!, Irvine Lanes, Kings Carousel) to the west.

The developed nature of the area and the intervening topography and roadways limit both line of sight and expansive views for motorist, visitors, and residents. However, Rancho San Joaquin Golf course and San Diego Creek do offer both public and private (residence) line of sight open space views along Harvard Avenue and Michaelson Drive, respectively for motorist, visitors, and residents. Distant views of the Santiago Hills and San Joaquin Hills are not readily available along this portion of Harvard Avenue and Michelson Drive, due to the low elevation of the area.

Based upon a review of the City of Irvine CEQA Manual, Volume 2: Technical Guidelines, Table 3.1-1 (Notable Visual Resources in the City of Irvine) the proposed Project is located within close proximity to San Diego Creek, a natural water course and San Joaquin Channel, a channelized watercourse. A review

of Figure 3.1-2 (Visual Resources in the City of Irvine) indicates there are no identified visual resources within close proximity to the proposed Project.

The proposed Project is a roadway widening project located along Harvard Avenue and Michelson Drive within an urbanized portion of the City. In order to accommodate the proposed roadway improvements and ensure its safe operation, widening of the north and south sidewalks along Michelson Drive, west of Harvard Avenue would be needed. This would entail minor or "sliver-takes" (acquisition) of permanent right-of-way of existing City of Irvine and private property, as shown in Figure 2 (Alternative 1B). However, these "sliver-takes" would not physically affect the resources noted in Table 3.1-1 (Notable Visual Resources in the City of Irvine) since the widening would not require temporary or permanent acquisition or alteration of either San Diego Creek or San Joaquin Channel. In addition, as noted above, a review of Figure 3.1-2 (Notable Visual Resources in the City of Irvine) indicates there are no resources that would be affected either during construction or operation of the proposed Project.

Roadway improvements would require the removal and/or trimming of existing landscaping along west side of southbound Harvard Avenue and the north and south sides of Michelson Drive west of the intersection. A total of 28 trees may potentially be removed, relocated, or replaced. To the extent practicable, replacement trees would be planted, based upon a City-approved landscaping plan (to be developed during final design). In addition, a number of improvements would also be implemented, including: (1) two new shared use paths (refer to project description above). These paths would provide access to both pedestrians and bicyclists along these sections of the roadways; and (2) A 6-foot-wide Class II on-street bicycle lane would be constructed along the west side of southbound Harvard Avenue. Although motorists, visitors, and residents would notice temporary changes in the landscaping of these roadway segments during construction, including temporary removal/relocation of trees, and minimal removal of shrubs, the presence of construction materials, equipment, and personnel, their line of sight views of the adjacent open space areas (e.g., Rancho San Joaquin Golf course, San Joaquin Channel, and San Diego Creek) would not be substantially reduced since these views would remain available. Similarly, once the proposed Project is constructed and the landscaping plan is implemented, motorists, visitors, and residents would not experience a substantial change in the appearance of the site or the surrounding properties because the replacement trees and shrubs and new shared path and bicycle lanes would be similar in scale and design to these areas. In addition, their line of sight of the adjacent open space areas would also not be substantially reduced since these views would remain available.

Therefore, no impact would occur.

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

A review of the City of Irvine CEQA Manual, Volume 2: Technical Guidelines, Table 3.1-2 (Scenic Highways in Irvine) indicates that the proposed Project is not located within a state scenic highway. The proposed Project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

Therefore, no impact would occur.

c) *Substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

Refer to analysis contained within response I.a above.

In addition, the City of Irvine General Plan Circulation Element's Master Plan of Arterial Highways identifies Michelson Drive and Harvard Avenue both as "Primary Highway," with operational characteristics noted as "Parkway" for Harvard Avenue and "Collector" for Michelson Drive. As described previously, adjacent land uses include commercial/retail, residential, transportation, open space, and religious.

The proposed Project is a roadway widening project located along Harvard Avenue and Michelson Drive within an urbanized portion of the City. As noted above, these roadways are designated as "Primary Highway" in the City of Irvine General Plan Circulation Element's Master Plan of Arterial Highways. Implementation of the proposed Project would not change or propose to change these designations. Moreover, it would not conflict with applicable zoning and other regulations governing scenic quality since neither roadway is designated as a state scenic highway, nor would it substantially degrade the existing visual character or quality of public views of the site and its surroundings.

Therefore, no impact would occur.

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

As discussed in response I.a above, the proposed Project is urbanized and largely built-out. Light sources, such as street lights and private landscaping and lighting associated with residences and commercial structures are present. Light sensitive uses include the residences and San Joaquin Channel located along the east side of northbound Harvard Avenue and San Diego Creek in the vicinity of Michelson Drive. A review of the project site indicates that glare sources are largely absent.

During construction, the proposed Project would remove and reinstall street lights within the public ROW. A total of six street lights are affected; two along the west curb of southbound Harvard Avenue, and four on relocated traffic signal poles at the intersection of Harvard Avenue and Michelson Drive. In addition, while no sources or materials of substantial light or glare would adversely impact the area, construction activities, including removal and relocation of street lights, may cause some temporary and intermittent light redirection. No nighttime construction activities are currently proposed. There are four street lights within the project limit that will not be relocated and will be protected in-place during construction.

During operation of the proposed Project, street lighting within the public ROW would be replaced, would be similar in nature to existing conditions, would comply with the City of Irvine's site lighting requirements,

be directed at the roadway and sidewalks, and would not result in “spill over” onto sensitive light uses, identified above.

Therefore, a less than significant impact would occur.

5.2 AGRICULTURE AND FORESTRY RESOURCES

5.2.1 Impact Analysis

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
II. AGRICULTURAL AND FOREST RESOURCES — In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
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?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined by Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d) Result in loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Discussion of Impacts

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?

No agricultural zoning or operations exist within the vicinity of the Project site, and the proposed Project site is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The proposed Project would not result in the conversion of Farmland to nonagricultural use.

Therefore, no impact would occur.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

The proposed Project would not affect agricultural uses because the Project site is not located on land zoned or designated for agricultural use. Thus, no Williamson Act contracts are present on lands within the Project site.

Therefore, no impact would occur.

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 Code section 4526, or timberland zoned Timberland Protection (as defined by Government Code section 51104(g))?

The proposed Project would not affect or conflict with existing forest land, timberland, or timberland protection because neither Harvard Avenue or Michelson Drive are zoned or designated for these uses and no changes are proposed to the existing roadway designations. Moreover, the proposed Project site is located in an urbanized section of the City and is largely built-out.

Therefore, no impact would occur.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

The proposed Project would not affect forest land because neither Harvard Avenue or Michelson Drive contain these resources nor proposes their conversion.

Therefore, no impact would occur.

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?

The proposed Project would not affect farmland or forest land or result in their conversion because the Project site is not located on land zoned or designated for these uses and does not propose changes to the current roadway designations of either Harvard Avenue or Michelson Drive.

Therefore, no impact would occur.

5.3 AIR QUALITY

5.3.1 Impact Analysis

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
III. AIR QUALITY — Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) 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?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Discussion of Impacts

a) Conflict with or obstruct implementation of the applicable air quality plan?

The information contained below is derived and summarized from the Air Quality Technical Study Report contained within Appendix C of this IS.

A project is conforming with applicable adopted plans if it complies with the applicable local air district (South Coast Air Quality Management District) [SCAQMD]) rules and regulations and emission control strategies as identified in the current air quality plan (2016 Air Quality Management Plan [AQMP]). The proposed Project is not a capacity-increasing transportation project and would not generate additional traffic volumes compared with the no-project scenario/alternative. The proposed Project would comply with the applicable rules, including the use of standard compliance measures for construction equipment and fugitive dust (SCAQMD Rules 401, 402 and 403).

Furthermore, the thresholds of significance, adopted by the air district (SCAQMD), determine compliance with the goals of attainment plans in the region. As such, emissions below the SCAQMD regional mass daily emissions thresholds (see Table AQ-3 of Appendix C of this IS) would not conflict with or obstruct implementation of the applicable air quality plans. As described below, the proposed Project would not generate emissions that exceed SCAQMD's thresholds. As such, the proposed Project is consistent with the goals and control strategies of the regional AQMP.

Therefore, a less than significant impact would occur.

Estimation of Emissions: Emissions associated with the Project implementation would be short term, construction emissions and long-term operational. These are analyzed below.

Construction Impact

Air pollutant emissions associated with construction activities include air pollutant emissions generated by operation of on-site construction equipment; fugitive dust emissions related to grading, trenching and earthwork activities; and off-site emissions from construction worker vehicles trips and haul/delivery truck trips. Emissions vary from day to day, depending on the number of construction equipment operating on site, the type of construction activity occurring, and, for fugitive dust, prevailing weather conditions. These emissions would be temporary and limited to the immediate area surrounding the construction site.

Construction emissions were estimated for the proposed Project using the Road Construction Emissions Model, version 8.1.0 (Roadmod) that was developed by the Sacramento Metro Air Quality Management District (SMAQMD). Use of the model is consistent with SCAQMD and the City of Irvine CEQA Manual recommendations for linear construction projects. The proposed Project construction is anticipated to take approximately 7 to 8 months to complete. The construction phasing and activities with estimated duration of each phase include the following: clear and grub and site preparation (1 month); demolition of the existing sidewalks and curbs, and grading (2 months); trenching and construction of curbs and roadway subgrade (3 months); paving, landscaping, and roadway restriping (1 month). The maximum disturbance area at any one time would be 0.956 acre and at the northwest quadrant along southbound Harvard Avenue during widening the roadway. For the Project-specific data that are not available at this time, default assumptions (e.g., construction fleet activities) from Roadmod were used. Construction-related regional and localized emissions are presented in Tables 4 and 5, respectively. Calculations and Roadmod output are provided in Appendix A of the Air Quality Technical Study Report (see Appendix C).

As shown in Table 4 (Project Construction Emissions in Comparison with SCAQMD Regional Significance Thresholds) and Table 5 (Project Construction Emissions in Comparison with SCAQMD Localized Significance Thresholds), unmitigated construction emissions would not exceed the SCAQMD maximum daily emissions or localized emissions significance thresholds. Furthermore, the proposed Project would comply with the SCAQMD applicable rules and regulations as stated above (Rules 401, 402, 403, and Rule 1113).

Therefore, a less than significant impact would occur.

Table 4: Project Construction Emissions in Comparison with SCAQMD Regional Significance Thresholds

Emissions Source/Component	Pollutant Emissions (lbs/day)					
	VOC	NOx	SOx	CO	PM_{10} Total	$PM_{2.5}$ Total
Clear and Grub	0.75	8.68	0.01	5.44	9.37	2.20
Excavation/Grading	2.19	22.58	0.04	17.55	10.12	2.86
Trenching and construction of subgrade	2.0	17.81	0.03	19.63	10.02	2.81

Emissions Source/Component	Pollutant Emissions (lbs/day)					
	VOC	NOx	SOx	CO	PM_{10} Total	$PM_{2.5}$ Total
Paving and restriping	1.0	9.29	0.02	11.36	0.56	0.50
Maximum Daily Construction Emissions	2.2	22.6	0.04	19.6	10.1	2.9
SCAQMD Significance Threshold (lbs/day)	**75**	**100**	**150**	**550**	**150**	**55**
Exceed Threshold?	No	No	No	No	No	No

Notes: lbs/day = pounds per day

Emissions estimated using Road Construction Emissions Model version 8.1.0 (SMAQMD 2016). Model output is provided in Appendix A of the Air Quality Technical Study Report (see Appendix C).

