

Public Review Draft

CROOKED CREEK RESIDENTIAL SUBDIVISION

Initial Study/Mitigated Negative Declaration

Prepared for
City of Diamond Bar
Planning Division
21810 Copley Drive
Diamond Bar, CA 91765

November 2021



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Mayuko Nakajima
Associate Planner
909-839-7033
MNakajima@DiamondBarCA.gov

16755 Von Karman Avenue
Suite 200
Irvine, CA 92606
949.753.7001
esassoc.com



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SECTION 1

Executive Summary

1.1 Project Information

1. **Project Title:** Crooked Creek Residential Subdivision
2. **Lead Agency Name and Address:** City of Diamond Bar, Planning Division
21810 Copley Drive, Diamond Bar, CA 91765
3. **Contact Person and Phone Number:** Mayuko Nakajima, Associate Planner
909-839-7033
4. **Project Location:** Regionally, the Crooked Creek Residential Subdivision Project is located in the City of Diamond Bar within the eastern portion of Los Angeles County. Locally, the Project Site, which is defined as the entire 12.9-acre property, is located at the terminus of Crooked Creek Drive, east of SR-57 South Brea Canyon Road, and Castle Rock Road and west of Running Branch Road. The Project consists of Assessor's Parcel Number (APN) 8714-028-003.
5. **Project Sponsor's Name and Address:** Cathay View Development, LLC
701 S. San Gabriel, Suite D, San Gabriel, CA 91176
6. **General Plan Designation(s):** Low Density Residential
7. **Zoning:** RL-PD (Low Density Residential-Planned Development)

8. Description of Project:

The Project includes the development of seven single-family residences, five attached accessory dwelling units, and associated infrastructure including a southward expansion of the existing Crooked Creek Drive and a maintenance access within the Proposed Development Area of the approximately 12.9-acre vacant Project Site. The Project consists of nine total lots: seven residential lots; one lot designated for the private roadway (i.e., southward expansion of Crooked Creek Drive); and one lot which includes the maintenance access and approximately 10.4 acres of retained undeveloped area.

9. Surrounding Land Uses and Setting.

Land uses immediately adjacent to the Project Site consist of the following: single-family residences along the existing Crooked Creek Drive to the north; undeveloped area and single-family residences along Running Branch Road to the east; undeveloped area (within Los Angeles County jurisdiction) and an existing Southern California Edison (SCE) tower and associated electrical lines to the south; and the Brea Canyon Flood Control Channel and single-family residences along Castle Rock Road to the west.

10. Other public agencies whose approval is required.

Los Angeles County Flood Control District, Regional Water Quality Control Board, California Department of Fish and Wildlife, and U.S. Army Corps of Engineers.

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

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21080.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

Yes, under Assembly Bill 52 (AB 52), the City prepared and mailed notification letters to California Native American tribes traditionally and culturally affiliated with the Project Site on September 22, 2020. The Gabrieleño Band of Mission Indians – Kizh Nation responded and requested consultation, which was completed on March 12, 2021. No additional requests for consultation have been received to date.

1.2 Scope of Environmental Evaluation

The environmental issues addressed within this Initial Study/Mitigated Negative Declaration are consistent with the issues recommended by the California Environmental Quality Act (CEQA) Guidelines and used by the City of Diamond Bar in its environmental review process. The following environmental issue areas are evaluated within this Initial Study.

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources

- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Utilities and Service Systems
- Wildfire

The evaluation of each of the above environmental issues results in one of four findings. These findings are:

- No Impact. The development will not have any measurable impact on the environment, and therefore, no mitigation measures are required.
- Less-than-Significant Impact. The development will have the potential for impacting the environment, although the impact will be below the established thresholds that are considered to be significant. No mitigation measures are required.
- Less-than-Significant Impact with Mitigation Incorporated. The development will have the potential to generate impacts which may be considered as a significant effect on the environment, although mitigation measures can reduce these impacts to less than significant.
- Potentially Significant Impact. The development will have impacts which are considered significant, and additional analysis is required to identify the level of impact and mitigation measures that could reduce the impact to less than significant.

If potential impacts are anticipated to be significant, mitigation measures will be required so that impacts may be avoided or reduced to less than significant.

1.3 Environmental Factors Potentially Affected

Based on the evaluations provided in Section 3 of this Initial Study/Mitigated Negative Declaration, the environmental issues checked below would be potentially affected by the proposed Project. The environmental issues checked below involve at least one impact that is “Less than Significant Impact with Mitigation Incorporated”. There are no impacts that were found to be a “Potentially Significant Impact”; and therefore, no additional analysis or mitigation measures are required beyond those identified in this Initial Study/Mitigated Negative Declaration.

- | | | |
|--|---|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input checked="" type="checkbox"/> Geology/Soils | <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials |
| <input type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Mineral Resources |
| <input checked="" type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities/Service Systems | <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 study:

- ☐ 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 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.

SECTION 2

Introduction

2.1 Introduction and Purpose

The proposed Project includes the construction of seven single-family detached residential units with five attached accessory dwelling units within the single-family units. The residential units would be located within a development area of 2.5 acres on a 12.9-acre Project site. The Project is subject to the guidelines and regulations of the California Environmental Quality Act (CEQA). This Initial Study/Mitigated Negative Declaration (IS/MND) addresses the indirect, direct, and cumulative environmental impacts associated with the Project.

The City of Diamond Bar has prepared this IS/MND to provide the public and responsible agencies with information about the potential environmental impacts associated with implementation of the Diamond Bar Crooked Creek Subdivision Project. This IS/MND includes project-level analysis of the proposed Project.

This IS/MND was prepared in compliance with Sections 15070 to 15075 of the State CEQA Guidelines of 1970 (as amended) and California Code of Regulations, Title 14, Division, Chapter 3. In accordance with Section 15070, a mitigated negative declaration shall be prepared if an initial study identifies potentially significant effects, but revisions in the Project plans would avoid or mitigate the effects to a point where clearly no significant effects would occur. As the CEQA lead agency, the City of Diamond Bar has determined that an IS/MND shall be prepared for the Project.

2.2 Statutory Authority and Requirements

In accordance with CEQA (Public Resources Code Sections 21000–21177) and pursuant to Section 15063 of Title 14 of the California Code of Regulations (CCR), the City of Diamond Bar, acting in the capacity of Lead Agency, is required to undertake the preparation of an initial study to determine if the project would have a significant environmental impact. If the Lead Agency finds that there is no evidence that the project, either as proposed or as modified to include the mitigation measures identified in the IS/MND, may cause a significant effect on the environment, the Lead Agency must find that the project would not have a significant effect on the environment and must prepare a Negative Declaration or Mitigated Negative Declaration (MND) for that project. Such determination can be made only if “there is no substantial evidence in light of the whole record before the Lead Agency” that such impacts may occur (Section 21080(c), Public Resources Code).

The environmental documentation is intended as a document undertaken to provide an environmental basis for discretionary actions taken upon the project. The resulting documentation is not, however, a policy document and its approval and/or certification neither presupposes nor mandates any actions on the part of those agencies from whom permits and other discretionary approvals would be required. The environmental documentation and supporting analysis is subject to a public review period. During this review, public and agency comments on the document should be addressed to the City of Diamond Bar. Following review of any comments received, the City of Diamond Bar will consider these comments as part of the Project's environmental review and include them with the IS/MND documentation for consideration by the City of Diamond Bar City Council.

Following certification of this IS/MND, the City of Diamond Bar may consider approval of the Vesting Tentative Tract Map, issuance of a Conditional Use Permit, Tree Permit and Development Review approvals. Additional approvals may also be considered by other agencies with jurisdiction over the Project. Additional approvals may include the Los Angeles County Flood Control District construction easements within the Brea Channel, a California Department of Fish and Wildlife Streambed Alteration Agreement, a Los Angeles Regional Water Quality Control Board Section 401 Certification, and a U.S. Army Corps of Engineers Section 404 Permit. Each of these are further discussed in Section 3.6, Project Approvals.

SECTION 3

Project Description

3.1 Project Location

Regionally, the Crooked Creek Residential Subdivision Project (Project) is located in the City of Diamond Bar (City) within the eastern portion of Los Angeles County (County); refer to **Figure 1, Regional Map**. The surrounding jurisdictions include Pomona to the north, Chino Hills to the east, Brea and unincorporated Los Angeles County to the south, and the cities of Industry and Walnut and the unincorporated community of Rowland Heights to the west. Locally, the Project Site, which is defined as the entire 12.9-acre property, is located at the terminus of Crooked Creek Road, east of State Route 57 (SR-57), South Brea Canyon Road, and Castle Rock Road and west of Running Branch Road; refer to **Figure 2, Local Vicinity Map**. The Project consists of Assessor's Parcel Number (APN) 8714-028-003 in the northwestern quarter of the United States Geological Survey (USGS) Yorba Linda, California, 7.5-minute topographic quadrangle map within Section 29, Township 2 South, Range 9 West. Regional access to the Project Site is via SR-57. Local access to the Project Site is from the existing Crooked Creek Drive.

3.2 Environmental Setting

The Project Site consists of approximately 12.9 acres of undeveloped area which supports nonnative grassland as well as coast live oaks and southern California black walnut woodland. Elevations within the Project Site range from approximately 645 feet to 835 feet above mean sea level. The eastern portion of the Project Site consists of natural steep hillside terrain with gently rolling terrain on the northern portion. The western portion of the Project Site, the Proposed Developed Area, includes areas that are relatively flat and have elevations ranging from 645 feet to 720 feet above mean sea level.

3.2.1 General Plan and Zoning

General Plan

The general plan designation for the Project Site is Low Density Residential which allows for single-family detached residential development reaching a maximum of 3.0 dwelling units per gross acre (3.0 du/ac).



SOURCE: ESRI

Crooked Creek Residential Subdivision Project

Figure 1
Regional Map



SOURCE: Mapbox, 2020.

Crooked Creek Residential Subdivision Project

Figure 2
Local Vicinity Map

Zoning

The zoning designation for the Project Site is RL-PD (Low Density Residential-Planned Development). The maximum allowed density for new residential subdivisions within this zoning district is three dwellings per gross acre. The RL-PD zoning district is consistent with the Low Density Residential land use category of the General Plan 2040. As provided by state law (Government Code Section 65852.2) and identified in the City of Diamond Bar Municipal Code (Section 22.42.120), accessory dwelling units are allowed on residential lots without being considered to exceed the allowable density for the residential lot.

3.2.2 Existing Surrounding Land Uses

Land uses immediately adjacent to the Project Site consist of the following:

North: Single-family residences along the existing Crooked Creek Drive.

East: Undeveloped area and single-family residences along Running Branch Road.

South: Undeveloped area (within Los Angeles County jurisdiction) and an existing Southern California Edison (SCE) tower and associated electrical lines.

West: The Brea Canyon Flood Control Channel and single-family residences along Castle Rock Road.

3.3 Project Background

The original development proposal which included 16 residential lots consisting of 16 single-family residences was approved by the City Council in 2007. The property owner sold the land to Cathay View Development, LLC, in 2014, who discovered that due to the grading requirements, the development of the 16 residential lots would not be feasible. In 2018, based on input received during community meetings, the development was reduced to include 12 residential lots consisting of 12 single-family residences. In 2019, based on further geotechnical evaluations and to reduce visual impacts, the development was further reconfigured and reduced the residential lots from 12 to 11 residential lots consisting of 11 single-family residences. In addition, the expansion of Crooked Creek Drive was narrowed in the 2019 development proposal to allow reduced retaining wall heights. The reconfigured development lowered the retaining wall height from a 24-foot average to a 12-foot average on the western portion of the Proposed Development Area (i.e., the Brea Canyon Flood Control Channel side). On the eastern portion of the Proposed Development Area (i.e., the hillside), the retaining wall height was lowered from a 60-foot average to a 30-foot average. The 2019 development proposal included an incorporated access to the undeveloped area at the end of the proposed cul-de-sac of the expansion of Crooked Creek Drive. Lastly, the first floor height of the proposed single-family residences on the western portion of the Proposed Development Area was reduced ten feet.

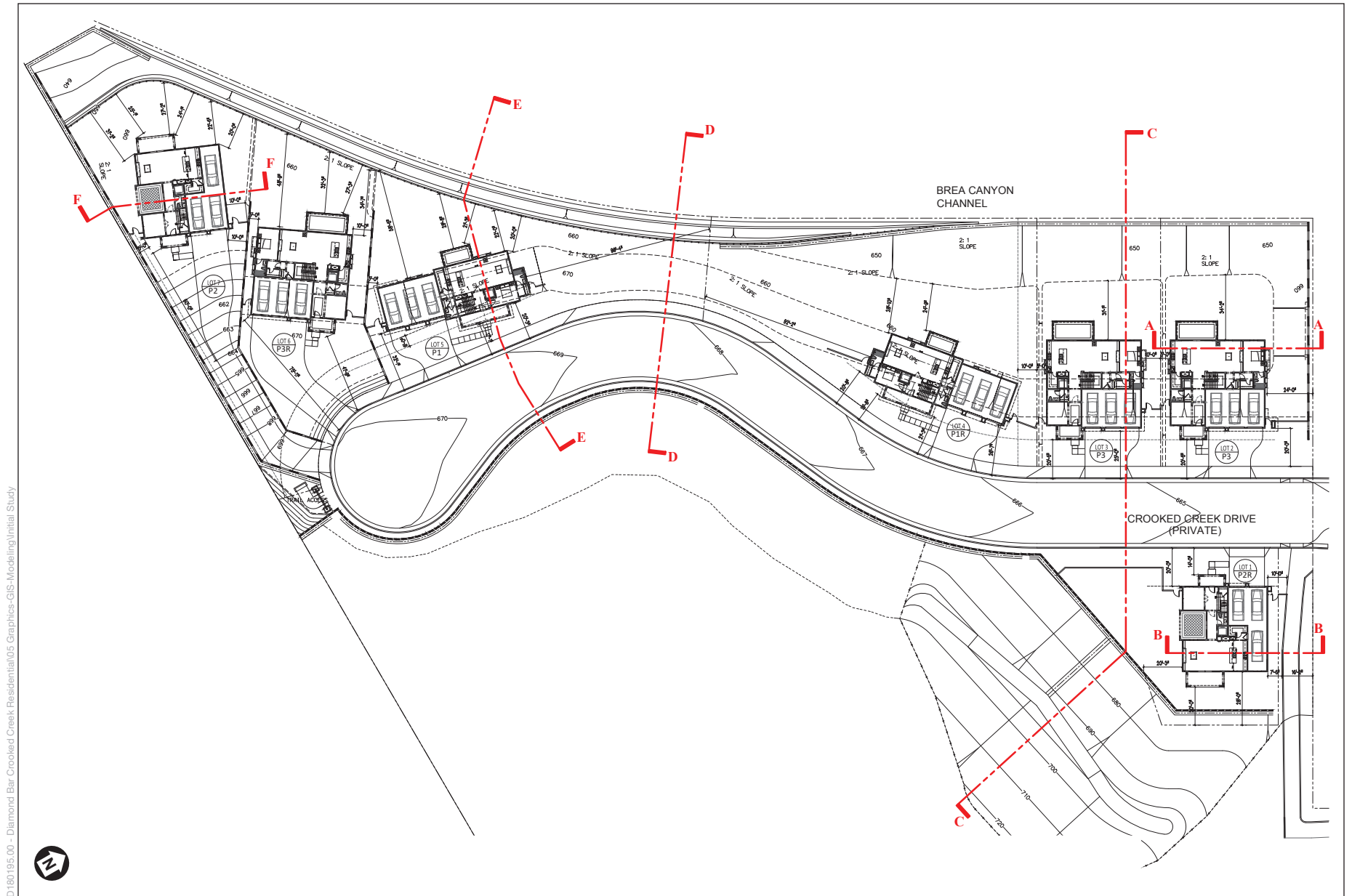
The current development proposal (the Project), reduced the total number of residential lots from 11 to 7 residential lots consisting of 7 single-family residences resulting in a development reduction of 37 percent. The total residential lot count was lowered to reduce the overall

development footprint and to allow the main access road to curve away from the hillside area; thereby substantially reducing the retaining wall requirements and slope and biological impacts on the eastern portion of the Project Site. Subsequently, the development proposal includes five attached accessory dwelling units that would be included in five of the single-family residential structures.

The multi-tier soil nail retaining wall from the 2019 development proposal was eliminated which had impacts to the slope and required the removal of a significant number of trees. The current development proposal includes a conventional retaining wall that will be planted with trees and climbing vines at the base of the wall and trees with cascading plants on the top of the wall for screening from the street. The original development proposal in 2007 included a total of 307 trees directly impacted by development, including 220 California black walnut trees and 77 coast live oak trees. While the current design of the Project reduced the number of native trees directly impacted by the proposed development by approximately 80 percent, the Project will still impact 4 coast live oak trees and 58 southern California black walnut trees. These trees will be replaced at a minimum of 3:1 in-kind replacement ratio. The proposed replacement plan includes 12 coast live oaks and 201 California black walnuts. Further, the grading was also reduced from a previous total of approximately 35,000 cubic yards of grading and 20,000 cubic yards of import for the 2019 development proposal to approximately 21,270 cubic yards of grading and a potential 5,760 cubic yards of import for the current development proposal. The current development proposal will result in an overall reduction in grading of 40 percent and dirt import of 72 percent when compared to the 2019 development proposal.

3.4 Project Characteristics

The Project includes the development of seven single-family residences, five attached accessory dwelling units, and associated infrastructure including a southward extension of the existing Crooked Creek Drive within the Proposed Development Area of the approximately 12.9-acre undeveloped Project Site. The proposed design information of the onsite improvements is provided in **Appendix A** of this IS/MND. The Project consists of nine total lots: seven residential lots; one lot designated for the private roadway (i.e., southward expansion of Crooked Creek Drive); and one lot of approximately 10.4 acres of retained undeveloped area; refer to **Figure 3, Site Plan and Project Cross Sections Index**. **Figures 4 through 9, Project Cross Sections (A-A through FF)** depict cross sections throughout the proposed development footprint to illustrate the existing and proposed grade and proposed structural improvements. **Figure 5, Vesting Tentative Tract Map**, illustrates the dimensions of each lot and proposed elevations. Approximately 3.1 acres of the Project Site will be disturbed for development of the Project. Of the 3.1 acres, approximately 2.5 acres (the Proposed Development Area) includes development of the proposed seven single-family residences with the five attached accessory dwelling units, and the southward extension of the existing Crooked Creek Drive. The remaining 0.6 acres will include hillside grading with 8-foot wide terrace drains and retaining walls. The proposed 10.4 acres of retained undeveloped area is located within the eastern portion of the Project Site. **Table 3-1, Development Summary**, below, provides a summary of the nine lots located within the Project Site.

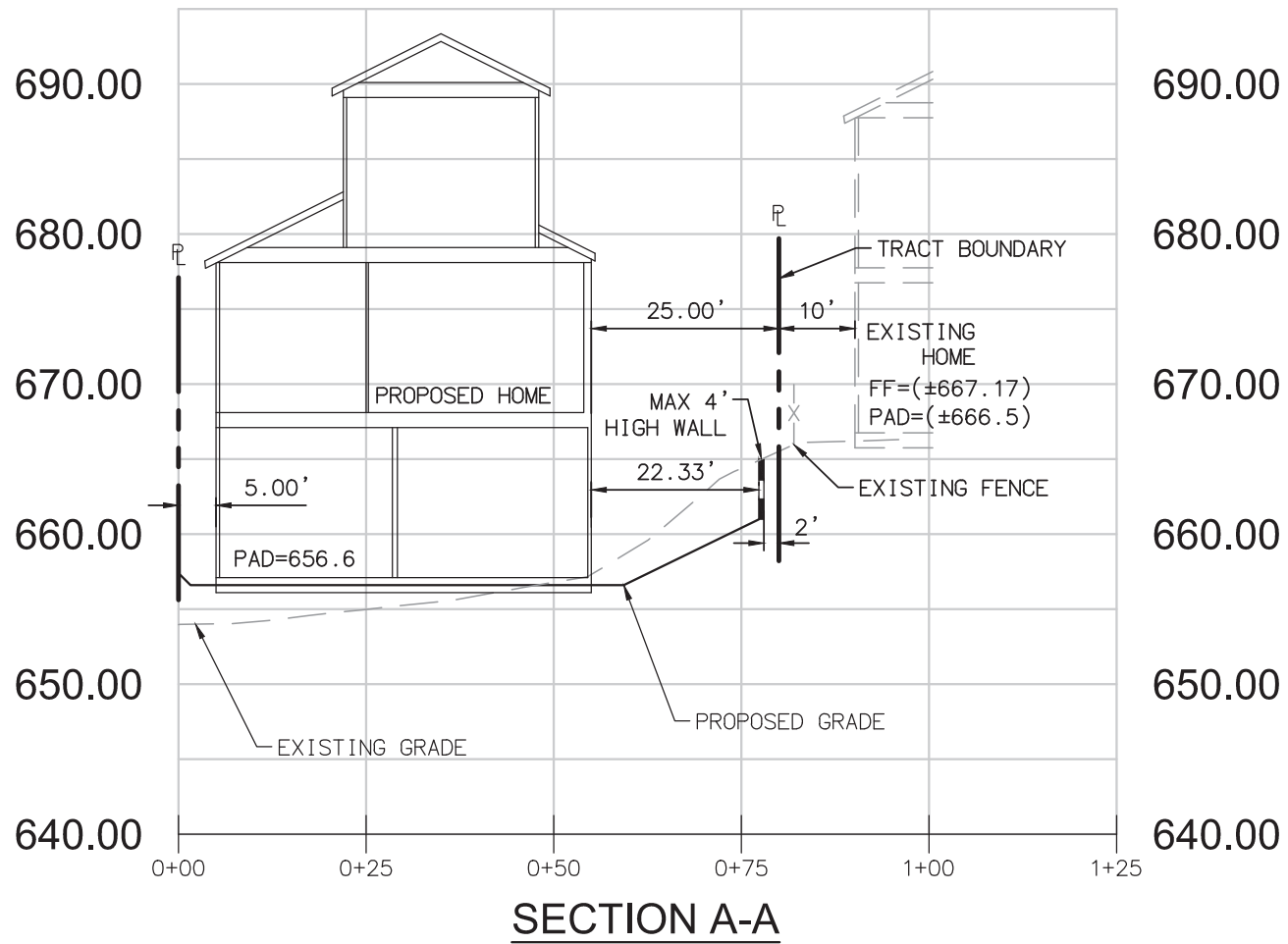


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SOURCE: Bucilla Group Architecture, 2021

Crooked Creek Residential Subdivision Project

Figure 3
Site Plan and Project Cross Sections Index



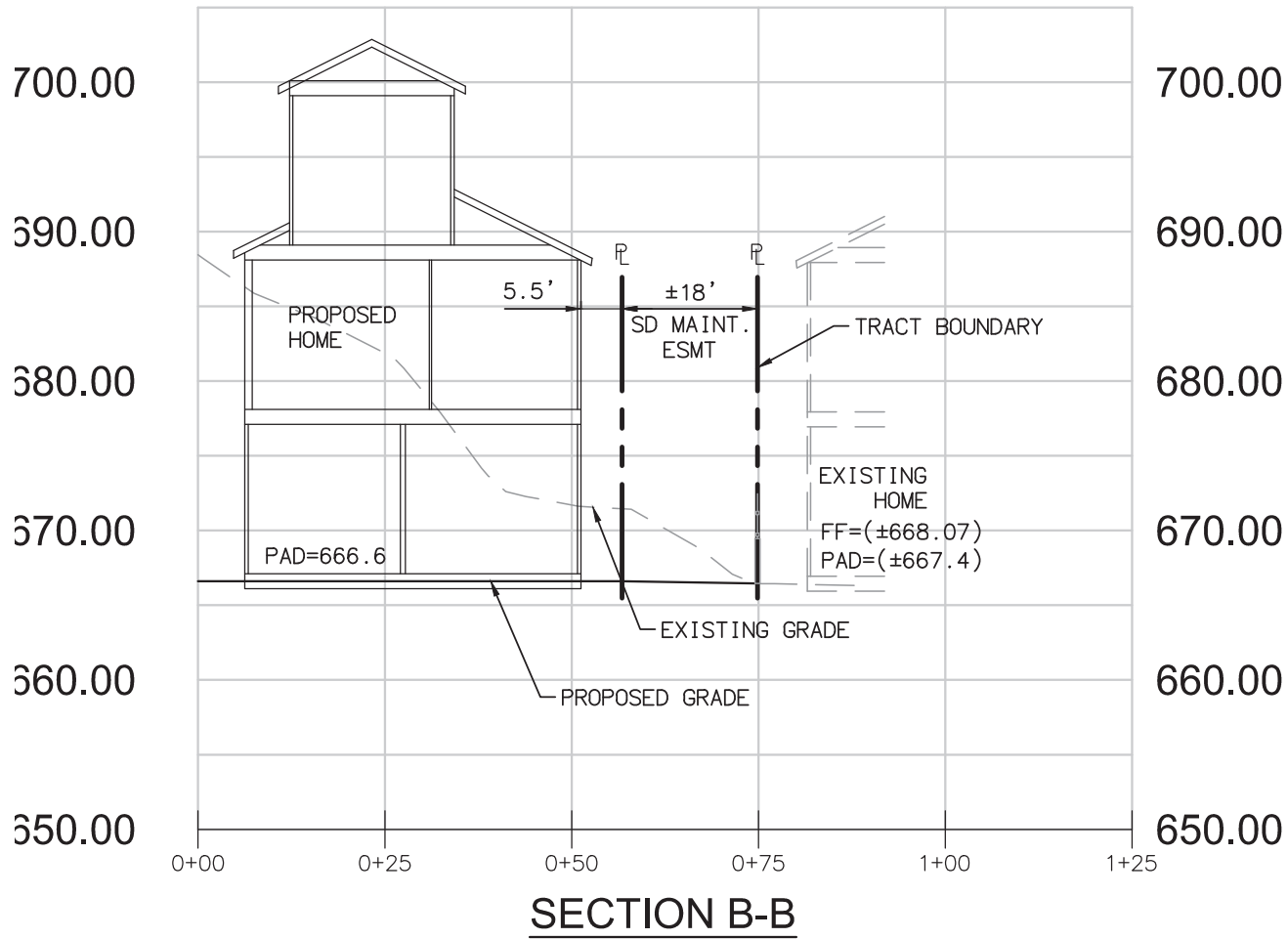
Horizontal Scale



SOURCE: Bucilla Group Architecture, 2021

Crooked Creek Residential Subdivision Project

Figure 4
Project Cross Section A-A



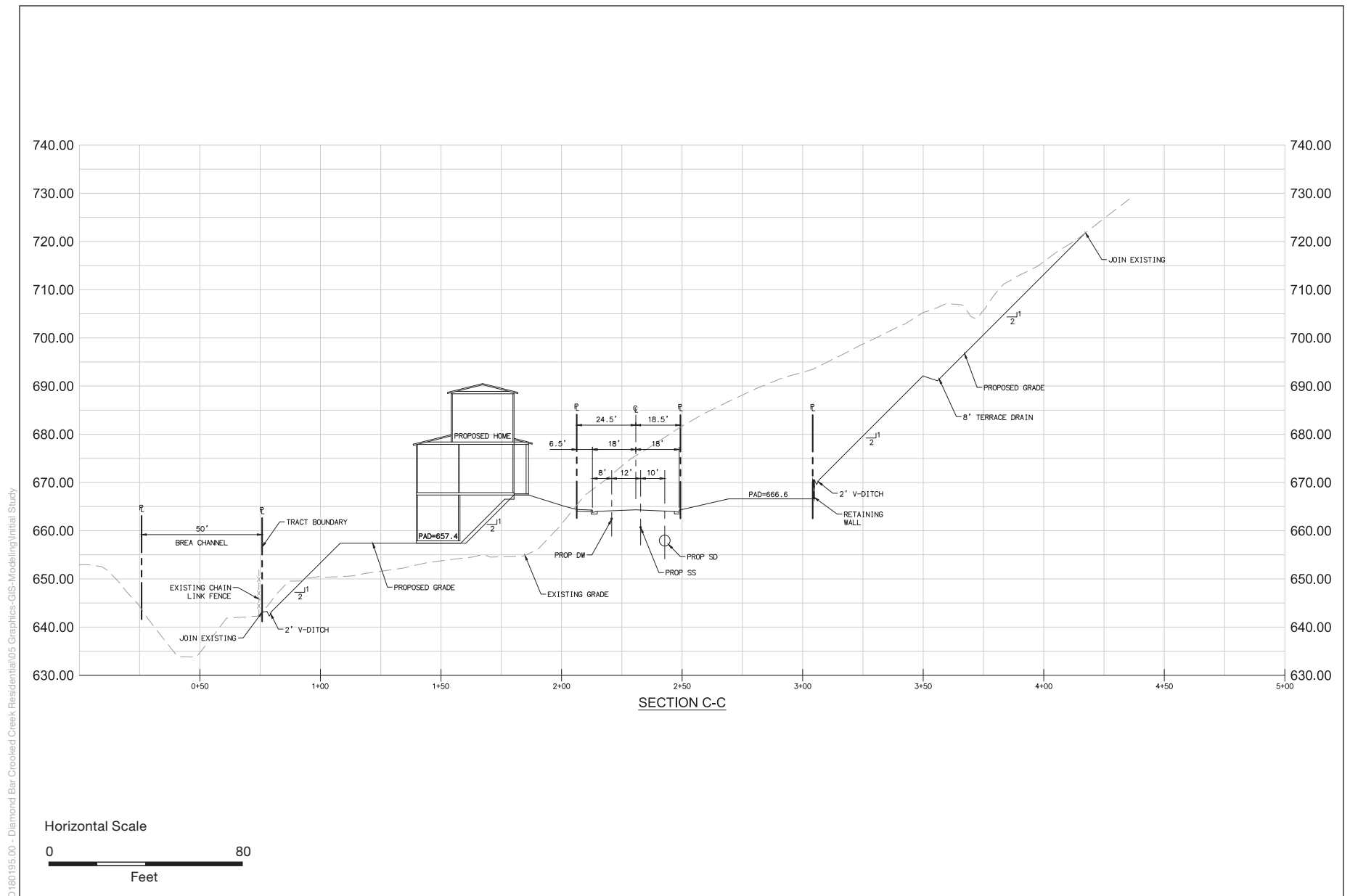
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SOURCE: Bucilla Group Architecture, 2021

