



**Culver Drive and Alton Parkway
Intersection Improvement Project
(CIP 311905), Irvine, California –
Initial Study**

July 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
Irvine, CA 92623-9575

Consultant:
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Irvine CA 92618-5312



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Acronyms
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Acronyms

AB	Assembly Bill
ADL	aerially deposited lead
AM	before noon
BMPs	best management practices
BSA	Biological Survey Area
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
City	City of Irvine
EIR	Environmental Impact Report
Farmland	Prime Farmland, Unique Farmland, or Farmland of Statewide Importance
GHG	greenhouse gas
IBC	Irvine Business Complex
ICU	intersection capacity utilization
IRWD	Irvine Ranch Water District
IS	Initial Study
lbs/day	pounds per day
LED	light-emitting diode
LOS	level of service
MBTA	Migratory Bird Treaty Act
MMRP	Mitigation Monitoring and Reporting Program
MND	Mitigated Negative Declaration
NAHC	Native American Heritage Commission
NOx	nitrogen oxide
OCTA	Orange County Transit Authority
PM	afternoon
PM _{2.5}	particulate matter that have a diameter of less than 2.5 microns
PM ₁₀	particulate matter that have a diameter of less than 10 microns
PPV	peak particle velocity
Project	Culver Drive and Alton Parkway Intersection Improvement Project (CIP 311905)
rms	root mean square
Roadmod	Road Construction Emissions Model Version 8.1.0
ROW	right-of-way
RWQCB	Regional Water Quality Control Board



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SCAQMD	South Coast Air Quality Management District
SCCIC	South Central California Information Center
SMAQMD	Sacramento Metro Air Quality Management District
SOx	sulfur oxide
SWPPP	Stormwater Pollution Prevention Plan
TAC	toxic air contaminant
TMP	Traffic Management Plan
USACE	United States Army Corps of Engineers
VdB	velocity decibel
VMT	vehicle miles traveled
VOC	volatile organic compound
WQMP	Water Quality Management Plan



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1.0 PROJECT INFORMATION SHEET

1.1 PROJECT TITLE

Culver Drive and Alton Parkway Intersection Improvement Project (CIP 311905)

1.2 LEAD AGENCY

City of Irvine
Department of Public Works and Transportation
1 Civic Center Plaza
Irvine, California 92606
Attention: Cheryl Lea, Senior Transportation Analyst
clea@cityofirvine.org
949-724-7313

1.3 PROJECT PROPONENT

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

1.4 GENERAL PLAN AND ZONING DESIGNATIONS

Culver Drive and Alton Parkway are designated by the City of Irvine (City) General Plan's Circulation Element as Major Highway 6-lanes. The City's Zoning Map does not provide a designation for either Culver Drive or Alton Parkway.

1.5 PROJECT LOCATION

The proposed Project is located at the intersection of Culver Drive which traverses north to south, and Alton Parkway, which traverses east to west, within the City of Irvine. On Culver Drive, the proposed Project extends approximately 500 feet to the north of the intersection approaching San Diego Creek, and approximately 350 feet south of the intersection (Alton Parkway) towards Interstate (I-405) freeway. On Alton Parkway, the proposed Project extends approximately 600 feet to the east of the intersection approaching West Yale Loop, and approximately 1,800 feet west from the intersection approaching Paseo Westpark (Figure 1).



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1.6 DESCRIPTION OF PROJECT

The proposed Project would entail minor widening and lane restriping of the intersection and adjacent roadways (Figure 2). The proposed improvements for the Culver Drive/Alton Parkway intersection include the following:

- Adding a fourth northbound through lane on Culver Drive;
- Removing the southbound free right turn lane on Culver Drive and converting it to a standard right turn lane; and removal of the existing pedestrian island;
- Adding a southbound right turn overlap phasing on Culver Drive coordinated with the eastbound dual left turn phasing on Alton Parkway (prohibiting eastbound U-turn movement);
- Extending the eastbound and westbound left turn pockets in both directions on Alton Parkway approaching the intersection at Culver Drive;
- Adding concrete bus pads at existing bus stops located at the northeast (Culver Drive), northwest (Alton Parkway) nearest the retail business at 3755 Alton Parkway, currently occupied by Olive Garden Italian restaurant, and southeast (Alton Parkway) corners of the intersection;
- Adding a new bus stop and bus pad on the northwest corner (Alton Parkway) of the intersection nearest to the retail business at 3995 Alton Parkway, currently occupied by Starbucks coffee shop;
- Modify / improve supporting traffic signal, medians, sidewalks, and landscaping, where applicable and;
- Providing enhanced striping to the existing on-street bike lanes¹ on all four (4) legs of the intersection.

Additional roadway improvements include signage, traffic signals, streetlights, utility relocations, drainage and water quality improvements, retaining walls, landscape, and lighting. The proposed Project is one of the mitigations identified in both 2010 and 2015 Irvine Business Complex (IBC) Vision Plan Traffic Studies and would improve circulation in both the short- and long-term (see below) to the intersection by providing capacity enhancements and improving circulation to the intersection (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 and development adjacent to the intersection entails Westpark Plaza (Northwest Quadrant), comprised of community commercial and neighborhood commercial; Mark Daily Athletic Field (Northeast Quadrant); comprised of park/recreational, the San Marino Apartments (Southwest Quadrant), comprised of residential medium high density; and privately owned attached condominiums supported by the Woodbridge Master Homeowners Association and the Alders Homeowners Association (Southeast Quadrant), comprised of residential-medium high density.

¹ Bicycle lanes would be Class 2. A Class 2 bicycle lane is an on-street facility designated for bicyclists using stripes and stencils. Bike lanes may include buffer striping to provide greater separation between bicyclists and parked or moving vehicles.



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1.8 OTHER AGENCIES OR ENTITIES WHOSE APPROVAL AND/OR AUTHORIZATION IS REQUIRED

- AT&T
- City of Irvine City Council
- City of Irvine Department of Public Works and Transportation
- Irvine Ranch Water District
- Southern California Edison
- SoCal Gas

1.9 NATIVE AMERICAN CONSULTATION

California Native American tribes traditionally and culturally affiliated with the Project area were notified and an opportunity for a consultation pursuant to Public Resources Code section 21080.3.1 was made available. A consultation may include, 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 a letter to four tribal representatives informing them of the proposed Project and facilitating a consultation. 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 the proposed Project is located within their Ancestral Tribal Territory and requested a consultation. Consultation with the City was conducted on December 17, 2019 via teleconference. The AB52 Consultation discussions affirmed that the City of Irvine will continue to communicate any updates if there are any archaeological findings during the final design and construction phase; and coordinate their involvement, as appropriate, if the presence of archaeological resources are encountered.

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 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



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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 that are identified within the Appendices 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
- Tribal Cultural Resources
- 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

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



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will issue a Notice of Intent to Adopt an MND and the IS 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

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 is anticipated to be as follows:

- FY 2019-20: Spring 2019 to Summer 2020 - Preliminary Engineering / Environmental Phase
- FY 2020-21: Fall 2020 to Winter 2021 - Final Design and Right of Way Phase
- FY 2021-22: Winter 2021 to Summer 2022 - Construction Phase



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CULVER DRIVE AND ALTON PARKWAY INTERSECTION IMPROVEMENT PROJECT (CIP 311905), IRVINE, CALIFORNIA –INITIAL STUDY

Environmental Setting
July 2020

2.0 ENVIRONMENTAL SETTING

2.1 PROJECT LOCATION

The City is located within Orange County, approximately seven miles east of the Pacific Ocean and approximately 35 miles southeast of downtown Los Angeles. The Project site (intersection of Culver Drive and Alton Parkway) is located within the southwestern portion of the City. Figure 1 shows the location of the Project site. As shown in Figure 1, the proposed Project is located at the intersection of Culver Drive, which traverses north to south, and Alton Parkway which traverses east to west. On Culver Drive, the project limits are approximately 500 feet to the north of the intersection approaching San Diego Creek, and approximately 350 feet south of the intersection (Alton Parkway) towards Interstate-405 (I-405) freeway. On Alton Parkway, the proposed Project extends approximately 600 feet east of the intersection approaching West Yale Loop, and to approximately 1,800 feet west of the intersection approaching Paseo Westpark. Culver Drive is a central thoroughfare within Irvine and provides access to I-405 to the south, and Interstate 5 to the north. Alton Parkway provides access to State Route 133 and I-405 to the east, and access to State Route 55 to the west via Red Hill Avenue and MacArthur Boulevard.

2.2 EXISTING CONDITIONS

The City of Irvine General Plan Circulation Element's Master Plan of Arterial Highways identifies Alton Parkway and Culver Drive both as "Primary Highway," with operational characteristics noted as "Parkway" for Culver Drive and "Collector" for Alton Parkway. This intersection serves the Westpark and Woodbridge communities, or Planning Areas 14 and 15, respectively.