Table 5: Project Construction Emissions in Comparison with SCAQMD Localized Significance Thresholds

Onsite Emissions Sources	Pollutant Emissions (lbs/day)				
	VOC	NOx	CO	PM_{10}	$PM_{2.5}$
Clear and Grub	0.72	8.63	4.95	9.35	2.19
Excavation/Grading	2.08	22.39	15.6	10.04	2.83
Trenching and construction of subgrade	1.92	17.68	18.26	9.96	2.78
Paving and restriping	0.95	9.19	10.42	0.52	0.48
Maximum Daily Onsite Construction Emissions	2.1	22.4	18.3	10.0	2.8
SCAQMD LST at 50 meters distance (lbs/day)	n/a	**93**	**738**	**13**	**5**
Exceed Threshold?	n/a	No	No	No	No

Notes: n/a = not applicable, no threshold is set.

lbs/day = pounds per day

$PM_{2.5}$ = particulate matter that have a diameter of less than 2.5 microns

PM_{10} = particulate matter that have a diameter of greater than 2.5 microns but less than 10 microns

Localized significance thresholds are from the SCAQMD lookup tables for Source Receptor Area (SRA) 20 assuming a one-acre project site and a distance to the nearest sensitive receptor of 50 meters. It should be noted the 50 meter is the distance from the edge of Harvard Avenue to the nearest residences along the northbound of Harvard Avenue (across San Joaquin Channel), however, construction activities occur within the southbound where the distance from the nearest residence is more than 80 meters.

It is assumed that the maximum disturbance of 0.956 acres would occurs per day of construction, which provides the most conservative estimate of fugitive dust emissions per day.

Operational Emissions Impact

The proposed Project would improve the existing intersection of Harvard Avenue and Michelson Drive operations by widening the southbound approach along Harvard Avenue to: 1) add a second southbound left turn lane, and 2) provide bike/pedestrian improvements including a shared use path along the west side of southbound Harvard Avenue and the north and south sides of west leg of Michelson Drive. Further improvements include removal of existing “pork-chop” splitter island on southwest corner to provide conventional dedicated eastbound right-turn lane on Michelson Drive. Upon completion of construction

activities, the proposed Project would not result in an increase in vehicle trips, as demonstrated in the proposed Project's Traffic Analysis Memorandum (Stantec 2020) (see Appendix B of this IS) and discussed below.

Based on the proposed Project's traffic analysis, with the proposed improvements, the LOS and intersection capacity utilization (ICU) would be improved during PM peak hours, and the LOS would maintain at the acceptable level (D or better), as summarized in Table 6 (Comparison of Peak Hour Traffic Conditions at the Harvard Avenue/Michelson Drive No-Build and Build Scenarios). Furthermore, based on the traffic analysis, traffic volumes and fleet mix along the Harvard Avenue or Michelson Drive would not change compared to the no-build scenario. Therefore, the proposed Project would not result in an increase in long-term operational emissions of air pollutants compared to the no-build alternative and would not result in an increase in regional operational emissions. In addition, with intersection LOS improvement, the localized emissions, primarily CO emissions would be lower than the no build alternative. As such, both regional and localized operational impacts from criteria pollutants would not result in an exceedance.

Therefore, a less than significant impact would occur.

Table 6: Comparison of Peak Hour Traffic Conditions at the Harvard Avenue/Michelson Drive No-Build and Build Scenarios

Analysis Year and Scenario	AM Peak Hour		PM Peak Hour	
	LOS	ICU	LOS	ICU
Existing Year				
No-Build	B	0.63	D	0.85
Build	B	0.63	C	0.74
Interim Year				
No-Build	C	0.75	E	0.92
Build	C	0.75	D	0.81
Build-out Year				
No-Build	D	0.81	F	1.02
Build	D	0.81	D	0.88

Notes: LOS = level of service; ICU = intersection capacity utilization

Source: Traffic Analysis Memorandum for the Harvard Avenue / Michelson Drive Improvement Project (Stantec 2020)

Toxic Air Contaminants. Proposed Project operational emissions would not change due to proposed improvements. The greatest potential for toxic air contaminants (TACs) emissions would be related to diesel particulate emissions from the exhaust of heavy-duty off-road equipment during proposed Project construction activities. According to SCAQMD methodology, health effects from carcinogenic TACs are usually described in terms of individual cancer risk, which is based on 30 to 70 years exposure to TACs.

Given the construction schedule of 7-8 months and considering that operation of off-road heavy-duty diesel equipment would occur intermittently during different construction phases, the proposed Project would not result in a long-term substantial source of TAC emissions, with no residual emissions after construction and corresponding individual cancer risk. As such, potential impacts related to TAC would not result in an emissions exceedance.

Therefore, a less than significant impact would occur.

b) 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?

The Project region is a federal and/or State nonattainment area for ozone, particulate matter that have a diameter of less than 2.5 microns ($PM_{2.5}$) and particulate matter that have a diameter of greater than 2.5 microns but less than 10 microns (PM_{10}). The proposed Project would contribute particulates and the ozone precursors volatile organic compounds (VOC) and oxides of nitrogen (NOx) to the area during short-term Project construction. As discussed in response III. a, the proposed Project would be consistent with the AQMP, which is intended to bring the SCAB into attainment with air quality standards for all criteria pollutants. In addition, estimated proposed Project emissions are below the applicable SCAQMD regional and localized mass emissions thresholds of significance. Therefore, proposed Project emissions would have a less than significant impact to non-attainment pollutants in the South Coast Air Basin (SCAB). As such, increases in pollutants for which the region is in nonattainment would not be cumulatively considerable.

Therefore, a less than significant impact would occur.

c) Expose sensitive receptors to substantial pollutant concentrations?

The proposed Project would improve intersection operations and it would not generate additional operational emissions that would affect nearby sensitive receptors. The proposed Project would not result in any substantial local concentrations of criteria pollutants. Emissions of diesel particulate matter (DPM) from construction equipment exhaust would not be substantial and would last only 7 to 8 months. As such, the proposed Project would not expose sensitive receptors to substantial pollutant concentrations.

Therefore, a less than significant impact would occur.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Land uses associated with odor complaints, as identified by SCAQMD, typically include agricultural uses (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting operations, refineries, landfills, and dairies. The proposed Project does not contain land uses associated with emitting objectionable odors.

During proposed Project construction, potential sources of objectionable odors would be related to the operation of diesel-powered equipment and to off-gas emissions during activities such as paving and asphalting. Such odors, however, would be short-term and limited to the area where the specific activity is occurring. The perception of these odors is dependent upon climatic conditions such as temperature, humidity, wind speed, and wind direction. Furthermore, SCAQMD Rules 402 (nuisance) and 1113 (Architectural Coatings) limits the VOC emissions from paving, asphalt, concrete curing, and cement coatings operations. Due to the short-term nature of construction odors, controlled access, and distance to the nearest receptors, odors are not likely to affect a substantial number of people.

Therefore, a less than significant impact would occur.

5.4 BIOLOGICAL RESOURCES

5.4.1 Impact Analysis

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES — Would the project:				
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 Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
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 wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Discussion of Impacts

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 Game or U.S. Fish and Wildlife Service?*

The analysis below also summarizes the findings contained within the Jurisdictional Wetlands/Waters Delineation Report (see Appendix D).

A habitat assessment and reconnaissance-level survey was conducted on September 6, 2019, in order to document the environmental conditions and/or species present within the Project site and within a 300-foot buffer (Biological Survey Area or BSA). The primary goal of this survey was to identify and assess habitat that may be capable of supporting special-status plant or wildlife species and to document species occurrences. The survey was conducted during a time of day when wildlife would be expected to be present and exhibiting normal activity and be active and detectable visually or by sign, and above-ground amphibian and reptile movement would generally be detectable. A complete list of all plants and wildlife observed in the BSA is presented in Appendix E (of this IS). No federal, State or locally protected wildlife species were detected during the survey. The site assessment revealed that the majority of special-status wildlife known to occur in the general region had a "low" or "no" potential of occurrence within the BSA; this is directly due to the developed nature of habitats within the BSA. Only one species, coast horned lizard (*Phrynosoma blainvillii*), was determined to have a moderate potential to occur in the BSA outside of Project impact areas; no species were determined to have a high potential of occurrence. Refer to Appendix E (of this IS) for a complete list of and potential of occurrence for special-status wildlife known to occur in the general region

Several special-status plant species recognized by the California National Plant Society (CNPS) Rare Plant Program, and assigned a California Rare Plant Rank (CRPR), are known to occur in the general region of the BSA. Only one of these species, decumbent goldenbush (*Isocoma menziesii* var. *decumbens* [CRPR 1B.2]), was determined to have a "low" potential of occurrence within the BSA; the Project site does not support the preferred habitat for this species therefore no impacts are expected. All remaining species were assessed for potential occurrence as were labeled as "Not Likely to Occur" within the BSA or Project area. A full list of special-status plant species known from the general region is presented in Appendix E (of this IS). In general, direct impacts to special-status plants and wildlife include ground-disturbing activities associated with construction of the proposed Project and increased human presence (i.e., crushing, trampling, trapping). Potential indirect impacts include increased noise levels from heavy equipment (wildlife only), increased human disturbance, exposure to fugitive dust, the spread of noxious weeds, and disruption of breeding or foraging activity due to routine maintenance activities (wildlife only). Weed abatement through herbicide application or mechanized tools could also impact special-status species. If the Project construction were to occur during the avian nesting season (generally considered to be between February 15th through September 15th; although some raptors species may nest as early as January) indirect impacts to nesting birds could occur; the Migratory Bird Treaty Act (MBTA) of 1918 (16 United States Code 703-711) does not allow for take of migratory birds.

The MBTA makes it unlawful to possess, buy, sell, purchase, barter or "take" any migratory bird listed in Title 50 of the Code of Federal Regulations Part 10. "Take" is defined as possession or destruction of migratory birds, their nests or eggs. Disturbances that cause nest abandonment and/or loss of reproductive effort or the loss of habitats upon which these birds depend may be a violation of the MBTA. The MBTA prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary. This act encompasses whole birds, parts of birds, and bird nests and eggs.

If implementation of the Project were to impact special-status species, these impacts would be considered significant. Therefore, Mitigation Measures BIO-1 through BIO-4, which would require pre-construction wildlife surveys prior to ground disturbance, relocation of wildlife found within proposed Project impact areas during pre-construction surveys and daily monitoring, a biological monitor during site disturbing activities, implementation of environmental awareness training to educate Project personnel regarding on-site plants and wildlife, implementation of site-wide best management practices (BMPs) (i.e., restriction on open trenches and guidelines for refueling near drainage features), and nesting bird surveys and avoidance measures for active nests. These measures would be implemented to mitigate these potentially significant impacts. Implementation of these Mitigation Measures would ensure that potential impacts to special-status plant and wildlife species are reduced.