Crooked Creek Residential Subdivision Project

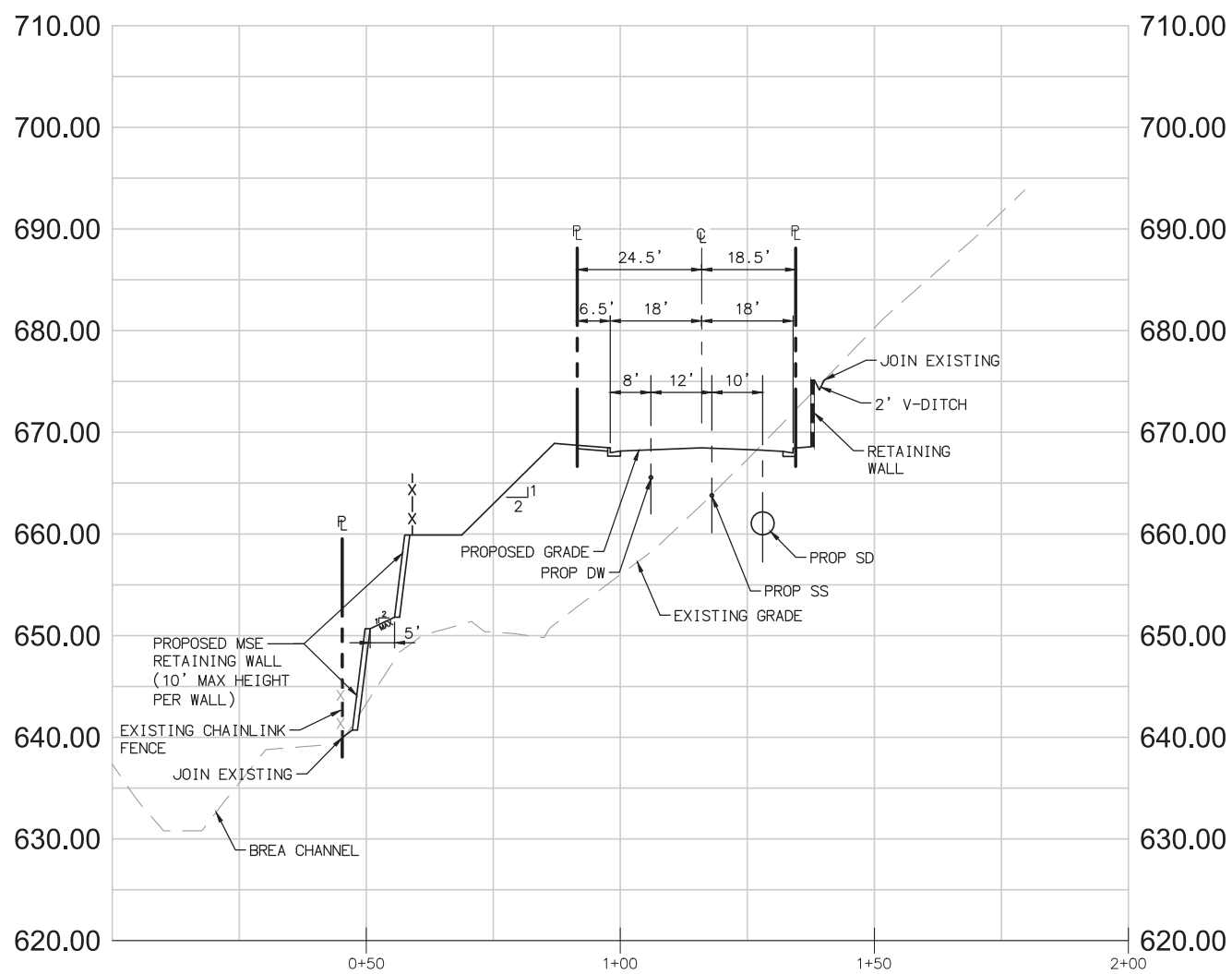
Figure 5
Project Cross Section B-B



SOURCE: Bucilla Group Architecture, 2021

Crooked Creek Residential Subdivision Project

Figure 6
Project Cross Section C-C



Horizontal Scale

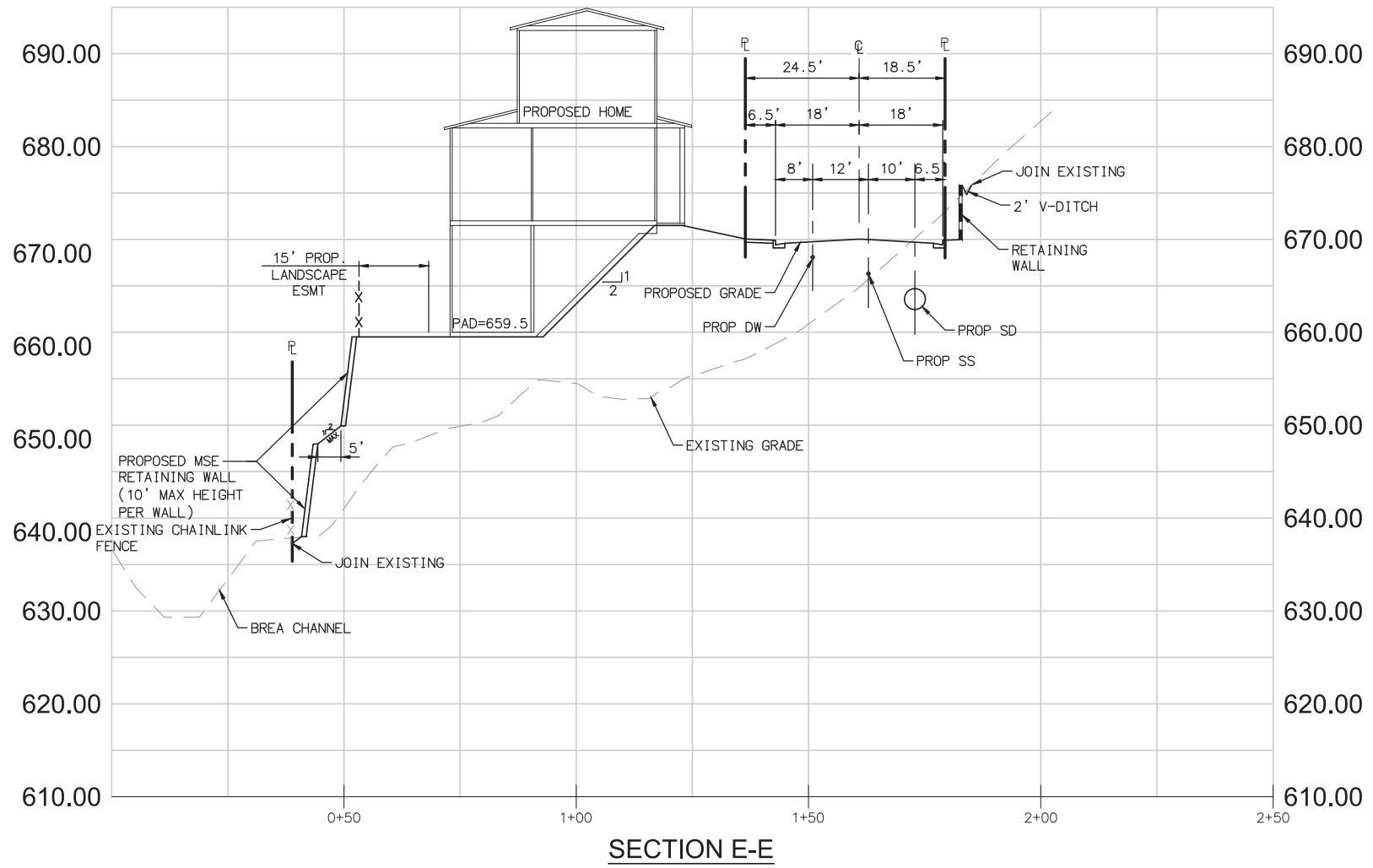


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SOURCE: Bucilla Group Architecture, 2021

Crooked Creek Residential Subdivision Project

Figure 7
Project Cross Section D-D

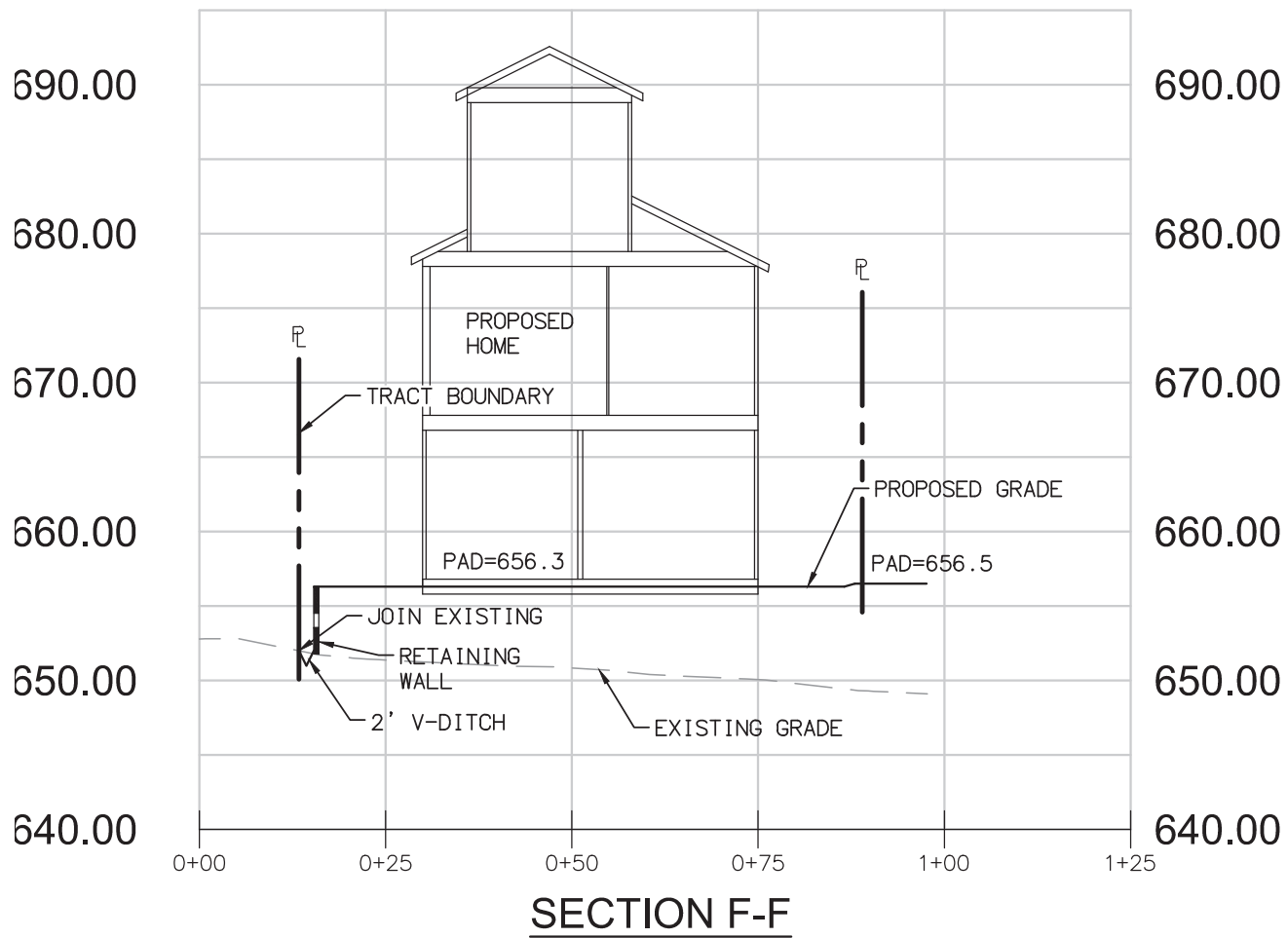


SOURCE: Bucilla Group Architecture, 2021

Crooked Creek Residential Subdivision Project

Figure 8
Project Cross Section E-E

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Horizontal Scale



SOURCE: Bucilla Group Architecture, 2021

Crooked Creek Residential Subdivision Project

Figure 9
Project Cross Section F-F

3.4.1 Residential Component

As shown in Table 3-1, the seven residential lots range in size from 8,294 square feet to 16,826 square feet. The single-family residences range in size from 3,893 square feet to 4,814 square feet up to 34 feet in height. Lots 2 through 6 also includes an attached accessory dwelling unit that range from 499 square feet to 600 square feet within the same structure as the single-family residence. The residential mix includes three separate floor plans with two separate elevations per floor plan. Six of the residential lots would be located on the western side of the expansion of Crooked Creek Drive with the one residential lot located on the eastern side; refer to Figure 3 for the location of the residential building footprints. The proposed architecture style for the residential homes is Italian Tuscan. The objective for this architectural character was to design an architectural style that blends into hillside conditions for flat and terraced residential lots along with a higher sense of luxury living. The site designed enclave uses flat, terraced and large lots to articulate stepped massing, varied character of materials, defined color, and screened landscaping surrounding the Project Site. The proposed homeowner's association would be responsible for maintenance of the expansion of the existing Crooked Creek Drive, a maintenance access easement adjacent to Lot 1, storm drain facilities, retaining walls, trees, vegetation, and the slopes.

**TABLE 3-1
DEVELOPMENT SUMMARY**

Lot Number	Lot Area (Square Feet)	Residence Size (Square Feet)	Portion of Residence Allocated for ADU (Square Feet)	Use	Program
1	8,294	3,978	NA	Single-Family Residential	5 BR/5 BA + Guest BR6/BA6, 2 PDR plus Bonus & Library, 3 car garage
2	10,439	4,814	600	Single-Family Residential	4 BR/4 BA + Guest BR5/BA5, 2 PDR plus Bonus & Library & Loft, 3 car garage
3	8,482	4,814	600	Single-Family Residential	4 BR/4 BA + Guest BR5/BA5, 2 PDR plus Bonus & Library & Loft, 3 car garage
4	16,826	3,893	499	Single-Family Residential	5 BR/5 BA + Guest BR6/BA6, 2 PDR plus Bonus Room, 3 car garage
5	13,134	3,893	499	Single-Family Residential	5 BR/5 BA + Guest BR6/BA6, 2 PDR plus Bonus Room, 3 car garage
6	10,283	4,814	600	Single-Family Residential	4 BR/4 BA + Guest BR5/BA5, 2 PDR plus Bonus & Library & Loft, 3 car garage
7	15,158	3,978	NA	Single-Family Residential	5 BR/5 BA + Guest BR6/BA6, 2 PDR plus Bonus & Library, 3 car garage

Lot Number	Lot Area (Square Feet)	Residence Size (Square Feet)	Portion of Residence Allocated for ADU (Square Feet)	Use	Program
Lot "A"	26,114	--		Private Roadway (Future Crooked Creek Drive)	--
Lot "B"	452,179	--		Undeveloped/ Open Space	--

NOTES: ADU = Accessory Dwelling Unit; BR = bedroom; BA = bathroom; PDR = powder room.

SOURCE: Michael Baker International, 2020, Vesting Tentative Tract Map No. 54081, dated August 18, 2020; Bucilla Group Architecture, Architecture Design Package, June 16, 2021.

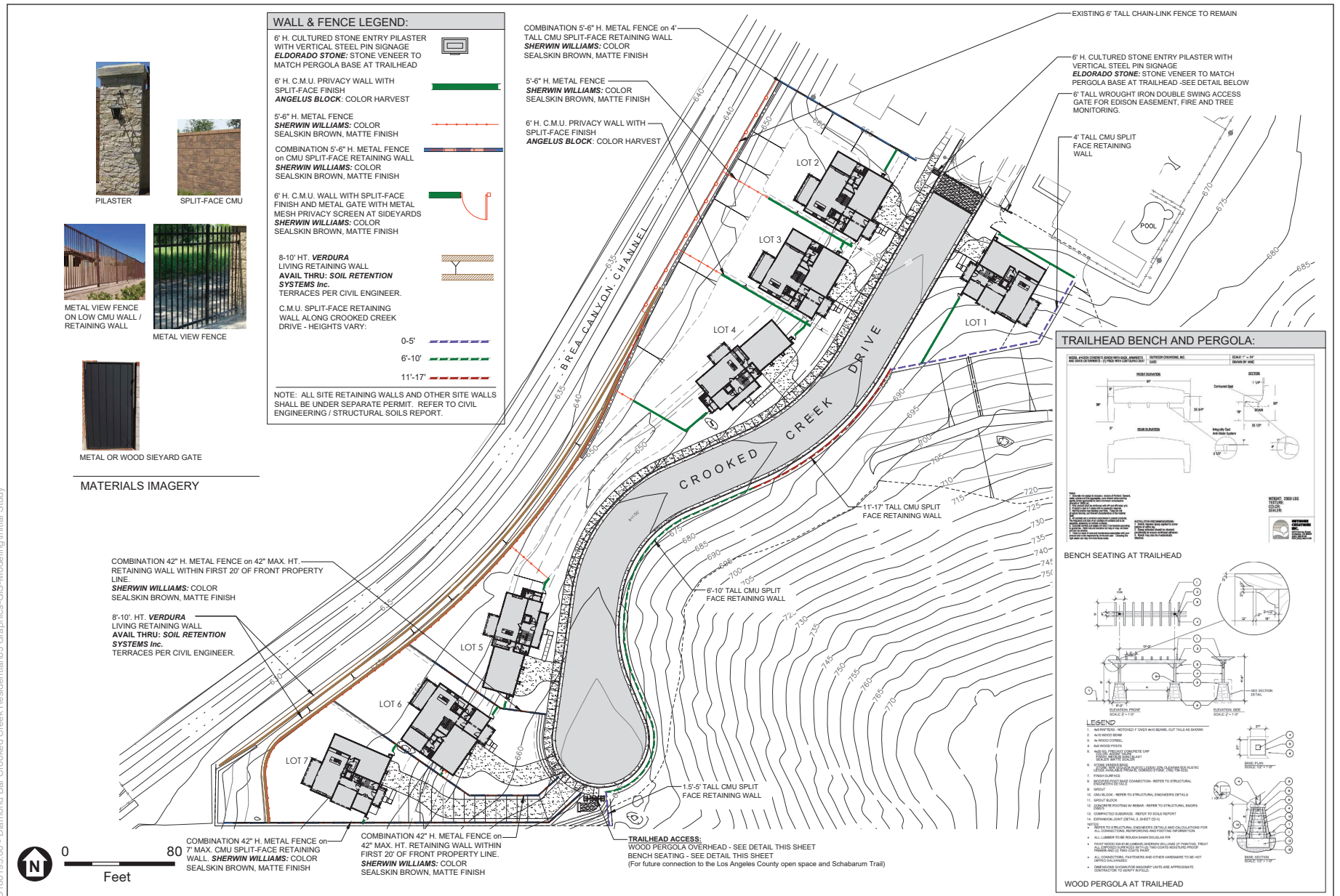
3.4.2 Roadways/Internal Circulation

The Project would include a 43-foot wide southward expansion of the existing Crooked Creek Drive which would be designated as a private roadway. The Project would not include a community gate but would include private signage indicating the community is private. A 6.5-foot wide sidewalk is proposed along the western side of the proposed Crooked Creek Drive expansion. A public easement would be located over the proposed sidewalk to initially provide public access to the trail head and ultimately provide a future trail connection with the conceptually planned Schabarum Trail. The public easement would extend to the proposed Crooked Creek Drive cul-de-sac to the proposed trail access and trail head. The trail would be constructed in the future as part of a separate project. The trail head and access point are part of the Project and would include decomposed granite, City signage, and a shaded bench per City design standards.

A proposed approximately 18-foot wide maintenance easement would be provided north of residential lot number 1 and east of the proposed extension of Crooked Creek Drive. The maintenance access easement would include a 6-foot high gate to provide access to the Southern California Edison (SCE) easement as well as access to the undeveloped/open space area east of the proposed development area for maintenance. Public access would not be allowed.

3.4.3 Fencing/Retaining Walls

Fences and retaining walls proposed on the Project Site are illustrated in **Figure 11, Walls and Fences**. Located at the rear yards of all residential lots adjacent to the Brea Canyon Channel would be 5.5-foot high metal view fences. All residential lots would include 6-foot high concrete masonry unit (CMU) walls with various heights above grade at the side yards. The Project includes exposed retaining walls up to 4 feet in height located within the north side of residential lot number 2 adjacent to the existing single-family residences. While the retaining wall will be slightly visible to the proposed single-family residence in residential lot number 2, the wall would not be visible to the adjacent existing single-family residence. Further, an exposed retaining wall up to 4 feet is proposed in the rear of residential lot number 1 adjacent to the open space area.



SOURCE: Studio H Landscape Architecture, 2021

Crooked Creek Residential Subdivision Project

Figure 11
Walls and Fences Plan

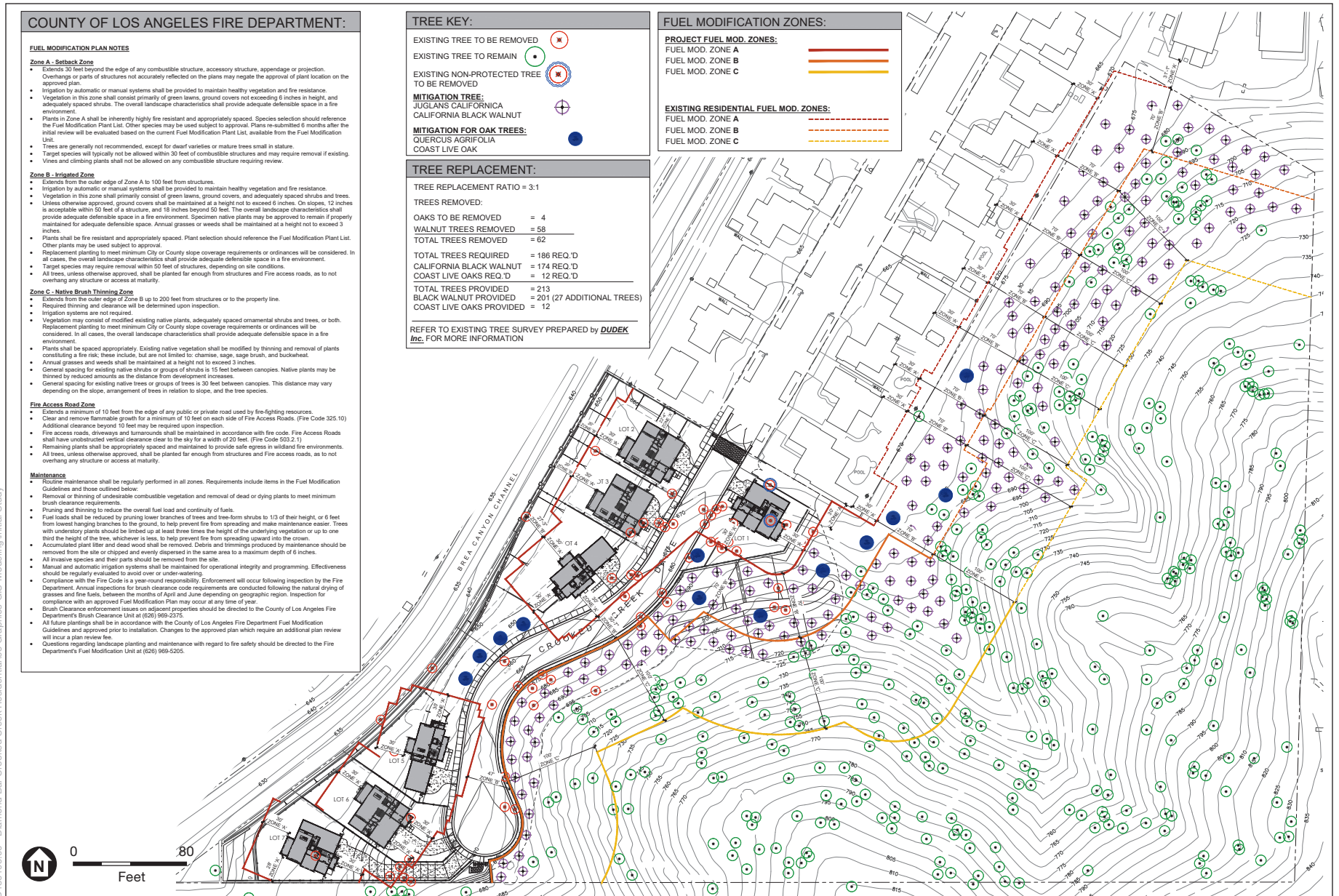
On the eastern portion of the proposed expansion of Crooked Creek Drive, an exposed CMU retaining wall with varying heights ranging from 6 feet to 17 feet in height will be constructed. An 11-foot to 17-foot high retaining wall would be constructed along the proposed expansion of Crooked Creek Drive from the southern portion of lot number 1 to approximately 120 feet south of lot number 1 and then the remaining retaining wall to the proposed Crooked Creek Drive cul-de-sac would include heights ranging from 6 feet to 10 feet. A proposed 7-foot high exposed retaining wall with a 42-inch high metal fence on top of the retaining wall would be located at the south side of residential lot 7 and adjacent to the SCE property. A 42-inch high metal fence on top of a 42-inch high exposed retaining wall is proposed between residential lots 6 and 7 along the proposed driveway of residential lot 7. On the western portion of the Proposed Development Area adjacent to the Brea Canyon Flood Control Channel, two approximately 8 to 10-foot high verduro retaining walls that includes climbing vines on the faces of the walls are proposed.

3.4.4 Landscaping/Plant Palette

The Project includes removal 4 coast live oak trees and 58 southern California black walnut trees. To comply with the City's tree replacement ratio program of at least 3:1, the Project will provide 213 replacement trees (12 coast live oak trees and 201 southern California black walnut trees) as shown in **Figure 12, Protected Tree Removal and Replacement Plan**. The preliminary plant palette includes a variety of trees to be planted throughout the Proposed Development Area including Brisbane box, Bradford pear trees, fruitless olive trees, coast live oaks, and California black walnut trees; refer to **Figure 13, Preliminary Landscape Tree Plan**. Large and medium shrubs, spreading shrubs, accent shrubs, groundcover, and climbing vine on the retaining walls are proposed located throughout the Proposed Development Area (**Figure 14, Preliminary Landscape Shrub and Groundcover Plan**). The entry of the Proposed Development Area includes an enhanced textured vehicular paver, a 6-foot high stone pilaster with concrete cap and vertical steep pin monument signage. Rows of fruitless olive trees and Bradford pear trees are proposed along the backyards of Lots 2 through 4 and along Lots 5 through Lot 7 to screen views of the lower portions of the proposed residences from west of Brea Creek Channel. As discussed above, the Project would include conventional retaining walls that will be planted with trees and climbing vines at the base of the wall and trees with cascading plants on the top of the wall for screening from the street.

3.4.5 Fire Protection Features and Fuel Modification Zones

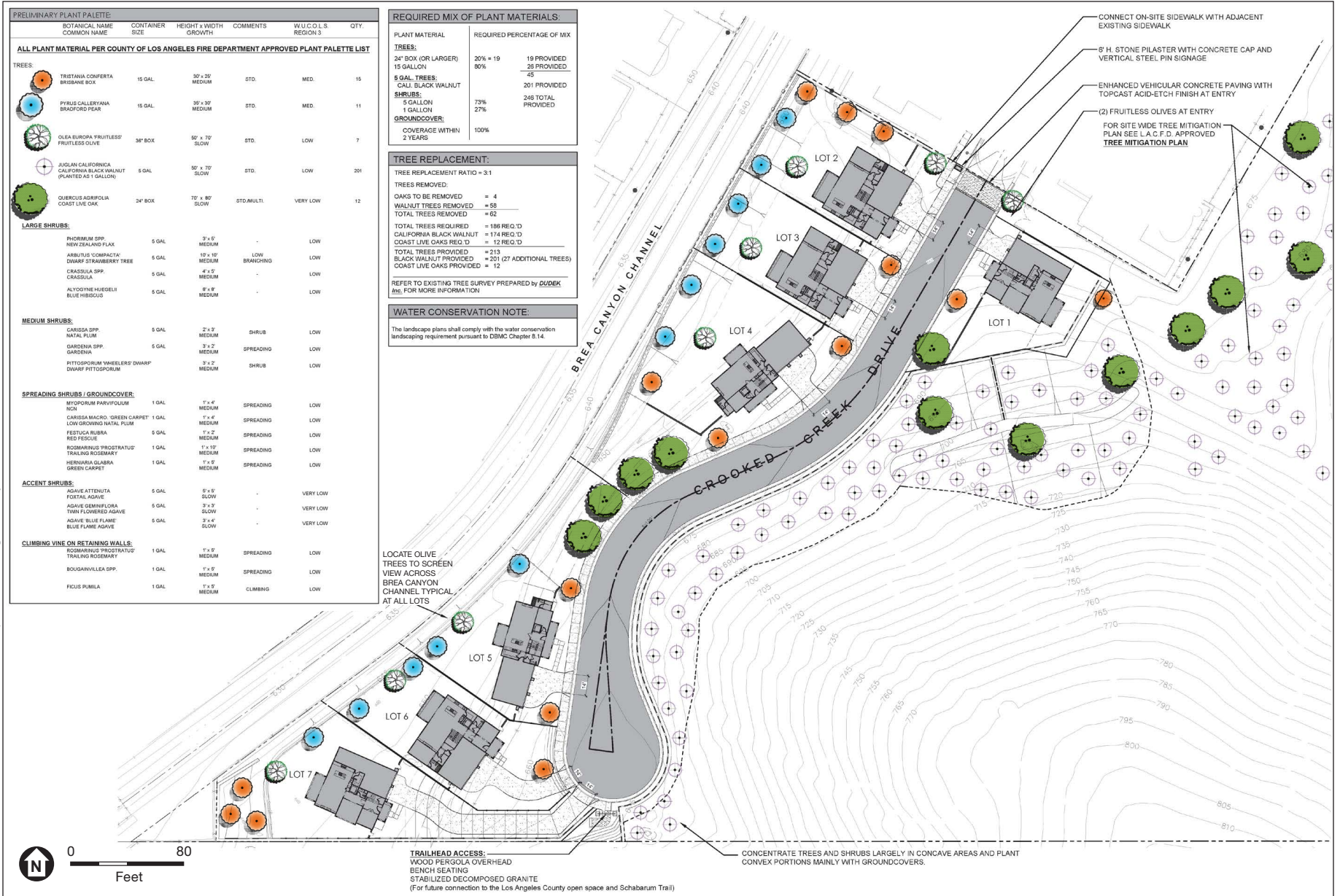
The Project Site is located within a very high fire hazard severity zone. A preliminary fuel modification plan has been prepared that identifies the three fuel zones as Zone A (Setback Zone), Zone B (Irrigated Zone), and Zone C (Native Brush Thinning Zone) (see Appendix O of this IS/MND). In addition to limiting vegetation in the vicinity of the proposed residential structures, the Project includes fire protection features pursuant to Municipal Code Section 22.22.140 such as roofs, exterior walls, balconies, patio roofs and eaves covered with noncombustible materials or fire-resistant materials. In addition, the Project includes interior fire sprinklers within each residence.