As noted in Figure 1, the area is urbanized and largely built-out. Land uses and development adjacent to the intersection include Westpark Plaza (Northwest Quadrant), comprised of community commercial and neighborhood commercial; Mark Daily Athletic Field (Northeast Quadrant); comprised of park/recreational, the San Marino Apartments (Southwest Quadrant), comprised of medium-high density residential; and privately owned attached condominiums supported by the Woodbridge Master Homeowners Association and the Alders Homeowners Association (Southeast Quadrant), comprised of medium-high density residential. Corresponding land uses/zoning for these areas includes N-Neighborhood Commercial/4.1 and CC-Community Commercial/4.2, P-Recreation/1.5, and Residential-Medium High Density/2.4.

Culver Drive and Alton Parkway existing roadway and lane geometries are as follows:

- Culver Drive - The roadway is divided by a raised median with hardscape and landscape and street trees throughout the project limits. The full street width from curb to curb varies along Culver Drive and is as follows:
 - Northwest Quadrant (southbound Culver Drive) - 86-feet, including 18-foot sidewalk and parkway and 68-foot travel and turning lanes (6-foot bicycle lane, three 11-foot through lanes, and two 10-foot left turn lanes)



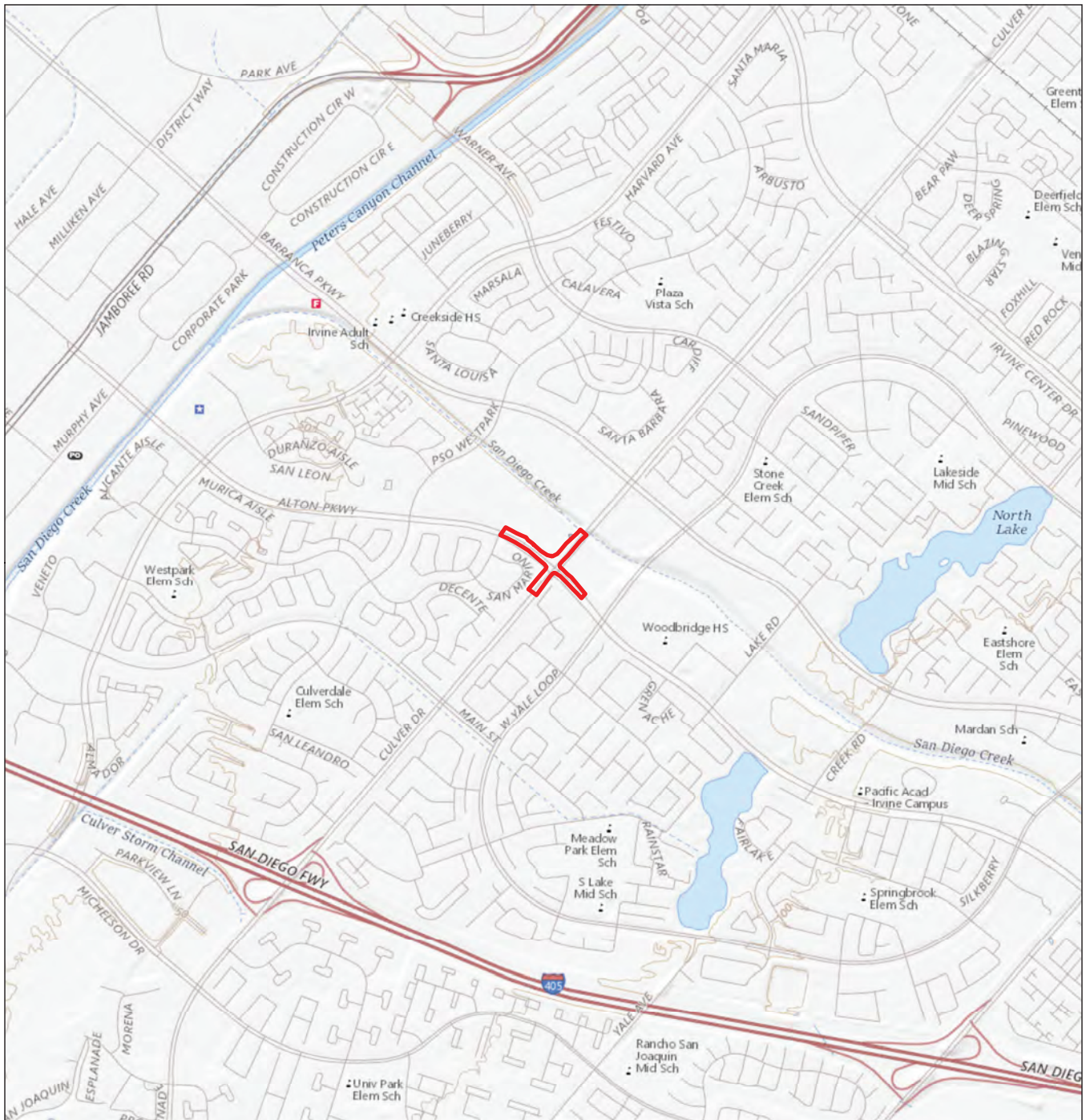
CULVER DRIVE AND ALTON PARKWAY INTERSECTION IMPROVEMENT PROJECT (CIP 311905), IRVINE, CALIFORNIA –INITIAL STUDY

Environmental Setting

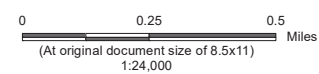
July 2020

- Southwest Quadrant (southbound Culver Drive) – 73-feet, including 18-foot sidewalk and parkway and 55-foot travel and turning lanes (7-foot bicycle lane, two 11-foot travel lanes, one 12-foot travel lane)
- Northeast Quadrant (northbound Culver Drive) – 69-feet, including 18-foot sidewalk and parkway and 51-foot travel and turning lanes (7-foot bicycle lane, two 11-foot travel lanes, one 12-foot travel lane)
- Southeast Quadrant (northbound Culver Drive) – 73-feet, including 19-foot sidewalk and parkway and 54-foot travel and turning lanes (two 10-foot left turn lanes, one 12-foot through lanes, two 11-foot through lanes, and one 10-foot right turn lane)
- Alton Parkway – The roadway is divided by a raised median with hardscape and landscape and street trees throughout the project limits. The full street width from curb to curb varies along Alton Parkway and is as follows:
 - Northwest Quadrant (westbound Alton Parkway) - 71-feet, including 16-foot sidewalk and parkway and 55-foot travel and turning lanes (one 15-foot through lane and one 12-foot lane and a free right turn lane with “pork chop”)
 - Southwest Quadrant (eastbound Alton Parkway) – 73-feet, including 21-foot sidewalk and parkway and 54-foot travel and turning lanes (two 10-foot left turn lanes, one 13-foot through lane, one 11-foot through lane, one 5-foot bicycle lane, and one 15-foot right turn lane)
 - Northeast Quadrant (westbound Alton Parkway) – 57-feet, including 12-foot sidewalk and parkway and 45-foot travel and turning lanes (two 10-foot left turn lanes, one 12-foot through lane, one 11-foot turn lane, and one 10-foot right turn lane)
 - Southeast Quadrant (eastbound Alton Parkway) – 57-feet, including 12-foot sidewalk and parkway and 45-foot travel and turning lanes (one 13-foot through lane, one 12-foot through lane, and one eight-foot bicycle lane)





 Project Location



Project Location	Prepared by DL on 2019-12-20
Irvine, California	TR by
	IR by
Client/Project	2042557300
City of Irvine	
Alton Parkway and Culver Drive	
Intersection Improvement Project	
Figure No.	
1	

Title
Location Map

Notes
 1. Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
 2. Data Sources: Stantec 2019.
 3. Background: USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National

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Both roadways contain medians, curb returns, wheelchair curb cuts, and street lighting.

Orange County Transportation Authority (OCTA) currently operates two bus routes within the project limits. Route 86 operates on Alton Parkway, and Route 79 operates on Culver Drive. There are two existing bus stop locations (with signs and bench) on Alton Parkway on the northwest corner (fronting Olive Garden Italian restaurant) and the southeast corner of the intersection. On Culver Drive, there is one existing bus stop on the northeast corner of the intersection.

2.3 PROJECT BACKGROUND AND HISTORY

The Culver Drive and Alton Parkway Intersection Improvement Project (Project) is one of the mitigations identified in both 2010 and 2015 IBC Vision Plan Traffic Studies. The Project will provide capacity enhancements and improve circulation to the intersection by adding a fourth northbound through lane on Culver Drive, converting the southbound free right turn lane to a standard right turn lane on Culver Drive, extending the eastbound and westbound left turn pockets on Alton Parkway, and other improvements (see Section 3.0 [Project Characteristics] below). As indicated in the Traffic Analysis Memorandum (see Appendix B) the Culver Drive/Alton Parkway intersection operates at an acceptable Level of Service (LOS)² (D or better) in the before noon (AM) and afternoon (PM) peak hours. Without any improvements, the intersection operations will eventually degrade to an unacceptable LOS E in the P.M. peak hour in post-2035. With the proposed project improvements, the future (post-2035) operation of the intersection will maintain an acceptable LOS D or better in both the AM and PM peak hours. The proposed Project would be constructed using local funds associated with the IBC Vision Plan.