Therefore, a less than significant impact with mitigation incorporated would occur.

Mitigation Measures

BIO-1 **Wildlife Pre-Construction Surveys and Biological Monitoring:** Prior to ground disturbance or vegetation clearing within the Project site, a qualified biologist shall conduct surveys for wildlife (no more than 14 days prior to site disturbing activities) where suitable habitat is present and directly impacted by construction activities. Wildlife found within the Project site or in areas potentially affected by the Project will be relocated to the nearest suitable habitat that will not be affected by the project prior to the start of construction. Special-status species found within a Project impact area shall be relocated by an authorized biologist to suitable habitat outside the impact area.

The qualified biologist shall be present during initial ground disturbance for each phase of construction. Once initial ground disturbance is complete, monitoring will occur periodically during construction activities. The qualified biologist(s) shall be present at all times during ground-disturbing activities immediately adjacent to, or within habitat that supports populations of listed or special-status species.

If required, during pre-construction surveys and/or required monitoring efforts, the qualified biologist will relocate common and special-status species that enter the Project site; some special-status species may require specific permits prior to handling and/or have established protocols for relocation. Records of all detection, capture, and release shall be reported to California Department of Fish and Wildlife (CDFW).

BIO-2 **Environmental Awareness Training:** The Project proponent shall have a qualified biologist prepare an environmental awareness and compliance training program. All Project personnel will be required to attend and complete the environmental awareness and compliance training program. The training program shall present the environmental regulations and applicable permit conditions that the Project team shall comply with. The training program shall include applicable measures established for the Project to minimize impacts to water quality and avoid sensitive resources, habitats and species.

Dated sign-in sheets for attendees at these meetings shall be maintained and submitted to the City of Irvine.

BIO-3 **Implement Best Management Practices (BMPs):** Prior to the issuance of any grading permits and/or notice to proceed, the Project proponent shall submit grading plans and specifications to the City of Irvine, which indicate that the Project shall implement the following best management practices (BMPs):

- Restrict non-essential equipment to the existing roadways and/or ruderal areas to avoid disturbance to native vegetation.
- All excavated pit, steep-walled holes or open trenches shall be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth dirt fill or wooden planks to allow for small wildlife (e.g., lizards, mice, etc) to escape. Trenches will also be inspected for entrapped wildlife each morning prior to onset of construction activities and immediately prior to covering with plywood at the end of each working day. In the absence of a qualified monitor the Project contractor shall be responsible for inspecting all excavated areas and open trenches after uncovering in the morning and before recovering at the end of the work day. Before such holes or trenches are filled, they will be thoroughly inspected for entrapped wildlife. Any wildlife discovered will be allowed to escape before construction activities are allowed to resume, or removed from the trench or hole by a qualified biologist holding the appropriate permits (if required).
- Minimize mechanical disturbance of soils to reduce impact of habitat manipulation on small mammals, reptiles, and amphibians.
- Removal/disturbance of vegetation shall be minimized to the greatest extent feasible.
- Install and maintain appropriate erosion/sediment control measures, as needed, throughout the duration of work activities.
- No vehicles or equipment shall be refueled within 100 feet of an ephemeral drainage or wetland unless a bermed and lined refueling area is constructed. Spill kits shall be maintained on site in sufficient quantity to accommodate at least three complete vehicle tank failures of 50 gallons each. Any vehicles driven and/or operated within or adjacent to drainages or wetlands shall be checked and maintained daily to prevent leaks of materials.

BIO-4 **Nesting Bird Surveys and Avoidance Measures:** Prior to initial site disturbance/issuance of grading permits, seasonally timed presence/absence surveys for nesting birds shall be conducted by a qualified biologist. If construction activities carry over into a second nesting season(s) the surveys will need to be completed annually until the Project is complete. A minimum of three survey events, three days apart shall be

conducted (with the last survey no more than three days prior to the start of site disturbance), if construction is scheduled to begin during avian nesting season (February 15 through September 15); surveys for raptors shall be conducted from January 1 to August 15. Surveys shall be conducted within 500 feet of all Project activities.

If least Bell's vireo or other special-status species are observed, consultation with U.S. Fish and Wildlife Service (USFWS) and/or CDFW is required. If breeding birds with active nests are found prior to or during construction, a qualified biological monitor shall establish a 300-foot buffer around the nest and no activities will be allowed within the buffer(s) until the young have fledged from the nest or the nest fails. The prescribed buffers may be adjusted by the qualified biologist based on existing conditions around the nest, planned construction activities, tolerance of the species, and other pertinent factors. The qualified biologist shall conduct regular monitoring of the nest to determine success/failure and to ensure that Project activities are not conducted within the buffer(s) until the nesting cycle is complete or the nest fails. If construction occurs outside of avian nesting season, only a single presence/absence survey will be required.

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

No riparian habitat or other sensitive communities are present within the BSA. Figure 2 in Appendix D (of this IS) shows the vegetation communities and land cover types that occur within the BSA; Ornamental Myrtle Wattle (*Acacia myrtifolia*), Eucalyptus spp. Woodland Semi-Natural Alliance (eucalyptus groves), and Developed/Disturbed Land. The loss of sensitive riparian plant communities, should they occur within Project impact areas, would be considered a significant impact.

Riparian habitats, including ephemeral and perennial streams, are biologically productive and diverse, and are the exclusive habitat of several threatened or endangered wildlife species and many other special-status species. Riparian and wetland habitats are highly productive ecosystems that also provide drinking water sources and foraging, nesting, and cover habitat for a diverse assemblage of wildlife species, both within the riparian habitats and adjacent upland habitats. Many wildlife species are wholly dependent on riparian habitats throughout their life cycles, and many others use riparian habitats only during certain seasons or life history phases. For example, certain mammals require drinking water or cool shaded cover during summer but otherwise may live in upland habitats. Numerous amphibians breed in aquatic habitats but spend most of their lives in uplands.

Construction of the proposed Project would remove vegetation (non-native/ornamental), alter soil conditions, and have limited potential to result in the loss of native seed banks within portions of the Project site. Construction activities could also result in the spread of noxious weeds within the Project site and adjacent habitats. During operation and maintenance of the proposed Project, impacts would occur during routine maintenance activities and could include trampling or crushing of native vegetation by foot

traffic, alterations in topography and hydrology, increased erosion and sedimentation, and the introduction of non-native, invasive plants due to increased human presence on foot or equipment.

Although no native vegetation communities occur within the proposed Project area, given the potential presence of riparian habitats to the east and west, there is some potential, albeit low, for the natural recruitment of these riparian communities within the outskirts of the Project impact areas. Should riparian habitats occur and be impacted by the proposed Project, these impacts would be considered significant. Mitigation Measure BIO-5 below, which includes minimizing vegetation removal and compensation for impacts to native vegetation communities would be implemented to mitigate these potential impacts. In addition, BIO-2 and BIO-3 would require environmental awareness training for all project personnel and implementation of best management practices (i.e., establishment of construction exclusion zones). Implementation of these measures would ensure that potential impacts to native and/or sensitive communities, is minimized.

Therefore, a less than significant impact with mitigation incorporated would occur.

Mitigation Measures

BIO-2 **Environmental Awareness Training**

BIO-3 **Implement Best Management Practices (BMPs)**

BIO-5 **Vegetation Removal and Replacement:** If removal of riparian/sensitive vegetation communities cannot be avoided (should they occur) the impacted plant communities shall be replaced at a mitigation ratio of 1:1 for temporary impacts and 2:1 for permanent impacts; no riparian/sensitive communities currently occur within proposed Project areas but are potentially present within adjacent areas. The compensation for the loss of habitats may be achieved either by a) on-site habitat creation or enhancement with similar species composition to those present prior to construction, b) off-site creation or enhancement or c) participation in an established mitigation bank program.

Prior to the removal of riparian or other sensitive vegetation, if on or off-site mitigation is required, a Habitat Mitigation and Monitoring Plan shall be prepared that will guide all restoration and monitoring activities. This plan shall include, at a minimum, the following:

- Proposed species list for creation/enhancement;
- Planting/seeding methodology;
- Irrigation plan;
- Weeding schedule;
- Success criteria;
- Monitoring methodology and schedule; and
- Reporting requirements

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

A potential jurisdictional feature, San Joaquin Channel, occurs within the BSA but does not occur within proposed Project impact areas (refer to Appendix D of this IS for additional details). By virtue of its hydrological connectivity to the Pacific Ocean, within the BSA, San Joaquin Channel is potentially a non-wetland "Waters of the U.S.", subject to Sections 404 and 401 (Water Quality Certification) of the Clean Water Act (CWA) (United States Army Corps of Engineers [USACE] and Regional Water Quality Control Board [RWQCB]). Impacts to and activities within San Joaquin Channel are also subject to CDFW Section 1600 of the California Department of Fish and Game Code (Streambed Alteration Agreement Program). Project construction is not anticipated to temporarily or permanently impact any portion of San Joaquin Channel potentially under the jurisdiction of the USACE, RWQCB, or CDFW.

The importance of intermittent and ephemeral streams to wildlife in arid environments is well known (Levick et al. 2008). Ephemeral drainages, such as San Joaquin Channel, provide unique habitat that is distinct from the surrounding uplands, providing more continuous vegetation cover and microtopographic diversity than the surrounding uplands. Ephemeral and intermittent streams in the arid west provide important habitat for wildlife and are responsible for much of the biotic diversity (Levick et al. 2008). They have higher moisture content and provide shade and cooler temperatures within the channel. In cases where the habitat is distinct in species composition, structure, or density, wash communities provide habitat values not available in the adjacent uplands.

Direct impacts to "Waters of the U.S." and CDFW jurisdictional waters, should they be impacted by the Project, would the discharge of fill, degradation of water quality, and increased erosion and sediment transport. Potential indirect impacts could include alterations to the existing topographical and hydrological conditions and the introduction of non-native, invasive plant species. Operational impacts to jurisdictional habitats would be similar to direct and potential indirect impacts.

As required by law, the proposed Project would comply with State and federal regulations regarding conducting Project activities in water courses and habitats under the jurisdiction of the CDFW and USACE. In compliance with State and federal regulations, the City of Irvine would obtain required permits pursuant to Sections 401 and 404 of the CWA, and Game Code Section 1600.

Project related impacts to jurisdictional waters, should they occur, would be considered significant. Therefore, Mitigation Measures BIO-1 (Wildlife Pre-Construction Surveys and Biological Monitoring), BIO-3 (Implement Best Management Practices), and BIO-5 (Vegetation Removal and Replacement) which would require on-site biological monitoring, compensation for loss of native habitats, installation and maintenance of appropriate erosion/sediment control measures, would be implemented to mitigate these potentially significant impacts. Implementation of these mitigation measures would ensure that potential impacts to jurisdictional features are reduced.

Therefore, a less than significant impact with mitigation incorporated would occur.

Mitigation Measures

BIO-1 Wildlife Pre-Construction Surveys and Biological Monitoring

BIO-3 Best Management Practices

BIO-5 Vegetation Removal and Replacement

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 wildlife nursery sites?