SOURCE: Studio H Landscape Architecture, 2021

Crooked Creek Residential Subdivision Project

Figure 12
Protected Tree Removal and Replacement Plan



SOURCE: Studio H Landscape Architecture, 2021

Crooked Creek Residential Subdivision Project

Figure 13
Preliminary Landscape Tree Plan



SOURCE: Studio H Landscape Architecture, 2021

Crooked Creek Residential Subdivision Project

Figure 14
Preliminary Landscape Shrub and Groundcover Plan

3.4.6 Water

Water is provided to the Project Site by the Walnut Valley Water District (WVWD). The Project includes a connection to the existing 6-inch domestic water lines located within the existing Crooked Creek Drive. A 6-inch domestic water line is proposed to be installed beneath the proposed southward expansion of Crooked Creek Drive.

3.4.7 Wastewater

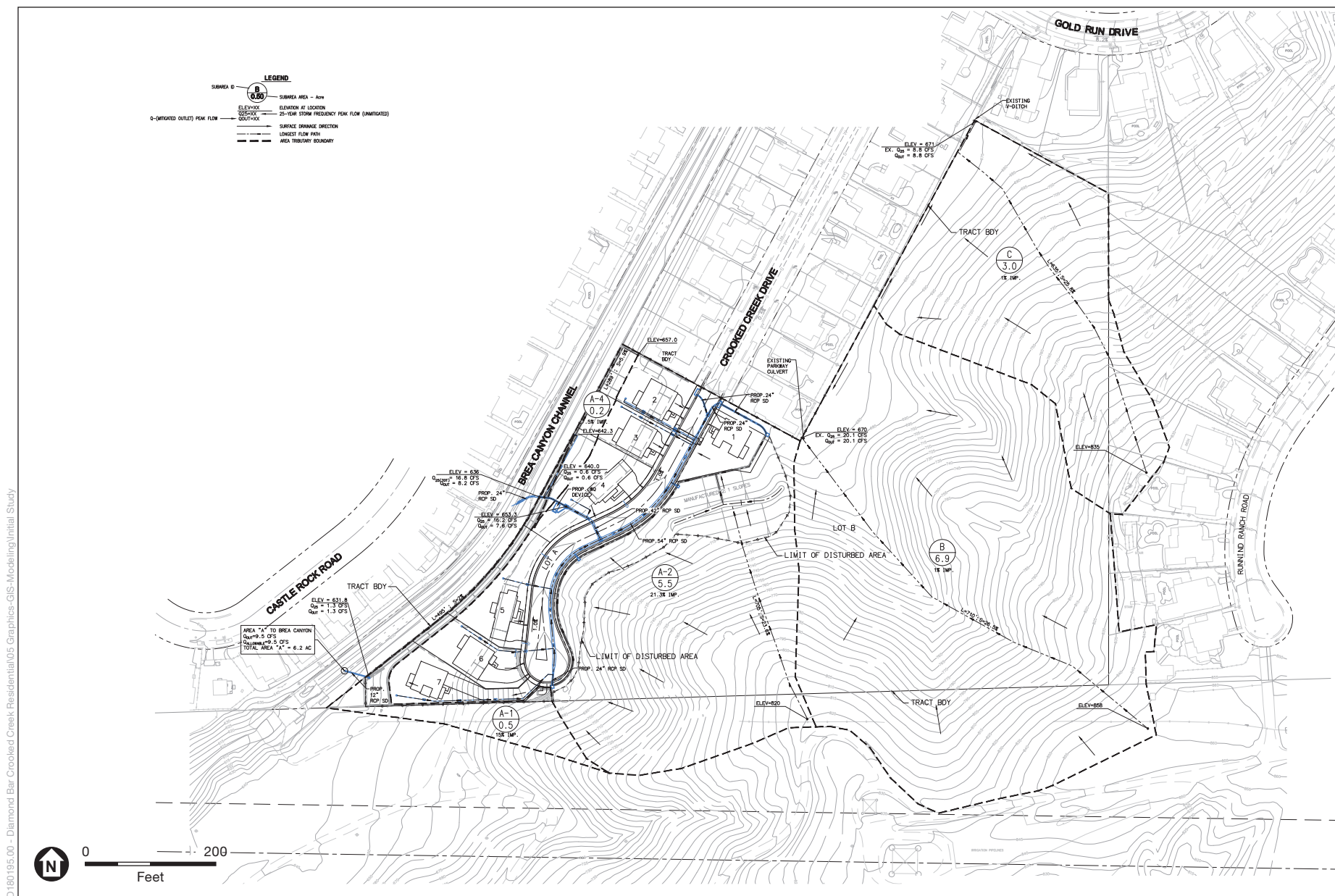
Wastewater services for the Project Site are provided by the County. The Project is proposing to connect to the existing 8-inch sanitary sewer lines located within the existing Crooked Creek Drive. An 8-inch sewer line is proposed to be installed beneath the proposed southward expansion of Crooked Creek Drive.

3.4.8 Drainage/Stormwater

The existing topography results in the conveyance of storm water within three drainage areas (**Figure 15, Existing Condition Hydrology Map**). Drainage Area A encompasses 6.2 acres, located on the west side of the Project Site, and conveys storm water from east to west to the Brea Canyon Channel via surface runoff. Drainage Area B encompasses 6.9 acres, located in the southeast portion of the Project Site, and conveys storm water from southeast to northwest to a v-ditch located behind the existing residential lots along the existing Crooked Creek Drive. These flows are directed to a culvert located on the south side of the existing residential lot (north of proposed Lot 1) and conveyed to the existing Crooked Creek Drive cul-de-sac. Drainage Area C is located in the northeastern portion of the Project Site, encompasses 3.0 acres, and conveys storm water from east to northwest to an existing v-ditch located behind the existing residential lots along the existing Crooked Creek Drive. These flows are conveyed north to Gold Run Drive.

The proposed development area will be located within Drainage Area A while no improvements are proposed within Drainage Areas B and C (**Figure 16, Proposed Condition Hydrology Map**). The proposed drainage facilities within Drainage Area A will convey storm water to storm drains and ultimately to the existing Brea Canyon Channel west of the Project Site. The majority of the storm water east of the proposed Crooked Creek Drive will be conveyed to a proposed v-ditch located behind the proposed retaining wall that borders the east side of Crooked Creek Drive. Storm water entering into the proposed v-ditch is proposed to be conveyed south to the proposed cul-de-sac and enter a proposed 54-inch storm drain that extends the length of the proposed Crooked Creek Drive.

The remaining amount of storm water east of Crooked Creek Drive will be conveyed north toward proposed Lot 1 and will either be directed to the east or west side of Lot 1 and eventually into the proposed 54-inch storm drain along the proposed Crooked Creek Drive. Storm water entering into the proposed 54-inch storm drain along Crooked Creek Drive will be convey south from the northern portion of the proposed development area or conveyed north from the proposed Crooked Creek cul-de-sac.



SOURCE: Michael Baker International, 2021

Crooked Creek Residential Subdivision Project

Figure 16
Proposed Condition Hydrology Map

Storm water within the proposed 54-inch storm drain would be directed to a proposed 42-inch storm drain that would extend through Lot 4 and convey storm water west to Brea Canyon Channel. Storm water from the front yards of the proposed development area west of Crooked Creek Drive will be conveyed to Crooked Creek Drive and eventually conveyed to the proposed 54-inch storm drain. Storm water from the backyards of the proposed development area west of Crooked Creek Drive would be conveyed to proposed 12-inch storm drains extending from the backyards of Lot 2, 3, 5, 6 and 7 to the proposed 54-inch storm drain along Crooked Creek Drive.

An additional proposed 12-inch storm drain from the backyard of Lot 4 would extend to the proposed 42-inch storm drain. Storm water within the proposed 54-inch storm drain would be conveyed to the proposed 42-inch storm drain and then to the proposed water quality structure that provides bioretention/biofiltration treatment prior to entering into a proposed 24-inch storm drain that would convey storm water to existing Brea Canyon Creek Channel.

Furthermore, a portion of the offsite area south of the Project site conveys storm onto the Project Site and west toward the existing Brea Canyon Channel. The Project includes a proposed v-ditch that will convey storm water to the west onto the Project Site and to a proposed 12-inch storm drain in the southwest corner of the Project Site. Storm water within the proposed 12-inch storm drain would be conveyed into the existing Brea Canyon Channel.

3.5 Construction Activities and Grading

Project construction would take place for approximately 12-14 months, from 2022 to 2023 and require approximately 150 construction days. The construction activities would comply with the existing City of Diamond Bar Noise Ordinance which requires construction activities to occur between 7:00 A.M. and 7:00 P.M, Monday through Saturday, except on federal holidays. Because daylight ends around 5:00 P.M. during the winter, no construction activities would occur after daylight. Construction of the seven single-family residences that includes five accessory dwelling units as well as associated infrastructure including a southward expansion of the existing Crooked Creek Drive and a maintenance access easement would involve the use of a variety of heavy construction equipment onsite. The majority of the equipment and vehicles would be associated with the intensive earthwork, building construction and utilities installation, paving, and architectural coating. Large construction equipment including backhoes, compactors, cranes, excavators, haul trucks, pavers, and rollers would be used during the construction phase of the Project. Clearing and grubbing of the site includes removal of trees and vegetation.

The Project would include approximately 14,480 cubic yards of cut and 19,510 cubic yards of fill resulting in 5,030 cubic yards of potential imported soil; refer to **Figure 17, Preliminary Grading Plan**. Two portions of the Project Site show evidence of historical landslides. One landslide area, to remain undisturbed, is located within the northeastern portion of the Project Site adjacent to the existing single-family residences. The proposed onsite grading would remove and re-stabilize the second landslide area located immediately south of the adjacent existing single-family residences. This landslide area is east of the proposed southward expansion of Crooked Creek Drive where residential lot number 1 is to be developed. As discussed above, an exposed retaining wall up to 4 feet in height and 8-foot wide terrace drains are proposed in the rear of residential lot number 1 adjacent to the open space area.



Crooked Creek Residential Subdivision Project



3.6 Project Approvals

The City of Diamond Bar, as Lead Agency for the Project, has discretionary authority over the Project. To implement the proposed Project, the following approvals and permits would be required:

- Approval of the Vesting Tentative Tract Map;
- Issuance of a Conditional Use Permit within the RL-PD Overlay for the proposed retaining wall heights;
- Tree Permit; and
- Development Review for the design of the proposed single-family residences.

In addition to the City of Diamond Bar approvals, the following approvals may be required for the implementation of the Project.

- Los Angeles County Flood Control District – Approval of an easement and construction of two storm drains into flood control channel.
- California Department of Fish and Wildlife - Section 1600, Streambed Alteration Agreement (extension of two proposed drainage lines into Brea Canyon Flood Control Channel)
- Regional Water Quality Control Board – Section 401 Water Quality Certification (extension of two proposed drainage lines into Brea Canyon Flood Control Channel)
- U.S. Army Corps of Engineers – Section 404 (extension of two proposed drainage lines into Brea Canyon Flood Control Channel)

SECTION 4

Environmental Checklist

4.1 Aesthetics

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>
c) In non-urbanized areas, 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 daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

Except as provided in Public Resources Code Section 21099, would the Project:

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

Less than Significant Impact. A scenic vista is a publicly accessible viewpoint that provides expansive views of a highly valued landscape. According to the City of Diamond Bar General Plan, existing vistas of significant hillside features such as ridgelines should be preserved. Existing views of the proposed development area from the Project vicinity are limited. The publicly accessible viewpoints that provide views of the Project site, but no expansive views, are at the existing Crooked Creek Drive cul-de-sac as well as from Castle Rock Road over the roofs of the existing single story residential units. These existing viewpoints do not provide expansive views of highly valued landscape.

Views of the Project site primarily include walnuts trees with annual brome grassland that includes shrubs such as blue elderberry, poison oak and lemonade berry. These trees and scrubs that are viewable from offsite areas are located on the slopes within the proposed development area. Additional portions of the Project site that are outside of the proposed development area are

located east of the existing residences located along Crooked Creek Drive south of Gold Run Drive. These additional portions include relatively flat terrain area immediately east of the existing residences and then sloping hillsides further to the east. The relatively flat terrain area includes grasses while walnut trees and scrubs are located along the sloping hillsides.

The Diamond Bar General Plan identifies the preservation of existing vistas of significant hillside features such as ridgelines particularly from public places. The surrounding area's public places are along existing streets that have impeded views of the Project site. Views of the Project site are provided along existing Crooked Creek Drive cul-de-sac as well as from Castle Rock Road over the roofs of the existing single story residential units. These views primarily include walnut trees with annual brome grassland that includes shrubs such as blue elderberry, poison oak and lemonade berry. These trees and scrubs that are viewable from offsite areas are located on the slopes within the proposed development area. Additional portions of the Project site that are outside of the proposed development area are located east of the existing residences located along Crooked Creek Drive south of Gold Run Drive. These additional portions can be viewed from Crooked Creek Drive are over the roofs of the existing two-story residential units. Views of the relatively flat terrain area immediately east of the existing residences are not viewable from Crooked Creek Drive; however, views of the sloping hillsides further are available to the east. The relatively flat terrain area includes grasses while walnut trees and scrubs are located along the sloping hillsides.

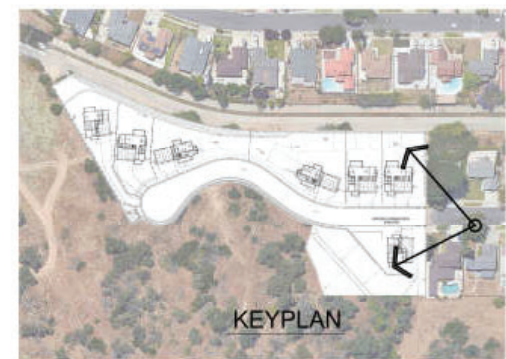
The development of the Project would alter the existing impeded views from offsite areas.

Appendix B of this IS/MND includes visual simulations that depict the visual changes on the Project site with the implementation of the proposed Project. At the existing Crooked Creek cul-de-sac, views of the Project site would include residential structures that are adjacent to the extension of Crooked Creek Drive. At the existing Crooked Creek Drive cul-de-sac, one structure can be viewed on the east side of Crooked Creek Drive and three structures would be viewed on the west side of Crooked Creek Drive (**Figure 18, *Simulated View of Project Site from the Existing Crooked Creek Drive Cul-de-sac***). Beyond the residential structure on the east side would include an 11 foot to 17-foot high split-faced retaining wall that includes a textured earth tone color. Above the retaining wall includes walnut trees. Along Castle Rock Road, views are provided over the existing single story residential structures. These existing views include walnut trees and understory. With the development of the Project as shown in **Figure 19, *Simulated View of Project Site from Castle Rock Road***, the proposed landscaping along the west side of the Project site and the upper story of the proposed residences would be viewable. The proposed Project components would include a backdrop of the hillside that includes walnuts and understory.

Because the existing vistas of the project site are from public locations that are obstructed by existing residential development and the proposed residential structures will be partially obstructed by proposed trees and lower in elevation than the tops of the existing slopes, impacts to existing vistas would be less than significant.



PROJECT ENTRY



SOURCE: Bucilla Group Architecture, 2021

Crooked Creek Residential Subdivision Project

Figure 18

Simulated View of Project Site from the Existing Crooked Creek Drive Cul-de-sac



VIEW FROM CASTLE ROCK RD.



SOURCE: Bucilla Group Architecture, 2021

Crooked Creek Residential Subdivision Project

Figure 19
Simulated View of Project Site from Castle Rock Road

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

Less than Significant Impact. The California Department of Transportation (Caltrans) manages the State Scenic Highway Program and designates scenic highway corridors that contain scenic quality landscapes. The purpose of the designation is to protect and enhance the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. The project site is not located within a designated state scenic highway corridor; however, State Route 57 near the Project site is identified as an eligible State scenic highway.

Views from State Route 57 of the Project site are limited due to the existing vegetation located along the east side of the freeway. Views of the Project site are available south of the Project site from approximately the Brea Canyon Road northbound onramp to approximately 750 feet south of the Project site. Views of the proposed residential structures are limited due to the proposed trees and shrubs along the west side of the structures (**Figure 20, *Simulated View of Project Site from Northbound 57 Freeway***). The two proposed 8- to 10-foot high tiered verdura planted retaining walls along Brea Canyon Channel would include vines to create a natural wall with earth tone colors. The proposed landscaping would reduce the visual impact of the proposed residential structures and retaining wall so that potential impacts from SR 57 would be less than significant.

c) **In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?**

Less than Significant Impact. CEQA Guidelines Section 15387 defines an urbanized area as a central city or a group of contiguous cities with a population of 50,000 or more, together with adjacent densely populated areas having a population density of at least 1,000 persons per square mile. Although the Project site is currently located within the southern portion of the City that does not include urban development, the Project site includes residential uses to the west, north and east. Within a square mile, there are more than 1,000 residential units with more than 1,000 persons. Therefore, the Project site is considered to be located in an urbanized area. The applicable City of Diamond Bar General Plan goals and policies are as follows:

Goal LU-G-2: Encourage compact growth and prioritize infill development to preserve existing large blocks of open space within the City and Sphere of Influence including Tonner Canyon and the Tres Hermanos Ranch; enhance community character, optimize city infrastructure investments, provide pedestrian- and bicycle-friendly neighborhoods, and embrace economic vitality.

Consistent. The proposed Project includes the development of 2.9 acres of the 12.9-acre Project site to preserve the existing undeveloped areas northeast and east of the proposed development area. The Project includes a pedestrian path along the west side of the proposed extension of Crooked Creek Drive to provide a connection to the future Schabarum Trail. The Project would be consistent with this goal.



VIEW FROM FREEWAY 57



SOURCE: Bucilla Group Architecture, 2021

Crooked Creek Residential Subdivision Project

Figure 20
Simulated View of Project Site from Northbound 57 Freeway

Goal LU-G-28: Preserve open space, ridgelines, and hillsides to protect the visual character of the city, provide for public outdoor recreation, conserve natural resources, support groundwater recharge, protect existing and planned wildlife corridors, and ensure public safety.

Consistent. The proposed Project is currently undeveloped and includes a general plan designation of low density residential. The Project would not remove existing designated open space. The Project would impact views of existing slopes; however, no impact of existing ridgelines would occur. As identified above, the potential visual impacts of the project would be less than significant. Therefore, the Project would be consistent with this goal.

Policy LU-P-2: Allow clustering or transferring of all or part of the development potential of a site to a portion of the site to protect significant environmental resources such as vegetated habitats, sensitive species, wildlife movement corridors, water features, and geological features within proposed developments as open space if the developer takes action to preserve the open space in perpetuity.

Consistent. The proposed Project includes the development of a portion of the Project site and retain the remainder of the site as undeveloped. By retaining the remaining portions of the site as undeveloped, the Project is eliminating the potential impacts to the sensitive natural community of walnut woodland habitat. The Project would be consistent with this policy.

Policy LU-P-8: Require that new residential development be compatible with the prevailing character of the surrounding neighborhood in terms of building scale, density, massing, and design. Where the General Plan designates higher densities, require adequate transitions to existing development.

Consistent. The proposed Project includes the development of seven single-family residences with five attached accessory dwelling units within five of the single-family residential structures. The seven single-family units range from 3,893 square feet to 4,814 square feet and includes a height of up to 34 feet. Although the proposed residential structures would include more square footage than the existing residential units along Crooked Creek Drive, the proposed Project would be less dense and the residences would include a similar height. The Project would generally be compatible with the character of the neighborhood. Therefore, the Project would be consistent with this policy.

Policy LU-I-55: Preserve publicly-owned, undeveloped hillsides, as well as privately-owned hillsides with an Open Space General Plan designation, as natural open space in perpetuity. On privately-owned property which has a residential land use designation, preserve hillsides as natural open space through Diamond Bar's Hillside Management Ordinance by allowing residential development only at the permitted densities and where development would not detract from the protection and overall perception of the hillsides as natural topographic and ecological features, or negatively impact public safety or welfare.

Consistent. The Project site is privately-owned and has a residential land use designation. The proposed Project is considered to be consistent with the City's Hillside Management Ordinance because the Project includes the development of residential units at the permitted densities and includes a limitation of the development area on the Project site. Grading on the Project site would occur in the southwest portion of the Project site so that much of the hillside areas would be preserved. The proposed development would occur on the lower portions of the hillsides so that visual impacts to the onsite ridgelines would not occur. Furthermore, the Project would not substantially impact existing drainage patterns on the site. The Project would be consistent with this policy.

Goal CC-G-4: Preserve the scale and character of existing residential neighborhoods and ensure sensitive transitions between densities and uses.

Consistent. The Project includes single-family residential uses adjacent to existing single-family residential uses. Because the existing residences and proposed residences are both low density residential uses, the density of the proposed Project is compatible with the density of the existing residential units. The residences proposed directly adjacent to the existing residents located at the existing Crooked Creek cul-de-sac have been designed to include three stories. With the proposed setback and elevation change of the foundation, the proposed structures are considered compatible with the existing residential structures. The Project is consistent with this goal.

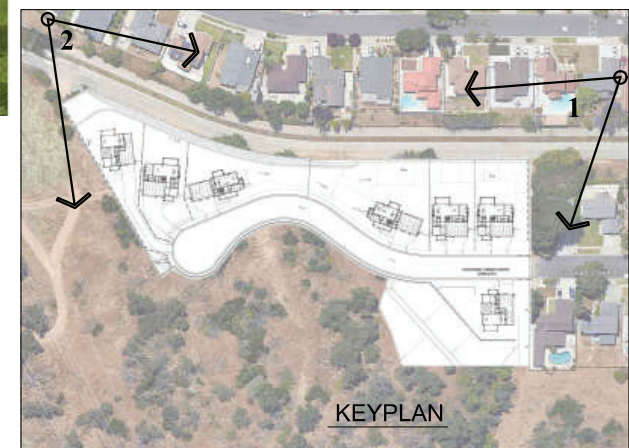
As discussed above, the Project would not conflict with applicable goals and policies of the Diamond Bar General Plan and would not conflict with the City's existing Hillside Management Ordinance. In addition, **Figure 21**, *Simulated Bird's-eye View of Project Site from Northwest Corner of Proposed Development Area*, and **Figure 22**, *Simulated Bird's-eye View of Project Site from Southwest Corner of Proposed Development Area*, illustrate the incorporation of the Project improvements including residences, landscaping, street, and walls. The incorporation of these improvements would result in less than significant visual effects on the scenic quality of the Project site. Therefore, the Project would not impact the City's regulations governing scenic quality.

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

Less than Significant Impact. Construction activities associated with the Project will not require nighttime lighting because no construction would occur after daylight hours. The construction activities would comply with the existing City of Diamond Bar Noise Ordinance which requires construction activities to occur between 7:00 A.M. and 7:00 P.M., Monday through Saturday, except on federal holidays. Because daylight ends around 5:00 P.M. during the winter, no construction activities would occur after daylight. Less than significant nighttime lighting impacts during construction activities would occur.



SITE OVERVIEW 1



SOURCE: Bucilla Group Architecture, 2021

Crooked Creek Residential Subdivision Project

Figure 21

Simulated Bird's-eye View of Project Site from Northwest Corner of Proposed Development Area



SOURCE: Bucilla Group Architecture, 2021

Crooked Creek Residential Subdivision Project

Figure 22

Simulated Bird's-eye View of Project Site from Southwest Corner of Proposed Development Area

The long-term development and occupancy of residences may result in new sources of light and glare primarily from interior and exterior lights on/in the seven new residential structures (consisting of the single-family residences and accessory dwelling units), and street and ambient lighting along the new private streets.

These varied sources of lighting could impact the surrounding properties, individuals within the proposed development, and contribute to an overall increase in the area's ambient lighting. The Project includes planting trees and shrubs along the perimeter of the Project Site, which would serve as a barrier to limit the amount of light that is cast on adjacent buildings as the trees and shrubs mature. Furthermore, the Project would be compliant with Section 22.16.050 of the City's Municipal Code as well as the Hillside Design Guidelines, which include specific measures for residential street lights and limits residential lighting for security purposes. Implementation of the proposed Project would result in less than significant light and glare impacts.

References

City of Diamond Bar. 2019. Diamond Bar General Plan 2040 & Climate Action Plan 2040. September.

City of Diamond Bar. 2020. Diamond Bar Municipal Code, Section 22.16.050 – Exterior Lighting.

City of Diamond Bar. 2019. Hillside Design Guidelines. Revised March, 2019.

4.2 Agriculture and Forestry Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
II. AGRICULTURE AND FORESTRY 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 Dept. 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 in 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 the 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

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?**

No Impact. The Project Site is located in the City of Diamond Bar, an urbanized and “built-out” City located within the eastern portion of Los Angeles County. Accordingly, there is no area in the City that is designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The Project Site consists of undeveloped area which supports nonnative grassland as well as coast live oaks and southern California black walnut woodland. No agricultural uses or related operations are present within the Project Site or in the surrounding urbanized area. The Project Site is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program (CDC, 2020). Since the Project would not convert farmland to non-agricultural uses, no impact would occur in this regard.

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

No Impact. The zoning designation for the Project Site is RL-PD (Low Density Residential-Planned Development). The Project Site is currently vacant and consists of undeveloped area. No agricultural zoning is present in the City, and no nearby lands are enrolled under the Williamson Act. As such, the Project would not conflict with existing zoning for agricultural uses or a Williamson Act contract and no impact would occur in this regard.

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 Production (as defined by Government Code section 51104(g))?**

No Impact. The City is urbanized and “built-out”. The Project Site is zoned RL-PD (Low Density Residential-Planned Development) and is comprised of undeveloped area which supports nonnative grassland as well as coast live oaks and southern California black walnut woodland. No forest land or land zoned for timberland production is present within the City. As such, the Project would not conflict with existing zoning for forest land or timberland, and no impact would occur in this regard.

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

No Impact. The City is urbanized and “built-out.” The Project Site is comprised of undeveloped area which supports nonnative grassland as well as coast live oaks and southern California black walnut woodland. No forest land exists in the City. As such, the Project would not result in the loss of forest land or conversion of forest land to non-forest use and no impact would occur in this regard.

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?**

No Impact. The City is urbanized and “built-out”. There are no agricultural uses or related operations in the City or on or near the Project Site, which is located within a highly urbanized area. Therefore, the Project would not involve the conversion of farmland to other uses, either directly or indirectly. No impacts to agricultural land or uses would occur in this regard.

References

CDC, 2020. California Department of Conservation, California Important Farmland Finder website, <https://maps.conservation.ca.gov/DLRP/CIFF/>, accessed November 2020.

4.3 Air Quality

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
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

The Project area is located in the City of Diamond Bar in Los Angeles County and is within the South Coast Air Basin (SCAB). The SCAB is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAB is a 6,600-square-mile coastal plain bounded by the Pacific Ocean to the southwest and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The SCAB includes the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County.

The ambient concentrations of air pollutants are determined by the amount of emissions released by sources and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as topography, meteorology, and climate, in addition to the amount of emissions released by existing air pollutant sources.

Existing Air Quality

SCAQMD maintains monitoring stations within district boundaries that monitor air quality and compliance with associated ambient standards. The Project area is located in the San Gabriel Valley general forecast area and specifically within the Pomona/Walnut Valley source receptor area (SRA #10). Currently, the nearest monitoring station to the Project area is the Pomona Station (924 N. Garey Avenue, Pomona, CA 91767). This station monitors ambient concentrations of carbon monoxide (CO), ozone, and nitrogen dioxide (NO₂). The nearest monitoring station that monitors for respirable particulate matter (PM₁₀) and fine particulate matter (PM_{2.5}) is the Glendora station. There are no stations within the San Gabriel Valley general forecast area that monitors for sulfur dioxide (SO₂). Historical data of ambient ozone, NO₂, CO, PM₁₀ and PM_{2.5} concentrations from these monitoring stations for the most recent 3 years of available data (2017–2019) are shown in **Table 4.3-1**.