² 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.



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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 Buildout (2035). Figure 2 shows the proposed roadway layout and associated improvements, including revised geometries for the Culver Drive and Alton Parkway intersection.

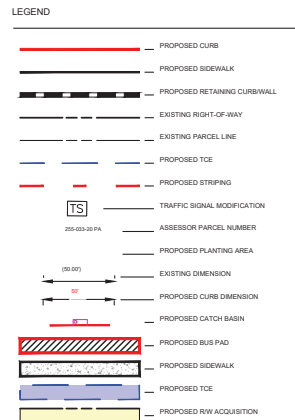
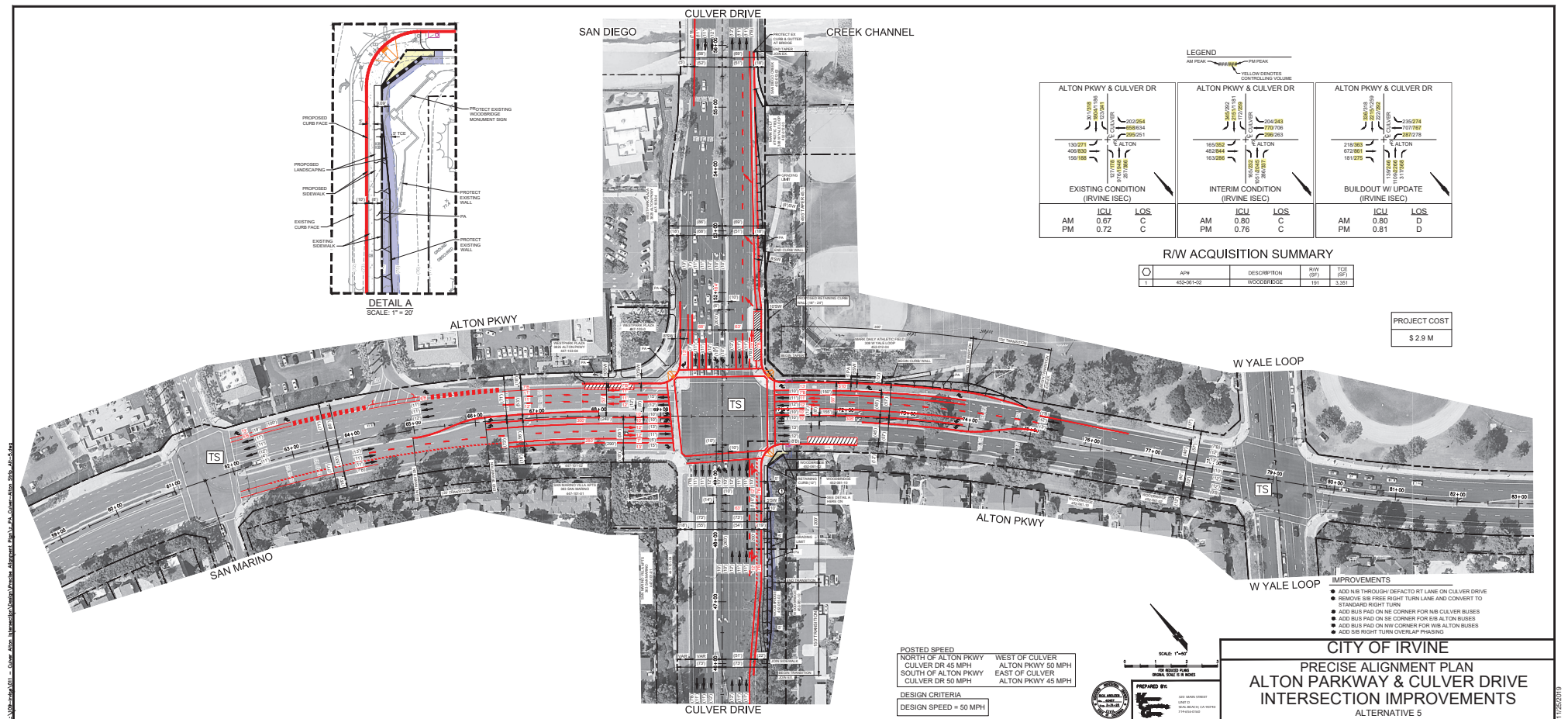
The proposed Project would add a fourth northbound through lane on Culver Drive, convert the free right turn lane to a standard right turn lane for southbound Culver Drive, and extending the eastbound and westbound left turn pockets on Alton Parkway. Existing on-street bike lanes would be enhanced with striping on all four legs of the intersection.

The design features for proposed Project are as follows:

- New pavement, curb and gutter, sidewalk and pedestrian ramps.
- Lengthen the eastbound Alton Parkway left turn pocket by approximately 60 feet.
- Lengthen the westbound Alton Parkway left turn pocket by 150 feet.
- Remove and replace existing trees and ground cover in the Alton Parkway median on both legs of the intersection.
- Protect in place the existing monument sign, stone façade wall(s), and portions of landscaping on the southeast (Woodbridge) corner of the intersection.
- Modify or relocate the existing traffic signal at the intersection, as required.
- Adjust and/or relocate various utility features (manholes, valves, vaults, etc.).
- Install Filterra biofiltration water quality facilities; of which three (3) will re-construct new catch basin inlets at the northwest, southwest, and southeast legs of the intersection, and 2 facilities will re-construct a new catch basin inlet at the northeast corner of the intersection.
- Relocation of existing street lighting, as required.
- Reconstruct parkways in three of the four quadrants of the intersection, summarized as follows:
 - Northwest Quadrant – Ten-foot wide curb adjacent sidewalk with landscaping behind along Alton Parkway. Eight-foot wide curb adjacent sidewalk with landscaping behind along Culver Drive.
 - Northeast Quadrant – Variable (8-foot- 10-foot) wide curb adjacent sidewalk with retaining curb at the back of walk along Culver Drive. Five-foot wide curb adjacent planting area with 5-foot wide sidewalk behind along Alton Parkway. A retaining curb will be constructed at the back of sidewalk.
 - Southeast Quadrant – Five-foot curb adjacent sidewalk with a landscape slope (4 to1 maximum) to match existing behind the sidewalk along Culver Drive.
 - Southwest Quadrant – No improvements required (existing conditions to remain).

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 and shown in Figure 2.





Project Location Prepared by DL on 2019-12-30
Irvine, California TR by IR by
Client/Project 2042558200

City of Irvine
Alton Parkway and Culver Drive
Intersection Improvement Project

Figure No.
2

Title
Preliminary Engineering Plan

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3.1 PEDESTRIAN/ACTIVE TRANSIT

- *Sidewalks* – See description above in Section 3.0 (Project Characteristics).
- *Class 2 Bicycle Lane* – There are existing striped on-street bike lanes provided on Culver Drive and Alton Parkway approaching the intersection. On the northbound, eastbound, and westbound approaches dedicated bike lane striping ends before the intersection and does not continue to the limit line on these approaches. On the southbound approach, there is existing dedicated bike lane striping to the limit line. The proposed project improvements will extend dedicated bike lane striping to the limit line on each intersection approach per current City standards.

3.2 PUBLIC TRANSIT

- *Bus Stops* –OCTA currently operates two bus routes within the project limits. Route 86 operates on Alton Parkway and Route 79 operates on Culver Drive. There are two existing bus stop locations (with signs and bench) on Alton Parkway on the northwest corner (fronting Olive Garden Italian restaurant), and the southeast corner of the intersection. On Culver Drive, there is one existing bus stop on the northeast corner of the intersection. With the proposed Project, a new bus stop and bus pad will be constructed along the north side of Alton Parkway (fronting the Starbucks coffee shop). Also, new concrete bus pads will be constructed at the three existing bus stop locations.

3.3 ROADWAY

- *Curb Returns* – New curb returns would be constructed for three of the four roadway quadrants.
- *“Pork Chop”* – Replacing the existing southbound free-right turn lane with a standard right-turn lane eliminating the existing “pork-chop” island.
- *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 / relocation and/or replacement and/or trimming of existing landscaping along the roadways, including approximately 18 trees. To the extent practicable, removal, relocation, and/or replacement trees and landscaping 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 (see Appendix C – Conceptual Landscape Plan).

3.4 UTILITIES & DRAINAGE

- *Storm Drain/Catchment Basins* – The drainage runoff within the project limits is currently captured by four (4) catch basins that convey run-off for four (4) drainage management areas, respectively. These



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existing inlets all convey storm runoff to San Diego Creek via a system of storm drain pipes. Roadway modifications will require adjustments to these facilities and are discussed in Appendix D (Preliminary Drainage Report). To address water quality requirements the Project proposes to install five (5) Filterra stormwater biofiltration units. Two units each will be installed side by side on the northeast corner to accommodate flows entering the catch basins. The other three (3) Filterra Stormwater Biofiltration Facilities will be installed to reconstructed catch basin inlets located at northwest, southwest, and southeast corner / drainage management areas (see Appendix D).