The proposed Project is located in a largely developed area that does not provide pathways for wildlife movement. Due to the significant development in and around the Project site, wildlife movement is generally constrained. San Joaquin Channel, and San Diego Creek (occurs outside the BSA to the west) may function as corridors for wildlife movement; these areas are not expected to be impacted as part of the Project.

Although San Joaquin Channel is within the BSA, no portions of the channel occur within the Project site. However, the Channel itself potentially provides an important migratory pathway for various aquatic wildlife such as coast range newts and other amphibians, when flowing/ponded water is present. When dry, the creek bed likely provides a conduit for travel for mammals such as coyotes (*Canis latrans*), bob cats (*Lynx rufus*), deer, and mega fauna such as mountain lions (*Puma concolor*).

The proposed Project is not expected to impact or 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 wildlife nursery sites. Construction activities would be limited to daytime hours; wildlife movement is anticipated to be temporarily limited during this time. There are no known bird or bat migratory corridors that would be directly impeded by the Project. Large concentrations of migrants are not known to utilize any specific portion of the Project site and proposed Project activities are not expected to preclude use of the area. Migrating birds would have access to riparian communities within and adjacent to the Project site. Although species would be disrupted during certain activities, impacts to migratory corridors from the Project would not be significant.

Therefore, a less than significant impact would occur.

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

The only known local policies or ordinances protecting biological resources in the Project area pertain to the protection of trees. No protected trees were identified in the project study area per the City of Irvine Urban Forestry Ordinance (City of Irvine Municipal Code: Code 1976, § V.G-700; Ord. No. 94-8, § 2, 6-14-94) – Irvine Municipal Code, Title 5 (Planning), Division 7 (Sustainability in Landscaping), Chapter 4 (Urban Forestry).

Therefore, no impact would occur.

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?

The BSA is within the plan area for the Orange County Central/Coastal Natural Community Conservancy Plan/Habitat Conservation Plan (Central/Coastal Plan). No species covered under the plan have the potential to occur within the BSA and therefore none would be impacted by the proposed Project. The BSA also occurs within the boundaries of the Special Area Management Plan (SAMP) for the San Diego Creek Watershed prepared by the USACE. Because the project would include impacting previously disturbed areas and is not proposing new development, and no impact to aquatic features or riparian habitats are proposed, the proposed Project would not conflict with the San Diego Creek (SAMP).

Therefore, no impact would occur.

5.5 CULTURAL RESOURCES

5.5.1 Impact Analysis

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
V. CULTURAL RESOURCES — Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Discussion of Impacts

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

The proposed Project is located at the intersection of Harvard Avenue and Michelson Drive and would entail minor widening of the roadway and intersection and foundation excavation for new traffic lights. The intersection is located south of Interstate 405 and east of San Diego Creek. The area is largely characterized by open space, a golf course, two synagogues and a bowling alley and amusement park. The area was largely developed in the late 1970s through 1990s. The buildings and structures located along the proposed Project area were all constructed within the past 30 years and would not be considered historic resources. Records searches conducted at the South-Central Coast Information Center on November 20, 2019 and pedestrian survey of the project area did not reveal the presence of historic structures.

Therefore, a less than significant impact would occur.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

The proposed Project entails roadway widening of an existing roadway and intersection, relocation of associated utilities and excavations of foundations for new traffic signals. Removal of the roadway surface to the roadway base and minor grading of the existing landscaped areas are not expected to be deeper than 18 to 24-inches in depth. The depth of proposed structure and utility trenching ranges from between 6 feet below the surface to up to 16 feet for signal light foundations. A review of the City of Irvine General Plan's Cultural Resources Element and Figure E-1 (Historical/Archaeological Landmarks) indicates that

the 1830s Don Jose Andres Sepulveda ranch operation and first home may be adjacent if not within part of the proposed Project area as shown on the City's Cultural Resource Element E-1. Per the City's Cultural Resources Element guidance, a records search was conducted on November 20, 2019 at the South Central California Information Center (SCCIC) for the Project area extending a 0.25-mile radius from the proposed Project site in order to identify prehistoric or historic archaeological sites or historic buildings and structures previously recorded within and around the Project site. The records search revealed that there are at least two large prehistoric sites with reported burials in close proximity to the project area. A field survey of the project area by a qualified archaeologist did not reveal surficial archaeological remains.

The possibility of undiscovered archaeological resources is considered high and native soil is considered highly sensitive. AB52 Consultation was requested and coordinated with the Gabrieleño Band of Mission Indians - Kizh Nation. The AB52 Consultation affirmed that the City of Irvine will continue to communicate any updates related to archaeological findings during the final design and construction phase; and coordinate their involvement, as appropriate if the presence of archaeological resources are encountered.

With implementation of Mitigation Measures CR-1, CR-2 and CR-3, a less than significant impact will occur.

Mitigation Measures

CR-1 **Archaeological Monitoring:** A Cultural Resources Monitoring Plan (CRMP) shall be developed and implemented for the Project based on geotechnical investigation, boring analysis, and site evaluation during the final project design phase prior to construction and grading activities. Based on these findings and recommendations, a qualified archaeologist shall be retained to oversee preparation of the CRMP, construction monitoring, and preparation of a final monitoring report.

The qualified archaeologist shall develop the CRMP based on Project design plans and input from Native American representatives, and any other relevant information. The CRMP shall provide measures for cultural resources construction worker sensitivity training; delineation of sensitive areas; archaeological and Native American monitoring; assessment and treatment of unanticipated discovery of archaeological resources and human remains; notification protocols; procedures for Native American coordination and input and reporting; and curation of cultural materials recovered during monitoring. The CRMP shall be developed in coordination with the City of Irvine and Native American representatives if appropriate.

The CRMP shall specify the roles and responsibilities of involved parties, and also shall specify the location, duration and timing of monitoring, which shall occur when excavation occurs in native undisturbed soils until a depth at which the potential to encounter buried archaeological deposits is unlikely. These areas will be determined following a review of geotechnical investigation, boring analysis, and site evaluation

from a qualified archaeological expert during the final project design phase and prior to construction and grading activities. Imported fill is not considered sensitive for archaeological resources. These areas shall be identified in maps to guide monitoring.

CR-2 **Treatment of Unanticipated Discoveries.** The CRMP developed as part of Mitigation Measure CR-1 shall include protocols for the assessment and treatment of any unanticipated discoveries of archaeological resources during Project implementation, including procedures for assessing the significance of the resources according to the National Register and California Register. To accomplish this, the unanticipated discoveries component of the CRMP will contain:

a. Notification procedures

b. Establishment of buffers for resources that will be avoided

c. Documentation of resources on DPR forms

d. Inspection of the resource(s) by a qualified archaeologist

CR-3 **Treatment of Unanticipated Discovery of Human Remains.** Due the reported human burials in the area, special emphasis in the CRMP should determine methods and protocols in the event human remains, unassociated funerary objects or grave goods are discovered. State Health and Safety Code Section 7050.5 requires that no further work shall continue at the location of the find until the County Coroner has made all the necessary findings as to the origin and distribution of such remains pursuant to Public Code Resources Code Section 5097.98.

c) Disturb any human remains, including those interred outside of formal cemeteries?

Human remains have been recorded in the immediate vicinity of the project.

With implementation of Mitigation Measures CR-1, CR-2 and CR-3, a less than significant impact will occur.

Mitigation Measures

CR-1 **Archaeological Monitoring.**

CR-2 **Treatment of Unanticipated Discoveries.**

CR-3 **Treatment of Unanticipated Discovery of Human Remains.**

5.6 ENERGY

5.6.1 Impact Analysis

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
VI. ENERGY — Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Discussion of Impacts

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Energy in the form of electricity and gas would be expended to construct the proposed Project. However, the amount of consumption would be minor in comparison to the amount of available resources. In addition, modern construction equipment has been designed to be more efficient, due to energy reduction requirements by state and federal regulations. Moreover, equipment would not be permitted to remain idling while not is use, which would further reduce the consumption of energy resources. During operation, energy consumption would be limited to the traffic signals, street lights and landscape lighting and would employ light emitting diodes (LEDs), which have very low electricity requirements. There would also be additional fuel savings during operation since motorist would not have to idle or queue for long periods of time.

Therefore, a less than significant impact would occur.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The City of Irvine has an adopted Energy Plan (2008). The objectives of creating the Energy Plan are to eliminate energy waste, improve the efficiency with which energy is used, encourage the use of renewable energy, such as the sun and wind, and increase awareness of energy issues in Irvine. The Energy Plan will serve as a road map for integrating comprehensive alternative strategies into the community in ways that make economic sense and help the City in adapting to the changing climate. The approach to energy reduction employs a number of strategies related to buildings, reduced vehicle emissions, and lighting maintained and operated by the City and Southern California Edison. The proposed Project would assist the City in implementing the Energy Plan in two ways: (1) reducing the amount of greenhouse gas (GHG) emissions through decreased queuing of vehicles (and therefore,

gasoline consumption) at the Harvard Avenue and Michelson intersection; and (2) by reducing electricity consumption by utilizing LED lights on all traffic signals, street lights, and landscaping.

Therefore, a less than significant impact would occur.

5.7 GEOLOGY AND SOILS

5.7.1 Impact Analysis

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
VII. GEOLOGY AND SOILS — Would the project:				
a) Directly or indirectly cause 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?	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on strata 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?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

Discussion of Impacts

a) Directly or indirectly cause 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?

Based upon a review of the City of Irvine CEQA Manual, Volume 2: Technical Guidelines, Figure 3.6-1 (Fault Location Map), which shows the active faults with proximity to the City of Irvine, no active surface faults are mapped or known to cross the City, and the City is not in an Alquist-Priolo Earthquake Fault Zone. There would be no change in land use or increase in risk of loss, injury, or death involving a rupture of a fault compared to existing conditions.

Therefore, no impact would occur.

ii. Strong seismic ground shaking?

Because the City of Irvine and surrounding region are generally considered to be geologically active, most projects would be exposed to some risk from strong seismic ground shaking, including from earthquakes. The nearest known regional active and potentially active fault that could produce the most significant ground shaking to the project site is the Newport-Inglewood, located offshore. The proposed Project entails widening of one existing roadway and does not include the construction of buildings or structures. The proposed Project would not construct new structures that could expose people to danger associated with seismic ground shaking during a seismic event. Impacts would remain unchanged from current or existing conditions.

Therefore, no impact would occur.

iii. Seismic-related ground failure, including liquefaction?

Based upon a review of the City of Irvine General Plan's Seismic Element, Figure D-3 (Seismic Response Areas), the proposed Project is located within Seismic Response Area 1 (Soft Soils/High Ground Water). The Seismic Element also indicates that Seismic Response Area 1 contains the potential for soft or loose soils/high ground water and is one of two areas in the City considered to have a greater potential for ground failure in the form of liquefaction, in comparison to the other seismic response areas. However, it also notes that liquefaction is not expected to occur for all earthquakes, or over the whole of Seismic Response Area 1. Because the proposed Project is limited to improvements to an existing roadway intersection that involves localized and negligible expansion of the right of way, impacts related to seismic-related ground failure, including liquefaction, would remain unchanged from current or existing conditions.

Therefore, no impact would occur.

iv. Landslides?