**TABLE 4.3-1
AIR QUALITY DATA SUMMARY (2017 – 2019) FOR PROJECT AREA**

Pollutant	Monitoring Data by Year			
	Standard ^a	2017	2018	2019
Ozone – Pomona				
Highest 1 Hour Average (ppm)		0.147	0.112	0.096
Days over State Standard	0.09 ppm	18	7	1
Highest 8 Hour Average (ppm)		0.114	0.092	0.083
Days over National Standard	0.070 ppm	35	10	12
Days over State Standard	0.070 ppm	35	10	12
Carbon Monoxide – Pomona				
Highest 1 Hour Average (ppm)		2	2.1	1.7
Days over National Standard	20.0 ppm	0	0	0
Days over State Standard	20.0 ppm	0	0	0
Highest 8 Hour Average (ppm)		1.6	1.8	1.3
Days over National Standard	9.0 ppm	0	0	0
Days over State Standard	9.0 ppm	0	0	0
Nitrogen Dioxide – Pomona				
Highest 1 Hour Average (ppm)		0.081	0.068	0.064
Days over National Standard	0.100 ppm	0	0	0
Days over State Standard	0.18 ppm	0	0	0
Annual Average (ppm)		0.021	0.019	0.018
Days over National Standard	0.053 ppm	0	0	0
Days over State Standard	0.030 ppm	0	0	0
Particulate Matter (PM₁₀) – Glendora				
Highest 24 Hour Average (µg/m ³) ^b		140	101	97
Days over National Standard (measured) ^c	150 µg/m ³	0	0	0
Days over State Standard (measured) ^c	50 µg/m ³	36	20	3
Annual Average (µg/m ³) ^b	20 µg/m ³	31.7	27.1	20.8
Particulate Matter (PM_{2.5}) – Glendora				
Highest 24 Hour Average (µg/m ³) ^b		24.90	30.20	28.3
Days over National Standard (measured) ^c	35 µg/m ³	0	0	0
Annual Average (µg/m ³) ^b	12 µg/m ³	10.42	10.35	9.18

NOTES:

ppm = parts per million; µg/m³ = micrograms per cubic meter.

* = Insufficient data available to determine the value.

^a Generally, state standards and national standards are not to be exceeded more than once per year.^b Concentrations and averages represent federal statistics. State and federal statistics may differ because of different sampling methods.^c Measurements are usually collected every 6 days. Days over the standard represent the measured number of days that the standard has been exceeded.

SOURCE: SCAQMD 2017, 2018, 2019.

Both the California Air Resources Board (CARB) and United States Environmental Protection Agency (USEPA) use this type of monitoring data to designate areas according to their attainment status for criteria air pollutants. The purpose of these designations is to identify the areas with air quality problems and thereby initiate planning efforts for improvement. The three basic designation categories are nonattainment, attainment, and unclassified. Unclassified is used in an area that cannot be classified on the basis of available information as meeting or not meeting the standards. In addition, the California designations include a subcategory of nonattainment-transitional, which is given to nonattainment areas that are progressing and nearing attainment. The current attainment status for the Los Angeles County portion of the SCAB is provided in **Table 4.3-2**.

**TABLE 4.3-2
SOUTH COAST AIR BASIN ATTAINMENT STATUS (LOS ANGELES COUNTY PORTION)**

Pollutant	Attainment Status	
	California Standards	Federal Standards
O ₃ (1-hour standard)	N/A ^a	Non-attainment – Extreme
O ₃ (8-hour standard)	Non-attainment – Extreme	Non-attainment
CO	Attainment	Attainment
NO ₂	Attainment	Attainment
SO ₂	Attainment	Attainment
PM ₁₀	Attainment	Non-attainment
PM _{2.5}	Non-attainment – Serious	Non-attainment
Lead (Pb)	Non-attainment (Partial) ^b	Attainment
Visibility Reducing Particles	N/A	Unclassified
Sulfates	N/A	Attainment
Hydrogen Sulfide	N/A	Unclassified
Vinyl Chloride ^c	N/A	N/A

N/A = not applicable

^a The NAAQS for 1-hour ozone was revoked on June 15, 2005, for all areas except Early Action Compact areas.

^b Partial Non-attainment designation – Los Angeles County portion of the Air Basin only for near-source monitors.

^c In 1990, the California Air Resources Board identified vinyl chloride as a toxic air contaminant and determined that it does not have an identifiable threshold. Therefore, the California Air Resources Board does not monitor or make status designations for this pollutant.

SOURCE: USEPA 2020; CARB 2019

Environmental Evaluation

Would the Project:

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

The Project is located within the Air Basin, which is under the jurisdiction of the SCAQMD. As such, SCAQMD's 2016 AQMP is the applicable air quality plan for the Project. Projects that are consistent with the regional population, housing, and employment forecasts identified by SCAG

are considered to be consistent with the AQMP growth projections, since the forecast assumptions by SCAG forms the basis of the land use and transportation control portions of the AQMP. Additionally, because SCAG's regional growth forecasts are based upon, among other things, land uses designated in general plans, a project that is consistent with the land use designated in a general plan would also be consistent with the SCAG's regional forecast projections, and thus also with the AQMP growth projections.

Construction

Less than Significant Impact. Construction of the Project would result in an increase in short-term employment compared to existing conditions. Also, construction employees are typically employees of a construction firm and are not hired specifically for any one construction job. Being relatively small in number and temporary in nature, construction jobs under the Project would not conflict with the long-term employment projections upon which the AQMP is based.

Control strategies in the AQMP with applicability to short-term emissions from construction activities include strategies denoted in the 2016 AQMP as MOB-08 and MOB-10 and are intended to reduce emissions from on-road and off-road heavy-duty vehicles and equipment by accelerating replacement of older, emissions-prone engines with newer engines meeting more stringent emission standards. Construction contractors would be required to comply with the CARB Air Toxic Control Measure that limits heavy duty diesel motor vehicle idling to no more than five minutes at any given location with certain limited exceptions defined in the regulation for equipment in which idling is integral to the function of the equipment or activity (such as concrete trucks and concrete pouring). In addition, contractors would be required to comply with required and applicable BACT and the CARB In-Use Off-Road Diesel Vehicle Regulation to use lower emitting equipment in accordance with the phased-in compliance schedule for equipment fleet operators. The Project would not conflict with implementation of these strategies. The Project is also required to comply with SCAQMD regulations for controlling fugitive dust pursuant to SCAQMD Rule 403. Compliance with these requirements is consistent with and meets or exceeds the AQMP requirements for control strategies intended to reduce emissions from construction equipment and activities.

As detailed in b) below, construction-related daily emissions would not exceed the SCAQMD threshold of significance for any criteria pollutants. As the Project's maximum unmitigated regional emissions from construction would not exceed the regional thresholds of significance, the Project would be consistent with the AQMP, and impacts would be less than significant.

Operation

Less than Significant Impact. Operation of the Project would include permanent residences associated with the seven single-family homes and the five attached accessory dwelling units and would not result in any new employees. The Project is anticipated to increase the number of residences within the City by twelve (seven single-family residences and five accessory dwelling unit residences). This net increase in residences and corresponding increase in residents would represent a negligible increase with respect to growth in resident population projected for the City in SCAG's 2016-2040 RTP/SCS, between 2020 and 2040 (SCAG 2016). The Project would

therefore, also be consistent with the growth projections as contained in City's General Plan, and ultimately consistent with the growth projections in the AQMP.

Projects, uses, and activities that are consistent with the applicable growth projections and control strategies used in the development of the AQMP would not jeopardize attainment of the air quality reductions identified in the AQMP, even if their emissions exceed the SCAQMD's thresholds of significance (SCAQMD 1993). The Project would not obstruct implementation of the 2016 AQMP, as discussed below under Thresholds (b), (c), and (d), since its regional and local operational emissions would be less than significant.

- b) **Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard?**

Construction

Less than Significant Impact. Construction of the Project has the potential to generate temporary regional criteria pollutant emissions through the use of heavy-duty construction equipment, such as excavators and forklifts, through vehicle trips generated by workers and haul trucks traveling to and from the Project Site, and through building activities such as the application of paint and other surface coatings. In addition, fugitive dust emissions would result from demolition and various soil-handling activities. Mobile source emissions, primarily NO_x, would result from the use of construction equipment such as dozers and loaders. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of construction activity, and prevailing weather conditions.

The Project's estimated pollutant emissions were calculated using the California Emissions Estimator Model (CalEEMod) Version 2016.3.2 to determine area and energy consumption and EMFAC2017 emission factors determine transportation fuel consumption. The maximum daily construction emissions for the Project were estimated for each construction phase. Some individual construction phases could potentially overlap; therefore, the estimated maximum daily emissions include these potential overlaps by combining the relevant construction phase emissions. The maximum daily emissions represent the overlap of home construction, street improvement and architectural coating phases and are predicted values for a representative worst-case day. Maximum day emissions do not represent the actual emissions that would occur for every day of construction, which would likely be lower on most days. In order to provide a conservative emissions analysis, for modeling purposes, construction emissions were modeled beginning in 2021. Detailed emissions calculations are provided in **Appendix C** of this IS/MND.

The results of the criteria pollutant calculations are presented in **Table 4.3-3** and include dust control measures required to be implemented by SCAQMD Rule 403 (Control of Fugitive Dust), and fugitive VOC control measures required to be implemented by architectural coating emission factors based on SCAQMD Rule 1113 (Architectural Coatings). As shown, construction-related daily emissions would be below the applicable thresholds of significance. As the Project's maximum regional emissions from construction would not exceed the regional threshold of significance, regional construction emissions impacts would be less than significant.

TABLE 4.3-3
ESTIMATED MAXIMUM UNMITIGATED REGIONAL CONSTRUCTION EMISSIONS (POUNDS PER DAY)

Construction Sub-Phase	ROG	NO _x	CO	SO ₂	PM10 ^a	PM2.5 ^a
Site Preparation	2	21	12	<1	1	1
Grading/Retaining Wall Construction	4	48	22	<1	5	3
Underground Utilities Installation	1	8	10	<1	1	<1
Street Improvements	1	11	13	<1	1	1
Home Construction	2	17	16	<1	1	1
Architectural Coating	3	2	2	<1	<1	<1
Maximum Daily Emissions	6	48	31	<1	5	3
SCAQMD Thresholds of Significance	75	100	550	150	150	55
Exceeds Thresholds?	No	No	No	No	No	No

NOTES:

Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Appendix C of this IS/MND.

^a Emissions include fugitive dust control measures consistent with SCAQMD Rule 403, including subsection (e) – Additional Requirements for Large Operations.

SOURCE: ESA 2020.

Operation

Less than Significant Impact. Operation of the Project has the potential to generate regional criteria pollutant emissions through the daily building operation of appliances and heating and air conditioning units, through lighting for the homes, through vehicle trips generated by residents and vendors' trucks traveling to and from the Project Site, and through maintenance activities such as the application of paint and other surface coatings (periodically as required for building upkeep). Mobile source emissions, primarily NO_x, would result from resident and vendor trips. Operational emissions can vary substantially from day to day, depending on the level of activity, the specific type of activity, but will remain relatively consistent.

The Project's estimated pollutant emissions were calculated using the California Emissions Estimator Model (CalEEMod) Version 2016.3.2 to determine area and energy consumption and EMFAC2017 emission factors determine transportation fuel consumption. The maximum daily operational emissions for the Project were estimated for each source. In order to provide a conservative emissions analysis, for modeling purposes, operational emissions were modeled beginning in 2022. Mobile source emissions are anticipated to decrease as more stringent emission standards for vehicles are implemented state wide. The analysis assumes that no wood burning fireplaces or stoves would be associated with the homes, consistent with SCAQMD mandates. Detailed emissions calculations are provided in Appendix C of this IS/MND.

The results of the criteria pollutant calculations are presented in **Table 4.3-4**. As shown, operational-related daily emissions would not exceed the SCAQMD threshold of significance for any criteria pollutant. As the Project's maximum regional emissions would not exceed the regional

thresholds of significance, the Project's operational emissions impacts would be less than significant.

TABLE 4.3-4
ESTIMATED MAXIMUM UNMITIGATED REGIONAL OPERATIONAL EMISSIONS (POUNDS PER DAY)

Construction Sub-Phase	ROG	NO _x	CO	SO ₂	PM10 ^a	PM2.5 ^a
Area Sources	<1	<1	1	<1	<1	<1
Energy Sources	<1	<1	<1	<1	<1	<1
Mobile Sources	<1	<1	3	<1	<1	<1
Maximum Daily Emissions	1	1	4	<1	<1	<1
SCAQMD Thresholds of Significance	55	55	550	150	150	55
Exceeds Thresholds?	No	No	No	No	No	No

NOTES:

Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Appendix C of this IS/MND.

^a Emissions include fugitive dust control measures consistent with SCAQMD Rule 403, including subsection (e) – Additional Requirements for Large Operations.

SOURCE: ESA 2020.

Health Impact Assessment

Less than Significant Impact. NO_x and VOC emissions from projects are directly related to the increase in ozone in the local area/region which aggravate respiratory diseases, leading to respiratory symptoms (such as coughing, wheezing or difficulty breathing), hospital admissions and visits to emergency rooms and may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. As shown in Table 4.3-3, unmitigated Project-related construction emissions would be below the thresholds of significance. As a result, construction of the Project would not have the potential to result in additional quantifiable health impacts, and impacts would be reduced to less than significant.

As shown in Table 4.3-4, unmitigated Project operational emissions would not exceed the thresholds of significance. As a result, operation of the Project would not have the potential to result in additional quantifiable health impacts, and impacts would be less-than-significant.

Levels of construction and operational related criteria air pollutants as a result of a Project's emissions are not anticipated to cause adverse health effects. Impacts would be less than significant.

c) Expose sensitive receptors to substantial pollutant concentrations?

Construction

Less than Significant Impact. The maximum daily localized emissions for each of the construction phases and the localized significance thresholds (LST) are presented in **Table 4.3-5**. Localized construction emissions are compared to the LST screening criteria for source receptor area 10 for a 2-acre site with a distance of 25 meters or less to the nearest sensitive receptors. The

same phasing, equipment assumptions, and compliance with SCAQMD Rule 403 and Rule 1113 were used as for the regional emissions calculations discussed above. As shown, maximum localized construction emissions would not exceed SCAQMD's localized significance thresholds for any criteria pollutant. Therefore, the Project's maximum localized emissions from construction would be less than significant. Detailed emissions calculations are provided in Appendix C of this IS/MND.

TABLE 4.3-5
ESTIMATED MAXIMUM UNMITIGATED LOCALIZED CONSTRUCTION EMISSIONS (POUNDS PER DAY)

Construction Phase	NO _x	CO	PM10 ^a	PM2.5 ^a
Site Preparation	18	11	1	1
Grading/Retaining Wall Const.	37	17	4	3
Underground Utilities Installation	7	8	0	0
Street Improvements	11	12	1	1
Home Construction	16	15	1	1
Architectural Coating	2	2	0	0
Maximum Localized (On-Site) Emissions	37	28	4	3
SCAQMD Thresholds of Significance	83	885	6	4
Exceed Thresholds?	No	No	No	No

NOTES:

Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided Appendix C of this IS/MND.

^a Emissions include fugitive dust control measures consistent with SCAQMD Rule 403.

SOURCE: ESA 2020.

Operation

Less than Significant Impact. The localized operational air quality analysis was conducted using the methodology prescribed in the SCAQMD Localized Significance Threshold Methodology (June 2003, revised July 2008). The screening criteria provided in the Localized Significance Threshold Methodology were used to determine the localized operational thresholds of significance for the Project. Localized construction emissions are compared to the LST screening criteria for source receptor area 10 for a 2-acre site with a distance of 25 meters or less to the nearest sensitive receptors. Detailed emissions calculations are provided in Appendix C of this IS/MND.

The maximum daily localized emissions for Project operational activities and the localized significance thresholds are presented in **Table 4.3-6**. As shown, maximum localized construction emissions would not exceed SCAQMD's localized significance thresholds for any criteria pollutant. Therefore, the Project's maximum localized emissions from construction would be less than significant.

TABLE 4.3-6
ESTIMATED MAXIMUM UNMITIGATED LOCALIZED OPERATIONAL EMISSIONS (POUNDS PER DAY)

Construction Phase	NO _x	CO	PM10 ^a	PM2.5 ^a
Area Sources	<1	1	<1	<1
Energy Sources	<1	<1	<1	<1
Total	<1	1	<1	<1
SCAQMD Thresholds of Significance	83	885	2	1
Exceed Thresholds?	No	No	No	No

NOTES:

Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided Appendix C of this IS/MND.

^a Emissions include fugitive dust control measures consistent with SCAQMD Rule 403.

SOURCE: ESA 2020.

Toxic Air Contaminates

Carcinogenic Health Risk

Less than Significant Impact. Excess lifetime cancer risk is estimated as the upper-bound incremental probability that an individual will develop cancer over a lifetime as a direct result of exposure to carcinogens. As the individual incremental increase in lifetime cancer risk is assessed over long exposure time periods (i.e., 30-year for residential receptors), the potential effects of Project-related carcinogenic TAC emissions must include the combination of exposure to construction-related activities and exposure to operation-related activities. For cancer risk, SCAQMD guidance identifies a significant impact if a project would result in an incremental cancer risk that is greater than 10 in one million for any receptor.

The TAC emissions of the Project would be generated from mobile sources including diesel-powered heavy-duty trucks and construction equipment. These sources generate DPM from combustion of diesel fuels. The analysis uses exhaust PM10 emissions associated with each construction phase as a surrogate for DPM emissions. The potential emission sources of DPM would be diesel-fueled heavy-duty equipment, on-road travel and idling emissions from diesel-fueled haul trucks. For operational activities the Project would not result in new TAC sources, and therefore, would not contribute to the cumulative health risk of the local sensitive receptors.

The maximum health risk impacts to exposed sensitive receptors was determined through placing receptor locations around the Project Site and haul truck routes. The estimated incremental cancer risks for the Project's construction activities over a maximum 30-year exposure in line with OEHHHA guidance starting with the first year of construction as analyzed. Cancer risk for the maximum impacted sensitive receptor is 6.49 per million which would not exceed the SCAQMD's threshold of 10 per million. Therefore, the lifetime cancer risk that would result from construction and operation of the Project would result in less than significant impacts.

Non-carcinogenic Health Risk

Less than Significant Impact. An HRA was prepared to evaluate the risk of potential non-carcinogenic negative health outcomes related to TACs exposure from airborne emissions during

the construction of the Project. For construction, the potential TAC emission sources were heavy-duty equipment and haul/vendor trucks used during construction activities. Non-cancer effects of chronic (i.e., long-term) exposure were evaluated using the HI approach consistent with the OEHHA and SCAQMD guidance.

A chronic HI equal to or greater than 1.0 represents a significant chronic health hazard. A chronic health effect could include irritation to eyes, throat, lungs or neurological damage. Construction of the Project would result in non-carcinogenic health risk of 0.3 which is below the significance threshold of a chronic HI of 1.0 for the maximum impacted receptor. Therefore, this impact would be less than significant.

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

Construction

Less than Significant Impact. Potential activities that may emit odors during the Project's construction include the use of architectural coatings and solvents, as well as the combustion of diesel fuel in on-and off-road equipment. SCAQMD Rule 1113 would limit the amount of VOCs in architectural coatings and solvents. In addition, the Project would comply with the applicable provisions of the CARB Air Toxics Control Measure regarding idling limitations for diesel trucks. Through mandatory compliance with SCAQMD Rules, no construction activities or materials are expected to create objectionable odors affecting a substantial number of people. Furthermore, as shown in Table 4.3-3, construction emissions would not exceed the SCAQMD regional significance thresholds for attainment, maintenance, or unclassifiable criteria air pollutants (i.e., CO and SO₂). Therefore, the Project's construction activities would result in less than significant impacts with respect to other emissions, including those leading to odors.

Operation

Less than Significant Impact. According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The Project would not include any uses identified by the SCAQMD as being associated with substantial odors. As a result, the Project is not expected to discharge contaminants into the air in quantities that would cause a nuisance, injury, or annoyance to the public or property pursuant to SCAQMD Rule 402. Furthermore, as discussed in Section 4.3 b) above, operational emissions would not exceed the SCAQMD regional significance thresholds for attainment, maintenance, or unclassifiable criteria air pollutants (i.e., CO and SO₂). Therefore, operation of the Project would result in less than significant impacts with respect to other emissions, including those leading to odors.

References

CARB 2019. Summaries of Historic Area Designation for State Standards. Available: <https://ww2.arb.ca.gov/our-work/programs/state-and-federal-area-designations/state-area-designations/summary-tables>. Accessed November 2020.

SCAG 2016, Southern California Association of Governments, 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy, 2016-2040 RTP/SCS Final Growth Forecast by Jurisdiction

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SCAQMD 2020. Historic Data by Year. Available: <http://www.aqmd.gov/home/air-quality/historical-air-quality-data/historical-data-by-year>. Accessed November 2020.

USEPA 2020. California nonattainment/Maintenance status for each county by year for all criteria pollutants. October 31. Available: https://www3.epa.gov/airquality/greenbook/anayo_ca.html. Accessed November 2020.

4.4 Biological Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
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 type="checkbox"/>	<input checked="" 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, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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

This section is based on a biological assessment and arborist report. A Biological Resources Assessment was prepared by LSA in July 2019 and provided in **Appendix D-1** of this IS/MND. An Arborist Report prepared by Dudek in January 2017 is provided in **Appendix D-2** of this IS/MND. A peer review and updated information is provided by ESA in a letter dated October 28, 2021 and is provided in **Appendix D-3** of this IS/MND.

Based on a review of historic aerial imagery and observations made during the June 2019 site surveys, large portions of the site have been maintained for vegetation control (fuel modification/firebreaks) for at least 10 years, especially in areas within approximately 200 feet of existing residences. Ground disturbance from disking activities and several infrequently used roads were observed during the June 2019 surveys. The existing dirt road on the western portion of the Project site (within the proposed development footprint) was overgrown with annual nonnative grassland vegetation during the June 2019 surveys, indicating infrequent use/maintenance.

The westernmost portion of the Project site (within the proposed development footprint) is relatively flat with steep hilly terrain on the eastern portion of the Project site and gently rolling terrain on the northern portion.

A literature review and records search were conducted on June 14, 2019 to identify the existence and potential for occurrence of sensitive or special-status plant and wildlife species in the vicinity of the Project site. Federal and State lists of sensitive species were also reviewed. The database records reviewed included (1) California Natural Diversity Data Base (CNDDB – RareFind 5), (2) California Native Plant Society's (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants, (3) United States Fish and Wildlife Service's (USFWS) Information for Planning and Conservation (IPaC) Online System, (4) the USFWS Critical Habitat Mapper, and (5) the USFWS National Wetlands Inventory. In addition to the above databases, existing environmental documentation for developments in the Project vicinity, regional habitat conservation plans, and local land use policies related to biological resources were reviewed.

A general biological survey of the Project area was conducted by LSA on June 16, 2019. The perimeter of the Project site was surveyed on foot, and all biological resources observed were noted. Suitable habitat for any species of interest or concern was noted, and general site conditions were recorded. A nearby reference population of intermediate mariposa lily, a non-listed rare plant species with a CRPR of 1B.2, was also visited on June 16, 2019. Approximately four flowering intermediate mariposa lily individuals were observed at the previously-recorded occurrence within 0.25 mile of the Project site.

A focused botanical survey was conducted on the Project site on June 20, 2019. The entire Project site was surveyed on foot, and all plant species observed were identified and recorded. Vegetation communities and other land cover types existing within the Project area were mapped and photographed (see Appendix D-1). An additional previously-recorded occurrence of intermediate mariposa lily within 0.1 mile of the Project area was visited on June 20, 2019, and several individuals were observed and in bloom at this location. On May 26, 2020, ESA also conducted a visit to the previously-recorded occurrence of intermediate mariposa lily within 0.1 mile of the Project site; however, individuals were not in bloom and were not observed due to low rainfall levels in 2020.

All wildlife species observed or detected by scat, footprints or other sign during both LSA surveys described above were recorded. An inventory of all plant and animal species observed within the Project area during the June 2019 surveys is provided in Appendix D-1 of this IS/MND. There were no known occurrences of any special-status wildlife species on the Project site, and none were observed. Nonetheless, suitable habitat for several regionally occurring special-status species is present adjacent to the Project site. Special-status species have been documented within and associated with unlined portions of the Brea Canyon Channel (i.e., southwest of the Project site) including the western pond turtle (*Emys marmorata*), least Bell's vireo (*Vireo bellii pusillus*), and yellow warbler (*Lanius ludovicianus*).

The Project area contains suitable foraging and nesting habitat for various common and special-status raptors such as white-tailed kite (*Elanus leucurus*), red-tailed hawk (*Buteo jamaicensis*), and Cooper's hawk (*Accipiter cooperii*). Red-tailed hawk and Cooper's hawk were observed perching within mature oak trees and flying over the Project area during the June 2019 surveys, although no active nests were observed. Suitable nesting habitat for a variety of common bird species also occurs on the Project site. Birds and raptors are afforded special protections while nesting under the California Fish and Game Code as well as the Federal Migratory Bird Treaty Act.

Based on a review of aerial photographs and site surveys, the Project's development footprint does not include jurisdictional aquatic resources. A jurisdictional drainage feature occurs within the Project site, but outside the development footprint area. The Project includes two storm drain pipelines extending into the Brea Canyon Channel that would likely be regulated by the Regional Water Quality Control Board. Because the two storm drains will connect to the Brea Canyon Channel, the connection would also be within the California Department of Fish and Wildlife streambed jurisdiction.

The proposed development area is not within a regional or local wildlife movement corridor. The Puente-Chino Hills Wildlife Corridor is located south of the Project site. The Project site is restricted to movement through fencing and barbed wire associated with the adjacent ranching activities that may hinder large mammal movement throughout the area. However, evidence of large mammal (such as mule deer and coyote) was observed during LSA's 2019 site surveys as identified in Appendix D-1 of this IS/MND as well as evidence of coyote presence during ESA's surveys in 2020. In addition, migratory bird species may utilize the Project site for foraging; however, the usage is likely transient and limited to species that forage over open grassland areas. The Project site does not possess any characteristics that would indicate a locally significant stopover point for migratory species including raptors or waterfowl. No known wildlife movement corridors occur within the Project area.

Based on a review of existing Natural Conservation Plans (NCCPs) and Habitat Conservation Plans (HCPs), the Project site is not located within either a NCCP or HCP.

The City of Diamond includes the preservation and protection of native trees that meet specific requirements within the City's Municipal Code (Title 22, Article III, Chapter 22.38: Tree Preservation and Protection). The City defines a protected tree as (1) native oak, walnut, sycamore and willow trees with a diameter at breast height of eight inches or greater; (2) trees of significant historical or value as designated by the council; (3) any tree required to be preserved or relocated as a condition of approval for a discretionary permit; (4) any tree required to be planted as a condition of approval for a discretionary permit; and (5) a stand of trees, the nature of which makes each tree dependent upon the other for survival. The Arborist Report prepared by Dudek and updated by ESA included an evaluation of the trees classified as protected over 8 inches in diameter at breast height. A total of 457 trees that are classified as protected occur within the 12.9-acre Project site.

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?**

Less than Significant Impact. The literature review conducted by LSA identified 34 special-status plants species and 42 special-status wildlife species with the potential to occur within the Project area. LSA determined only one special-status wildlife species with a moderate potential to occur in the Project area, red diamond rattlesnake (*Crotalus ruber*). As noted in Appendix D-1 of this IS/MND, this species has been observed in the immediate Project vicinity. During the three site visits conducted by ESA in May, August and September 2020, no observation of the red diamond rattlesnake was observed on the Project site. LSA also found one special-status plant species with a high potential to occur in the Project area, intermediate mariposa lily (*Calochortus weedii* var. *intermedius*). As stated previously, LSA conducted surveys of known intermediate mariposa lily populations within 0.25 mile and 0.1 mile from the Project site. Both of these locations included this species in bloom; however, LSA surveys in June 2019 on the Project site on the same days did not find this species on the Project site. In addition, the intermediate mariposa lily was not observed during the three site visits conducted by ESA in May, August and September 2020.

In summary, no observation of either special-status species was observed to be present on the Project site. As a result, the Project would result in less than significant impacts to special-status plant and wildlife species.

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

Less than Significant Impact. Habitat mapping conducted by LSA and ESA did not identify any riparian habitat within the proposed grading limit. LSA determined that both the coast live oak woodland and the California walnut groves are considered sensitive natural communities. LSA explained that California Department of Fish and Wildlife (CDFW) often considered coast live oak woodland as a special-status plant community due to the historical loss of oak trees throughout southern California. However, a strict assessment of sensitive natural communities as having a conservation rank of S3 or higher as defined by CDFW, coast live oak woodland would not be designated as a sensitive natural community because CDFW has designated nearly all coast live oak woodland associations with a conservation rank of S4 which is a lower rank than S3.

ESA concurs with LSA in identifying both coast live oak woodland and California walnut groves (walnut woodland) as present on the Project site. ESA has determined that there are 4.8 acres of coast live oak woodland and 3.0 acres of California walnut groves (walnut woodland) on the Project Site. ESA found that the proposed development area of the Project site would remove up to 0.9 acre of coast live oak woodland and no California walnut groves; refer to Table 4.4-1,

Vegetation Impacts. Although the Project does not result in the direct removal of the onsite California walnut groves, the Project would result in indirect impacts within Project Fuel Modification Zones B and C where there will be 1.2 acres of coast live oak woodland and 0.1 acre of walnut woodland that be subject to the fuel management activities of possible lower limb removal and routine pruning and thinning understory vegetation. Although these fuel modification activities would result in indirect impacts to the onsite sensitive natural community of California walnut woodland, the impacts would be considered less than significant because the California black walnut trees would remain and still constitute a walnut woodland.

**TABLE 4.4-1
VEGETATION IMPACTS**

Vegetation Community	Total within Project Site (acres)	Within Grading Limit	Within Project Fuel Modification Zone B Beyond Grading Limit	Within Project Fuel Modification Zone C Beyond Grading Limit
<i>Avena - Bromus</i> Herbaceous Semi-Natural Alliance	3.3	1.3	0.1	0.2
Coast Live Oak Woodland	4.8	0.9	0.3	0.9
<i>Juglans californica</i> Stand	0.4	0.0	0.0	0.0
Brassica-Forb Ruderal Area	1.4	0.9	0.0	0.3
Walnut Woodland	3.0	0.0	0.0	0.1
Totals	12.8	3.1	0.4	1.5

- 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?**

Less than Significant Impact with Mitigation Incorporated. LSA and ESA found no state or federally protected wetlands within the proposed grading limit. The Project site is located adjacent to the Brea Canyon Channel, a concrete lined riverine feature, however, Project site storm water drainage will connect to the Brea Canyon Channel, which would be a direct impact to the channel wall. A jurisdictional drainage feature occurs within the Project Site but is not directly connected to the Brea Canyon Channel. No direct impacts will occur to the onsite drainage feature as a result of the Project, as the jurisdictional area is not within the proposed grading limit.