- *Street Lighting* – To be replaced as required, based upon final design.

Table 1 provides a summary of utilities within the project site and proposed modifications.

Table 1. Existing Utilities and Proposed Modifications

Owner	Utility	Location	Adjustment Required	Relocation Required	Description
AT&T	Telephone	Alton Parkway	Yes	No	Adjust pull boxes & manhole to grade.
SoCal Gas	Gas Line	Alton Parkway	Yes	No	Adjust gas valve to grade.
Irvine Ranch Water District	Recycled Water & Domestic Water	Alton Parkway	Yes	Yes	Adjust vault to grade; relocate fire hydrant.
Southern California Edison	Electrical	Alton Parkway	Yes	Yes	Adjust vault to grade; relocate streetlights.
AT&T	Telephone	Culver Drive	Yes	No	Adjust manhole to grade.
Irvine Ranch Water District	Recycled Water & Domestic Water	Culver Drive	Yes	No	Adjust valves to grade.
Southern California Edison	Electrical	Culver Drive	Yes	No	Adjust pull boxes to grade.

3.5 TEMPORARY AND PERMANENT RIGHT-OF-WAY

In order to accommodate the proposed roadway improvements and ensure its safe operation, a Temporary Construction Easement (3,351 square feet) will be required from the southeast corner of the



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intersection (Orange County Assessor Parcel Number 452-061-02). To the extent practicable, lane widths would be minimized to reduce the amount of right-of-way (ROW) impacts.³

3.6 PROJECT AND CONSTRUCTION PHASING

Per the City's Project Management Division, which will oversee the construction phase, construction phasing and activities are expected to range from 8-10 months to complete and will include: clear and grub and site preparation; asphalt demolition and grading; trenching and construction of sidewalks and roadway subgrade; paving, landscaping, and roadway restriping. Temporary Project Construction Components. This conservative schedule includes administrative time for purchasing to procure the contractor during the construction bid process, flexibility due to inclement weather conditions, other potential schedule variables, and project close-out.

Both Culver Drive and Alton Parkway and the associated intersection would be accessible to motorist and pedestrians during the estimated 8 to 10 -month construction period. However, during the morning and late afternoon / early evening peak-hours in which construction activities are occurring⁴, there may be the need for temporary lane closures, resulting in increased delays and queuing at the approach to the intersection. To reduce these impacts and in order ensure continuous and safe operation of the roadways and intersections and pedestrian 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. The TMP would also consider the adjacent residences and nearby Woodbridge High School.

3.7 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.

³ Note: The design includes a curb/gutter, sidewalk, and retaining wall/landscaping component that will eliminate the need for permanent right of way. However, this design will require a Variance to be approved by the Director of Public Works.

⁴ 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.



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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.

- | | |
|--|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Land Use and Planning |
| <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Mineral Resources |
| <input type="checkbox"/> Air Quality | <input type="checkbox"/> Noise |
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Population and Housing |
| <input checked="" type="checkbox"/> Cultural Resources | <input checked="" type="checkbox"/> Public Services |
| <input type="checkbox"/> Energy | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Geology and Soils | <input type="checkbox"/> Transportation |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Tribal Cultural Resources |
| <input checked="" type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Utilities and Service Systems |
| <input type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Wildfire |
| <input checked="" type="checkbox"/> 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 DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or



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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.



Signature

July , 2020

Date

Melissa Dugan, Supervising Transportation Analyst

For City of Irvine, Department of Public Works
and Transportation



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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 effect 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.



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- (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 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.



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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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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 community commercial and neighborhood commercial (Westpark Plaza), Mark Daily Athletic Field (park/recreational), San Marino Apartments (residential medium-high density) and privately-owned attached condominiums supported by Woodbridge Master Homeowners Association and Alders Homeowners Association (residential-medium-high density).

The developed nature of the area, flat topography, and roadways limit both line of sight and expansive views for motorist, visitors, and residents. However, Mark Daily Athletic Field does offer both public and private (residence) line of sight open space views along Culver Drive and Alton Parkway, respectively for motorist, visitors, and residents. Distant views of the Santiago Hills and Santa Ana Mountains are limited and generally only available along northbound Culver Drive, due to the low elevation of the area. Brief views of San Diego Creek are available along north and southbound Culver Drive.

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 proximity to San



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Diego Creek, a natural water course. A review of Figure 3.1-2 (*Visual Resources in the City of Irvine*) indicates there are no identified visual resources within proximity to the proposed Project.

The proposed Project is a roadway widening project located along Culver Drive and Alton Parkway within an urbanized portion of the City. In order to accommodate the new roadway design and ensure its safe operation, widening of northbound Culver Drive would be needed, but would only result in temporary construction easements. This 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 San Diego Creek located north of the intersection. 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 the roadways. A total of 18 trees would be required to be removed, relocated, and/or replaced. To the extent practicable, replacement trees would be planted, based upon a City-approved landscaping plan (to be developed during final design – See Appendix C of this IS). Although motorists, visitors, and residents would notice temporary changes in the landscaping of these roadway segments during construction, including the absence of trees and landscaping and the presence of construction materials, equipment, and personnel, their line of sight views of the adjacent open space areas (e.g., Mark Daily Athletic Field) 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 relocation and/or replacement trees and landscaping 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.



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In addition, the City of Irvine General Plan Circulation Element's Master Plan of Arterial Highways identifies Alton Parkway and Culver Drive both as "Primary Highway," with operational characteristics noted as "Parkway" for Culver Drive and "Collector" for Alton Parkway. As described previously, adjacent land uses include community and neighborhood commercial, park/recreational, and residential-medium high density.

The proposed Project is a roadway widening project located along Culver Drive and Alton Parkway 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, a less than significant 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 streetlights and private landscaping and lighting associated with residences and commercial structures are present. Light sensitive uses include the residences (e.g., San Marino Apartments supported by Westpark Master Association, privately-owned condominiums supported by Woodbridge Master Homeowners Association and Alders Homeowners Association) and potentially San Diego Creek. A review of the project site indicates that glare sources are largely absent.

During construction, the proposed Project would remove and relocate streetlights within the public ROW. The exact number of streetlights will be determined, based upon the final design. In addition, while no sources or materials of substantial light or glare would adversely impact the area, construction activities, including removal and relocation of streetlights, may cause some temporary and intermittent light redirection. No nighttime construction activities are currently proposed.

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.



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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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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.



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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 Culver Drive or Alton Parkway 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 Culver Drive or Alton Parkway 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 Culver Drive or Alton Parkway.

Therefore, no impact would occur.



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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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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 E 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). Based on the traffic study results provided in the Traffic Analysis Memorandum (see Appendix B of this IS), 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 Project would comply with the applicable rules, including the use of standard mitigation measures for construction equipment and fugitive dust (SCAQMD Rules 401, 402, 403, and 1113).

Furthermore, the thresholds of significance, adopted by 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 E 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 Air Quality Management Plan.

Therefore, a less than significant impact would occur.



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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 exhaust 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. Construction 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) developed by the Sacramento Metro Air Quality Management District (SMAQMD). Use of the model is consistent with SCAQMD and the City of Irvine CEQA guidance for linear construction projects. The proposed Project construction is anticipated to be initiated in the Winter of 2021 and extend to Summer 2022 and take approximately 8-10 months to complete, although the total duration of actual construction would be about four months combined. The construction phasing and activities with estimated approximate duration of each phase includes clear and grub and site preparation; asphalt demolition and grading; trenching and construction of sidewalks and roadway subgrade; paving, landscaping, and roadway restriping. The maximum disturbance area at any one time would be 0.18 acre and at both sides of the intersection. 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 2 and 3, respectively. Calculations and Roadmod output are provided in Appendix A of the Air Quality Technical Study Report (see Appendix E of this IS).

As shown in Tables 2 and 3 unmitigated construction emissions would not exceed the SCAQMD maximum daily emissions or localized emissions significance thresholds. Furthermore, the 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.



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Table 2. 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	2.37	0.74
Grading/Site Preparation	2.23	23.28	0.05	17.73	3.17	1.42
Construction of subgrade and Sidewalks	2.00	17.81	0.03	19.63	3.02	1.35
Paving and restriping	1.25	11.75	0.02	13.95	0.70	0.62
Maximum Daily Construction Emissions	2.2	23.28	0.05	19.6	3.2	1.40
SCAQMD Significance Threshold (lbs/day)	75	100	150	550	150	55
Exceed Threshold?	No	No	No	No	No	No

Notes:

VOC = volatile organic compound; NOx = nitrogen oxide; SOx = sulfur oxide; CO = Carbon Monoxide; PM₁₀ = particulate matter that have a diameter of less than 10 microns; PM_{2.5} = particulate matter that have a diameter of less than 2.5 microns; 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 E).