The proposed Project site is relatively flat with the exception of Harvard Avenue north of the intersection which contains a slight rise, transitioning to the existing roadway bridge over the I-405 freeway. Moreover, a review of City of Irvine General Plan's Seismic Element (Figure D-3) indicates that the proposed Project is not located within a landslide area or within an area with over 20 percent slopes or considered as a less stable geologic formations.

Therefore, no impact would occur.

b) Result in substantial soil erosion or the loss of topsoil?

Widening of the roadway would require disturbance to both pervious and impervious surfaces (see Table 2 [Proposed Project Disturbance Areas]) and therefore, could result in soil erosion or the loss of topsoil. The proposed Project would require removal of the top surface of the roadway of Harvard Avenue, extending to the roadway base (approximately 18 to 24 inches in depth). In addition, the west side of southbound Harvard Avenue would require modification of the existing manufactured slope and sidewalk/parkway of affected areas as part of required roadway geometry improvements. Similar impacts to the sidewalk and landscaping along the north and south side of easboutn Michelson Drive west of the intersection. During construction, these surfaces would be temporarily exposed to wind or water, causing soils to be blown or washed away. However, State and federal requirements call for the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) establishing erosion and sediment controls for construction activities. In addition, the proposed Project would also be required to comply with the City's Grading Permit (preliminary and precise) and adhere to the erosion and sediment control requirements. Once constructed the roadway would be paved and landscaping installed to further reduce any substantial soil erosion or the loss of topsoil. Compliance with State and federal requirements would reduce impacts.

Therefore, a less than significant impact would occur.

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 of collapse?

See responses VII.a.iii and iv.

Therefore, no impact would occur.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building code (1997), creating substantial risks to life or property?

Expansive soils include those with considerable swelling and shrinking when they are wetted and dried (e.g., clay soils). According to the City of Irvine CEQA Manual, Volume 2: Technical Guidelines, Table 3.6-3 (Potential Geological and Seismic Hazards), these soils are very common in Irvine and can result in Structural and property damage (above and below ground). In addition, based upon the proposed Project's location in Seismic Response Area 1, there may be expansive soils. However, given that the proposed Project would not construct structures (e.g., buildings) and the roadway top and base surfaces would be compacted to applicable roadway design specifications, impacts are not expected.

Therefore, no impact would occur.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The proposed Project is a roadway widening project and no septic tanks or other waste systems are necessary.

Therefore, no impact would occur.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

A review of the of City of Irvine General Plan's Cultural Resources Element, Figure E-2 (Paleontological Sensitivity Zones) indicates the proposed Project site has low potential for the presences of paleontological resources. The proposed Project would require removal of the top surface of the roadway of Harvard Avenue, extending to the roadway base (approximately 18 to 24 inches in depth). In addition, the west side of southbound Harvard Avenue would require modification of the existing manufactured slope and sidewalk/parkway of affected areas as part of required roadway geometry improvements. Similarly, the north and south sides of Michelson Drive west of the intersection would also require modifications. During construction, these surfaces would be temporarily disturbed. Due to the shallow depth of the work and previously disturbed work areas, it is unlikely paleontological resources would be encountered.

Therefore, a less than significant impact would occur.

5.8 GREENHOUSE GAS EMISSIONS

5.8.1 Impact Analysis

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
VIII. GREENHOUSE GAS EMISSIONS — Would the Project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Discussion of Impacts

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

The analysis below is based upon information contained within Appendix F (Greenhouse Gas Emissions Analysis Report).

GHG emissions for transportation projects have been divided into those produced during construction and those produced during operations.

Construction Emissions

Construction GHG emissions would be associated with exhaust emissions from operation of on-site heavy-duty equipment, material processing, construction worker vehicles trips to and from the site, and haul/delivery truck trips. These emissions would be produced at different levels throughout the construction phase (anticipated to last eight months). Similar to criteria pollutants, emissions of GHGs during construction of the proposed Project were quantified using the SMAQMD Road Construction Emissions Model, version 8.1.0. GHG emissions for the proposed Project were estimated at 210 metric tons of carbon dioxide equivalent ($MTCO_2e$) for the construction period (see Roadmod model results in Appendix A of the Greenhouse Gas Emissions Analysis Report [contained in Appendix F of this IS]). When amortized over the 30-year life of the proposed Project, annual emissions would be 7.0 metric tons of CO_2e.

Operational Emissions

As described in the Project's Traffic Analysis Memorandum impact analysis (see Appendix B), operation of the proposed Project would improve the PM peak hour LOS at the intersection. However,

implementation of the proposed Project would not result in changes in fleet mix or daily traffic volume along Harvard Avenue or Michelson Drive, therefore, no increase in operational emissions would occur related to GHG. As such, GHG emissions from Project implementation, only comprise the amortized construction emissions, and as shown in Table 7 (Summary of Project Greenhouse Gas Emissions), Project-related GHG emissions would be well below the 3,000 $MTCO_2e$ threshold.

Table 7: Summary of Project Greenhouse Gas Emissions

Construction Phase/ Component	Emissions (tons)			Metric Tonnes
	CO_2	CH_4	N_2O	CO_2e
Clear and Grub	15.74	0.00	0.00	14.42
Excavation/Grading	81.90	0.02	0.00	75.01
Trenching and construction of subgrade	110.40	0.02	0.00	100.82
Paving and restriping	21.43	0.00	0.00	19.61
Total Construction (tons)	229.47	0.05	0.00	209.87
Amortized Construction Emission over 30 years (MT/year)				7.00
Project Annual Operational Emissions				0.00
Total Project Emissions				**7.00**
SCAQMD interim significance threshold for commercial projects				3,000

Note:

GHG = greenhouse gas

MT/year = metric tons per year

The proposed Project is a transportation project, and although there are measures and strategies to achieve sustainability in the applicable plans, there are no numeric threshold for transportation projects. However, for the purpose of this analysis, we have used the most conservative threshold of 3,000 $MTCO_2e$ per year for a project to evaluate the impact of GHG emissions related to the Project implementation. The threshold includes construction emissions amortized over 30 years and added to operational GHG emissions.

Therefore, a less than significant impact would occur.

b) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

The proposed Project involves minor improvements to an existing roadway intersection to improve circulation and integrate pedestrian/bicycle use. The Project does not include a component that would increase vehicle trips or miles travelled. Because the Project would result in an improvement in vehicular circulation and pedestrian/bicycle use opportunities, it has the potential to reduce GHG emissions compared to existing conditions. The proposed Project would not conflict with plans, policies, and applicable regulations.

Therefore, a less than significant impact would occur.

5.9 HAZARDS AND HAZARDOUS MATERIALS

5.9.1 Impact Analysis

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
IX. HAZARDS AND HAZARDOUS MATERIALS — Would the project:				
a) 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) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☒	☐	☐
e) For a project located within an airport land use compatibility 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 or excessive noise for people residing or working in the project area?	☐	☐	☒	☐
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

The analysis contained in this section is based in part upon the Initial Site Assessment provided in Appendix G.

Discussion of Impacts

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

Construction materials would be required to be transported to the proposed Project site and temporarily stored on-site in order to construct the Project. These would include commonly used and commercially available hazardous materials, such as petroleum products, and other hazardous substances including paint (e.g., for roadway striping), solvents, and cleaning products associated with typical construction activities. These activities would also entail the use of machinery and other equipment that may require on-site fueling or maintenance/servicing with other petroleum-based products (e.g., grease, oil). These materials are considered hazardous and could cause temporary localized soil and water contamination. Incidents of spills or other localized contamination may, therefore, occur during refueling, operation of machinery, undetected fluid leaks, or mechanical failure. However, all activity involving hazardous substances would be conducted in accordance with applicable local, State, and Federal safety standards. The proposed Project would be required to adhere to any applicable local, State, and Federal safety standards associated with the transport, handling, or disposal of these hazardous materials. In addition, the amount of such materials utilized at the project site during construction is anticipated to involve small quantities and be accessed as needed.

There are no operational impacts anticipated since the proposed Project does not include construction of structures (e.g., buildings) requiring maintenance and which would require the use of hazardous materials. The proposed Project is limited to minor improvements to an existing intersection and would not result in potential change in use of hazardous materials compared to current conditions.

Therefore, a less than significant impact would occur.

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?

See response IX.a) above. Because the transport, storage, handling, and disposal of hazardous materials is strictly regulated by local, state, and federal laws, risk of upset and release of these substances through accident conditions would be minimal. In addition, these regulations provide guidance to reduce the potential for such incidents to occur and if they do occur, required reporting and containment and cleanup methods.

Therefore, a less than significant impact would occur.

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

Congregation Shir Ha-Ma'alot (existing religious service on Sunday and a proposed private school), University Synagogue (existing pre-school and proposed The Children's School), and Michelson KinderCare are located within one-quarter mile of the proposed Project site. As noted in response IX.a)

and IX. b), the transport, storage, handling, and disposal of hazardous materials (including acutely hazardous materials) is strictly regulated by local, state, and federal laws. As such, the potential for the release of these materials is considered very low. Moreover, all businesses (including the City's construction contractor) that handle or have on-site transportation of hazardous materials are required to comply with the provisions of the City's Fire Code and any additional element as required in the California Health and Safety Code Article 1 Chapter 6.95 for the Business Emergency Plan. With these requirements there is a low potential for their release.

Therefore, a less than significant impact would occur.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

A review of hazardous materials site lists compiled pursuant to Government Code Section 65962.5 found that the Project site is not included on any Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) listed sites. The Department of Toxic Substances Control's (DTSC) EnviroStor Database and State Water Resources Control Board's (SWRCB's) Geotracker Database listed the following permitted underground storage tank (UST) site, former Leaking Underground Storage Tank (LUST) Cleanup sites, and Cleanup Program Site in the immediate vicinity of the Project site:

- A permitted UST located at the Irvine Ranch Water District's facility located at 3512 Michelson Dr., Building 10; located approximately 1,400 feet southwest of the southern extent of the study area.
  - Two closed LUST cases (most-recent closure granted May 14, 2004 for the Michelson Water Reclamation Plant (now Irvine Ranch Water District), located at 3512 Michelson Dr.; located approximately 1,400 feet southwest of the southern extent of the study area.

- The Lane Road Landfill (operated from 1961 to 1964; currently capped and utilized as a golf course) located at 1 Ethel Coplen Way is located adjacent to the southeast extent of the study area.
  - A Regional Board-led case was closed on November 30, 2013 due to vinyl chloride that had intersected groundwater presumed to have originated from landfill gas at the site.

It should be noted however, that none of the above-listed sites are located within the Project area on either Harvard Avenue or Michelson Drive. The proposed Project is a roadway widening project and would not involve sensitive land uses; thus, a significant hazard to the public would not result from the proximity of the roadway widening. Moreover, there is an absence of these sites within the proposed Project's disturbance limits.

During the road widening construction phase of the proposed Project, there is the potential for construction workers to encounter impacted soil as a result of stormwater runoff (for example oil and grease), aerially deposited lead (ADL), as well as lead-based paint (LBP) (see mitigation measures HAZ-1 and HAZ-2 which would address these impacts). An investigation to evaluate the potential for impacted soils and striping paint to be encountered during construction is recommended. In addition, the

investigation should be used to ensure the soils and asphalt excavated and designated for removal and disposal are properly characterized and profiled (i.e., Non-Hazardous, Non- Resource Conservation and Recovery Act [RCRA] California Hazardous, or RCRA Hazardous Waste).