Indirect Project impacts to downstream natural portions of the Brea Canyon Channel could occur from construction activities associated with the two proposed pipeline connections (24-inch and 12-inch pipelines) to the adjacent concrete-lined Brea Canyon Channel. These indirect impacts could occur through the attraction of predators and increased levels of noise, vibration, lighting, and dust during construction activities. These potential indirect impacts to the downstream portion of the Brea Canyon Channel would be considered potentially significant.

Mitigation Measures

Mitigation Measure BIO-1: Prior to the issuance of a grading permit, the Project applicant shall submit a construction site housekeeping plan that reduces construction disturbances. The housekeeping plan shall adhere to the following measures:

- The Project disturbance limits shall be clearly marked with construction fencing (or other highly visible material), and construction/materials staging and vehicle/equipment maintenance and fueling areas shall be located at least 100 feet away from Brea Canyon Channel.
- All Project-related construction vehicle traffic shall be restricted to established roads, construction areas, and other designated areas.
- Construction Project-related vehicles shall observe a daytime speed limit of 20 miles per hour on streets within residential neighborhoods and a speed limit of 15 miles per hour on the Project site prior to the construction of Crooked Creek Drive.
- All excavated, steep-walled holes or trenches more than 2-feet deep shall be covered at the close of each construction work day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks shall be installed. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals. In the case of trapped animals, escape ramps or structures shall be installed immediately to allow the animal(s) to escape.
- All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least daily from the construction site.
- Pets, such as dogs or cats, shall not be permitted on the Project site during construction to present harassment, injury, or death of wildlife in the Project vicinity.
- Use of rodenticides and herbicides on the Project site shall be restricted. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and federal legislation.

Mitigation Measure BIO-2: Prior to the issuance of a grading permit, the Project applicant shall submit a Stormwater Pollution Prevention Plan to the City of Diamond Bar Public Works Department for approval that specifies the best management practices (BMPs) that would be used to prevent construction pollutants from contacting stormwater, with the intent of keeping sedimentation or any other pollutants from moving offsite and into receiving waters. The BMPs could include the following:

- Limiting grading to the minimum area necessary for construction, operation and decommissioning of the project (erosion control);
- Limiting vegetation disturbance/removal to the maximum extent practicable (erosion control);
- Implementing fiber rolls and sand bags around drainage areas and the site disturbance perimeter (sediment control);

- Stockpiling and disposing of demolition debris and soil properly (sediment control);
- Installation of a stabilized construction entrance/exit and stabilization of disturbed areas (sediment control);
- Proper protections for fueling and maintenance of equipment and vehicles (non-stormwater);
- Managing waste, aggressively controlling litter, and implementing sediment controls (non-stormwater)

Significance Determination after Mitigation

Implementation of Mitigation Measures BIO-1 and BIO-2 would reduce water quality impacts to downstream portions of the Brea Canyon Channel through the implementation of best management practices during construction activities.

- 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?**

Less than Significant Impact with Mitigation Incorporated. As stated previously, the proposed grading limit is located entirely outside of jurisdictional aquatic resources and any regional or local wildlife movement corridor. Although the Puente-Chino Hills Wildlife Corridor is located south of the Project site, the Project site does not contain a wildlife corridor because the movement of wildlife species is restricted through fencing and barbed wire associated with the adjacent ranching activities. Due to these restrictions, the site does not serve as an important corridor for animals moving locally, regionally, or in broader migrations. Construction and operational activities associated with the Project would not impact the potential movement of native resident or migratory animal species.

Migratory bird species may utilize the Project site for foraging; however, the usage is likely transient and limited to species that forage over open grassland areas. The Project site does not possess any characteristics that would indicate a locally significant stopover point for migratory species including raptors or waterfowl. However, since there is a potential for bird species to utilize the Project site for foraging, bird species may also utilize the site for nesting activities. If nesting activities occur, Project construction activities could cause potentially significant impacts.

Mitigation Measure

Mitigation Measure BIO-3: If removal of onsite trees and vegetation occurs during the non-nesting season (September 16 through December 31), no nesting survey or biological monitor are required.

If the removal of onsite trees and vegetation occurs during the nesting season (January 1 through September 15), the Project applicant shall provide the City documentation that a qualified biologist has been retained and would conduct a preconstruction nesting survey no more than 3 days prior to the start of removal activities. The preconstruction nesting surveys shall include areas within the proposed grading limits as well as areas that are within 500 feet of the proposed grading limits.

If an active nest is not found, no biological monitor is required. If active nests are detected, a minimum buffer (e.g., 300 feet for songbirds or 500 feet for raptors) around the nest shall be delineated and flagged, and no construction activity shall occur within the buffer area until a qualified biologist determines the nesting species have fledged and is no longer active or the nest has failed. The buffer may be modified (i.e., increased or decreased) and/or other recommendations proposed (e.g., a temporary soundwall) as determined appropriate by the qualified biologist to minimize impacts. The qualified biologist shall monitor the removal of onsite trees and vegetation. Nest buffer distance will be based on species, specific location of the nest, the intensity of construction activities, existing disturbances unrelated to the proposed Project, and other factors as determined by a qualified biologist.

If construction activities using heavy equipment (i.e., graders, bulldozers, and excavators) continue through the nesting season, weekly nesting bird surveys shall be conducted. Each nesting bird survey shall include the work area and areas that are 500 feet from the work area.

Significance Determination after Mitigation

Implementation of Mitigation Measure BIO-3 would either result in no construction activities during the nesting season or provide pre-construction surveys prior to construction and provide buffer areas around active nests if construction occurs. The implementation of this measure would reduce potential impacts to nesting birds to less than significant.

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

Less than Significant Impact with Mitigation Incorporated. The City of Diamond Municipal Code requires the preservation and protection of native trees that meet specific requirements within Title 22, Article III, Chapter 22.38: Tree Preservation and Protection. The City defines a protected tree as (1) native oak, walnut, sycamore and willow trees with a diameter at breast height of eight inches or greater, (2) trees of significant historical or value as designated by the council, (3) any tree required to be preserved or relocated as a condition of approval for a discretionary permit, (4) any tree required to be planted as a condition of approval for a discretionary perm and (5) a stand of trees, the nature of which makes each tree dependent upon the other for survival. The Arborist Report prepared by Dudek and updated by ESA included an evaluation of the trees classified as protected over 8 inches in diameter at breast height.

As stated previously, the 12.9-acre Project site includes 457 trees that are classified as protected by the City of Diamond Bar. Within the 3.1-acre grading area as well as within the portions of the Project Fuel Modification Zones B and C that are outside of the grading area, there are coast live oak and southern California black walnut trees that meet the City's definition of protected trees. Grading and fuel modification activities associated with the Project would result in impacts to both coast live oak trees and southern California walnut trees as shown in Table 4.4-2.

**TABLE 4.4-2
PROTECTED TREE SPECIES IMPACTS**

Tree Species	Protected Trees Species within Proposed Grading Limit	Protected Tree Species within Project Fuel Modification Zone B and outside the proposed grading limit	Protected Tree Species within Project Fuel Modification Zone C and outside of the proposed grading limit
Coast Live Oak	4	2	34
Southern California Black Walnut	58	24	31
Totals	62	26	65

The protected trees within the proposed grading limit would require removal, and thus result in potentially significant impacts to these tree species. The protected tree species located within the portions of the Project Fuel Modification Zones B and C and located outside of the proposed grading limit would not be removed; however, these trees would require thinning by removal of lower limbs and continual fuel modification activities. Because these protected trees would not require removal, replacement of these trees would not be required and would represent a less than significant impact.

Mitigation Measure

Mitigation Measure BIO-4: Prior to the issuance of a grading permit, a protected tree replacement plan shall be submitted to the City of Diamond Bar for approval. The plan shall demonstrate at least a 3:1 in-kind replacement ratio. With the removal of protected trees within the proposed grading limits that include a total of 4 coast live oaks and 58 southern California black walnuts, the Project applicant shall provide a replacement plan that includes at least 12 coast live oaks and 174 California black walnuts. The replacement trees shall include a combination of boxed trees within landscaped areas and seedlings and smaller-sized container trees in the undisturbed woodland areas of the Project site that is outside of the development area and fuel modification zones. If all of the replacement trees cannot be located on the Project site, some replacement trees shall be located off-site at a location approved by the City. The protected tree replacement plan shall also provide a methodology of soil preparation, planting, monitoring, survival percentages and maintenance as well as corrective measures if survival percentages do not meet the replacement ratio.

Significance Determination after Mitigation

Implementation of Mitigation Measure BIO-4 would provide replacement of the trees defined as protected by the City of Diamond Bar. The replacement of the trees would reduce potential impacts to less than significant.

- 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?**

No Impact. Based on a review of existing Natural Conservation Plans (NCCPs) and Habitat Conservation Plans (HCPs), the Project site is not located within either a NCCP or HCP. No other

regional or local policies pertaining to biological resources are applicable to the Project site. Therefore, the proposed Project would conflict with approved habitat plans or policies, and therefore, no impact would occur.

References

Dudek. 2017. Crooked Creek Arborist Report. January. (Appendix D-2).

ESA. 2021. Peer Review of Crooked Creek Residential Development Biological Resources Assessment and the Crooked Creek (Vesting Tentative Tract Map No. 54081) Arborist Report. October 28. (Appendix D-3)

LSA. 2019. Biological Resources Assessment, Crooked Creek Residential Development Project. July. Appendix D-1).

4.5 Cultural Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
V. CULTURAL RESOURCES — Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §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 dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

Would the Project:

- a) **Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?**

Less than Significant Impact with Mitigation Incorporated. A Cultural Resources Assessment was conducted for the Project in December 2020 and is provided in **Appendix E** of this IS/MND (ESA, 2020a). The assessment included a California Historical Resources Information System – South Central Coastal Information Center (SCCIC) records search conducted on September 28, 2020, Native American Heritage Commission Sacred Lands File (SLF) search conducted on September 29, 2020, a pedestrian survey conducted on October 20, 2020, and a subsurface archaeological sensitivity assessment based on a review of historic maps, aerial photographs, and geotechnical investigations.

The SCCIC records search results indicate that approximately 15 percent of the 0.50-mile records search radius and 100 percent of the Project Site have been included in previous cultural resources surveys. The SCCIC records search results also indicate that a total of four cultural resources have been recorded within the 0.50-mile radius, including one historic-period archaeological site/landscape (CA-LAN-771), two historic-period isolates (P-19-100794 and -100795), and one prehistoric isolate (P-19-101223). No cultural resources have been recorded within the Project Site (Galaz, 2020).

The NAHC SLF search returned positive results (Quinn, 2020). The letter did not provide details on the resources identified within the Project Site, but suggested contacting the Gabrieleño Band of Mission Indians – Kizh Nation. The City met with the Gabrieleño Band of Mission Indians – Kizh Nation on December 9, 2020. The tribe indicated that numerous artifacts have been found in the Chino Hills, which is why the sacred lands file search for the Project Site was positive.

No cultural resources were encountered within the Project Site during the pedestrian survey. Approximately 35 percent of the Project was surveyed, while the remaining 65 percent could not be

surveyed due to safety hazards (slopes and heavy vegetation). Ground surface visibility in the areas surveyed ranged from approximately 0 to 10 percent due to grass coverage, leaf litter, and trees.

The subsurface archaeological sensitivity assessment indicates that Project-related ground disturbance could encounter buried archaeological resources. The majority of the Proposed Development Area is underlain by Quaternary alluvium deposits, the upper layers of which date to the period for which there is widely accepted evidence of human occupation in Southern California. This area is relatively flat and immediately adjacent to natural resources that could have provided fresh water and food sources to prehistoric inhabitants. A prehistoric ground stone fragment was recorded in close proximity to the Project Site and the SLF search yielded positive results, indicating that Native Americans once inhabited or were active in the area. Based on these factors, the majority of the Proposed Development Area appears to have a moderate to high potential for yielding buried prehistoric archaeological resources. Lot 1 and the undeveloped area mapped as underlain by the La Vida Member of the Puente Formation (Tmlv), although the geotechnical investigations indicate that the slope near Lot 1 is underlain by colluvium overlying Quaternary landslide deposits. Tmlv is too old to contain buried archaeological materials as it predates human occupation of North America, however, the colluvium and landslide deposits could contain buried surface archaeological resources, if they once existed. Lot 1 and the undeveloped area appear to have a moderate-to-low potential for yielding buried prehistoric archaeological resources. The Project Site has not ever been developed, and the potential to encounter buried historic-period archaeological resources is considered low.

The SCCIC records search and pedestrian survey did not identify cultural resources within the Project Site. While the NAHC SLF search yielded positive results, consultation between the City and the Gabrieleño Band of Mission Indians – Kizh Nation indicated that the positive results were because numerous artifacts have been found in the Chino Hills. The archaeological sensitivity assessment concluded that the portions of the Project Site where ground disturbance will occur have a potential for buried archaeological resources. Should archaeological resources be encountered, they could qualify as historical resources as defined in §15064.5. Impacts to such resources could constitute a substantial adverse change in the significant of a historical resource.

Mitigation Measures

Mitigation Measure CUL-1: The Applicant shall retain an archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards for Archaeology (Qualified Archaeologist) to carry out all mitigation related to archaeological resources. Prior to start of ground-disturbing activities, the Qualified Archaeologist or their designee (archaeological monitor) shall conduct cultural resources sensitivity training for all construction personnel so that potential resources could be identified during construction activities and procedures for encountering resources are understood by construction personnel. Construction personnel shall be informed of the types of archaeological resources that may be encountered, the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains, and safety precautions to be taken when working with archaeological monitors. The City shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance.

Mitigation Measure CUL-2: Archaeological monitoring shall be conducted during ground disturbing activities, such as clearing/grubbing, grading, trenching, or any other construction excavation activity associated with the Project. Monitoring shall be conducted by the Qualified Archaeologist or the archaeological monitor who is familiar with the types of archaeological resources that could be encountered and who will work under the direct supervision of the Qualified Archaeologist. Monitoring can be reduced to part-time inspections or ceased entirely if determined appropriate by the Qualified Archaeologist, based on field observations. In the event that archaeological resources are unearthed during ground-disturbing activities, the archaeological monitor shall be empowered to halt or redirect ground-disturbing activities away from the vicinity of the discovery until it has been evaluated. The archaeological monitor shall keep daily logs detailing the types of activities and soils observed, and any discoveries.

Mitigation Measure CUL-3: In the event of the unanticipated discovery of archaeological materials, the Qualified Archaeologist or archaeological monitor shall immediately cease all work activities in the area (within approximately 100 feet) of the discovery until it can be evaluated by the Qualified Archaeologist. Construction shall not resume until the Qualified Archaeologist has conferred with the City on the significance of the resource. If it is determined that the discovered archaeological resource constitutes a historical resource or unique archaeological resource pursuant to CEQA, avoidance and preservation in place shall be the preferred manner of mitigation. Preservation in place maintains the important relationship between artifacts and their archaeological context and also serves to avoid conflict with traditional and religious values of groups who may ascribe meaning to the resource. Preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement. In the event that preservation in place is determined to be infeasible and data recovery through excavation is the only feasible mitigation available, an Archaeological Resources Treatment Plan shall be prepared and implemented by the Qualified Archaeologist that provides for the adequate recovery of the scientifically consequential information contained in the archaeological resource. The City shall consult with appropriate Native American tribal representatives in determining treatment for prehistoric or Native American resources to ensure cultural values ascribed to the resources, beyond those that are scientifically important, are considered. The treatment plan shall include provisions for the final disposition of the recovered resources, which may include onsite reburial, curation at a public, non-profit institution, or donation to a local Native American Tribe, school, or historical society.

Mitigation Measure CUL-4: At the conclusion of archaeological monitoring and prior to the release of the grading bond, the Qualified Archaeologist shall prepare a final monitoring report. The report shall include a summary of monitoring results, description of resources unearthed, if any, significance evaluation and treatment of the resources, and the results of the artifact processing, analysis, and research. Appropriate California Department of Parks and Recreation 523 Forms shall be appended to the report, as necessary. The report shall be submitted by the Applicant to the City to signify the satisfactory completion of the Project and required mitigation measures. The Qualified Archaeologist shall submit the final report to the South Central Coastal Information Center within 30 days of its acceptance by the City.

Significance Determination After Mitigation

With implementation of Mitigation Measures CUL-1 through CUL-4, which require retention of a qualified archaeologist, construction worker cultural resources sensitivity training, archaeological monitoring, procedures to follow in the event of the unanticipated discovery of archaeological resources, treatment of discoveries, and final reporting, impacts to archaeological resources potentially qualifying as historical resources would be less than significant.

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

Less than Significant Impact with Mitigation Incorporated. As noted under impact a), the SCCIC records search and pedestrian survey did not identify archaeological resources within the Project Site. While the NAHC SLF search yielded positive results, consultation between the City and the Gabrieleño Band of Mission Indians – Kizh Nation indicated that the positive results were because numerous artifacts have been found in the Chino Hills. Should archaeological resources be encountered during ground disturbance, impacts to such resources could constitute a substantial adverse change in the significance of an archaeological resource.

Mitigation Measures

Implementation of Mitigation Measures CUL-1 through CUL-4 is required.

Significance Determination After Mitigation

With implementation of Mitigation Measures CUL-1 through CUL-4, which require retention of a qualified archaeologist, construction worker cultural resources sensitivity training, archaeological monitoring, procedures to follow in the event of the discovery of archaeological resources, treatment of discoveries, and final reporting, impacts to archaeological resources would be less than significant.

- c) **Disturb any human remains, including those interred outside of dedicated cemeteries?**

Less than Significant Impact with Mitigation Incorporated. The SCCIC records search results did not identify recorded human remains sites within the Project Site and no surface human remains were noted on the pedestrian survey. While the NAHC SLF search yielded positive results, consultation between the City and the Gabrieleño Band of Mission Indians – Kizh Nation indicated that the positive results were because numerous artifacts have been found in the Chino Hills. The tribe indicated that burials and cremated remains could be present since the Project Site is located along a tribal trade corridor. Should ground disturbance encounter human remains, disturbance of those remains could result in a potentially significant impact.

Mitigation Measure

Mitigation Measure CUL-5: If human remains are encountered, the Applicant or its contractor shall halt work in the vicinity (within 100 feet) of the discovery and contact the Los Angeles County Coroner in accordance with Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.5, which requires that no further

disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC shall then identify the person(s) thought to be the Most Likely Descendent (MLD). The MLD may, with the permission of the landowner, or his or her authorized representative, inspect the site of the discovery of the Native American remains and may recommend to the owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The MLD shall complete their inspection and make their recommendation within 48 hours of being granted access by the landowner to inspect the discovery. The recommendation may include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials. Upon the discovery of the Native American remains, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this mitigation measure, with the MLD regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner shall discuss and confer with the MLD on all reasonable options regarding their preferences for treatment.

If the NAHC is unable to identify an MLD, or the MLD identified fails to make a recommendation, or the landowner rejects the recommendation of the MLD and the mediation provided for in Subdivision (k) of Section 5097.94, if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall inter the human remains and items associated with Native American human remains with appropriate dignity on the facility property in a location not subject to further and future subsurface disturbance.

Significance Determination After Mitigation

With implementation of Mitigation Measure CUL-5, which requires following state laws in the event of an unanticipated discovery, impacts to human remains would be less than significant.

References

- ESA. 2020a. *Crooked Creek Residential Subdivision Project, City of Diamond Bar, California: Cultural Resources Assessment Report*. Document prepared for City of Diamond Bar. Document prepared by Environmental Science Associates. December 2020.
- Galaz, Michelle. 2020. Records Search Results for the Diamond Bar Crooked Creek Residential Project. Records Search File No.: 21696.7793. September 28, 2020.
- Quinn, Steven. 2020. Native American Heritage Commission Sacred Lands File Search Results for the Crooked Creek Project, Los Angeles County. September 29, 2020.

4.6 Energy

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
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

In accordance with the requirements under CEQA, this section provides an estimate of energy consumption for the Project and the potential impacts from associated activities. Energy use in the form of electricity, natural gas, and transportation fuels will be consumed in both the construction and operation of the residential development. Supporting documentation of the energy calculations provided in this section are included in **Appendix F** of this IS/MND.

The Project's estimated energy consumption was calculated using the California Emissions Estimator Model (CalEEMod) Version 2016.3.2 to determine area and energy consumption and EMFAC2017 emission factors to determine transportation fuel consumption. Energy consumption associated with the supply and conveyance of water used for dust control as well as electricity used for powering lighting, electronic equipment, and other construction activities is assumed to be negligible.

Environmental Evaluation

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?**

Less than Significant Impact. The Project would require a variety of construction equipment. Electricity would also be used for construction lighting and electrically driven construction devices such as air compressors, pumps and other equipment. Nevertheless, construction would be temporary and would not result in a wasteful, inefficient, unnecessary, or substantial use of energy.

The primary energy demand during construction would be associated with the short-term and temporary use of gasoline- and diesel-powered mobile construction equipment. The equipment used onsite would be limited by California law to a maximum of 5 minutes of idling time per location. The estimated Project fuel consumption and comparison to existing (2019) county usage are provided in **Table 4.6-1**. The 2019 data is the most recent information provided by the California Energy Commission. As shown, the limited construction time period results in a minimal

amount of fuel consumption as compared to typical County usage. Therefore, the Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources associated with construction activities. Impacts would be less than significant.

**TABLE 4.6-1
ESTIMATED ANNUAL PROJECT FUEL CONSUMPTION**

	Total Project Fuel Consumption (gallons)	
	Diesel	Gasoline
Total Project	36,273	4,055
County Usage	246,000,000	3,189,000,000
% County Usage	<0.02%	<0.001%
SOURCE: ESA 2021; CEC 2019.		

The Project would require a variety of operational activities. Electricity would also be used for lighting as well as appliances and other operational devices such as televisions and computers. Natural gas would be used for heating and cooking. Transportation fuels are anticipated to be used for residential commutes and the occasional delivery to the site, resulting in a daily consumption of energy.

The primary energy demand during operation would be associated with gasoline- and diesel-powered mobile vehicles. Delivery vehicles would be limited by California law to a maximum of 5 minutes of idling time per location. In addition, the homes would be required to meet the 2019 Title 24 building standards. The estimated Project consumption and comparison to existing (2018) county usage for transportation fuels, 2019 Southern California Edison (SCE) electrical sales, and 2019 Southern California Gas (SoCal Gas) natural gas sales are provided in **Table 4.6-2**. As shown, the annual operational activities result in a minimal amount of energy consumption as compared to typical County usage. Therefore, the Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources associated with project operation. Impacts would be less than significant.

**TABLE 4.6-2
ESTIMATED ANNUAL PROJECT OPERATIONAL ENERGY CONSUMPTION**

	Fuel Consumption (gallons)		Natural Gas (MMBTU/yr)	Electricity (GWh/yr)
	Diesel	Gasoline		
Total Project	1,985	11,065	199	0.06
County Usage	246,000,000	3,189,000,000	304,832,095	66,119
% County Usage	<0.001%	<0.001%	<0.001%	<0.001%
SOURCE: ESA 2021; CEC 2019; CEC, 2019.				

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

Less than Significant Impact. The Project would be designed in a manner that is consistent with relevant energy conservation plans, such as the California Building Standards, designed to encourage development that results in the efficient use of water resources. The Project would result in the construction and operation of seven single family residential units including five attached accessory dwelling units which would increase energy consumption for the region. As discussed below, the Project would not conflict with or obstruct a State or local plan for energy efficiency. The impact would be less than significant.

The Project is designed in a manner that is consistent with and not in conflict with relevant energy conservation plans that are intended to encourage development that results in the efficient use of energy resources. These energy plans and programs are discussed below in Section 4.8, Greenhouse Gas Emissions. The Project would comply with applicable regulatory requirements for the design of new buildings, including the provisions set forth in the 2019 Title 24 building standards.

The Project would also be consistent with and not conflict with regional planning strategies that address energy conservation. As discussed above and in Section 3.8, *Greenhouse Gas Emissions*, the 2016-2040 RTP/SCS and 2020-2045 RTP/SCS focus on creating livable communities with an emphasis on sustainability and integrated planning, and identifies mobility, economy, and sustainability as the three principles most critical to the future of the region. As part of the approach, the 2016-2040 RTP/SCS and 2020-2045 RTP/SCS focus on reducing fossil fuel use by decreasing VMT, encouraging the reduction of building energy use, and increasing use of renewable sources. The Project, as detailed in Section 3.3, *Air Quality*, would be consistent with the RTP/SCS, and therefore, would not result in an excess of energy use assumed in the planning document.

References

CARB. 2017. *California's 2017 Climate Change Scoping Plan: The strategy for achieving California's 2030 greenhouse gas target*, November. Available at www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf.

California Energy Commission (CEC), 2019. California Retail Fuel Outlet Annual Reporting (CEC-A15) Results. <https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-retail-fuel-outlet-annual-reporting>, Accessed, August 2021.

CEC, 2019. *Electrical Consumption by County*. <http://www.ecdms.energy.ca.gov/elecbycounty.aspx>. Accessed, November 2020.

4.7 Geology and Soils

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
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? Refer to Division of Mines and Geology Special Publication 42.	<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 checked="" type="checkbox"/>	<input 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 a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<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 (1994), 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 waste water disposal systems where sewers are not available for the disposal of waste water?	<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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

The following analysis is based on the *Geotechnical Report, Tract 54081, City of Diamond Bar, California* (Geotechnical Report), located in **Appendix G**, of this IS/MND (LGC Valley, Inc., 2020).

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? Refer to Division of Mines and Geology Special Publication 42?**

Less than Significant Impact. Fault rupture is the displacement that occurs along the surface of a fault during an earthquake. Based on criteria established by the California Geological Survey (CGS), faults may be categorized as active, potentially active, or inactive. Active faults are those which show evidence of surface displacement within the last 11,000 years (Holocene-age). Potentially active faults are those that show evidence of most recent surface displacement within the last 1.6 million years (Quaternary-age). Faults showing no evidence of surface displacement within the last 1.6 million years are considered inactive. In addition, there are buried thrust faults, which are low angle reverse faults with no surface exposure. Due to their buried nature, the existence of buried thrust faults is usually not known until they produce an earthquake.

The CGS has established earthquake fault zones known as Alquist-Priolo Earthquake Fault Zones around the surface traces of active faults to assist cities and counties in planning, zoning, and building regulation functions. These zones, which extend from 200 to 500 feet on each side of a known active fault, identify areas where potential surface rupture along an active fault could prove hazardous and identify where special studies are required to characterize hazards to habitable structures.

The Project Site lies within the Transverse Ranges Geomorphic Province of California. West-trending valleys and ridges reflecting a parallel series of anticlines, synclines, and reverse faults characterize this province. This structure and geomorphology are generally considered to be the result of the south-directed compression caused by right lateral, strike-slip movement on the “Big Bend” segment of the San Andreas Fault. Specifically, the Project Site lies within the Puente Hills/Chino Hills at the intersection of the Transverse Ranges and Peninsular Ranges Geomorphic Provinces where east-west faults and folds intersect with north-south faults and folds of the Peninsular Ranges (LGC Valley, Inc., 2020).

The Project Site is located in the seismically active Southern California region and could be subject to moderate to strong ground shaking in the event of an earthquake on one of the active faults including the Whittier Fault, Elsinore Fault, Chino Fault, Newport-Inglewood Fault, and San Andreas Fault. The nearest known active fault to the Project Site, the Whittier Fault, is located approximately two miles south of the Project Site. However, no currently known active or potentially active surface faults traverse the Project Site, and the Site is not located within a designated Alquist-Priolo Earthquake Fault Zone. As such, the potential for surface fault rupture due to faulting occurring on the Project Site during the design life of the Project is considered low (LGC Valley, Inc., 2020). Thus, a less than significant impact would occur in this regard.

ii) **Strong seismic ground shaking?**

Less than Significant Impact. Seismicity is the geographic and historical distribution of earthquakes, including their frequency, intensity, and distribution. The level of ground shaking at a given location depends on many factors, including the size and type of earthquake, distance from the earthquake, and subsurface geologic conditions. The type of construction also affects how particular structures and improvements perform during ground shaking. A common measure of ground motion is the peak ground acceleration (PGA). It is not a measure of total energy of an earthquake, such as the Richter and moment magnitude scales, but rather of how hard the ground

shakes in given geographic area. PGA is expressed as the percentage of the acceleration due to gravity (g), which is approximately 980 centimeters per second squared.

As discussed above in Section 4.7 (a)(i), several active faults, including the Whittier Fault, Elsinore Fault, Chino Fault, Newport-Inglewood Fault, and San Andreas Fault, are located in Southern California. The nearest fault to the Project Site, the Whittier Fault, is located approximately two miles south of the Project Site. According to the Geotechnical Report, the PGA_m (maximum considered earthquake-geometric mean) for the Project Site is equal to 0.82g. A deaggregation of the PGA based on a 2,475-year average return period indicates that an earthquake magnitude of 7.73 at a distance of approximately 2.33 miles from the Project Site would contribute the most to this ground motion (LGC Valley, Inc., 2020).

The City requires that all new construction meet or exceed Title 15, Building and Construction Safety, of the City's Municipal Code, and the latest standards of the California Building Code (CBC)¹ for construction which requires structural design that can accommodate maximum ground accelerations expected from known faults. The Project would comply with the CGS Special Publications 117, Guidelines for Evaluating and Mitigating Seismic Hazards in California, which provides guidance for evaluation and mitigation of earthquake-related hazards. Further, the Geotechnical Report provides preliminary site-specific design recommendations and parameters regarding grading and earthwork, temporary excavations, drainage, foundations, retaining walls, and pavement design. As a standard condition of approval, the Project will be required to comply with the recommendations of the Geotechnical Report. Thus, with compliance with applicable regulatory requirements and incorporation of the Geotechnical Report's recommendations, seismic-related ground shaking impacts would be less than significant.

iii) Seismic-related ground failure, including liquefaction?