Table 3. 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	8.50	4.92	2.34	0.73
Grading/Site Preparation	2.07	22.26	15.57	3.03	1.37
Construction of subgrade and Sidewalks	1.91	17.55	18.23	2.95	1.33
Paving and restriping	1.18	11.53	12.94	0.65	0.60
Maximum Daily Onsite Construction Emissions	2.1	22.3	18.2	3.0	1.4
SCAQMD LST within 25 meters distance (lbs/day)	n/a	92	647	4	3
Exceed Threshold?	n/a	No	No	No	No

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

VOC = volatile organic compound; NOx = nitrogen oxide; CO = Carbon Monoxide; PM₁₀ = particulate matter that have a diameter of less than 10 microns; PM_{2.5} = particulate matter that have a diameter of less than 2.5 microns; lbs/day = pounds per day

Localized significance thresholds are from the SCAQMD lookup tables for Source Receptor Area 20 assuming a one-acre project site and a distance to the nearest sensitive receptor of 25 meters. Based on proposed construction phasing and schedule, it is assumed that the maximum disturbance of 0.18 acre would occurs per day of construction.



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Operational Emissions Impact

The proposed Project would improve the existing intersection of Culver Drive and Alton Parkway operations. Upon completion of construction activities, the proposed Project would not result in a measurable increase in vehicle trips, as demonstrated in the proposed Project's Traffic Analysis Memorandum (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 P.M. peak hours, and the LOS would maintain at the acceptable level (D or better) through the buildout conditions. Table 4 shows the traffic analysis results. As described in the Project's Traffic Analysis Memorandum (see Appendix B of this IS), CEQA requires a roadway improvement project that would induce a measurable and substantial increase in vehicle travel to conduct a 'vehicle miles travelled' (VMT) analysis identifying the amount of vehicle travel produced by the project. However, the proposed Project would not be vehicle travel inducing. The proposed Project involves "spot" capacity improvements and while it provides at least one additional through lane at the intersection, these additional "through" (auxiliary) lanes are merged into existing through lanes beyond the intersection (within approximately 600 feet) without continuing to an adjacent intersection. Therefore, while the intersection operates more efficiently, no vehicle inducing capacity is added to roadway segments. Other improvements included in the proposed Project involve only turn lane modifications and would not cause change in traffic volume or fleet mix.

As such, the operational capacity or fleet mix and associated emissions would not change because of the proposed Project improvements. 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 carbon monoxide emissions would be lower than the no build alternative. As such, both regional and localized operational impacts from criteria pollutants would not result in exceedance.

Therefore, a less than significant would occur.

Table 4. Comparison of Peak Hour Traffic Conditions at the Culver Drive/Alton Parkway with and without Project

Analysis Year and Scenario	AM Peak Hour		PM Peak Hour	
	LOS	ICU	LOS	ICU
Existing Year				
No Project	B	0.67	D	0.81
With Project (preferred alternative)	B	0.67	C	0.72
Interim Year				
No Project	C	0.80	D	0.86
With Project (preferred alternative)	C	0.80	C	0.76



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Analysis Year and Scenario	AM Peak Hour		PM Peak Hour	
	LOS	ICU	LOS	ICU
Buildout Year				
No Project	C	0.80	E	0.92
With Project (preferred alternative)	C	0.80	D	0.81

Source: Traffic Analysis Memorandum, Culver Drive and Alton Parkway Intersection Improvement Project (Stantec 2020)
Notes: LOS = level of service; ICU = intersection capacity utilization

Toxic Air Contaminants. Proposed Project operational emissions would not change due to proposed improvements. The greatest potential for toxic air contaminant (TAC) 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 four months of actual construction 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 emissions 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, PM2.5 and PM10 (particulate matter that have a diameter of less than 2.5 or 10 microns). The proposed Project would contribute particulates and the ozone precursors volatile organic compounds (VOC) and nitrogen oxide (NOx) to the area during short-term Project construction. As discussed in response III. a, the proposed Project would be consistent with the Air Quality Management Plan, which is intended to bring the South Coast Air Basin 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. 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 from



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construction equipment exhaust would not be substantial and would last only four 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 asphaltting. 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.



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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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

The information contained below is derived and summarized in part, from the Data Summary from Biological Reconnaissance Survey contained within Appendix F of this IS.



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- 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?*

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.

A habitat assessment and reconnaissance-level survey were conducted on October 29, 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 generally be expected to be present, exhibiting normal activity, and detectable visually or by sign; however, some species are difficult to detect during such reconnaissance surveys due to a variety of factors including being nocturnal, fossorial (underground), or otherwise secretive in nature. A complete list of all plants and wildlife observed in the BSA is presented in Appendix F of this IS. No federal, State or locally protected wildlife species were detected during the survey and an analysis based on data collected during the site assessment demonstrates that all of the special-status wildlife known to occur in the general region have a “Low” potential to occur within the BSA or are “Not Likely to Occur” at all based on a lack of suitable habitat. This is directly due to the urban development that occupies the entirety of the lands within the BSA (including proposed Project impact areas). Should they occur, impacts to special-status wildlife from the proposed Project would be significant. Refer to Appendix F of this IS for a complete list of and potential of occurrence for special-status wildlife previously documented in the region within ten and two miles of the BSA.

Several special-status plant species recognized by the California National Plant Society Rare Plant Program and assigned a California Rare Plant Rank, are known to occur in the general region surrounding the BSA; however, all are “Not Likely to Occur” within the BSA because the urban development within it (including proposed Project impact areas) does not support their preferred habitats. Impacts to special-status plants from the proposed Project, should they occur, would be significant. A full list of special-status plant species known from the general region is presented in Appendix F of this IS.

If the proposed 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, making 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



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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 proposed Project were to impact special-status plants or wildlife (including nesting birds), these impacts would be considered significant. Therefore, Mitigation Measures BIO-1 through BIO-4, which would require conducting pre-construction surveys for plants and wildlife, including nesting birds (including the implementation of avoidance measures for active nests, if necessary); administering environmental awareness training to educate Project personnel regarding potential wildlife issues; and implementing site-wide best management practices (BMPs) (i.e., measures for small wildlife in excavated pit, steep-walled holes, or open trenches and restriction guidelines for refueling near drainage features). These measures would be implemented to mitigate potentially significant impacts to special-status wildlife, including nesting birds.

Therefore, with mitigation incorporated, the proposed Project would result in a less than significant impact to special-status wildlife.

Mitigation Measures

- BIO-1 Wildlife Pre-Construction Surveys:** 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 may require specific permits prior to handling and/or have established protocols for relocation and those found within a Project impact area shall be relocated by an authorized biologist to suitable habitat outside the impact area. 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:** 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 BMPs:



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- 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 will be 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 15th through September 15th); surveys for raptors shall be conducted from January 1st to August 15th. Surveys shall be conducted within 500 feet of all Project activities.

If any special-status species are observed, consultation with U.S. Fish and Wildlife Service 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



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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. Based on the urban nature of the surroundings, the only land cover type within the BSA is Developed/Disturbed Land – approximately 1.26 acres of this land use type are expected to be impacted by the Project within the BSA. The loss of sensitive riparian plant communities, should they occur within proposed 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) and alter soil conditions within portions of the Project site. Construction activities could also result in the spread of noxious weeds within the proposed Project site and adjacent areas. Operation and maintenance of the proposed Project is not expected to appreciably increase the current level of disturbance in the area during routine maintenance activities. Because these impacts will occur wholly within areas that are already currently developed and devoid of native plant communities, including any sensitive communities, impacts to native and/or sensitive communities, including riparian habitats, are not expected to occur.

- 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?*

While a formal jurisdictional delineation was not performed as part of the reconnaissance survey conducted in support of this IS, a potential jurisdictional feature, San Diego Creek, was documented within the BSA but does not occur within proposed Project impact areas. Based on a cursory desktop



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analysis, San Diego Creek is potentially a non-wetland “Waters of the U.S.” within the BSA by virtue of its hydrological connectivity to the Pacific Ocean and would be subject to Sections 404 and 401 (Water Quality Certification) of the Clean Water Act (USACE and RWQCB). Impacts to and activities within San Diego Creek 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 Diego Creek 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 Diego Creek provide unique habitat that is distinct from the surrounding uplands, providing more continuous vegetation cover and microtopographic diversity than the surrounding uplands, though this is not the case within the BSA where the Creek is channelized by concrete-lined bed and banks. Sections of San Diego Creek up- and downstream of the BSA support somewhat more natural conditions with a soft bottom and/or banks and some growth of riparian vegetation. 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, such riparian 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 proposed Project, would include 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, though not expected to be appreciably different from current conditions.

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. If necessary, the City of Irvine would obtain permits pursuant to Sections 401 and 404 of the Clean Water Act, and Game Code Section 1600 to comply with State and federal regulations.

Although potentially jurisdictional features occur within the BSA, they are outside of the proposed Project impact areas. However, proposed improvements are located along the northeastern side of Culver Drive (north of Alton Parkway) or south of the southern bank of San Diego Creek. Project related impacts to jurisdictional waters, should they occur, would be considered significant. Therefore, Mitigation Measures BIO-1 (Wildlife Pre-Construction Surveys) and BIO-3 (Implement Best Management Practices), which would require pre-construction surveys and the 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.