Therefore, a less than significant impact with mitigation incorporated would occur.

Mitigation Measures

HAZ-1 **Construction Surveys for Soils Containing Hazardous Materials and Aerially Deposited Lead:** An ADL Site Investigation for exposed soils will be required (to include other potential contaminants of concern if suspected to be present – such as oil and grease, pesticides/herbicides, other potential pollutants) prior to grading and soil removal activities. The ADL investigation is required to properly characterize and profile soils that will be generated from the proposed Project for disposal purposes.

HAZ-2 **Construction Surveys for Striping Paint Containing Hazardous Materials and Lead-Based Paint:** An LBP Site Investigation for exposed asphalt will be required (to include other potential contaminants of concern if suspected to be present – such as oil and grease, pesticides/herbicides, other potential pollutants) prior to grading and asphalt removal activities. The LBP investigation is required to properly characterize and profile soils that will be generated from the proposed Project for disposal purposes.

e) For a project located within an airport land use compatibility 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 or excessive noise for people residing or working in the project area?

The proposed Project is located approximately 1.5 miles from John Wayne Airport and within the John Wayne Airport Environs Land Use Plan. However, based upon a review of the City of Irvine General Plan's Safety Element (Figure J-4: Clear and Accident Potential Zones) the proposed Project is located outside of the clear zone and therefore, not within the accident potential zone. In addition, it is also located outside of the airport's 60-A-weighted decibel (dBA) community noise exposure limit (CNEL) contour considered for areas potentially affected by noise from the airport operations and thus, not affected by airport noise (see the Noise Study Report as Appendix I and Figure 1 [Regional Location Map]). Because the proposed Project entails roadway widening and does not propose residential or commercial buildings, impacts associated with safety hazards and excessive noise for people residing or working in the project are not anticipated.

Therefore, a less than significant impact would occur.

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

The proposed Project is intended to alleviate existing and future traffic conditions by improving the operation of Harvard Avenue and Michelson Drive. As such, the proposed Project would construct a

roadway widening that would, in part, reduce roadway congestion, thereby improving potential evacuation routes and emergency medical response times. Thus, operation of the improved streets would provide a beneficial impact to emergency evacuation or response plans.

Therefore, a less than significant impact would occur.

g) *Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?*

The proposed Project site is urbanized and largely built-out. A review of the of City of Irvine General Plan's Safety Element, Figure J-2 (Fire Hazard Areas) indicates the proposed Project site is located outside of a high fire zone.

Therefore, no impact would occur.

5.10 HYDROLOGY AND WATER QUALITY

5.10.1 Impact Analysis

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
X. HYDROLOGY AND WATER QUALITY — Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would	☐	☐	☒	☐
i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Discussion of Impacts

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

The proposed Project entails roadway widening which would result in minor changes in the total amount of pervious and impervious surfaces. These changes could affect surface and groundwater quality by introducing contaminants and increased soil erosion (during construction). However, the Water Quality BMPs consisting of Filterra Stormwater Bioretention BMPs would be utilized to meet the requirements of

the County of Orange Municipal National Pollutant Discharge Elimination System (NPDES) Water Quality Permit for post construction Low Impact Development (LID)[4]. In addition, a SWPPP per the State General Construction Permit would be developed to ensure water quality standards are maintained during the construction activity if the proposed activity disturbs more than one acre of area. If the proposed activity is less than one acre, a Chemical and Sediment Control Plan would be developed to ensure water quality standards are maintained during the construction activity. These measures would ensure that adjacent sensitive resources (e.g., San Joaquin Channel and San Diego Creek) would not be affected by construction or operation impacts.

Therefore, a less than significant impact would occur.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

The proposed Project entails roadway widening and does not include the construction of structures (e.g., buildings) requiring the use of groundwater supplies. Any water required for landscaping would be derived from the local potable water supply or recycled water (if available). In addition, the proposed Project site is comprised of urbanized land use, including pervious (landscaping) and impervious surfaces (roads, sidewalks, buildings). The pervious surfaces allow some percolation of rainfall into the local groundwater table, thereby contributing to groundwater recharge of the basin. However, these amounts are considered minimal and are dependent of the underlying soil type and percolation properties. The impervious surfaces direct rainfall offsite from land uses to the local storm drain system within the roadway. As part of the proposed Project, minor changes to the total acreage of pervious and impervious surfaces would result (see Table 2 [Proposed Project Disturbance Areas]). Minor increases in impervious surfaces would include the additional turn lanes, Class II on-street bicycle lane, sidewalks, and other hardscape surfaces, while the impervious surfaces would be associated with the landscaping. Moreover, a detailed hydrology study which is included in the project Water Quality Management Plan (WQMP) (see Appendix H) was completed for the proposed improvements which indicated that there would be a net decrease in runoff volume of 0.01 acre-feet (4 percent) as a result of the proposed Project. Based upon the above, the proposed Project would not significantly 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.

Therefore, a less than significant impact would occur.

[4] Note: Per the City of Irvine Municipal Code (Title 6 -Public Works, Division 8 - Pollution), Low Impact Development (LID) hall mean a strategy for land development and redevelopment that seeks to mitigate the impacts of increases in pollution from stormwater/urban runoff. LID involves site design approaches and best management techniques that promote the use of natural, structural and/or non-structural, systems for infiltration, evapotranspiration, reuse, and/or biotreatment of runoff.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i. result in substantial erosion or siltation on- or off-site;

ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

During construction, the proposed Project would require removal of the existing roadway surface to its base (approximately 18-24 inches) and modification of the associated sidewalk/parkway and landscaping. This work would be focused along the west side of southbound Harvard Avenue and the north and south sides of Michelson Drive west of the intersection and would alter the existing drainage patterns of these areas through grading activities. These activities are needed in order to implement the new roadway geometry, designed to improve the operation of the roadways and intersection. Construction sites typically generate stormwater runoff because irrigation systems are usually not in place yet during construction. Stormwater runoff from construction sites contains numerous pollutants and sediment that are carried off-site, into stormwater drains, catch basins, and ultimately to streams and rivers and the Pacific Ocean. Construction site sediments and pollution can cause chemical, biological, and physical harm to local waterways. Because of these potential impacts, construction sites are highly regulated and require compliance with local, state, and federal permit requirements. As such, the proposed Project is subject to NPDES requirements and would be required to prepare and implement a SWPPP for the prevention of runoff during construction. Erosion, siltation, and other possible pollutants associated with long-term implementation of projects would be addressed as part of the WQMP and grading permit process.

As discussed previously, minor changes in the amount of pervious and impervious surfaces would result with proposed Project implementation. However, neither the amount or rate of runoff would appreciably increase, resulting in either on- or off-site flooding since the current and planned facilities contain sufficient capacity to accommodate both the existing and future flows. Moreover, a new catchment basin located along the north side of westbound Michelson Drive (northwest quadrant) and a bioswale drain within the existing landscaping along the west side of southbound Harvard Avenue would need to be constructed and would tie-in to the existing storm drain system. These facilities have been properly sized in order to accommodate the existing and any increased flows that would originate from the roadway widening and sidewalk/parkway and landscape modifications. Pollutants (sediment/turbidity, nutrients, heavy metals, pathogens, trash and debris, toxic organic chemicals, oil and grease, and pesticides) generated by adjacent land uses and pedestrians/motorists using the roadways would be treated through the incorporation of the site design, source control, and treatment control measures that would be specified in the project-specific WQMP.

Therefore, a less than significant impact would occur.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Based upon a review of the City of Irvine General Plan's Safety Element (Figure J-3: Flood Hazards Area) the proposed Project is not located within a flood hazard area. However, the immediately adjacent San Joaquin Channel is identified as a flood hazard area. However, the proposed Project entails roadway widening and does not include structures (e.g., buildings) that would be affected by a 100-year flood event. Moreover, the widening would be focused along the west side of southbound Harvard Avenue and the north and south sides of Michelson Drive west of the intersection which is away from the San Joaquin Channel. The proposed Project is located some six miles from the Pacific Ocean and would not be subject to a tsunami. Excepting for the intermittent flows of the San Diego Creek and San Joaquin Channel, there are no water bodies located within close proximity of the project site and the potential for seiche or the risk of release of pollutants due to project inundation would not exist.

Therefore, a less than significant impact would occur.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Refer to response X.a) and X.b).

Therefore, a less than significant impact would occur.

5.11 LAND USE AND PLANNING

5.11.1 Impact Analysis

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
XI. LAND USE AND PLANNING — Would the project:				
a) Physically divide an established community?	☐	☐	☒	☐
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

Discussion of Impacts

a) Physically divide an established community?

The proposed Project entails roadway widening largely within the existing Harvard Avenue and Michelson Drive public ROW, although minor "sliver-takes" permanent ROW of public and private parcels (see Table 1 [Anticipated/Proposed "Sliver-Takes" for Permanent Right-of-Way and Temporary Construction Easements for Proposed Project Intersection Improvements]) located along the west side of southbound Harvard Avenue and the north and south sides of Michelson Drive west of the intersection would be required. Moreover, it would not include the construction of new land uses or roadways that would divide an established community.

Therefore, a less than significant impact would occur.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Based upon a review of City of Irvine General Plan's Circulation and Land Use Elements, the following objective or policies are applicable to the proposed Project:

OBJECTIVE B-1: ROADWAY DEVELOPMENT:

Policy (n): *Design roadways which ensure safe and efficient traffic flow while also providing adequate and convenient access to retail sites.*

Consistency Analysis: The proposed Project entails roadway widening of Harvard Avenue and Michelson Drive that would improve the roadway and intersection operations of these facilities by upgrading its roadway geometry design. These improvements would improve the operational efficiency of the roadway and reduce queuing, which combined would enhance the safety of the intersection. It would also facilitate

access to the adjacent commercial center (e.g., Boomers!, Irvine Lanes). Therefore, the proposed Project would be consistent with this objective and policy.

OBJECTIVE B-2: ROADWAY DESIGN:

Policy (d): *Ensure that existing roadways are designed to complement other circulation networks without the need for major reconstruction*

Consistency Analysis: The proposed roadway widening would entail minor modifications of Harvard Avenue and Michelson Drive and would not require major reconstruction. The improvements to the roadway would improve the operation of the intersection by increasing throughput and decreasing queuing. They would also benefit adjacent area roadways through increased operational efficiencies potentially reducing queuing and improving LOS. Therefore, the proposed Project would be consistent with this objective and policy.

Policy (i): *Utilize traffic control device systems that are understandable, attractive, simple, uniform, and visible*

Consistency Analysis: The proposed roadway widening would include signage and traffic control device systems that are understandable, attractive, simple, uniform, and visible. These would be placed in locations consistent with the City's roadway signage and design requirements. Therefore, the proposed Project would be consistent with this objective and policy.