Less than Significant Impact. Liquefaction is a seismic phenomenon in which loose, saturated, granular soils behave similarly to a fluid when subject to high-intensity ground shaking. Liquefaction occurs when three general conditions exist: 1) shallow groundwater; 2) low density non-cohesive (granular) soils; and 3) high-intensity ground motion. Liquefaction is typified by a buildup of pore-water pressure in the affected soil layer to a point where a total loss of shear strength occurs, causing the soil to behave as a liquid. Studies indicate that saturated, loose to medium dense, near surface cohesionless soils exhibit the highest liquefaction potential, while dry, dense, cohesionless soils and cohesive soils exhibit low to negligible liquefaction potential.

Due to the presence of shallow bedrock at the Project Site, high clay mixtures in the alluvial materials and the general lack of shallow groundwater, the Project Site is considered to have a low liquefaction hazard (LGC Valley, Inc., 2020). The Project would be required to comply with applicable seismic-related regulatory requirements of Title 15, Building and Construction Safety, of the City's Municipal Code, and the latest standards of the CBC. As a result, seismic-related ground failure impacts, including liquefaction, would be less than significant.

¹ As of the publication date of this IS/MND, the 2019 updates to the CBC are the latest standards in effect.

iv) **Landslides?**

Less than Significant Impact. Earthquake-induced landslides often occur in areas where previous landslides have moved earth and in areas where the topographic, geologic, geotechnical and subsurface groundwater conditions are conducive to permanent ground displacements. Elevations within the Project Site range from approximately 645 feet to 835 feet above mean sea level. The eastern portion of the Project Site consists of natural steep hillside terrain with gently rolling terrain on the northern portion. The western portion of the Project Site, the Proposed Developed Area, includes areas that are relatively flat and have elevations ranging from 645 feet to 720 feet above mean sea level.

Two portions of the Project Site show evidence of historical landslides. One landslide area, to remain undisturbed by the Project, is located within the northeastern portion of the Project Site adjacent to the existing single-family residences. The proposed onsite grading within the second landslide area located immediately south of the existing single-family residence on the east side of the existing Crooked Creek Drive cul-de-sac would remove the soils susceptible to a landslide. After removal, the area would be re-stabilized with a combination of new soil and compaction. This landslide area is within the proposed Lot 1. An exposed retaining wall up to 4 feet in height and 8-foot wide terrace drains are proposed in the rear of residential Lot 1 adjacent to the open space area. According to the Geotechnical Report, the portion of the second landslide area underlying the pad areas below a depth ranging 5 to 15 feet was found to be dense/stiff, slightly compressible, and competent, and is considered to be suitable for support of proposed structures below those depths (LGC Valley, Inc., 2020). Because the Project would be required to comply with applicable seismic-related regulatory requirements of Title 15, Building and Construction Safety, of the City's Municipal Code and the latest standards of the CBC, implementation of the Project would result in less than significant seismic-related ground failure impacts.

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

Less than Significant Impact. Soil erosion refers to the process by which soil or earth material is loosened or dissolved and removed from its original location. Erosion can occur by varying processes and may occur in a Project area where bare soil is exposed to wind or moving water (both rainfall and surface runoff). The processes of erosion are generally a function of material type, terrain steepness, rainfall or irrigation levels, surface drainage conditions, and general land uses. Topsoil is used to cover surface areas for the establishment and maintenance of vegetation due to its high concentrations of organic matter and microorganisms.

Project construction would result in ground surface disruption during excavation, grading, and trenching that would create the potential for erosion to occur. Wind erosion would be minimized through soil stabilization measures required by the SCAQMD Rule 403 (Fugitive Dust), such as daily watering. Potential for water erosion would be reduced by implementation of standard erosion control measures imposed during site preparation and grading activities. As discussed in more detail under *Hydrology and Water Quality*, the Project would be subject to all existing regulations associated with the protection of water quality. Construction activities would be carried out in accordance with applicable County standard erosion control practices required

pursuant to the CBC and the requirements of the National Pollutant Discharge Elimination System (NPDES) General Construction Permit issued by the Los Angeles Regional Water Quality Control Board (LARWQCB), as applicable. Consistent with these requirements, a Stormwater Pollution Prevention Plan (SWPPP) would be prepared that incorporates Best Management Practices (BMPs) to control water erosion during the Project's construction period. These BMPs could include fiber rolls, sand bags, and soil stabilization. Further, after construction of the Project, the non-paved, exposed areas of fill within the Proposed Development Area would be landscaped with ground cover and deep-rooted vegetation to protect the soils and reduce any erosion that could occur. Therefore, with compliance with applicable regulatory requirements, impacts regarding soil erosion or the loss of topsoil would be less than significant.

- c) **Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?**

Less than Significant. According to the Geotechnical Report, the Project Site is underlain by surficial soils, alluvium, landslide debris and bedrock assigned to the Puente Formation. The surficial soils are layered on the Project Site and are typically less than two feet thick. Surficial soils consist of dark brown, sandy clay that soft, porous and contains organic debris. The surficial soils are not suitable for support of fills or structures and would be removed and recompacted during grading operations. Alluvial soils are present in the bottoms of natural drainage courses having a relatively gently sloping surface. Alluvium consists of sandy/silty clays, clayed sands with minor gravels that are damp to wet, firm to hard and contain carbonate nodules. Removal depths proposed on the Project Site are within the alluvium and will range from 12.5 to 15 feet. As discussed above in Section 4.7 (a)(iv), two portions of the Project Site show evidence of historical landslides. One landslide area, to remain undisturbed by the Project, is located within the northeastern portion of the Project Site adjacent to the existing single-family residences and is not within the proposed grading area. The proposed onsite grading would remove and re-stabilize the second landslide area located immediately south of the adjacent existing single-family residence that is located along the east side of the existing Crooked Creek Drive cul-de-sac. The upper portion of this landslide has a faint topographic expression while the lower portion appears to be obscured by alluvium, landslide debris and weather bedrock materials. According to the Geotechnical Report, the portion of the second landslide area underlying the pad areas below a depth ranging 5 to 15 feet was found to be dense/stiff, slightly compressible, and competent, and is considered to be suitable for support of proposed structures below those depths. The Puente Formation underlies the Project Site, and this bedrock consists of interbedded sandstones, siltstones and claystones that are pale yellow to gray brown, damp to moist, very stiff to hard, dense, and occasionally contain quartzite cobble clasts (LGC Valley, Inc., 2020).

Impacts related to liquefaction and landslides are discussed above in Section 4.7 (a)(iii) and (a)(iv). Lateral spreading is the downslope movement of surface sediment due to liquefaction in a subsurface layer. The downslope movement is due to the combination of gravity and earthquake shaking. Such movement can occur on slope gradients of as little as one degree. Lateral spreading typically damages pipelines, utilities, bridges, and structures. Lateral spreading of the ground surface during a seismic activity usually occurs along the weak shear zones within a liquefiable

soil layer and has been observed to generally take place toward a free face (i.e. retaining wall, slope, or channel) and to a lesser extent on ground surfaces with a very gentle slope. As stated in Section 4.7 (a)(iii) above, due to the presence of shallow bedrock at the Project Site, high clay mixtures in the alluvial materials and the general lack of shallow groundwater, the Project Site is considered to have a low liquefaction hazard (LGC Valley, Inc., 2020). Further, due to the absence of any natural unlined channel, slope, or river within or near the Project Site, the potential for lateral spreading occurring on or off the site is considered to be negligible. No large-scale extraction of groundwater, gas, oil, or geothermal energy is occurring or planned at the Project Site. Thus, there appears to be little potential for ground subsidence due to withdrawal of fluids or gases at the Project Site. As described in the Geotechnical Report, the hydro-collapse potential of the underlying left-in-place alluvium/landslide deposits was evaluated based upon available geotechnical data including in-situ densities and hydro-collapse test results. The hydro-collapse potential of the underlying materials is considered negligible (i.e., less than 0.5 percent) (LGC Valley, Inc., 2020).

Because Project construction and design would be required to comply with applicable requirements of Title 15, Building and Construction Safety, of the City's Municipal Code and the CBC, implementation of the Project would result in less than significant ground and soil stability hazards impacts.

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

Less than Significant Impact. Soils with shrink-swell or expansive properties typically occur in fine-grained sediments and cause damage through volume changes as a result of a wetting and drying process. Structural damage may occur over a long period of time, usually the result of inadequate soil and foundation engineering or the placement of structures directly on expansive soils. Surface water on the Project Site is limited to landscape irrigation and natural precipitation falling directly on the Site. According to the Geotechnical Report, static groundwater surface was not encountered and not anticipated to be a factor for the Project. Based on the results of previous laboratory testing within the vicinity of the Project Site, the anticipated near-surface soils are anticipated to have a low to medium expansion potential (LGC Valley, Inc., 2020). If expansive soils were to be found during grading activities, site-specific design criteria (i.e., foundation design parameters, retaining walls) and remedial grading techniques (i.e., primarily removal, moisture conditions and recompaction of unsuitable soils) would be identified and implemented pursuant to the City Municipal Code and the CBC building requirements to minimize the potential for risks due to expansive soils. As such, a less than significant impact would occur in this regard.

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

No Impact. The Project Site is located in an urbanized area where municipal wastewater infrastructure already exists. The Project would be required to connect to the existing

infrastructure and would not require septic tanks or alternative wastewater disposal systems. Therefore, no impact would occur.

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

Less than Significant Impact with Mitigation Incorporated. A Paleontological Resources Assessment was conducted for the Project in December 2020 (ESA, 2020b), and it is located in **Appendix H** of this IS/MND. The assessment included a paleontological resources database search by the Natural History Museum of Los Angeles County (LACM) conducted on September 20, 2020 (Bell, 2020), and a review of geologic maps (Diblee and Ehrenspeck, 2001), geotechnical investigations (LGC Valley, 2020), and scientific literature (Jefferson, 1991a, 1991b; Saul and Stadum, 2005; Stewart and Hakel, 2018).

No paleontological resources were identified within the Project Site. However, the geologic map review, literature review, and the paleontological resources records search revealed that the Project Site has exposures of the following fossiliferous geological formation/units: Quaternary alluvium, the La Vida Shale Member of the Puente Formation (or Monterey Formation) and the Soquel Sandstone Member of the Puente Formation (or Monterey Formation). However, only the Quaternary alluvium and the La Vida Shale Member of the Puente Formation fall within the Proposed Development Area, while the Soquel Sandstone Member of the Puente Formation falls within areas proposed to be left as undeveloped space. The Quaternary alluvium and the La Vida Shale Member of the Puente Formation are known to have produced paleontological resources in the vicinity of the Project Site, and are assigned a low-to-high paleontological potential increasing with depth, and high paleontological potential, respectively.

Based on the fossiliferous geologic formations that have been mapped within the Project Site and the abundance of fossil localities in the vicinity of the Project Site, the potential to encounter fossiliferous deposits within the Project Site is considered high. Even though no unique geologic features are known to be present in the Project Site, should paleontological resources be encountered, the Project could directly or indirectly destroy a unique paleontological resource or site. Based on the research data, potential significant impacts to paleontological resources could occur if grading activities exceed 5 feet in the Quaternary alluvium and could occur at any depth within the La Vida Member of the Puente Formation. Impacts to paleontological resources are considered to be potentially significant because excavation could exceed 5 feet into the Quaternary alluvium and within the La Vida Member of the Puente Formation.

Mitigation Measures

Mitigation Measure PALEO-1: The Applicant shall retain a paleontologist who meets the Society of Vertebrate Paleontology's (SVP, 2010) definition for Qualified Professional Paleontologist to carry out all mitigation related to paleontological resources. Prior to the start of ground-disturbing activities, the Qualified Professional Paleontologist or their designee (Paleontological Resource Monitor who meets the definition in SVP 2010) shall conduct construction worker paleontological resources sensitivity training for all construction personnel. Construction personnel shall be informed on how to identify the types of paleontological resources that may be

encountered, the proper procedures to be enacted in the event of an inadvertent discovery of paleontological resources, and safety precautions to be taken when working with paleontological monitors. The City shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance.

Mitigation Measure PALEO-2: Paleontological monitoring shall be conducted during ground-disturbing activities below 5 feet in Quaternary alluvium and at all depths within the La Vida Member of the Puente Formation. Monitoring shall be conducted by the Qualified Professional Paleontologist or their designee (Paleontological Resource Monitor) working under the direct supervision of the Qualified Professional Paleontologist. Monitoring shall follow the standard procedures of the Society of Vertebrate Paleontology (SVP, 2010). Monitoring shall consist of visually inspecting fresh exposures of rock for larger fossil remains and, where appropriate, collecting sediment samples to wet or dry screen to test promising horizons for smaller fossil remains. If the Qualified Professional Paleontologist determines that full-time monitoring is no longer warranted, based on the specific geologic conditions at the surface or at depth, the Qualified Professional Paleontologist may recommend that monitoring be reduced to periodic spot-checking or cease entirely.

Mitigation Measure PALEO-3: If a potential fossil is found, the Qualified Professional Paleontologist or their designee (Paleontological Resource Monitor) shall monitor excavation activities and shall be allowed to temporarily divert or redirect grading and excavation activities in the area of the exposed fossil to facilitate evaluation of the discovery. An appropriate buffer area shall be established by the Qualified Professional Paleontologist around the find where construction activities shall not be allowed to continue. Work shall be allowed to continue outside of the buffer area. At the Qualified Professional Paleontologist or Paleontological Resource Monitor's discretion, and to reduce any construction delay, the grading and excavation contractor shall assist in removing rock/sediment samples for initial processing and evaluation. If a fossil is determined to be significant, the Qualified Professional Paleontologist shall implement a paleontological salvage program to remove the resources from their location, following the guidelines of the SVP (2010). Any fossils encountered and recovered shall be prepared to the point of identification, catalogued, and curated at a public, non-profit institution with a research interest in the material and with retrievable storage, such as the Natural History Museum of Los Angeles County, if such an institution agrees to accept the fossils. If no institution accepts the fossil collection, they shall be donated to a local school in the area for educational purposes. Accompanying notes, maps, and photographs shall also be filed at the repository and/or school.

If construction personnel discover any potential fossils during construction while the Qualified Professional Paleontologist or Paleontological Resource Monitor is not present, regardless of the depth of work or location, work at the discovery location shall cease in a 50-foot radius of the discovery until the Qualified Professional Paleontologist has assessed the discovery and recommended and implemented appropriate treatment as described earlier in this measure.

Mitigation Measure PALEO-4: At the conclusion of paleontological monitoring and prior to the release of the grading bond, the Qualified Professional Paleontologist shall prepare a report summarizing the results of the monitoring and salvage efforts, the methodology used in these efforts, as well as a description of the fossils collected and their significance. The report shall be submitted by the Applicant to the City, the Natural

History Museum of Los Angeles County, and representatives of other appropriate or concerned agencies as determined by the Qualified Professional Paleontologist to signify the satisfactory completion of the Project and required mitigation measures.

Significance Determination After Mitigation

With implementation of Mitigation Measures PALEO-1 through PALEO-4, which require retention of a Qualified Professional Paleontologist, construction worker paleontological resources sensitivity training, paleontological monitoring of excavations exceeding 5 feet in Quaternary alluvium (depth of anticipated fossiliferous sediments) and all excavations in the La Vida Member of the Puente Formation regardless of depth, procedures to follow in the event of the discovery of paleontological resources, salvage and curation of significant fossil discoveries, and final reporting, impacts to paleontological resources would be less than significant.

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4.8 Greenhouse Gas Emissions

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
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 an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

“Global warming” and “global climate change” are the terms used to describe the increase in the average temperature of the earth’s near-surface air and oceans since the mid-20th century and its projected continuation. According to the International Panel on Climate Change (IPCC) warming of the climate system is now considered unequivocal (IPCC, 2007). Natural processes and human actions have been identified as the causes of this warming. The IPCC has concluded that variations in natural phenomena such as solar radiation and volcanoes produced most of the warming from pre-industrial times to 1950 and had a small cooling effect afterward. After 1950, increasing greenhouse gas (GHG) concentrations resulting from human activity such as fossil fuel burning and deforestation are believed to be responsible for most of the observed temperature increase. Increases in GHG concentrations in the earth’s atmosphere are thought to be the main cause of human-induced climate change. Certain gases in the atmosphere naturally trap heat by impeding the exit of solar radiation that is reflected back into space after striking the earth. This is sometimes referred to as the “greenhouse effect,” and the gases that cause it are called “greenhouse gases.” Some GHGs occur naturally and are necessary for keeping the earth’s surface inhabitable. However, increases in the concentrations of these gases in the atmosphere during the last 100 years have decreased the amount of solar radiation that is reflected back into space, intensifying the natural greenhouse effect and increasing average global temperatures.

State law defines GHGs as carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). When concentrations of these gases exceed natural concentrations in the atmosphere, the greenhouse effect may be intensified. CO₂, CH₄ and N₂O occur naturally, and through human activity. Emissions of CO₂ are largely by-products of fossil fuel combustion, whereas CH₄ results from off-gassing² associated with agricultural practices and landfills. Other human-generated GHGs include fluorinated gases such as HFCs, PFCs and SF₆, which have much higher heat-absorption potential than CO₂, and are byproducts of certain industrial processes.

CO₂ is the reference gas for climate change because it is the predominant GHG emitted. The effect that each of the aforementioned gases can have on global warming is a combination of the mass of their emissions and their global warming potential (GWP). GWP indicates, on a pound-

² Off-gassing is defined as the release of chemicals under normal conditions of temperature and pressure.

for-pound basis, how much a gas contributes to global warming relative to how much warming would be caused by the same mass of CO₂. For example, CH₄ and N₂O are substantially more potent GHGs than CO₂, with GWPs of 25 and 298 times that of CO₂, respectively.

In emissions inventories, GHG emissions are typically reported in terms of pounds or metric tons of CO₂ equivalents (MTCO₂e). CO₂e is calculated as the product of the mass emitted of a given GHG and its specific GWP. While CH₄ and N₂O have much higher GWPs than CO₂, CO₂ is emitted in such vastly higher quantities that it accounts for the majority of GHG emissions in CO₂e, both from residential/commercial developments and human activity in general.

CARB, SCAQMD, and Los Angeles County have not formally adopted project-level significance thresholds for GHG emissions that would be applicable to the Project. The City of Diamond Bar's Climate Action Plan was adopted by the City in December 2019 (Diamond Bar 2019) and reinforces the City's commitments to reduce GHG emissions. The City's Climate Action Plan introduces emissions targets for 2030 of 6.0 MTCO₂e per capita and for 2040 of 4.0 MTCO₂e per capita.

Environmental Evaluation

Would the Project:

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

Construction Emissions

Less than Significant Impact. The Project will result in the construction of seven new single family residences with five attached accessory dwelling units. The emissions of GHGs associated with construction of the Project were calculated for each phase of construction activity using CalEEMod and EMFAC (see **Appendix I**, of this IS/MND). Project construction is estimated to start in 2022 and would be completed in approximately 14 months by assuming a conservative scenario for construction activities (i.e., assuming all construction occurs at the earliest feasible date). Results of the GHG emissions calculations are presented in **Table 4.8-1, *Estimated Construction Greenhouse Gas Emissions***. As presented therein, construction of the Project is anticipated to generate approximately 495 MTCO₂e. It should be noted that the GHG emissions shown in Table 4.8-1 are based on construction equipment operating continuously throughout the work day. In reality, construction equipment tends to operate periodically or cyclically throughout the work day. Therefore, the GHG emissions shown reflect a conservative estimate.

Although GHGs are generated during construction and are accordingly considered one-time emissions, it is important to include them when assessing all of the long-term GHG emissions associated with a project. As recommended by the SCAQMD, construction-related GHG emissions were amortized over a 30-year project lifetime in order to include these emissions as part of the Project's annualized lifetime total emissions.

TABLE 4.8-1
ESTIMATED CONSTRUCTION GREENHOUSE GAS EMISSIONS

Emission Source	CO₂e (Metric Tons) ^{a,b}
Site Preparation	8
Grading/Retaining Wall Const.	168
Underground Utilities Installation	53
Street Improvements	28
Home Construction	235
Architectural Coating	4
Total	495
Amortized Over 30 Years	17

^a Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Appendix I of this IS/MND.

^b CO₂e emissions are calculated using the global warming potential values from the IPCC AR4.

SOURCE: ESA, 2020.

Due to the potential persistence of GHGs in the environment, impacts are based on annual emissions and, in accordance with SCAQMD methodology, construction impacts are not assessed independent of operational impacts, which are discussed in the next section (SCAQMD, 2009).

Operational Emissions

Less than Significant Impact. The Project's annual GHG emissions included emissions from operations and construction calculated by CalEEMod for area and energy emissions sources and EMFAC2017 for mobile source emissions (see Appendix I). As previously described, construction GHG emissions for the entire construction period were amortized over 30 years and are added to the annual operational emissions to provide a worst-case maximum annual emissions rate. The Project must comply with applicable portions of California Title 24 Building Energy Efficiency requirements, and meeting these requirements are assumed in the quantitative analysis below.

Operational impacts were assessed for the Project buildout year of 2023. The mobile source emission calculations associated with the Project were calculated using the VMT based on CalEEMod default trip lengths for a single family residential land use and a daily trip rate. The trips used in the GHG emissions analysis were based on 104 daily trips. Maximum annual GHG emissions resulting from motor vehicles, energy, water conveyance and wastewater treatment, and solid waste were calculated for the expected opening year of 2023. The maximum opening year GHG emissions from operation of the Project are shown in **Table 4.8-2, *Estimated Unmitigated Operational Greenhouse Gas Emissions***. The City of Diamond Bar Climate Action Plan has adopted a 2030 threshold of 6.0 MTCO₂e per capita for 2030 and a 4.0 MTCO₂e per capita for 2040. This analysis assumes California Renewables Portfolio Standard (RPS) program (SB 100) implementation for the three analyzed years and the most current (2019) Title 24 compliance.

**TABLE 4.8-2
ESTIMATED UNMITIGATED OPERATIONAL GREENHOUSE GAS EMISSIONS**

Emissions Sources	CO ₂ e at Buildout Year (2023) (Metric Tons per Year) ^a		
	Project without Reduction Features		
	2023	2030	2040
Mobile Sources	120	100	90
Area	2	2	2
Energy	22	18	13
Water and Wastewater Treatment	10	10	8
Total Operation	154	130	113
Construction (Amortized)	17	17	17
Project Total	170	146	129
Population ^b	39	39	39
Per Capita Emissions	4.4	3.8	3.3
2030 Target	6.0	6.0	6.0
Exceed Target?	No	No	No
2040 Target	4.0	4.0	4.0
Exceed Target?	Yes	No	No

^a Totals may not add up exactly due to rounding in the modeling calculations.

^b Population based on information in the Project Description as detailed in Appendix I to this IS/MND.

SOURCE: ESA, 2021.

Conclusion

As set forth above, the Project would generate incrementally increased GHG emissions over existing conditions. However, even a very large individual project would not generate enough GHG emissions on its own to significantly influence global climate change. The City of Diamond Bar Climate Action Plan (CAP) has adopted a 2030 threshold of 6.0 MTCO₂e per capita for 2030 and a 4.0 MTCO₂e per capita for 2040. As stated above, the analysis assumes California Renewables Portfolio Standard (RPS) program (SB 100) implementation and the most current (2019) Title 24 compliance. Per capita emissions for Project operations are anticipated at 4.4 MTCO₂e per year in 2023, 3.8 MTCO₂e per year in 2030, and 3.3 MTCO₂e per year in 2040. As shown while the Project is above the 2040 threshold in the opening year, it is already below the 2030 threshold and is further reduced to below both the 2030 and 2040 targets outlined in the City of Diamond Bar's CAP (Diamond Bar 2019) by 2030. Therefore, because the Project is consistent with the per capita thresholds set in the City of Diamond Bar CAP, the Project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, and Project-specific impacts with regard to GHG emissions and climate change would be less than significant.

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

Less than Significant Impact. As described above, compliance with a GHG emissions reduction plan renders a less-than-significant impact. The analyses below demonstrate that the Project is consistent with the applicable GHG emission reduction plans and policies included within the 2017 Climate Change Scoping Plan, the SCAG 2020-2045 RTP/SCS and the City of Diamond Bar's Climate Action Plan.

CARB's Climate Change Scoping Plan

At the State level, Executive Orders S-3-05 and B-30-15 are orders from the State's Executive Branch for the purpose of reducing GHG emissions. Executive Order S-3-05's goal to reduce GHG emissions to 1990 levels by 2020 was adopted by the Legislature as the 2006 Global Warming Solutions Act (i.e., AB 32) and codified into law in HSC Division 25.5. Executive Order B-30-15's goal to reduce GHG emissions to 40 percent below 1990 levels by 2030 was adopted by the Legislature in SB 32 and also codified into law in the California Health and Safety Code (HSC) Division 25.5.

In support of AB 32 and SB 32, the State has promulgated specific laws and strategies aimed at GHG reductions that are applicable to the Project. The primary focus of many of the Statewide and regional plans, policies, and regulations is to address worldwide climate change. Due to the complex physical, chemical, and atmospheric mechanisms involved in global climate change, there is no basis for concluding that the Project's increase in annual GHG emissions would cause a measurable change in global GHG emissions necessary to influence global climate change. Newer construction materials and practices, energy efficiency requirements, and newer appliances tend to emit lower levels of air pollutant emissions, including GHGs, as compared to those built years ago; however, the net effect is difficult to quantify. The GHG emissions of the Project alone would not likely cause a direct physical change in the environment. According to the California Air Pollution Control Officers Association (CAPCOA), "GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective (CAPCOA 2008)." It is global GHG emissions in their aggregate that contribute to climate change, not any single source of GHG emissions alone.

The Climate Change Scoping Plan outlines a framework that relies on a broad array of GHG reduction actions, which include direct regulations, alternative compliance mechanisms, incentives, voluntary actions, and market-based mechanisms such as the Cap-and-Trade program. The Climate Change Scoping Plan builds off of a wide array of regulatory requirements that have been promulgated to reduce statewide GHG emissions, particularly from energy demand and mobile sources. While these regulatory requirements are not targeted at specific land use development projects, they would indirectly reduce a development project's GHG emissions. A discussion of these regulatory requirements that would reduce the Project's GHG emissions are provided below.

- **California Renewables Portfolio Standard (RPS) program (SB 100):** While this action does not directly apply to individual projects, the Project complies with the RPS program inasmuch as its electricity provided by SCE, which, in compliance with the RPS program, is

required to obtain 33 percent renewable power by 2020. As of 2018 SCE has achieved the requirement and was providing 36 percent of its electricity from eligible renewable sources. Furthermore, per the updated requirements of SB 100, signed by Governor Brown on September 10, 2018, SCE would be required to procure eligible renewable electricity for 44 percent of retail sales by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030 and should plan to achieve 100 percent eligible renewable energy resources and zero-carbon resources by December 31, 2045. Thus, the Project would be supplied with electricity via renewable sources at increasing rates over time reducing the Project's electricity-related GHG emissions.

- **SB 1368/AB 398, CCR Title 20, Cap-and-Trade Program:** The State's Cap-and-Trade Program reduces GHG emissions from major sources (deemed "covered entities") by setting a firm cap on Statewide GHG emissions and employing market mechanisms to achieve emission reduction targets. While the Cap-and-Trade Program does not directly apply to individual projects, the Project would comply with the Program inasmuch as the Project's electricity usage and mobile source emissions are already taken into account under the Cap-and-Trade Program because SCE and California fuel suppliers are covered entities, resulting in a reduction of GHG emissions from the Project's energy consumption and mobile source emissions.
- **AB 1493 (Pavley Regulations):** The State's Pavley Regulations apply to new passenger vehicles from model year 2012 through 2016 (Phase I) and model years 2017–2025 (Phase II). While this action does not apply to individual projects, future residents of the Project would purchase new vehicles in compliance with this regulation. Mobile source emissions from the Project Site would be reduced with implementation of AB 1493. However, it is noted that the vehicle emissions standards beyond model year 2020 may not occur if the Federal SAFE Vehicles Rules and the One National Program on Federal Preemption of State Fuel Economy Standards are upheld by the Courts.
- **Advanced Clean Cars Program:** The Advanced Clean Cars (ACC) program includes Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles (PHEV) in the 2018 through 2025 model years. While this action does not directly apply to individual projects, the standards would apply to all vehicles purchased or used by residents of the Project. As such, the Project would support compliance with this regulation.
- **Low Carbon Fuel Standard (LCFS) (Executive Order S-01-07):** This regulation establishes a Statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 and 18 percent by 2030. While this action does not directly apply to individual projects, future residents of the Project would utilize transportation fuels in compliance with this regulation. GHG emissions related to vehicular travel by the Project would benefit from this regulation and mobile source emissions would be reduced with implementation of the LCFS.
- **SB 375:** SB 375 establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions. Under SB 375, CARB is required, in consultation with the State's Metropolitan Planning Organizations, to set regional GHG reduction targets for the passenger vehicle and light-duty truck sector for 2020 and 2035. While this action does not directly apply to individual projects, the Project would be consistent with SCAG 2016-2040 RTP/SCS goals and objectives under SB 375 to implement "smart growth."

Even though the 2017 Scoping Plan and supporting documentation do not provide an exact regulatory and technological roadmap to achieve 2050 goals, they demonstrate that various combinations of policies could allow the Statewide emissions level to remain very low through 2050, suggesting that the combination of new technologies and other regulations not analyzed in the study or not currently feasible at the time the 2017 Scoping Plan was adopted could enable the State to meet the 2050 targets (E3 -2015, Greenblatt 2015). For example, the 2017 Scoping Plan states some policies are not feasible at this time, such as Net Zero Carbon Buildings, but that this type of policy would be necessary to meet the 2050 target.