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Therefore, a less than significant impact would occur to federally protected waters/wetlands with mitigation incorporated.

Mitigation Measures

BIO-1 Wildlife Pre-Construction Surveys

BIO-3 Best Management Practices

- 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 wholly developed area that does not provide pathways for wildlife movement. Due to the significant development in and around the proposed Project site, wildlife movement is generally constrained. San Diego Creek, which passes under Culver Drive in the northeastern portion of the BSA, may function as a corridor for wildlife movement; however, it is not expected to be impacted as part of the proposed Project.

Although San Diego Creek is within the BSA, no portions of the channel occur within the Project site. The creek itself potentially provides a migratory pathway for various aquatic wildlife such as coast range newts (*Taricha torosa torosa*) and other amphibians when flowing/ponded water is present. When flows are low, as is normally the case within the BSA, the creek bed may provide a conduit for travel for mammals habituated to urban environments such as coyotes (*Canis latrans*), raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginianus*), and striped skunk (*Mephitis mephitis*).

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 conducted only during daytime hours and wildlife movement is anticipated to be temporarily limited during this time; however, this would be expected to a certain degree under normal circumstances due to the existing urban setting and consistent human presence during the daytime. There are no known bird or bat migratory corridors that would be directly impeded by the proposed Project. Large concentrations of migrants are not known to utilize any specific portion of the proposed Project site and proposed Project activities are not expected to preclude use of the area. Migrating birds would maintain their existing access to riparian resources within and adjacent to the BSA.

Although species would be disrupted during certain activities, impacts to migratory corridors from the Project would be less than significant.

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



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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 Conservation Planning/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 for the San Diego Creek Watershed prepared by the USACE. Because the proposed 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.

Therefore, no impact would occur.



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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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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 Culver Drive and Alton Parkway. The Project proposes to reduce traffic congestion at the intersection and improve traffic operations. The intersection is located north of Interstate 405, and south of the San Diego Creek in the southern portion of the City of Irvine. The area is largely characterized by commercial and residential development as well as athletic fields to the northeast. 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 (SCCIC) 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 improvements at the intersection during construction would involving grading, demolition, asphalt/concrete paving, landscaping, retaining walls, traffic signal relocation, and utility replacement and relocation. These activities may result in excavation depths ranging from three (3) feet for roadway grading, 12-inches for retaining curbs, and 14 to 15 feet for signal foundations. A review of the City of Irvine General Plan's Cultural Resources Element, Figure E-1 (Historical/Archaeological Landmarks) indicates that there are no archaeological resources located within the proposed Project study area. Further, a records search was conducted at the SCCIC on November 20, 2019 for the Project Area and within a 0.25-mile radius to identify previously recorded prehistoric or historic archaeological sites or



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historic buildings and structures within and around the Project site. The cultural resources records search did not identify any cultural resources that are listed or eligible for listing on local, State, or federal registers (California Register of Historical Resources or National Register of Historic Places). Results of a record search requested from the Native American Heritage Commission (NAHC) Sacred Lands File were also negative. In addition to the NAHC negative results, Tribal representatives of the Gabrieleño Mission Indians Kizh Nation responded to AB 52 notifications requesting consultation on the proposed Project. Consultation with the City was conducted on December 17, 2019 via teleconference. The AB52 Consultation discussions affirmed that the City of Irvine will continue to communicate any updates if there are any archaeological findings during the final design and construction phase; and coordinate their involvement, as appropriate, if the presence of archaeological resources are encountered.

Although no cultural resources were identified within the proposed Project area during the records searches, there is the possibility that undiscovered archaeological resources are buried beneath the presently paved and developed intersection.

Should inadvertent discoveries be made during ground-disturbing work, the following mitigation measure will ensure less than significant impacts.

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

Mitigation Measures

CUL-1 Discovery of Prehistoric or Historic Archaeological Materials. If deposits of prehistoric or historical archaeological materials are discovered during non-monitored Project activities, all work within 25 feet of the discovery shall be redirected and a qualified archaeologist contacted, if one is not present, to assess the situation, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. Project personnel shall not collect or move any archaeological materials. It is recommended that adverse effects to the finds be avoided by Project activities. If avoidance is not feasible, the archaeological deposits shall be evaluated to determine if they qualify as a historical resource or unique archaeological resource, or as historic property. If the deposits do not qualify, avoidance is not necessary. If the deposits do so qualify, adverse effects on the deposits must be avoided, or such effects must be mitigated. Mitigation may consist of, but is not limited to, recovery and analysis of the archaeological deposit; recording the resource; preparing a report of findings; and accessioning recovered archaeological materials at an appropriate curation facility. Educational public outreach may also be appropriate. Upon completion of the assessment, the archaeologist shall prepare a report documenting the methods and results and provide recommendations for the treatment of the archaeological deposits discovered. The report shall be submitted to the South-Central Coast Information Center.

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

As noted above, the excavation depths of the proposed Project are generally shallow and would occur within the existing roadway and landscaping. As such, the potential for discovering human remains is



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considered low but cannot be ruled out. Therefore, the following mitigation measure will be required in the event of inadvertent discovery of human remains during ground-disturbing work.

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

Mitigation Measures

CUL-2: Discovery of Human Remains. In the event that human remains are encountered, work within 25 feet of the discovery shall be redirected and the County Coroner notified immediately. At the same time, a qualified archaeologist shall be contacted to assess the situation and consult with agencies as appropriate. Project personnel shall not collect or move any human remains and associated materials. If the human remains are of Native American origin, the Coroner shall notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods. Upon completion of the assessment, the archaeologist shall prepare a report documenting the methods and results and provide recommendations for the treatment of the human remains and any associated cultural materials, as appropriate and in coordination with the recommendations of the MLD. The report shall be submitted to the South-Central Coast Information Center.



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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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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 in 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 motorists 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,



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gasoline consumption) at the Culver Drive and Alton Parkway 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.



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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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



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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, a less than significant 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 improvements (widening and restriping) of two existing roadways 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, a less than significant 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 ROW, impacts related to seismic-related ground failure, including liquefaction, would remain unchanged from current or existing conditions.

Therefore, a less than significant impact would occur.



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iv. Landslides?

The proposed Project site is flat. 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 and therefore, could result in soil erosion or the loss of topsoil. Culver Drive and Alton Parkway will both be widened to accommodate the project improvements. The existing improvements to be affected include pavement, curb and gutter, sidewalk, utilities and landscaping. The proposed Project would require removal of the top surface of the roadways, extending to the roadway base and other areas for utility relocation, traffic signal relocation, catch basin inlet retrofit, and curb walls as well as other modifications to the existing sidewalk/parkway and medians. These activities may result in excavation depths ranging from three (3) feet for roadway grading, 12-inches for retaining curbs, and 14 to 15 feet for signal foundations. 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, a less than significant 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



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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, a less than significant 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 Culver Drive, extending to the roadway base and other areas for utility relocation, traffic signal relocation, catch basin inlet retrofit, and retaining wall, as well as modification of the existing sidewalk/parkway and medians. These activities may result in excavation depths ranging from three (3) feet for roadway grading, 12-inches for retaining curbs, and 14 to 15 feet for signal foundations. During construction, these surfaces would be temporarily disturbed. Due to the shallow depth of the work, and certain locations that are deeper, both located in previously disturbed work areas, it is unlikely paleontological resources would be encountered.

Therefore, a less than significant impact would occur.



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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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

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

The information contained below is derived and summarized from the Greenhouse Gas Emissions Analysis Report contained in Appendix G of this IS.

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

Construction GHG 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 varying levels throughout the construction phase (anticipated from 8 to 10 months) although the total duration of actual construction would be about four months combined. Similar to criteria pollutants, emissions of GHGs during construction of Project were quantified using the SMAQMD Road Construction Emissions Model, version 8.1.0. GHG emissions for the proposed Project were estimated at 126 MTCO₂e (metric tons of carbon dioxide equivalent) for the construction period (see Roadmod model results in Appendix A of Appendix G of this IS). When amortized over the 30-year life of the Project, annual emissions would be 4.2 metric tons of CO₂e.

Operation GHG Emissions

As described in the Project's Traffic Analysis Memorandum (see Appendix B of this IS), operation of the Project would improve the P.M. peak hour LOS at the intersection. However, the proposed project



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improvements are not considered to be vehicle travel inducing. The proposed improvements are considered “spot” capacity improvements and while provide an additional through lane at the intersection, the additional “through” (auxiliary) lane would merge into existing through lanes after departing the intersection (in approximately 600 feet) without continuing to an adjacent intersection. Therefore, while the intersection operates more efficiently, no vehicle inducing capacity is added to roadway segments. Other improvements included involve only turn lane modifications and would not cause change in traffic volume or fleet mix. As such, GHG emissions from Project implementation, only comprise the amortized construction emissions

Total Proposed Project GHG Emissions

As shown in Table 5, Project-related GHG emissions would be well below the 3,000 metric tons of CO₂e threshold.

Therefore, a less than significant impact would occur.