OBJECTIVE B-4: BICYCLE CIRCULATION:

Policy (b): *Require a system of bicycle trails, both on- and off-street, in each planning area. Such trails shall be linked to the system shown in Figure B-4 (Trail Network). The on-street trails shall be designed for the safety of the cyclist.*

Consistency Analysis: A Class II on-street bicycle lane currently exists along southbound Harvard Avenue, but terminates before Michelson Drive, placing bicyclist within close proximity to motor vehicles. The proposed Project would include extending the existing Class II on-street bicycle lane to Michelson Drive. In addition, bicyclist could also use the proposed shared use path provided immediately south of the I-405 freeway bridge, along southbound Harvard Avenue. Additionally, a shared use path is extended on both the north and south sides of Michelson Drive west of the intersection where it joins the existing Class II on-street bicycle lanes. This would allow bicyclists to use the new shared path, reducing potential motor vehicle and bicyclists conflicts and also provides a connection to the existing bicycle network that joins San Diego Creek Trail beyond the project limits. Therefore, the proposed Project would be consistent with this objective and policy.

Based upon the consistency analysis above, the proposed Project would be consistent with the City of Irvine's General Plan.

Therefore, and a less than significant impact would occur.

5.12 MINERAL RESOURCES

5.12.1 Impact Analysis

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
XII. MINERAL RESOURCES — Would the project:				
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Discussion of Impacts

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?

The project site is urbanized and largely built-out and the area is not identified as an important mineral resource area.

Therefore, no impact would occur.

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?

See response XII.a) above.

Therefore, no impact would occur.

5.13 NOISE

5.13.1 Impact Analysis

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
XIII. NOISE — Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or 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?	☐	☐	☐	☒

Discussion of Impacts

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

The information contained below is derived and summarized from the Noise Study Report contained within Appendix I of this IS.

Impacts from construction and operation of the proposed Project are analyzed below.

Construction Impact

During construction of the proposed Project, noise from construction activities may intermittently dominate the noise environment in the nearby area of the construction site. The Project construction activities anticipated to include demolition of the existing sidewalks and curbs, grading and trenching, construction of subgrade and curbs, and paving and restriping. Construction noise levels would fluctuate depending on construction activity, equipment type and duration of use, and the distance between the noise source and receiver. The nearest sensitive receptors to the proposed Project are of the Park West Apartment Homes located northeast of the intersection, along Harvard Avenue. The residence closest to the proposed Project is approximately 165 feet from the edge of Harvard Avenue and about 200 feet from the construction site.

Typical sound emission characteristics of construction equipment are provided in Table 8 (Construction Equipment Noise Levels).

Table 8: Construction Equipment Noise Levels

Equipment	Maximum Noise Level (dBA at 50 feet)
Scrapers	89
Bulldozers	85
Heavy Trucks	88
Backhoe	80
Pneumatic Tools	85
Concrete Pump	82

Notes:
dBA = A-weighted decibel
Source: FTA 2006, 2018

Construction equipment are expected to generate noise levels ranging from 80 to 90 decibels (dB) at a distance of 50 feet, and noise produced by construction equipment would be reduced over this distance at a rate of about 6 dB per doubling of distance. Assuming the simultaneous operation of one bulldozer and one large truck at the construction site on Harvard Avenue at the northwest portion of the intersection (both equipment at full power) with no intervening noise barriers, the combined noise level at the nearest sensitive receptor may reach levels of up to 78 dBA maximum noise level (L_{max}) for intermittent, brief events. However, because equipment moves around the Project site and because most construction equipment is at full power about 40 percent of the time, average noise levels would be less. Based on the above discussion, construction equipment noise would be noticeable intermittently at the nearest sensitive receptors. However, adherence to the City of Irvine noise ordinances (see Section 3.1.7 [Temporary Project Construction Components], footnote 4 for permitted construction hours ,which exempts these activities in the noise ordinance) regarding construction hours would ensure that noise impacts from the proposed Project's construction activities would be less than significant and no mitigation is required.

Furthermore, construction-related traffic, including delivery trucks and construction workers commute to the worksite would not be substantial due to the small-scale and short-duration nature of the work and there would be no activities or deliveries on Sundays or federal holidays.

Therefore, a less than significant impact would occur.

Operation Impact

The proposed Project improvements were previously noted above. Project implementation would improve LOS during PM peak hours, however, based on the proposed Project's Traffic Analysis Memorandum

(see Appendix B), traffic volumes and fleet mix along the Harvard Avenue or Michelson Drive would not change compared to the no-build scenario. The additional left turn would not result in bringing traffic closer to the sensitive receptors, as the widening would be on the northwest of the intersection while the nearest residences are located along the northbound Harvard Avenue, northeast of the intersection.

The improved LOS during PM peak hour would result in increased PM peak hour speed; however, the increase in noise (L_{eq}) would be limited to the PM peak hours and would not result in a significant or measurable change in the operational noise level at the receptors.

Therefore, a less than significant impact would occur.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Impacts from construction and operation of the proposed Project are analyzed below.

Construction Impact

Construction activities may generate varying degrees of ground vibration, depending on the construction procedures and the construction equipment used on site. The peak particle velocity (PPV) at 25 feet from construction equipment pieces that are typically used during roadway projects construction are listed in Table 9 (Vibration Levels for Construction Equipment). Also shown in Table 9 are the calculated PPV and root mean square (rms) vibration velocities at 100 feet distance from the construction equipment.

For the proposed Project construction, groundborne vibration would be generated primarily during the demolition of the existing sidewalk, curbs and gutters on the southbound segment of Harvard Avenue, and site grading processes when heavy trucks and equipment move within construction site. No pile driving would be used for the proposed Project construction. As shown in Table 9, vibration velocities from typical heavy construction equipment that would be used during project construction range from 0.003 to 0.089 inch/sec PPV at 25 feet from the source of activity. At 100 feet from the source of activity, vibration velocities range from 0.0004 to 0.011 inch/sec PPV, or 40 to 76 velocity decibels (VdB) rms.

Table 9: Vibration Levels for Construction Equipment

Equipment	PPV at 25 feet (inch/second)	rms at 25 feet (VdB)	PPV at 100 feet (inch/second)	rms at 100 feet (VdB)
Vibratory roller	0.21	94	0.026	76
Large bulldozer	0.089	87	0.011	69
Caisson drilling	0.089	87	0.011	69
Loaded trucks	0.076	86	0.010	68
Jackhammer	0.035	79	0.004	61

Equipment	PPV at 25 feet (inch/second)	rms at 25 feet (VdB)	PPV at 100 feet (inch/second)	rms at 100 feet (VdB)
Small bulldozer	0.003	58	0.0004	39.5

Notes:
PPV = peak particle velocity
rms = root mean square
VdB = velocity decibels
Source: FTA 2006 and Caltrans 2013

For the equipment used in construction of the proposed Project, the PPV from vibratory roller, bulldozer and heavy truck operations is shown to be 0.21 PPV, 0.089 PPV and 0.076 PPV, respectively, at a distance of 25 feet. The proposed Project construction site would be farther than 100 feet from the nearest sensitive receptor and thus well below the PPV threshold of 0.2 inch per second and even 0.12 inch per second.

Therefore, a less than significant impact would occur.

Operation Impact

As described above, upon completion of construction activities, the proposed Project would not generate any additional traffic, and vehicle trips and fleet mix are expected to remain the same as no-build scenario. Therefore, there would be no Project-related increase in groundborne vibration or noise.

Therefore, no impact would occur.

c) *For a project located within the vicinity of a private airstrip or 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?*

The proposed Project is not within the vicinity of a private airstrip. The Project site is located within the City's Land Use Planning Area 19 and is approximately 1.7 miles west of the John Wayne Airport (Orange County Airport Land Use Commission 2008). The Project site is located outside of the 60-dBA CNEL contour considered for areas potentially affected by noise from the airport operations and thus, not affected by airport noise (see Appendix I and Figure 1 [Regional Location Map]). Furthermore, the proposed Project does not involve development of a residential land use or permanent employment that could be subjected to airport noise. Therefore, the proposed Project would not have the potential to expose people residing or working in the Project area to excessive noise levels.

Therefore, no impact would occur.

5.14 POPULATION AND HOUSING

5.14.1 Impact Analysis

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
XIV. POPULATION AND HOUSING — Would the project:				
a) Induce substantial unplanned 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)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion of Impacts

a) Induce substantial unplanned 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)?

The proposed Project entails roadway widening and does not include the development of residential or commercial uses that would result in population growth. However, the project could indirectly induce population growth through creation of temporary construction-related jobs, but these are expected to be minor and largely derived from the local Orange County workforce. Local utilities would need to be relocated but would not need to be increased in size or capacity related to the proposed Project.

Therefore, no impact would occur.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No residential units would be constructed as part of the proposed Project and therefore, project implementation would not cause displacement of any persons or require construction of housing elsewhere.

Therefore, no impact would occur.

5.15 PUBLIC SERVICES

5.15.1 Impact Analysis

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
XV. PUBLIC SERVICES — Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
i) Fire protection?	☐	☒	☐	☐
ii) Police protection?	☐	☐	☐	☒
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

Discussion of Impacts

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impact, in order to maintain acceptable service ratios for any of the public services:

i. Fire protection?

The proposed Project does not include residential or commercial land uses that would increase the need for fire suppression or emergency services beyond those currently required. There are three fire hydrants located along westbound Michelson Drive serving Irvine Lanes and Boomers! In order to reconstruct the westbound Michelson Drive curb-return at southbound Harvard Avenue, an existing fire hydrant (located approximately 40 feet from the existing curb-return within the existing landscaping) would need to be relocated inward of its currently location which could result in short-term significant impacts related to adequate fire suppression capabilities. In order to address this, a temporary fire hydrant would be put in place of sufficient capacity to meet the Orange County Fire Authority fire flow and suppression requirements, until the permanent hydrant is installed in its proposed location and is addressed in mitigation measure PS-1.

Therefore, a less than significant impact with mitigation incorporated would occur.

Mitigation Measures

PS-1 **Coordinate with Irvine Ranch Water District (IRWD) Prior to Removal/Relocation of Fire Hydrant –** In advance of construction of the proposed Project, the Contractor (or City) will be required to coordinate with IRWD to ensure that temporary and permanent relocation of the existing fire hydrant along westbound Michelson Drive at Harvard Avenue is acceptable and that the fire hydrant will have sufficient fire flow capacity to meet the IRWD's requirements for fire suppression.

ii. Police protection?

The proposed Project would not include residential or commercial land uses that would increase the need for police protection beyond those currently required.

Therefore, no impact would occur.

iii. Schools?

The proposed Project would not include residential or commercial land uses that would result in a population increase and therefore, the need for schools beyond those currently in place.

Therefore, no impact would occur.

iv. Parks

The proposed Project would not include residential or commercial land uses that would result in a population increase and therefore, the need for parks beyond those currently in place.

Therefore, no impact would occur.

v. Other Public Facilities

The proposed Project would not include residential or commercial land uses that would result in a population increase and therefore, the need for other public facilities (e.g., libraries, community centers) beyond those currently in place.

Therefore, no impact would occur.

5.16 RECREATION

5.16.1 Impact Analysis

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
XVI. RECREATION — Would the project:				
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Discussion of Impacts

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?