Based on the analysis above, the Project would be consistent with CARB's Scoping Plans (i.e., 2008 Scoping Plan, 2014 Scoping Plan, and 2017 Scoping Plan) and given the reasonably anticipated decline in Project emissions once fully constructed and operational, the Project would be consistent with the State's GHG reduction targets for 2030 and 2050. Therefore, impacts would be less than significant.

SCAG's 2020-2045 RTP/SCS

Consistent with findings in regional plans, including the 2020-2045 RTP/SCS, which recognizes that the transportation sector is the largest contributor to the State's GHG emissions, the Project's mobile emissions would represent 73 percent of operational emissions from the site.

At the regional level, the 2020-2045 RTP/SCS is an applicable plan adopted for the purpose of reducing GHGs. The purpose of the SCAG 2020-2045 RTP/SCS is to achieve the regional per capita GHG reduction targets for the passenger vehicle and light-duty truck sector established by CARB pursuant to SB 375. SCAG's Program EIR for the 2020-2045 RTP/SCS, certified on May 7, 2020, states that "[e]ach [Metropolitan Planning Organization] is required to prepare a SCS as part of their RTP in order to meet these GHG emissions reduction targets by aligning transportation, land use, and housing strategies with respect to [Senate Bill] 375 (SCAG 2020a)." The 2020-2045 RTP/SCS seeks improved mobility and accessibility, which is defined as "the ability to reach desired destinations with relative ease and within a reasonable time, using reasonably available transportation choices (SCAG 2020a)." The 2020-2045 RTP/SCS seeks to implement strategies that "alleviates development pressure in sensitive resource areas by promoting compact, focused infill development in established communities with access to high-quality transportation (SCAG 2020a)." As part of the 2020-2045 RTP/SCS, "transportation network improvements would be included, and more compact, infill, walkable and mixed-use development strategies to accommodate new region's growth would be encouraged to accommodate increases in population, households, employment, and travel demand (SCAG 2020b)."

In order to assess the Project's potential to conflict with the 2020-2045 RTP/SCS, this section analyzes the Project's land use characteristics for consistency with the strategies and policies set forth in SCAG's 2020-2045 RTP/SCS to meet GHG emission-reduction targets set by CARB.³ Generally, projects are considered consistent with applicable City and regional land use plans and

³ As discussed in the 2020-2045 RTP/SCS, the actions and strategies included in the 2020-2045 RTP/SCS remain unchanged from those adopted in the 2012-2035 and 2016-2040 RTP/SCS.

regulations, such as SCAG's 2020-2045 RTP/SCS, if they are compatible with the general intent of the plans and would not preclude the attainment of their primary goals. The Project would be compatible with the 2020-2045 RTP/SCS because it would not result in a considerable amount of daily traffic, nor would it contradict, or impede the compliance with the reduction strategies contained within the RTP/SCS.

City of Diamond Bar Climate Action Plan

The City of Diamond Bar's Climate Action Plan was adopted by the City in December 2019 (Diamond Bar 2019) and reinforces the City's commitments to reduce GHG emissions. The City of Diamond Bar has implemented land use and transportation planning actions, among others, that enable the City to meet the standards outlined in California's 2017 Scoping Plan, Executive Order S-3-05 and Executive Order S-3-15. The City's Climate Action Plan introduces emissions targets for 2030 of 6.0 MTCO₂e per capita and for 2040 of 4.0 MTCO₂e per capita. As detailed under a) above, the Project would result in per capita emissions of 4.4 MTCO₂e per year in 2023, 3.8 MTCO₂e per year in 2030, and 3.3 MTCO₂e per year in 2040. As shown, while the Project is above the 2040 threshold in the opening year, it is already below the 2030 threshold and is further reduced to below both the 2030 and 2040 targets by 2030. Because the Project meets the per capita targets identified in the CAP, the Project would be consistent with CAP.

Conclusion

In conclusion, the Project's consistency with applicable GHG reduction plans and policies plan as presented in Table 4.8-1 and Table 4.8-2 demonstrate that the Project is consistent with regulations and policies and comply with or exceed the regulations and reduction actions/strategies outlined in the Climate Change Scoping Plan, 2025-2045 RTP/SCS, and the City of Diamond Bar's Climate Action Plan. Therefore, the Project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing emissions of GHGs, and Project-specific impacts with regard to GHG emissions would be less than significant.

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4.9 Hazards and Hazardous Materials

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

Would the Project:

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

Less than Significant Impact. Under federal and State laws, any material, including wastes, may be considered hazardous if it is specifically listed by statute as such or if it is toxic (causes adverse human health effects), ignitable (has the ability to burn), corrosive (causes severe burns or damage to materials), or reactive (causes explosions or generates toxic gases).

Construction

Construction of the Project would involve the transport of commonly used hazardous substances, such as gasoline, diesel fuel, lubricating oil, cleaning fluids, grease, and solvents. These materials would be used and stored in designated construction staging areas within the boundaries of the Project Site, and once the Project has been constructed, any remaining materials would be

transported off-site. In addition, hazardous materials may be needed for fueling and servicing construction equipment on the Project Site. During construction of the Project, material safety data sheets for all applicable materials present at the Project Site would be made readily available to onsite personnel. All transport, handling, use and disposal of substances such as petroleum products related to construction would comply with all federal, state and local laws regulating the management and use of hazardous materials. Best management practices would be in place to ensure the lawful and proper storage and use of these materials. Consequently, use of these materials for their intended purpose would not pose a significant risk to the public or environment. Therefore, construction hazard impacts would be less than significant.

Operation

The operational phase of the Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. The Project would include seven single-family residential dwellings that include five attached accessory dwelling units. Operations would include landscaping and facility maintenance.

Hazardous materials associated with the residential dwellings, landscape and facility maintenance would be limited to private use of commercially available cleaning products, pesticides, and fertilizers, and various other commercially available substances. Although the Project would introduce dwelling units to the Site resulting in an increased use of commercially available potentially hazardous materials, the use of these substances would be subject to all applicable federal, state, and local health and safety laws and regulations that are intended to minimize health risk to the public associated with hazardous materials. Further, residences would not be allowed, per local regulations, to transport, store, and use large quantities of hazardous materials on-site during the operational phase. Additionally, as discussed in Section 4.10, *Hydrology and Water Quality*, the Project includes a Low Impact Development (LID) Plan that includes operational storm water quality best management practices (BMPs) such as a pretreatment chamber, biofiltration chamber, markers and signs, and a design of the timing and application of irrigation water. These BMPs would reduce potential pollutants from residential and landscaped uses so that a significant hazard to the public or environment would not occur. Therefore, hazard impacts related to the operational phase of the Project would be less than significant.

- 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?**

Less than Significant Impact.

Construction

As mentioned above, hazardous materials would be used during the construction phase; however, it is not anticipated that large quantities of these materials would be used on-site during construction. Further, no recognized environmental conditions regarding soil and groundwater that could be released during ground disturbance are recorded for the Project Site. The Project would be required to follow all federal, state, and local policies regarding the use, transportation, cleanup, and removal of these products. All hazardous materials required during construction

would include safety data sheets to communicate the hazards of hazardous chemical products. These safety data sheets include handling and storage precautions and accidental release measures. Additionally, in the event of an unanticipated upset and accident regarding the release of hazardous materials, procedures and policies would be followed to remove the materials in a safe and timely manner in accordance with federal, state, and local requirements. The State of California Office of Emergency Services (CalOES) provides a Hazardous Material Incident Contingency Plan (HMICP), which outlines the procedures and responsibilities of agencies and private organizations concerning hazardous materials emergencies (CalOES 1991). Furthermore, the County of Los Angeles Fire Department (LACFD) implements a Compliance Guide for Hazardous Waste and Materials, which include emergency protocols and County-specific elements from the CalOES HMICP that apply to all projects within the County (LACFD 2009). In the event of a hazardous materials emergency, the construction team would be trained to adhere to all federal, state, and local regulations regarding upset conditions. Therefore, construction of the Project would result in a less than significant hazard to the public or to the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Operation

During the operational phase of the Project, hazardous materials associated with the residential dwellings, associated landscape, and facility maintenance would be limited to private use of commercially available cleaning products, landscaping chemicals and fertilizers, and various other commercially available substances. Hazardous materials that are more difficult to treat, such as solvents and metals, would not be expected to be used or released in substantial quantities in this residential development. The likelihood that an accident or upset would occur is very low, and it is assumed that there would not be a significant hazard to the public or the environment. As stated above, any chemical or pesticide use would be in compliance with the applicable permits and regulations enforced by CalOES and the LACFD. BMP recommendations specifically suited to address expected pollutants from the Proposed Project would be provided in the SWPPP for the Project which is identified as Mitigation Measure BIO-3 in Section 4.4 of this IS/MND. These regulations and BMPs would guide the use of these materials so that less than significant hazards to the public or the environment 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?

Less than Significant Impact. Landmark Christian Preschool, which is located at 3338 South Diamond Canyon Road is approximately 0.2-mile from the Project Site. As discussed above, the Project would include the use of hazardous materials during construction and operation including fuels, solvents, commercial cleaners, fertilizers, and pesticides. However, use of these materials during construction would be temporary in nature and would be subject to federal, state, and local regulations. Once construction is complete, the seven residential dwellings along with the five attached accessory dwelling units would privately use and dispose of these materials in compliance with residential waste disposal regulations. Any unforeseen hazardous materials incidents would be reduced by implementation of the Project's SWPPP, which includes BMPS to reduce pollution on water, soils, and the surrounding environment.

Although the Project Site is within one-quarter mile of a school, by following federal, state, and local policies regarding hazardous waste transportation and removal during construction, as well as the localized private nature of hazardous waste during operation, the Proposed Project would have a less than significant impact on Landmark Christian Preschool in this regard.

- 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?**

No Impact. Government Code Section 65962.5 requires the Department of Toxic Substances Control (DTSC) and State Water Resources Control Board (SWRCB) to compile and update a regulatory sites listing (per the criteria of the Section). A search of the Envirostor and Geotracker websites, operated by the DTSC and SWRCB, respectively, determined that the Project Site is not located on or within 900 feet of a known hazardous materials site pursuant to Government Code Section 65962.5 (Envirostor 2021; Geotracker 2021). As such, there would be no hazardous materials impact.

- e) **For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?**

No Impact. The closest general aviation airport to the Project Site is the Fullerton Municipal Airport, located approximately 10 miles to the southwest in the City of Fullerton. According to the Fullerton Municipal Airport Land Use Compatibility Plan, the Fullerton Municipal Airport influence area extends approximately 5 miles from the airport runways (AELUP 2019). Given the distance to the Project Site, no impacts associated with airport safety or noise hazards would occur.

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

Less than Significant Impact. The City of Diamond Bar does not have an adopted emergency evacuation plan; however, the City facilitates the coordination of emergency response efforts through its Emergency Operations Center (EOC), which is a central location of authority that allows for face-to-face coordination and decision making between City staff and outside organizations (Diamond Bar, 2021). The Project does not propose to modify and would not interfere with the EOC.

Based on the surrounding roadway network, all Project-related vehicular traffic would be oriented north towards Gold Run Drive. As discussed in Section 4.17, *Transportation*, implementation of the Project would result in the addition of 104 daily trips. The Project would not impact the roadway capacity of Crooked Creek Drive, and would not physically interfere with emergency response or emergency evacuation. Therefore, the Project would not impair or interfere with an adopted emergency response plan or emergency evacuation plan, and impacts would be less than significant.

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

Less than Significant Impact. The Project Site is located within a Very High Fire Hazard Severity Zone. Although no fires have been previously reported to have occurred on the Project Site, there have been fires in the Project vicinity including the 1970 Fullerton Fire, 1980 Carbon Fire, 1981 Sun Mountain Ranch Fire, 2008 Freeway Complex Fire, and the 2017 Lambert Fire (Cal Fire, 2021). In accordance with the City of Diamond Bar requirements, a preliminary Fuel Modification Plan (FMP), that is located in Appendix O of this IS/MND, has been prepared for review by the Los Angeles County Fire Department (LACFD). The preliminary FMP includes specific requirements for three zones surrounding the proposed residential structures.

- Zone A is the setback zone and extends 30 feet beyond the edge of the proposed structures. Automatic or manual irrigation systems shall be provided to maintain healthy vegetation and fire resistance. Vegetation in this zone shall consist primarily of green lawns, ground covers not exceeding 6 inches in height, and adequately spaced shrubs. The overall landscape characteristics shall provide adequate defensible space. Plants in Zone A shall be inherently highly fire resistant and appropriately spaced. Species selection shall be limited to those species within the FMP. Other species may be used subject to approval. Trees are generally not recommended, except for dwarf varieties or mature trees small in stature. Target species will typically not be allowed within 30 feet of combustible structures and may require removal, if existing. Vines and climbing plants shall not be allowed on any combustible structure.
- Zone B is the irrigation zone and normally extends from the outer edge of Zone A to 100 feet from structures; however, shorter distances can be approved due to Project design. Automatic or manual irrigation systems shall be provided to maintain healthy vegetation and fire resistance. Vegetation in this zone shall consist primarily of green lawns, ground covers not exceeding 6 inches in height, and adequately spaced shrubs. Unless otherwise approved, ground covers shall be maintained at a height not to exceed 6 inches. On slopes, 12-inches is acceptable within 50 feet of a structure, and 18-inches beyond 50 feet. The overall landscape characteristics shall provide adequate defensible space. Specimen native plants may be approved to remain if properly maintained for adequate defensible space. Annual grasses or weeds shall be maintained at a height not to exceed 3 inches. Plants shall be fire resistant and appropriately spaced. Species selection shall reference those species within the FMP. Other species may be used subject to approval. Target species will require removal within 50 feet of structures, depending on the site conditions. All trees, unless otherwise approved, shall be planted far enough from structures and Fire access roads, as to not overhang any structure or access at maturity.
- Zone C is the native brush thinning zone and extends from the outer edge of Zone B up to 100 feet from Zone B and normally up to 200 feet from structures or to the property line; however, distances to the structures could be approved to be shorter due to Project design. Thinning and clearance will be determined upon inspection. Irrigation systems are not required. Vegetation may consist of modified existing native plants, adequately spaced ornamental shrubs and trees, or both. Replacement planting to meet minimum City or County slope coverage requirements or ordinances will be considered. In all cases, the overall landscape characteristics shall provide adequate defensible space. Plants shall be spaced appropriately. Existing native vegetation shall be modified by thinning and removal of plants constituting a fire risk; these include, but not limited to: chamise, sage, sage brush, and

buckwheat. Annual grasses and weeds shall be maintained at a height not to exceed 3 inches. General spacing for existing native shrubs or groups of shrubs is 15 feet between canopies. Native plants may be thinned by reduced amounts as the distance from development increases. General spacing for existing native trees or groups of trees is 30 feet between canopies. This distance may vary depending on the slope, arrangement of trees in relation to slope, and the tree species.

In addition to the fuel modification zones, the Project will include vegetation setbacks from the fire access road located north of Lot 1. Routine maintenance by the Project's homeowners' association will be regularly performed in all zones. The LACFD reviewed the location of structures, type of construction, topography, slope, amount and arrangement of vegetation and overall site setting. LACFD determined that the FMP provided the necessary defensible space necessary for effective fire protection of the homes proposed on the Project Site. Based on the review, the LACFD has approved the FMP in concept. Therefore, the implementation of the proposed Project would not expose people or structures to significant wildland fire risks and would be less than significant.

References

Airport Land Use Commission (ALUC). Airport Environs Land Use Plan for Fullerton Municipal Airport. Amended February 21, 2019.

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City of Diamond Bar (Diamond Bar). 2021. City Emergency Operation Center – Website. Available <https://www.diamondbarca.gov/222/City-Emergency-Operation-Center>, accessed January 21, 2021

Department of Toxic Substances Control (DTSC). 2021. Envirostor Database – Website search for 'Diamond Bar, CA'. Available <https://www.envirostor.dtsc.ca.gov/public/>, accessed January 21, 2021.

Los Angeles County Fire Department (LACFD). 2009. Compliance Guide for Hazardous Wastes and Materials. Revised December 3, 2009.

State of California Office of Emergency Services (CAIOES). Hazardous Materials Incidents Contingency Plan. January 1991.

State Water Resources Control Board (SWRCB). 2021. Geotracker Database – Website search for 'Diamond Bar, CA'. Available at <https://geotracker.waterboards.ca.gov/>, accessed January 21, 2021.

Studio H Landscape Architecture. 2021. Preliminary Fuel Modification Plan. Appendix O of this IS/MND.

4.10 Hydrology and Water Quality

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
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:				
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"/>
iv) impede or redirect flood flows?	<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 type="checkbox"/>	<input checked="" 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

The following analysis is based on the *Preliminary Hydrology and Hydraulics Report* (Michael Baker International, 2021a) located in **Appendix J** of this IS/MND, the *Preliminary Low Impact Development Plan* (Michael Baker International, 2021b) located in **Appendix K** of this IS/MND, and the *Geotechnical Report, Tract 54081, City of Diamond Bar, California* (Geotechnical Report) (LGC Valley, Inc., 2020), located in Appendix G of this IS/MND.

The existing topography on the Project site directs surface storm water flow into three directions. From the middle of the Project site to the west, the area is directly tributary to the Brea Canyon Channel which is an improved concrete trapezoidal storm channel under the jurisdiction of the County of Los Angeles. From the middle of the Project site to the east, the majority of the area is currently intercepted by an existing v-ditch located behind the existing residential lots located on the southwest side of Crooked Creek Drive. These flows are directed to a parkway culvert that directs these flows toward Crooked Creek Drive where storm flows continue northeasterly within the roadway. The remainder of the Project site sheet flows towards an existing v-ditch located along the north edge of the proposed Development Area and ultimately directs runoff to Crooked

Creek Drive and then to Gold Run Drive. In addition, approximately 3.2 acres of offsite area located south and southeast of the Project site currently conveys runoff toward the Project site. The offsite areas are natural steep hillside slopes similar to the Project site. A further description of the three existing drainage areas is provided below.

- Drainage Area A – Area A (6.2 acres) has approximately over 180 feet of elevation difference from the highest point of the Drainage Area to the Brea Canyon Channel. Generally, runoff sheet flows over natural hillside slopes from the mid-south area of the Project boundary to the northwest toward Brea Canyon Channel. This area also includes an existing dirt road that is used as a Southern California Edison access road. This area is considered approximately one percent impervious which is reflective of an open space land use. Area A includes areas located south of the Project site.
- Drainage Area B – Area B (6.9 acres) has approximately over 185 feet of elevation difference from the highest point of the Drainage Area to the lowest point that occurs in a parkway culvert within the Project voluntary. The parkway culvert runoff from this area into the existing Crooked Creek Drive where flows continue northeasterly within the roadway. This area was also considered one percent impervious which is reflective of an open space land use. A small portion of this drainage area also includes a small portion of an offsite area south of the Project site as well as portions of three residential lots located east of the Project site along Running Ranch Road.
- Drainage Area C – Area C (3.0 acres) has approximately 165 feet of elevation difference from the highest point of the drainage area to the lowest point which is an existing v-ditch that directs runoff to Gold Run Drive. Flows from this area continue along Gold Run Drive until they are intercepted by an existing catch basin outside of the Project site. This area is also considered one percent impervious which is reflective of an open space land use. A portion of this drainage area also includes portions of three residential lots located east of the Project site along Running Ranch Road.

Would the Project:

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

Less than Significant Impact. Construction activities associated with the proposed Project would include vegetation removal, grubbing, grading and excavation. These construction activities would loosen soil structure and expose bare soil, making it potentially more easily eroded by wind and rain, especially on slopes.

Construction of the proposed residential structures and the extension of Crooked Creek Drive and utility improvements would require the use of heavy equipment and construction-related chemicals, such as fuels, oils, grease, solvents and paints that would be stored in limited quantities on-site. In the absence of proper controls, these construction activities could result in accidental spills or disposal of potentially harmful materials used during construction that could wash into and pollute surface waters on-site and/or worsen water quality of downstream receiving waters. Materials that could potentially contaminate the construction area from a spill or leak include diesel fuel, gasoline, lubrication oil, hydraulic fluid, antifreeze, transmission fluid, lubricating grease, concrete, and other fluids.

As Project construction would disturb more than one acre of soil, the Project operator would be required to comply with the NPDES Construction General Permit. In compliance with this permit, a SWPPP would be prepared and implemented, which would require erosion control, sediment control, non-stormwater and waste and material management BMPs, such as routine inspection and maintenance of equipment, that would prevent construction chemicals used within the Project site from washing into Brea Canyon Channel.

As identified in Section 4.4 and identified as Mitigation Measure BIO-3, prior to issuance of a grading permit for construction, the developer would be required to submit a SWPPP to the City of Diamond Bar. The SWPPP would specify the BMPs that would be used to prevent construction pollutants from contacting stormwater, with the intent of keeping sedimentation or any other pollutants from moving outside the Project limits and into receiving waters. The City of Diamond Bar would review the proposed BMPs within the SWPPP to determine if the BMPs are appropriate for the Project. After determining that the BMPs are appropriate, the City of Diamond Bar can issue a grading permit. Representative BMPs include the following:

- Limiting grading to the minimum area necessary for construction, operation and decommissioning of the proposed project (erosion control);
- Limiting vegetation disturbance/removal to the maximum extent practicable (erosion control);
- Implementing fiber rolls and sand bags around drainage areas and the site disturbance perimeter (sediment control);
- Stockpiling and disposing of demolition debris and soil properly (sediment control);
- Installation of a stabilized construction entrance/exit and stabilization of disturbed areas (sediment control);
- Proper protections for fueling and maintenance of equipment and vehicles (non-stormwater);
- Managing waste, aggressively controlling litter, and implementing sediment controls (non-stormwater); and
- Bio-retention and detention basins and associated directional swales (post-construction).

Implementation of BMPs such as those identified above have proven effective in protecting water quality of receiving waters during construction. The City of Diamond Bar will review the BMPs that are included within the SWPPP to determine if the BMPs are in compliance with the SWPPP requirements. As a result, the BMPs that comply with the SWPPP requirements would reduce potential water quality impacts during construction to less than significant.

Operation

Operation of the proposed Project could also adversely impact water quality. The proposed residential uses could become potential sources of pesticides, sediment, and nutrients (from landscaping), fuels and metals (from vehicles), and trash and debris. These sources could result in pollutants being exposed to precipitation and capable of being carried off in stormwater runoff. The Preliminary Low Impact Development (LID) Plan identifies that the typical pollutants of

concern and the receiving water body impairments include nitrogen, cadmium, chromium, copper, lead, and zinc.

Because the Project would convey storm water to a natural drainage system (i.e., Brea Canyon Channel downstream of existing residential development), hydromodification control measures are required so that runoff flow rate, velocity, and duration for the proposed Project condition does not exceed the existing condition for the 2-year and 25-year rainfall event. The BMP measures to achieve the required hydromodification include the proposed pretreatment chamber, biofiltration chamber, markers and signs, and designing the timing and application of irrigation water. The proposed pretreatment chamber separates trash, sediment, and debris from stormwater before the stormwater is conveyed to the biofiltration chamber. Both of these systems allow stormwater to flow subsurface. Within the biofiltration chamber, there are various screens that allow sediments to accumulate adjacent to the media bed and reduce clogging of the perforated underdrain. The separation of sediment and pollutants within the biofiltration chamber would improve the quality of the stormwater conveyed downstream into the Brea Canyon Channel. As required with all stormwater BMPs, inspection and maintenance of the systems are required. The inspections and maintenance would be the responsibility of the Project's homeowner association. Table 4.9-1 shows that the calculated stormwater flows for the peak 2-year and 25-year storm flow would be equal or less than the stormwater flows during existing conditions.

**TABLE 4.9-1
EXISTING AND PROPOSED PEAK FLOW CONDITIONS DURING 2-YEAR AND 25-YEAR STORM**

Sub-Drainage/Drainage Area	Area (Acres)	Existing Peak Flow (cfs)		Proposed Peak Flow (cfs)	
		2-year	25-year	2-year	25-year
Sub-Drainage Area A-1	0.5	NA	NA	0.3	1.3
Sub-Drainage Area A-2	5.5	NA	NA	4.3	16.2
Sub-Drainage Area A-4	0.2	NA	NA	0.2	0.6
Total Drainage Area A	6.2	4.9	18.3	4.8	18.1
Drainage Area B	6.9	5.3	20.1	5.3	20.1
Drainage Area C	3.0	2.3	8.8	2.3	8.8

NA – Not Applicable because these Sub-Drainage Areas do not currently exist.

SOURCE: Michael Baker International, 2021

With the proposed BMPs, storm flows from the Project site would be filtered to separate trash, sediment, debris and contaminants so that potential impacts to downstream stormwater quality would be less than significant.

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

Less than Significant Impact. Geotechnical borings were placed throughout the proposed development area. The borings ranged from 30 feet to 56.5 feet below ground surface. No static groundwater surface was encountered within the borings. There was one area with perched water that was encountered near the bedrock contact with alluvium at the base of the landslide feature located within and adjacent to the proposed Lot 1. As a result, construction activities would not substantially decrease groundwater supplies and would not interfere with the existing groundwater supplies. The Project is located within the Walnut Valley Water District (WVWD). Based on a review of the 2015 Urban Water Management Plan (UWMP), WVWD extracts a minimal amount of groundwater for recycled water supplies and the majority of WVWD's water supplies are provided by the Metropolitan Water District (MWD) through imported water (Civiltect Engineering Inc., 2016). The groundwater that is extracted contains high concentrations of total dissolved solids and nitrate and therefore, groundwater is used for the recycled water distribution system. As a result, construction activities would result in a less than significant impact on groundwater recharge.

Operation of the Project includes the addition of impervious surfaces; however, the Project site contains underlying soil that primarily consists of clays that do not provide for substantive infiltration to recharge groundwater. The Project also includes water use by each of the seven single-family residences and five attached accessory dwelling units as well as landscaping. Because the Project does not include the use of recycled water, the Project would not impact the existing and projected groundwater supplies within the WVWD. The Project would use water obtained through imported water supplies provided by MWD. Therefore, implementation of the Project would not substantially decrease existing groundwater supplies and potential impacts to groundwater supplies would be less than significant.

- 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.**

Less than Significant Impact. Construction and operation activities of the proposed Project have the potential to alter the existing drainage pattern of the Project site through disturbance of ground surface and placement of impervious structures on-site. Possible impacts of this include erosion, sedimentation and flooding; all of which are interconnected. Erosion is the washing away of soil by rain. Sedimentation is the accumulation of soil and other matter washed into waterways.

Construction activities such as grading and excavation associated with the proposed Project would temporarily alter the ground surface, thus changing the existing drainage pattern of the site. This construction activity would alter the ground surface topography and expose a large amount of bare soil. However, areas that are disturbed would be appropriately protected by silt fences,

hay bales, or reseeded to ensure that exposed areas are not susceptible to erosion or siltation in accordance with NPDES Construction General Permit requirements.

Compliance with the NPDES Construction General Permit would involve the development of a SWPPP. The SWPPP would include erosion control BMPs, such as scheduling and preservation of existing vegetation, which would prevent the exposure of soil to water and reduce the threat of erosion. The SWPPP would also implement sediment control BMPs, such as sandbags and fiber rolls, to trap any sediment that mobilizes on-site. Impacts relating to alteration of drainage patterns and causation of erosion and siltation during Project construction would be less than significant.

Operation of the proposed Project would permanently introduce impermeable surfaces and structures, roads and sidewalks, to the previously undeveloped area. The proposed Project would implement operational source control BMPs that would prevent the creation of excess runoff, including designing the timing and application of irrigation water. In addition, the drainage system proposed on the Project site would reduce the rate of flow during a two-year storm event compared to existing conditions. Further, treatment control BMPs would include the proposed pretreatment chamber and biofiltration chamber that includes filters that would be regularly maintained. Together, these BMPs would reduce the potential for erosion and the release of sedimentation off of the Project site. Impacts relating to alteration of drainage patterns and causation of erosion and siltation during Project operation would be less than significant.

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

Less than Significant Impact. As shown in Table 4.9-1 above, the proposed peak flow during the 2-year and 25-year storm events would be less than during the existing peak flows during the 2-year and 25-year storm events because stormwater flows under existing conditions sheet flows into Brea Canyon Channel while under the proposed Project, the proposed storm drain system would increase the length of the flow path to eventually be conveyed into the Brea Canyon Channel. An increase in the length of the flow path, delays storm water from being conveyed into the Brea Canyon Channel as quickly as under the existing flow path. Therefore, the implementation of the proposed Project would result in less than significant impacts related to increases in the rate or amount of surface runoff that would cause onsite or offsite flooding.

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.**

Less than Significant Impact. As described in the Preliminary Hydrology and Hydraulics Report provided in Appendix J of this IS/MND, the proposed storm drain system has been designed to accommodate a 25-year storm event to conform with the Los Angeles County Hydrology Manual. Stormwater flow would be accommodated by underground pipes as well as the above ground curb and gutter along the southward expansion of Crooked Creek Drive. The 25-year flow rate for Drainage Area A under the proposed condition is approximately 18.1 cfs compared to the existing 25-year flow rate of 18.3 cfs. Drainage Area B contributes storm water

to the existing Crooked Creek Drive to two catch basins located on both sides of the street at the entrance to the Project site. As shown in Table 4.9-1, the 25-year storm flow rates for Drainage Area B under the proposed and existing conditions are the same because no substantive change to the existing drainage area would occur with Project implementation. Drainage Area C contributes storm water to an existing v-ditch located within the northwestern portion of the Project site along the existing fence line and ultimately is conveyed to Gold Run Drive. As shown in Table 4.9-1, the 25-year storm flow rates for Drainage Area C under the proposed and existing conditions are the same because no substantive change to the existing drainage area would occur with Project implementation.

In summary, the implementation of the Project would not contribute storm water runoff that exceeds existing drainage systems because flow rates with the Project would be less or the same as the existing flow rates.

iv) **Impede or redirect flood flows.**

Less than Significant Impact. The implementation of the Project would redirect existing stormwater flows in the western portion of the Project site to the proposed storm drain facilities proposed on the Project site. The existing stormwater flows originating in the eastern and northern portions of the Project site would not be altered. Stormwater flows from the western portion of the Project site currently sheet flows into the Brea Canyon Channel. The Project would redirect the flows into two storm drains that will extend into Brea Canyon Channel.