Table 5. Summary of Project Greenhouse Gas Emissions

Construction Phase/ Component	Emissions (tons)			Total Emissions (metric tonnes)
	CO ₂	CH ₄	N ₂ O	CO ₂ e
Clear and Grub	7.08	0.00	0.00	6.49
Grading/ Site Preparation	54.20	0.01	0.00	49.64
Construction of subgrade and sidewalks	58.88	0.01	0.00	53.77
Paving and restriping	18.05	0.00	0.00	16.53
Total Construction (tons)	138.21	0.03	0.00	126.43
Amortized Construction Emission over 30 years (metric tons/year)				4.2
Project Annual Operational Emissions				0
Total Project Emissions				4.2
SCAQMD interim significance threshold for commercial projects				3,000

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

The City does not have an adopted Climate Action Plan. The proposed Project involves minor improvements to an existing roadway intersection to improve circulation and promote pedestrian/bicycle use. As described in response to checklist item VIII. a), while the intersection would operate more efficiently, no vehicle inducing capacity is added to roadway segments and would not increase vehicle trips or miles travelled. Because the Project would result in an improvement in vehicular circulation and bicycle use opportunities, it has the potential to reduce GHG emissions compared to existing conditions. The Project involves traffic circulation improvement and would not conflict with plans, policies, and applicable regulations.



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Therefore, a less than significant impact would occur.



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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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The information contained below is derived and summarized from the Initial Site Assessment contained in Appendix H of this IS.



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- 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 Project site and temporarily stored on-site in order to construct the proposed 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?*

LePort Schools (private Montessori day care, elementary, and middle school), Russian School of Mathematics (after school program), and Woodbridge High School 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



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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 listed sites. The Department of Toxic Substances Control's EnviroStor Database and State Water Resources Control Board's Geotracker Database listed the following permitted underground storage tank site and Cleanup Program Site in the immediate vicinity of the Project site:

- A permitted underground storage tank located at Circle K Stores Inc #2709461 at 3765 Alton Parkway, Building 10; located approximately 1820 feet northwest of the of the proposed Project site.
- Westpark Cleaners located at 3881 Alton Parkway Suite D; located approximately 600 feet to the north of the proposed Project in the Westpark Plaza.
- A Santa Ana Regional Water Quality Control Board led case was closed on January 5, 2006 due to suspected Tetrachloroethylene and Trichloroethylene contamination of soils and groundwater used for agriculture, municipal and domestic supply, industrial service, and industrial process.

It should be noted however, that the above-listed sites are located near the Project area on Alton Parkway. 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 (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 California Hazardous, or Resource Conservation and Recovery Act Hazardous Waste).

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



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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: A lead-based paint 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 lead-based paint 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 3.5 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-dBA Community Noise Equivalent Level contour considered for areas potentially affected by noise from the airport operations and thus, not affected by airport noise (see the Noise discuss below). 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 Culver Drive and Alton Parkway. 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.



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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.



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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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i) result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

The information contained below is derived and summarized from the Preliminary Drainage Report and Preliminary Water Quality Management Plan (WQMP) contained in Appendices D and I, respectively of this IS.

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



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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 Facilities, and Certified Trash Full Capture Systems (trash screens) would be utilized to meet the requirements of the County of Orange Municipal National Pollutant Discharge Elimination System Water Quality Permit for post construction Low Impact Development⁵. In addition, an 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 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. 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.

⁵ Note: Per the City of Irvine Municipal Code (Title 6 -Public Works, Division 8 - Pollution), Low Impact Development shall mean a strategy for land development and redevelopment that seeks to mitigate the impacts of increases in pollution from stormwater/urban runoff. Low Impact Development 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.



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- 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 portions of the existing roadway surface to its base, and at certain locations involving utility relocations, traffic signal relocation and curb walls, as well as modification of the associated sidewalk/parkway and landscaping. These activities may result in excavation depths ranging from three (3) feet for roadway grading, 12-inches for retaining curbs, and 14 to 15 feet for signal foundations. This work 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 National Pollutant Discharge Elimination System 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, Filterra Stormwater Bioretention Facilities, and Certified Trash Full Capture Systems (trash screens) would be installed to accommodate all four drainage management areas. At the northwest corner of the intersection, it has been determined that two Filterra Stormwater Bioretention Facilities and a trash screen will be needed. The other drainage management areas located at the northwest, southwest, and southeast corners of the intersection would need to reconstruct each respective catch basin inlet with one Bioretention Facility and trash screen. All treated runoff discharges tie-in to the existing storm drain system. These facilities have been properly sized in order to accommodate the existing and proposed future flows that would originate from the roadway widening, sidewalk/parkway, and landscape modifications. Pollutants (sediment/turbidity, nutrients, heavy metals, pathogens, trash and debris, toxic organic chemicals, oil and



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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 San Diego Creek, located further north of the intersection and Culver Drive, 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 primarily focused along the four quadrants of the roadway intersection, away from the San Diego Creek. 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, 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.



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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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

a) *Physically divide an established community?*

The proposed Project entails roadway widening largely within the existing Culver Drive and Alton Parkway public ROW, and solely temporary construction easements 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 Culver Drive and Alton Parkway 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., Westpark Plaza). Therefore, the proposed Project would be consistent with this objective and policy.



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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 Culver Drive and Alton Parkway 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: There are existing striped on-street bike lanes provided on Culver Drive and Alton Parkway approaching the intersection. On the northbound, eastbound, and westbound approaches dedicated bike lane striping ends before the intersection and does not continue to the limit line on these approaches. On the southbound approach, there is existing dedicated bike lane striping to the limit line. The proposed project improvements will extend dedicated bike lane striping to the limit line on each intersection approach per current City standards. 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.



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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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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.



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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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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 in Appendix J 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 include the LePort Montessori Irvine preschool and school, located within Westpark Plaza approximately 40 to 50 feet from the edge of southbound Culver Drive. The closest residences to the proposed Project are located about 65 feet from the edge of Culver Drive, southeast and southwest of the intersection, respectively. The operation of heavy equipment may occur as close as 50 feet to the residences east of Culver Drive located on the



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southeast corner of the intersection within the Woodbridge Master Homeowners Association and the Alders Homeowners Association.

Typical sound emission characteristics of construction equipment are provided in Table 6.

Table 6. 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 and FTA 2018

Construction equipment are expected to generate noise levels ranging from 80 to 90 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 (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 90 dBA 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 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. The impact would be less than significant, and no mitigation is required.

Therefore, a less than significant impact would occur.



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Operation Impact

The proposed Project improvements were previously noted above. Project implementation would improve level of service (LOS) and intersection capacity utilization (ICU) during PM peak hours, however, based on the Project Traffic Analysis Memorandum (Stantec, 2020), traffic volumes and fleet mix along Culver Drive and Alton Parkway would not significantly change compared to the no-build scenario.

As described in Project's Traffic Analysis Memorandum, CEQA requires a roadway improvement project that would induce a measurable and substantial increase in vehicle travel to conduct a 'vehicle miles travelled' (VMT) analysis identifying the amount of vehicle travel produced by the project. However, the proposed project improvement alternatives are not considered to be vehicle travel inducing. The proposed intersection improvement alternatives are considered "spot" capacity improvements and while all alternatives provide at least one additional through lane at the intersection, these additional "through" (auxiliary) lanes are merged into existing through lanes beyond the intersection (within approximately 600 feet) without continuing to an adjacent intersection. Therefore, while the intersection operates more efficiently, no vehicle inducing capacity is added to roadway segments.

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.

The addition of a through lane on the northbound Culver Drive will bring the roadway edge about 10 feet closer to the residences of the Woodbridge Master Homeowners Association and the Alders Homeowners Association located on the southeast corner of the Culver Drive/ Alton Parkway intersection. Assuming the 3 dB per doubling of distance associated with a line source, moving the traffic 10 feet closer to the nearest residences would increase traffic noise only 1-2 dB at the receptors. As stated previously in this report, changes of 1 to 3 dB are detectable only under quiet, controlled conditions and would not be noticeable under typical environments outside and within a home.

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 7 below. Also shown in Table 7 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, and site grading processes when heavy trucks and



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equipment move within construction site. No pile driving would be used for the proposed Project construction. As shown in Table 7, vibration velocities from typical heavy construction equipment that would be used during project construction range from 0.003 to 0.21 inch/sec PPV at 25 feet from the source of activity. At 50 feet from the source of activity, vibration velocities range from 0.001 to 0.074 inch/sec PPV.

Equipment	PPV at 25 feet (inch/second)	PPV at 50 feet (inch/second)
Vibratory roller	0.21	0.074
Large bulldozer	0.089	0.031
Caisson drilling	0.089	0.031
Loaded trucks	0.076	0.027
Jackhammer	0.035	0.012
Small bulldozer	0.003	0.001

Source: FTA 2006 and Caltrans 2013

For the equipment used in proposed Project construction, 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 approximately 50 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. Impacts related to vibration would not occur, and no mitigation is required.