The proposed Project would not include residential or commercial land uses that would result in a population increase and therefore, the need for parks beyond those currently in place.

Therefore, no impact would occur.

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?

The proposed Project would not include residential or commercial land uses that would result in a population increase and therefore, the need for parks beyond those currently in place.

Therefore, no impact would occur.

5.17 TRANSPORTATION AND TRAFFIC

5.17.1 Impact Analysis

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
XVII. TRANSPORTATION — Would the project:				
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☐	☒	☐

Discussion of Impacts

a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

As noted in response XI. b), the proposed Project is consistent with the City of Irvine General Plan's Circulation Element road and trail system. The proposed Project is one of the mitigations identified in both 2010 and 2015 IBC Vision Plan Traffic Studies. As noted in the Traffic Analysis Memorandum (see Appendix B), under existing conditions the intersection is providing acceptable LOS during peak hours. The LOS is B during the AM peak hour and LOS D during the PM peak. However, the level of service is expected to decline to LOS C during the AM peak hour and to LOS E during the PM peak hour with Interim Year forecast. Moreover, in Buildout Year forecast (2035) indicates that the existing intersection improvements are expected to decline to LOS D during the AM peak hour and to LOS F during the PM peak hour without the proposed Project. The proposed Project would provide capacity enhancements and improve circulation to the Harvard Avenue/Michelson Drive intersection. Current and future capacity demands can be better accommodated with a second southbound left-turn lane on Harvard Avenue. The proposed Project would maintain LOS D to in the AM Peak and would provide a change in LOS F to D in the PM Peak. In addition, the proposed Project is also consistent with the City's transit system. The proposed Project is currently served by OCTA Routes 211, 213, and 473. No existing OCTA bus stops or benches would need to be temporarily or permanently closed or relocated as part of the proposed Project.

Therefore, a less than significant impact would occur.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

The proposed Project entails minor roadway widening and does not include residential or commercial land uses that would generate vehicle trips. As such, the proposed Project is presumed to have less than significant impacts related to Vehicle Miles Traveled (VMT) since VMT measures the per capita number of car trips generated by a project and distances cars would travel to and from a project and these would remain the same with implementation. Intersection improvement projects that do not include the addition of continuous through lanes or other significant capacity enhancements are not considered vehicle travel inducing and are exempt from VMT analysis. The subject project includes "spot" improvements only which do not include through lanes or significant capacity improvement. Moreover, the proposed Project is being proposed as one of the mitigations identified in both 2010 and 2015 IBC Vision Plan Traffic Studies.

Therefore, a less than significant impact would occur.

c) Substantially increase hazards to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The proposed Project would be designed to meet City and State-approved roadway design standards and would not include design features that would be considered unsafe or dangerous or be incompatible with existing uses. The roadway geometry would be modified to safely include project components previously described above in Section 2.4 (Project Characteristics).

Therefore, a less than significant impact would occur.

d) Result in inadequate emergency access?

Although during construction of the roadways and associated activities may result in temporary traffic delays, the proposed Project once implemented would improve current traffic flows because of the proposed improvement, thereby improving emergency vehicle response times.

Therefore, a less than significant impact would occur.

5.18 TRIBAL CULTURAL RESOURCES

5.18.1 Impact Analysis

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
XVIII. TRIBAL CULTURAL RESOURCES — Would the project: cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☒	☐	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Discussion of Impacts

a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

The area is considered sensitive for buried Native American and tribal cultural resources based on the SCIC records search conducted on November 20, 2019. As part of its AB 52 consultation requirements, on October 7, 2019, the City sent out letters to tribal representatives making them aware of the proposed Project. On October 17, 2019, the City received a request for tribal consultation from Andrew Salas,

Chairman of the Gabrieleño Band of Mission Indians - Kizh Nation. In his request, Mr. Salas noted that the proposed Project is located within their Ancestral Tribal Territory and requested consultation. During the consultation, the City shared project and affirmed that the City will continue to communicate any updates related to archaeological findings during final design and construction phases; and coordinate their involvement, as appropriate if the presence of archaeological resources are encountered.

Due to the sensitivity of the area, tribal cultural resources may be impacted. Development of the CRMP as required in TCR-1 will include input from ongoing consultation from the Kizh Nation (the only AB 52 respondent).

Therefore, a less than significant impact with mitigation incorporated would occur.

Mitigation Measures

TCR-1 ***Native American Monitoring.*** The City of Irvine shall coordinate Native American monitoring with representatives who are traditionally and culturally affiliated with the Project site to support the monitoring as required by the Cultural Resources Monitoring Plan (CRMP) in Mitigation Measure CR-1. Native American representatives and/or monitors must possess necessary insurance and training to monitor for cultural resources in a construction and traffic areas. The provisions of the Native American monitoring plan will be included in the CRMP.

ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

See response XVIII. a),i above.

Therefore, a less than significant impact with mitigation would occur.

Mitigation Measures

TCR-1 ***Native American Monitoring.***

5.19 UTILITIES AND SERVICE SYSTEMS

5.19.1 Impact Analysis

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
XIX. UTILITIES AND SERVICE SYSTEMS — Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c) 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?	☐	☐	☐	☒
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Discussion of Impacts

a) *Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

The proposed Project entails minor roadway widening and does not include the construction or residential or commercial uses, thereby requiring the construction or expansion of water, wastewater treatment, electric power, natural gas or communication facilities to serve these uses. The proposed Project would, however, require relocation of two existing stormwater facilities. One of these facilities is an existing drainage swale inlet that is located within the landscaping along west side of Harvard Avenue, approximately 100 feet from the Harvard Avenue/Michelson Drive curb-return. The other is an existing storm drain inlet located along westbound Michelson Drive, approximately 30 feet west of the southbound Harvard Avenue/Michelson Drive curb-return. These two facilities would both need to be relocated slightly west and north of their existing locations, respectively in order to accommodate the roadway design. There are a number of other utilities (e.g., water, irrigation, cable, electric) that would be affected and

require either adjustments and/or relocations. Standard relocation processes and procedures, including advance coordination with service providers and installing by-pass systems (if needed) would be required, prior to the initiation of construction activities. It should be noted that minor service interruptions could result, provided unknown or unseen utilities are encountered.

Therefore, a less than significant impact would occur.

b) *Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?*

The proposed Project entails minor roadway widening and does not include the construction or residential or commercial uses, thereby requiring substantial water supplies. Landscaping would be reinstalled along portions of the affected roadways but would not utilize large quantities of water since much of this would either utilize a City-approved drought tolerant plants palette, combined with a drip and/or spray irrigation system.

Therefore, a less than significant impact would occur.

c) *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?*

The proposed Project entails minor roadway widening and does not include the construction or residential or commercial uses, and as such, would not generate wastewater.

Therefore, no impact would occur.

d) *Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

During construction, the proposed Project would generate solid waste associated with removal of the roadway surface and associated sidewalks/parkways, and landscaping modifications. There are also additional construction-related materials that would generate solid waste. However, the proposed Project would be required to adhere to local and state construction-related debris recycling and disposal requirements as part of permit approvals. These requirements would assist in reducing the amount of construction-related solid waste being transported to area landfills.

Therefore, a less than significant impact would occur.

e) *Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

See response XIX,d) above.

Therefore, a less than significant impact would occur.

5.20 WILDFIRE

5.20.1 Impact Analysis

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
XX. WILDFIRE — If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

Discussion of Impacts

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

A review of the City of Irvine General Plan's Safety Element, Figure J-2 (Fire Hazard Areas) indicates that the proposed Project is not located within a high fire zone.

Therefore, no impact would occur.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

See response XX, a) above.

Therefore, no impact would occur.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

See response XX, a) above.

Therefore, no impact would occur.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

See response XX, a) above.

Therefore, no impact would occur.

5.21 MANDATORY FINDING OF SIGNIFICANCE

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
XX. MANDATORY FINDING OF SIGNIFICANCE				
a) Does the project have the potential to substantially 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, substantially 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?	☐	☒	☐	☐
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)?	☐	☐	☒	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Discussion of Impacts

a) *Does the project have the potential to substantially 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, substantially 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?*

The analysis contained within Section 5.4 (Biological Resources) indicates that the project site assessment revealed that the majority of special-status wildlife known to occur in the general region had a "low" or "no" potential of occurrence within the BSA, due to the developed nature of habitats within the BSA. Similarly, due to the developed nature of the BSA, only one special status plant species was determined to have a low potential to occur. During construction, if these activities occur during the avian nesting season, the proposed Project could be in conflict with the MBTA. The analysis also determined no riparian habitat or other sensitive communities are present within the BSA. Because construction activities would remove vegetation (non-native/ornamental) these activities could result in the spread of noxious weeds within the project site and adjacent areas. The San Joaquin Channel occurs within the BSA; however, project construction is not anticipated to temporarily or permanently impact any portion of San Joaquin Channel potentially under the jurisdiction of the USACE, RWQCB, or CDFW. Further, the

analysis determined that with the implementation of mitigation measures BIO-1 through BIO-5, impacts would be less than significant.

As noted in Section 5.5 (Cultural Resources), the analysis determined no built environment historical resources would be affected since the area was largely developed in the 1970s and through the 1990s and the minor "sliver-takes" of permanent ROW (public and private) proposed as part of the roadway widening would not result in a change to the overall setting or feeling of the area. Moreover, the records searches conducted at the SCCIC on November 20, 2019 and pedestrian survey of the project area did not reveal the presence of historic structures. The records search however, did reveal there are at least two large prehistoric sites with reported burials in close proximity to the project area. A field survey of the project area by a qualified archaeologist did not reveal surficial archaeological remains. The possibility of undiscovered archaeological resources is considered high and native soil is considered highly sensitive. It should also be noted that AB 52 Consultation has been requested by the Gabrieleño Band of Mission Indians - Kizh Nation and the City shared project information during the consultation and affirmed that the City will continue to communicate any updates related to archaeological findings during final design and construction phases; and coordinate their involvement, as appropriate if the presence of archaeological resources are encountered. With the implementation of mitigation measures CR-1 through CR-3 and TCR-1, impacts 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)?*

The proposed Project would not increase environmental impacts after mitigation measures are incorporated, the incremental contribution to cumulative impacts would be anticipated as less than significant. The proposed Project is a required mitigation measure identified for the IBC Vision Plan Traffic Studies. Based upon a review of the IBC Program Environmental Impact Report, the cumulative impact analysis contained within that document determined that with the exception of air quality, noise, and traffic, all remaining impacts would be less than significant. Because the proposed Project was considered in the overall impact analysis of the EIR and associated impacts were addressed and if possible, mitigated to less than significant levels and a Statement of Overriding Considerations was adopted, the proposed Project would therefore, not further add to a cumulatively considerable impact, and impacts would be less than significant.

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

As discussed in Sections 5.1 through 5.20 of this IS, no environmental effects were identified as having any potentially significant impacts after mitigation measures were incorporated. As such, no environmental factors or effects were found to cause a substantial adverse effect on human beings, either directly or indirectly. Therefore, impacts would be less than significant.

6.0 LIST OF PREPARERS

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Appendix A Mitigation Monitoring and Reporting Plan

APPENDICES

Appendix A MITIGATION MONITORING AND REPORTING PLAN

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