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. The Project site is located outside of the 60-dBA Community Noise Equivalent Level contour considered for areas potentially affected by noise from the airport operations and thus, not affected by airport noise. Furthermore, the proposed Project does not involve development of a residential land use or permanent



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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.



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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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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.



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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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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 two fire hydrants located within the project site. One is located along eastbound Alton Parkway and the other is located along northbound Culver Drive. In order to reconstruct the northbound Culver Drive curb-return at westbound Alton Parkway, an existing fire hydrant would need to be relocated inward of its currently location which could result in short-term significant impacts related to the provision of adequate fire suppression capabilities. In order to address this, a temporary fire hydrant would be put in place of sufficient capacity to meet the Irvine Ranch Water District fire flow and suppression requirements, until the permanent hydrant is installed in its proposed location and is addressed in mitigation measure PS-1.



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

Mitigation Measures

PS-1 Coordinate with Irvine Ranch Water District 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 the Irvine Ranch Water District to ensure that temporary and permanent relocation of the existing fire hydrant along westbound Alton Parkway at Culver Drive is acceptable and that the fire hydrant will have sufficient fire flow capacity to meet the Irvine Ranch Water District'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.



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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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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 Mark Daily Athletic Field is located at the northeast corner of the proposed Project. The 9.8 acres facility includes the following amenities: restrooms and drinking fountains, two lighted soccer fields, three lighted ball diamonds, bicycle trail access, two batting cages, and a concession stand. The proposed Project would not include residential or commercial land uses that would result in a population increase and therefore, increased usage or 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, increased usage or the need for parks beyond those currently in place.

Therefore, no impact would occur.



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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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

The information contained below is derived and summarized from the Traffic Analysis Memorandum contained in Appendix B of this IS.

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 D during the PM peak hour with Interim Year forecast (see Table 4: Comparison of Peak Hour Traffic Conditions at the Culver Drive/Alton Parkway with and without Project). Moreover, in Buildout Year forecast (2035) indicates that the existing intersection improvements are expected to decline to LOS C during the AM peak hour and to LOS E during the PM peak hour without the proposed Project. The proposed Project would provide capacity enhancements and improve circulation to the Culver Drive/Alton Parkway intersection. Current and future capacity demands can be better accommodated with the proposed improvements. At buildout conditions with the proposed Project, LOS would remain at C in the AM-Peak and improve from LOS E to D in the PM-Peak.



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In addition, the proposed Project is also consistent with the City's transit system. OCTA currently operates two bus routes within the project limits. Route 86 operates on Alton Parkway and Route 79 operates on Culver Drive. There are two existing bus stop locations (with signs and bench) on Alton Parkway on the northwest corner (fronting Olive Garden Italian restaurant), and the southeast corner of the intersection. On Culver Drive, there is one existing bus stop on the northeast corner of the intersection. With the proposed Project, new concrete bus pads will be constructed at these locations. In addition, due to the elimination of the southbound Culver Drive free right, a new bus stop location with bus pad will be provided on the north side of Alton Parkway west of Culver Drive (fronting Starbucks coffee shop). The City has discussed these bus stop improvements with OCTA Stops and Zones and will continue to coordinate these improvements with OCTA throughout the final design and construction phases of the project.

The proposed Project would also be consistent with the City General Plan's Circulation Element, related to bicycle goals. There are existing striped on-street bike lanes provided on Culver Drive and Alton Parkway approaching the intersection. On the northbound, eastbound, and westbound approaches dedicated bike lane striping ends before the intersection and does not continue to the limit line on these approaches. On the southbound approach, there is existing dedicated bike lane striping to the limit line. The proposed project improvements will extend dedicated bike lane striping to the limit line on each intersection approach per current City standards. These improvements would be consistent with the Circulation Element Objective B-4: Bicycle Circulation intended to: *Plan, provide and maintain a comprehensive bicycle trail network that together with the regional trail system, encourages increased use of bicycle trails for commuters and recreational purposes.* It would accomplish this by ensuring the Class 2 bicycle lanes are designed for the safety of the cyclist, which in turn, may promote increased bicycle usage and of the adjacent San Diego Creek trail network.

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. 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



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existing uses. The roadway geometry would be modified to safely include project components previous described above in Section 3.0 (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.



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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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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*

As noted above in responses a) through c) to the Cultural Resources Impact Analysis, no cultural resources have been identified within the proposed Project study area. 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 and provided an opportunity for a consultation. The City received a single request for tribal consultation from Andrew Salas, Chairman of the Gabrieleño Band of Mission Indians - Kizh



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Nation. Consultation with the City was conducted on December 17, 2019. Mr. Salas, representing the Gabrieleño Band of Mission Indians - Kizh Nation shared information about the history of their ancestors, their traditional territories and land uses, and trade routes.

Mr. Salas did not report any specific issues or known sites to be within the proposed Project area. City staff offered to communicate any updated project information, including updated project limits, proposed construction activities, grading depths, utility relocation areas, and geotechnical information during the final design phase to the Gabrieleño Band of Mission Indians – Kizh Nation, as it is available. In summary, Tribal Cultural Resources were not reported to be affected by the proposed Project.

Therefore, a less than significant impact would occur.

- 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 a), *i* above.

Therefore, a less than significant impact would occur.



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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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

The information contained below is derived and summarized from the Drainage Study and WQMP contained in Appendices D and H, respectively of this IS.

- 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 of 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 (catch basins or inlets). Because the proposed project disturbs more than 5,000 square feet of area, the project triggers Low Impact Development (LID) Best Management Practice (BMP) requirements required by the local Santa Ana Regional Water Quality Control Board NPDES Municipal Permit. These LID BMP Features include



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Filterra Stormwater Biofiltration Facilities sized to capture and treat the first flush (24-hour, 85th percentile) storm event and Certified Full Trash Capture Systems (trash screens) to comply with the Statewide Trash TMDL. Storm events greater than the 24-hour, 85th percentile storm will overflow the proposed BMPs and flow to the existing and relocated catch basins which convey storm runoff to San Diego Creek via a system of storm drainpipes. The two other catch basins inlets (one on each side of Alton Parkway) will also be reconstructed with full trash capture devices; however, runoff from these catch basins will drain the east leg of Alton Parkway and the east side of Culver Drive on both legs of the intersection. The Preliminary Drainage Report (see Appendix D) indicates the proposed Project will increase runoff flows (during a 25-year storm event) to these inlets by 0.10 cubic feet per second (cfs) and 0.01 cfs, respectively. However, the analysis determined the existing 24-inch reinforced concrete pipe is sufficient to convey the increased flows.

There are a number of other minor utilities (e.g., telephone, gas, water, irrigation, 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 (see Appendix C of this IS) 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



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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.



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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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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.



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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.



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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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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 "not likely to occur" potential of occurrence within the BSA, due to the developed nature of habitats within the BSA. Although several special-status plant species are known to occur in the region, due to the developed nature of the BSA, all were determined to have a "not likely to occur" potential. 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 Diego Creek occurs within the BSA; however, project construction is not anticipated to temporarily or permanently impact any portion of Creek potentially under the jurisdiction of



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the USACE, RWQCB, or CDFW. Further, the analysis determined that with the implementation of mitigation measures BIO-1 through BIO-4, 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 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. A field survey of the project area by a qualified archaeologist did not reveal surficial archaeological remains. Results of a record search requested from the NAHC Sacred Lands File were also negative. In addition to the NAHC negative results, Tribal representatives of the Gabrieleño Mission Indians Kizh Nation responded to AB 52 notifications requesting consultation on the proposed Project. Consultation with the City was conducted on December 17, 2019 via teleconference. The AB52 Consultation discussions affirmed that the City of Irvine will continue to communicate any updates if there are any archaeological findings during the final design and construction phase; and coordinate their involvement, as appropriate, if the presence of archaeological resources are encountered.

Although no cultural resources were identified within the proposed Project area during the records searches, there is the possibility that undiscovered archaeological resources are buried beneath the presently paved and developed intersection.

Should inadvertent discoveries be made during ground-disturbing work, the implementation of mitigation measures CUL-1 and CUL-2 will ensure less than significant impacts.

- 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 impacts.

- 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



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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.



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6.0 LIST OF PREPARERS

The following individuals prepared or participated in this IS.

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APPENDICES

Appendix A MITIGATION MONITORING AND REPORTING PROGRAM

Appendix B TRAFFIC ANALYSIS MEMORANDUM

Appendix C CONCEPTUAL LANDSCAPE PLAN

**Appendix D PRELIMINARY DRAINAGE REPORT (AVAILABLE
UNDER SEPARATE COVER)**

Appendix E AIR QUALITY TECHNICAL STUDY REPORT

**Appendix F DATA SUMMARY FROM BIOLOGICAL
RECONNAISSANCE SURVEY**

Appendix G GREENHOUSE GAS EMISSIONS ANALYSIS REPORT

Appendix H INITIAL SITE ASSESSMENT

**Appendix I PRELIMINARY WATER QUALITY MANAGEMENT
PLAN (AVAILABLE UNDER SEPARATE COVER)**

Appendix J NOISE STUDY REPORT