Based on a review of the Federal Emergency Management Agency (FEMA) flood information (map is provided in Appendix J of this IS/MND), the Project site is identified as Zone X which is an area determined to be outside the 500-year flood area.

The implementation of the proposed Project would redirect existing stormwater flows; however, because the Project is outside the 500-year flood zone and the Project includes stormwater facilities to direct flows to Brea Canyon Channel, the Project would not increase flooding in the Project vicinity. Therefore, the Project would result in less than significant impacts related to impeding or redirecting stormwater flows.

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

No Impact. As indicated by the FEMA map provided in Appendix J of this IS/MND, the Project Site is located outside of the 500-year flood zone. in an 'Area of Minimal Flood Hazard' (FEMA, 2020). The Project Site is over 20 miles from the Pacific Ocean and 7.5 miles north of the nearest standing body of water. According to the Geotechnical Report (Appendix G), the Project is not in close proximity to a body of water or near the ocean; therefore, the hazard associated with tsunamis or seiche would be considered low (LGC Valley Inc., 2020). The Project would result in no impact from inundation due to flooding, tsunami, or seiche.

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

Less-than-Significant Impact. The Project site is located within the Los Angeles Regional Water Quality Control Board's (LARWQCB) Basin Plan that is designed to preserve and enhance water quality and protect beneficial uses of all regional waters. The Low Impact Development (LID) Plan, located in Appendix K of this IS/MND, identifies the typical pollutants anticipated to be generated within the Project site with Project development. These typical pollutants of concern include suspended solids, total phosphorus, total nitrogen, cadmium, chromium, copper, lead and zinc. Receiving waters that are impaired for any of these typical pollutants of concern that would receive stormwater from the Project site include Coyote Creek, San Gabriel River Reach 1, San Gabriel River Estuary, and San Pedro Bay Near/Off Shore Zones. The proposed Project has been designed to include BMPs that would reduce the Project's typical pollutants of concern. These BMPs include a pretreatment chamber, biofiltration chamber, markers and signs, and designing the timing and application of irrigation water to minimize runoff of excess irrigation water. These BMPs would reduce the typical pollutants associated with the Project. As a result, the Project would not conflict with the implementation of the LARWQCB Basin Plan.

In 2014, the Sustainable Groundwater Management Act (SGMA) created a new framework for groundwater management. The Project site is not located within an area that is covered by a groundwater sustainability plan because, as identified above, groundwater is minimally extracted within the WVWD service area and extraction projections for the WVWD service area are planned to remain the same from 2020 to 2035. Therefore, implementation of the Project would not conflict with a sustainable groundwater management plan.

References

- Civiltec Engineering Inc. 2016. Walnut Valley Water District 2015 Urban Water Management Plan. Available at: <https://www.wvwd.com/wp-content/uploads/2018/08/201520UWMP.pdf>, accessed on April 7, 2021.
- Federal Emergency Management Agency (FEMA). 2020. FEMA Flood Map Service Center: Search by Address: City of Diamond Bar. Available at <https://msc.fema.gov/portal/home>, accessed November 2020.
- LGC Valley Geotechnical Consulting (LGC Valley Inc.). 2020. Geotechnical Report Tract 54081 City of Diamond Bar, California. August 31, 2020.
- Michael Baker International. 2021a. Preliminary Hydrology and Hydraulics Report. February. (Appendix J).
- Michael Baker International. 2021b. Preliminary Low Impact Development Plan. January. (Appendix K)
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4.11 Land Use and Planning

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
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

Would the Project:

a) **Physically divide an established community?**

Less than Significant Impact. Implementation of the Project would include construction of seven single-family residences, five attached accessory dwelling units, and associated infrastructure including a southward expansion of the existing Crooked Creek Drive and a maintenance access easement. These Project components would be located within the Proposed Development Area that is approximately 2.5 acres of the approximately 12.9-acre vacant Project Site. The Project Site is located in the City of Diamond Bar within the eastern portion of Los Angeles County. Locally, the Project Site is located at the terminus of Crooked Creek Drive, east of State Route 57 (SR-57), South Brea Canyon Road, and Castle Rock Road and west of Running Branch Road.

Single-family residences are currently located along the existing Crooked Creek Drive adjacent to the north and northwest boundary of the Project Site. The Brea Canyon Channel is also located west of the Project Site. Additional single-family residences are located along Running Branch Road to the east of the Project Site. Adjacent to the northeastern boundary of the Project site is undeveloped area within the existing residential lots that are located along Gold Run Drive and Running Ranch Road. To the south is additional undeveloped area (within Los Angeles County jurisdiction) as well as existing Southern California Edison (SCE) tower and associated electrical lines. The proposed residential uses would be consistent and compatible with the adjacent single-family residential uses to the north, east and west and would not divide an established community.

In addition, the proposed Project includes the southward expansion of the existing Crooked Creek Drive and a proposed maintenance access easement along the northern boundary of the Proposed Development Area. The southward expansion of the existing Crooked Creek Drive would include a 43-foot wide road, which would be designated as a private roadway. A 6-foot sidewalk is proposed along the western side of the proposed Crooked Creek Drive expansion. The proposed sidewalk is a southward expansion of the existing sidewalk of the existing Crooked Creek Drive. The proposed maintenance access easement area would be constructed north of the Proposed Development Area and would include a vehicular gate immediately east of Crooked Creek Drive. Both the southward expansion of the existing Crooked Creek Drive and proposed maintenance

access easement would not divide an established community as the expansion would increase access to the area and the proposed maintenance access easement would be provided for SCE to access the existing electrical lines located along the fence line of the existing single-family residences and provide access for maintenance of the undeveloped open space area of the Project site.

As discussed above, the implementation of the Project would not result in the division of an established community.

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

Less than Significant Impact. The Project Site is designated RL (low density residential). The RL-Low Density Residential designation of the Diamond Bar General Plan 2040 allowable uses include single-family dwellings at a maximum density of 3 dwelling units per acre (City of Diamond Bar, 2019) and up to one accessory dwelling unit for each residential lot. The Proposed Development Area would occupy approximately 2.5 acres of the Project site. The Development Area includes seven single-family residences, five of the single family residences include one accessory dwelling unit, and the southward expansion of the existing Crooked Creek Drive. The remaining improved areas of the Project Site would include 0.6 acre of hillside grading with 8-foot wide terrace drains and retaining walls. The proposed development design for the residential homes, as detailed in the Project Description, was chosen with the objective to design an architectural style that blends into hillside conditions for flat and terraced residential lots in accordance with the provisions of the Zoning Code, as detailed below. Approximately 10.4 acres of retained undeveloped area is located within the eastern and northern portions of the Project Site, leaving much of the site undisturbed and in its natural state, and ensuring that development is subordinate to the characteristic landscape. The proposed uses and siting of the Project preserve the majority of the land in its natural state. In addition, the Project does not require a general plan amendment or zone change and therefore, is consistent with the existing zoning and general plan designations.

A consistency analysis of the Project with local goals and policies are evaluated below.

Diamond Bar General Plan Goals and Policies Consistency Analysis

The City of Diamond Bar General Plan includes the following goals and policies that are applicable to the Project. **Table LU-1** provides a consistency analysis of the Project in alignment with relevant Diamond Bar General Plan Land Use Element goals and policies.

TABLE LU-1
CONSISTENCY OF PROJECT WITH DIAMOND BAR GENERAL PLAN 2040

Goal	Policy Text	Statement of Consistency or Non-Consistency
General		
LU-G-4	Manage development in a manner consistent with the capabilities of the City to provide public services and facilities effectively.	Based on Section 4.15, Public Services in this IS/MND, the existing public facilities can adequately serve the Project. The Project Applicant would be required to pay development fees established by the appropriate entity whether it be the City, School District, Sanitation District, local fire and/or police department, as required. Development fees would be allocated to the provision of adequate department services. The Project is consistent with this policy.
LU-P-5	Ensure that adequate public services, facilities, and infrastructure are available or provided to support new development, including water, wastewater, stormwater, solid waste, transportation, public safety, and parks.	The Project will provide the necessary conveyance facilities to adequately serve the proposed uses through connection to existing water and sewer lines located within the existing Crooked Creek Drive and proposed drainage facilities to the Brea Canyon Channel. The Project is consistent with this goal. Additionally, based on Section 4.15, Public Services in this IS/MND, the existing public facilities can adequately serve the Project. The Project is consistent with this policy.
Residential		
LU-G-6	Preserve existing residential neighborhoods to retain the qualities Diamond Bar residents love, such as easy access to preserved natural open spaces, while supporting and encouraging well-designed, complete neighborhoods with safe streets, access to shopping and services, and community parks and gathering places.	The Project would design the 7 single-family residential homes with an architectural style that blends into hillside conditions for flat and terraced residential lots and would provide an access point and trail head at the proposed Crooked Creek cul-de-sac for a connection to the future Schabarum Trail. The Schabarum Trail extension to the Project site is conceptually planned and has not been previously evaluated for CEQA purposes. The trail head and access point are part of the Project and would include decomposed granite, City signage, and a shaded bench per City design standards. Access to the trail head would be provided by a public access easement along Crooked Creek Drive that would be established as part of the Project. The nearest County trail is the Rowland Heights Loop Trail located approximately 2.2 miles to the west. The nearest existing portion of the Schabarum Trail is approximately three miles west of the Project site. Additionally, the Project includes preservation of approximately 12.9 acres of undeveloped natural open space. The Project is consistent with this policy.
LU-P-8	Ensure that new residential development be compatible with the prevailing character of the surrounding neighborhood in terms of building scale, density, massing, and design. Where the General Plan designates higher densities, provide adequate transitions to existing development.	The proposed residential development includes seven single family dwelling units with five accessory dwelling units within five of the single family residences on approximately 2.5 acres which corresponds to 2.8 dwelling units per acre. This is consistent with the City of Diamond Bar General Plan Land Use designation for the Project site which is low density residential which corresponds to a maximum of 3 dwelling units per acre. The density of the Project would be compatible with the adjacent residential uses located along Crooked Creek Drive and Castle Rock Road that are designated as low-medium residential with a maximum of 5 units per acre. See responses to Land Use Goal 6 (LU-G-6). As provided by state law (Government Code Section 65852.2) and identified in the City of Diamond Bar Municipal Code (Section 22.42.120), accessory

Goal	Policy Text	Statement of Consistency or Non-Consistency
		dwelling units are allowed on residential lots without being considered to exceed the allowable density for the residential lot. The Project includes five attached accessory dwelling units on five of the seven single-family residential lots. The Project is consistent with this policy.
LU-P-9	Incorporate architectural and landscape design features in new development that create more pedestrian-friendly neighborhoods, such as orientation to the street; set-back, or detached garages; tree-lined streets; and landscaped parkways between streets and sidewalks.	The Project would create a more pedestrian-friendly neighborhood through its proposed landscape and architectural design features, including orientation to the street, tree-lined streets and sidewalks, a plant palette that includes a variety of trees to be planted throughout the Proposed Development Area including Brisbane box, Bradford pear trees, fruitless olive trees, Coast live oaks, and California black walnut trees; large and medium shrubs, spreading shrubs, accent shrubs, groundcover, and climbing vine on the retaining walls are proposed located throughout the Proposed Development Area. The Project is consistent with this policy.
LU-P-11	Maintain a system of identifiable, complementary neighborhoods, providing neighborhood identity signage where appropriate and ensuring that such signage is well maintained over time.	The Project would include private signage indicating the community is private, per City design standards. The proposed homeowner's association would be responsible for maintenance of signage. The Project is consistent with this policy.
Public Facilities, Open Space, and Hillside		
LU-P-56	<p>Ensure that development on privately owned, residentially designated land in hillside areas is compatible with surrounding natural areas promoting the following design principles:</p> <ol style="list-style-type: none"> Minimize—as articulated by the landform grading criteria of the Development Code's Hillside Management regulations—excavation, grading, and earthwork to retain natural vegetation and topography; Preserve existing vistas of significant hillside features such as ridgelines, particularly from public places; Do not create unsafe conditions; Incorporate site and architectural designs that are sensitive to natural contours and land forms and hydrological features; Preserve natural watersheds, including existing vegetation within undeveloped hillside areas to the maximum extent feasible, including mature trees and native plant materials; Incorporate fuel modification as part of the Fire Department's approved fuel modification program; 	<p>See responses to Land Use Goal 6 (LU-G-6).</p> <ol style="list-style-type: none"> The design of the Project has minimized hillside grading in accordance with the Development Code's Hillside Management regulations to approximately 0.6 acres and has incorporated the existing hillside character into the design and architectural style of the residential homes. The architectural style blends into hillside conditions for flat and terraced residential lots. Section 4.1. Aesthetics, of this IS/MND outlines measures for preservation of existing vistas so that less than significant impact would occur. The Project includes the implementation of geotechnical design measures to reduce the potential for geological hazards and includes a fuel modification plan to reduce potential fire hazard impacts. The implementation of the Project would not create unsafe conditions. As stated above, the design of the Project has minimized hillside grading in accordance with the Development Code's Hillside Management regulations to approximately 0.6 acres and has incorporated the existing hillside character into the design and architectural style of the residential homes. The architectural style blends into hillside conditions for flat and terraced residential lots. The Project includes the removal of existing trees that meet the definition of a protected tree. The Project includes the replacement of these trees in accordance with the City's ordinance. In addition, the Project does not impact a sensitive natural community. The Project includes a Fuel Modification Plan that has been reviewed and conceptually approved by the County of Los Angeles Fire Department.

Goal	Policy Text	Statement of Consistency or Non-Consistency
	<p>g. Utilize planting palettes consisting of drought tolerant, fire resistant, non-invasive plants that are native to or compatible with those in the surrounding area; and</p> <p>h. Group plants within swale areas to more closely reflect natural conditions within landform graded slopes</p>	<p>g. The Fuel Modification Plan includes the use of drought tolerant, fire resistant, and non-invasive plants.</p> <p>h. Because the Project site is in a very high fire hazard area, the grouping of plants and trees is not part of the landscape plan. The plants and trees are consistent with the distances recommended by the Los Angeles County Fire Department's fuel modification requirements.</p> <p>Overall, the Project is compatible with the surrounding natural areas and promote the policy's design principles, and therefore, the Project is consistent with this policy.</p>
Community Character & Placemaking		
CC-P-5	Establish a landscaping palette made up of native, drought-tolerant plants and stormwater management systems with a view to enhancing beautification and sustainable landscaping practices.	The Project includes water efficient landscaping to reduce water use on the Project Site. The Project is consistent with this policy.
CC-P-6	Prioritize sustainability in site design. When incorporating on-site stormwater management through the use of bioswales, rain gardens, permeable pavement, and/or other available low-impact development technologies, require such features to be aesthetically integrated into the site design.	See responses to Land Use Goal 6 (LU-G-6). The Project is consistent with this policy.
CC-P-11	In residential and mixed-use areas, use traffic calming measures such as pavers, bollards, sidewalk bulb-outs, and speed humps to slow travel speeds.	See Section XVII. Transportation c) and d), of this IS/MND for how the Project would incorporate design features to minimize traffic. The Project is consistent with this policy.
CC-P-21	<p>Site plans should be designed to create pedestrian-oriented neighborhoods that follow these guidelines:</p> <p>a. Buildings should be oriented to the street;</p> <p>b. Garages and parking areas should be screened and/or located at the side or rear of properties wherever possible; and</p> <p>c. Landscaping, sidewalk conditions, and other streetscape elements should be improved during rehabilitation and new construction.</p>	The design of the Project would meet the guidelines outlined in this policy. The Project Site is currently vacant. Proposed development include sidewalks, street improvements, and proposed landscaping that would improve the pedestrian-orientation within the neighborhood. The Project is consistent with this policy.
CC-P-30	Ensure that infill residential development is designed to be sensitive to the scale, character, and identity of adjacent existing development.	See responses to Land Use Goal 6 (LU-G-6). In addition, the Project would include new retaining walls and slope contouring to stabilize and protect the proposed single-family residences and adjacent properties. The Project is consistent with this policy.
CC-P-35	Ensure the protection of views of hillsides and ridges from public	See Section 4.1. Aesthetics, of this IS/MND which outlines measures for preservation of existing vistas.

Goal	Policy Text	Statement of Consistency or Non-Consistency
	streets, parks, trails, and community facilities by requiring a visual impact analysis for new development that identifies potential impacts to visual resources as well as feasible measures to mitigate any potential impacts.	
Transportation Network and Street Design		
CR-P-2	Promote new street designs and efforts to retrofit existing streets in residential neighborhoods minimize traffic volumes and/or speed as appropriate without compromising connectivity for emergency vehicles, bicycles, pedestrians, and users of mobility devices.	See Section XVII. Transportation c) and d), of this IS/MND for how the Project would incorporate design features to minimize traffic. The Project is consistent with this policy.
SOURCE: Diamond Bar, 2019a.		

Diamond Bar Municipal Code, Chapter 22.38 Tree Preservation and Protection

The general plan, as the overall policy document for the city, requires the preservation and maintenance of native trees including oak, walnut, sycamore, willow, and significant trees of cultural or historical value where appropriate. The purpose of Chapter 22.38 of the Diamond Bar Municipal Code is to protect and preserve these trees and when removal is allowed as a result of new development, to require their replacement. The Project would require a tree removal permit pursuant to Section 22.38.050, as it would include removal of City protected trees including 4 Coast live oaks and 58 California black walnuts for a total of 62 trees. Additionally, the Project would fall under the provision Section 22.38.130, Tree Replacement/Relocation Standards, which requires replacement trees for residential parcels greater than 20,000 square feet be planted at a minimum 3:1 ratio. In accordance with Section 22.38.130, the Project would replace the removed trees at a ratio of at least 3:1. The Project would provide 12 Coast live oaks and 201 California black walnuts for a total of 213 replacement trees. The preliminary plant palette includes a variety of trees to be planted throughout the Proposed Development Area including Brisbane box, Bradford pear trees, fruitless olive trees, Coast live oaks, and California black walnut trees. Large and medium shrubs, spreading shrubs, accent shrubs, groundcover, and climbing vine on the retaining walls are proposed located throughout the Proposed Development Area.

The Project does not conflict with any City land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. As such, impacts would be less than significant.

References

City of Diamond Bar, 2019a. *Diamond Bar General Plan 2040*. Adopted December 17. Available: <https://www.diamondbarca.gov/DocumentCenter/View/7072/Diamond-Bar-General-Plan-2040?bidId=>. Accessed November 2020.

City of Diamond Bar, 2019b. *Diamond Bar General Plan 2040 & Climate Action Plan 2040 Draft Environmental Impact Report*. September 2019. Available: <https://www.diamondbarca.gov/DocumentCenter/View/7074/Draft-Environmental-Impact-Reportpdf?bidId=>. Accessed November 2020.

Diamond Bar Municipal Code, Chapter 22.38 Tree Preservation and Protection, Section 22.38.050, Tree removal permit or tree pruning permit required and Section 22.38.130, Tree replacement/relocation standards. Accessed November 19, 2020.

City of Diamond Bar. 2019. Hillside Design Guidelines. Revised March, 2019.

4.12 Mineral Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
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

Would the Project:

- a,b) **Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the states?**

Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact. According to the California Department of Conservation (CDC), the Project Site is located within MRZ-1, which includes areas where little likelihood exists for the presence of mineral resources (CDC, 2007). Furthermore, the City of Diamond Bar indicates that other than a few existing oil wells, there are no mineral resources located within the City planning area, which includes the Project Site, and therefore no potential impacts on mineral resources would occur in this regard (Diamond Bar, 2019).

References

California Department of Conservation (CDC). 2007. Updated Mineral Land Classification Map for Portland Cement Concrete-Grade Aggregate in the Claremont-Upland Production-Consumption (P-C) Region, Los Angeles and San Bernardino Counties, California. Russell V. Miller and Lawrence L. Bush, 2007.

City of Diamond Bar (Diamond Bar). 2019. General Plan 2040 and Climate Action Plan 2040 Draft Environmental Impact Report. SCH No. 2018051066. September, 2019.

4.13 Noise

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
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 checked="" type="checkbox"/>	<input 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

Noise Principles and Descriptors

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air). Noise is generally defined as unwanted sound (i.e., loud, unexpected, or annoying sound). Acoustics is defined as the physics of sound. In acoustics, the fundamental scientific model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors affecting the propagation path to the receiver determines the sound level and characteristics of the noise perceived by the receiver. Acoustics addresses primarily the propagation and control of sound (M. David Egan 1988).

Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) that is measured in decibels (dB), which is the standard unit of sound amplitude measurement. The dB scale is a logarithmic scale (i.e., not linear) that describes the physical intensity of the pressure vibrations that make up any sound, with 0 dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of feeling and pain, respectively. In a non-controlled environment, a change in sound level of 3 dB is considered “just perceptible,” a change in sound level of 5 dB is considered “clearly noticeable,” and a change in 10 dB is perceived as a doubling of sound volume. Pressure waves traveling through air exert a force registered by the human ear as sound.⁴

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that deemphasizes the frequencies below 1,000 hertz (Hz) and above 5,000 Hz in a manner corresponding to the human ear’s decreased sensitivity to extremely low and extremely high frequencies. This method of frequency weighting is referred to as A-weighting and is expressed

⁴ M. David Egan, Architectural Acoustics, March 1988, Chapter 1, pp. 2, 3, 10, and 11.

in units of A-weighted decibels (dBA). A-weighting follows an international standard methodology of frequency de-emphasis and is typically applied to community noise measurements.⁵

An individual's noise exposure is a measure of noise over a period of time; a noise level is a measure of noise at a given instant in time. However, noise levels rarely persist at that level over a long period of time. Rather, community noise varies continuously over a period of time with respect to the sound sources contributing to the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with many of the individual contributors unidentifiable. The background noise level changes throughout a typical day but does so gradually, corresponding with the addition and subtraction of distant noise sources, such as changes in traffic volume. What makes community noise variable throughout a day, besides the slowly changing background noise, is the addition of short-duration, single-event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual.⁶

These successive additions of sound to the community noise environment change the community noise level from instant to instant, requiring the noise exposure to be measured over periods of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. The following noise descriptors are used to characterize environmental noise levels over time, which are applicable to the Project:⁷

- L_{eq} : The equivalent sound level over a specified period of time, typically, 1 hour (L_{eq}). The L_{eq} may also be referred to as the average sound level.
- L_{max} : The maximum, instantaneous noise level experienced during a given period of time.
- L_{min} : The minimum, instantaneous noise level experienced during a given period of time.

City of Diamond Bar General Plan 2040

The *Diamond Bar General Plan 2040* (General Plan) Public Safety Element includes the following goals and policies applicable to the Project.

Goals

- PS-G-10* Protect public health and welfare by enforcing the City's noise ordinance, and impose mitigation measures on future development and uses to prevent significant degradation of the future acoustic environment.

Policies

- PS-P-45* Use the noise and land use compatibility matrix (Table 7-1 of the General Plan; **Table 4.13-1**, below) and Projected Noise Contours Map (Figure 7-12 of the General Plan) as criteria to determine the acceptability of a given proposed land

⁵ M. David Egan, *Architectural Acoustics*, March 1988, Chapter 1, pp. 2, 3, 10, and 11.

⁶ California Department of Transportation (Caltrans), *Technical Noise Supplement (TeNS)*, September 2013, Section 2.2.2.1.

⁷ Caltrans, *TeNS*, September 2013, Section 2.2.2.2.

use, including the improvement/construction of streets, railroads, freeways, and highways.

- PS-P-48* Maintain interior and exterior noise-related development standards through the Diamond Bar Noise Control Ordinance.
- PS-P-49* Ensure that detailed site-specific noise analysis, including the identification of noise mitigation measures, be prepared for all development proposals located where project noise exposure would be other than normally or conditionally acceptable as specified in Table 7-1 (Table 4.13-1, below). With mitigation, development should meet the allowable exterior and interior noise exposure standards established in the Noise Control Ordinance.
- PS-P-50* Evaluate the land use compatibility of any proposed development project prior to approval to avoid locating loud developments near noise sensitive receptors. When walls over six feet in height are necessary to mitigate noise, a berm/wall combination with heavy landscaping, a terraced wall heavily landscaped, or other similar innovative wall design technique shall be used to minimize visual impacts.

Table 4.13-1, General Plan Land Use/Noise Compatibility Matrix, identifies the General Plan's acceptable interior and exterior noise standards for various land use categories within the City.

**TABLE 4.13-1
GENERAL PLAN LAND USE/NOISE COMPATIBILITY MATRIX**

Land Use Categories	Maximum Exterior Community Noise Equivalent Level (CNEL) or Day-Night Level (Ldn), dB ¹				Maximum Interior CNEL
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable	
Rural, Single-Family, Multiple Family Residential	50 – 55	55 – 65	65 – 75	75 – 85	40
School Classrooms	50 – 55	55 – 65	65 – 75	75 – 85	40
School Playgrounds	50 – 60	N/A	60 – 75	75 – 85	N/A
Libraries	50 – 60	60 – 70	70 – 80	80 – 85	40
Hospitals, Convalescent Facilities Living Areas	50 – 60	60 – 70	70 – 80	80 – 85	40
Hospitals, Convalescent Facilities Sleeping Areas	50 – 60	60 – 65	65 – 75	75 – 85	35
Recreation: Quiet, Passive Areas	50 – 55	55 – 65	65 – 85	N/A	40
Recreation: Noisy, Active Areas	50 – 65	N/A	65 – 75	75 – 85	N/A
Commercial and Industrial	50 – 65	65 – 70	70 – 80	80 – 85	N/A
Office Areas	50 – 65	65 – 70	70 – 80	80 – 85	45

N/A: Not Applicable

Normally Acceptable – Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements. Outdoor areas are suitable for normal outdoor activities for this land use.

Conditionally Acceptable – New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air-conditioning, will normally suffice.

Land Use Categories	Maximum Exterior Community Noise Equivalent Level (CNEL) or Day-Night Level (Ldn), dB ¹				Maximum Interior CNEL
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable	
Normally Unacceptable –New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed insulation features included in the design.					
Clearly Unacceptable – New construction or development should generally not be undertaken.					
Nature of the Noise environment where the CNEL or Ldn level is:					
<ul style="list-style-type: none">Below 55 dB: relatively quiet suburban or urban areas, no arterial streets within 1 block, no freeways within ¼ mile.55 – 65 dB: most somewhat noisy urban areas, nearby but not directly adjacent to high volumes of traffic.65 – 75 dB: very noisy urban areas near arterials, freeways or airports.75+ dB: extremely noisy urban areas adjacent to freeways or under airport traffic patterns. Hearing damage with constant exposure outdoors.					
<p>¹ The Community Noise Equivalent Level (CNEL) and Day-Night Noise Level (Ldn) are measures of the 24-hour noise environment. They represent the constant A-weighted noise level that would be measured if all the sound energy received over the day was averaged. In order to account for the greater sensitivity of people to noise at night, the CNEL weighting includes a 5-decibel penalty on noise between 7:00 pm and 10:00 pm and a 10-decibel penalty on noise between 10:00 pm and 7:00 am of the next day. The Ldn includes only the 10-decibel weighting for late-night noise events. For practical purposes, the two measures are essentially equivalent for typical urban noise environments.</p>					
SOURCE: City of Diamond Bar, <i>Diamond Bar General Plan 2040</i> , adopted December 17, 2019.					

City of Diamond Bar Municipal Code

The Diamond Bar Municipal Code (Municipal Code) regulations with respect to noise are included in Municipal Code Section 8.12, Division 3, *Noise Control*. Applicable noise restrictions are discussed below:

Section 8.12.380(4) – Exemption from exterior noise standards. The following activities are exclusively regulated by the prohibitions of subdivision III of this division:

- a. Construction;*
- b. Stationary nonemergency signaling devices;*
- c. Emergency signaling devices;*
- d. Refuse collection vehicles;*
- e. Residential air conditioning or refrigeration equipment; and*
- f. Forced-air blowers.*

As stated above, Section 8.12.380(4) identifies construction activities would be regulated by subdivision III of the Municipal Code. The specific noise restrictions for construction activities include the use of mobile equipment that are nonscheduled, intermittent, and short-term (less than ten days) and includes the use of stationary equipment that are repetitively, scheduled, and relatively long-term (periods of ten days or more). The proposed construction activities will include the operation of mobile equipment for more than ten days, will be scheduled, and therefore, are not restricted in accordance with subdivision III. The proposed construction activities will include the operation of stationary equipment that is repetitive, scheduled and relatively long-term (period of ten days or more).

Section 8.12.720 – Construction Noise.

- (a) *Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between weekday hours of 7:00 p.m. and 7:00 a.m., or at any time on Sunday or holidays, such that the sound therefor creates a noise disturbance across a residential or commercial real-property line, except for emergency work or public service utilities or by variance issued by the health officer is prohibited.*
- (b) *Noise restrictions at affected structures. The contractor shall conduct construction activities in such a manner that the maximum noise levels at the affected buildings will not exceed those listed in the following schedule:*

1) At residential structures, the following:

- a. Mobile equipment. Maximum noise levels for nonscheduled, intermittent, shortterm operation (less than ten days) of mobile equipment:*

	<i>Single-family Residential</i>	<i>Multifamily Residential</i>	<i>Semiresidential/Commercial</i>
<i>Daily, except Sundays and legal holidays, 7:00 a.m. to 8:00 p.m.</i>	<i>75 dBA</i>	<i>80 dBA</i>	<i>85 dBA</i>
<i>Daily, 8:00 p.m. to 7:00 a.m. and all day Sunday and legal holidays</i>	<i>60 dBA</i>	<i>64 dBA</i>	<i>70 dBA</i>

- b. Stationary equipment. Maximum noise level for repetitively scheduled and relatively longterm operation (periods of ten days or more) of stationary equipment:*

	<i>Single-family Residential</i>	<i>Multifamily Residential</i>	<i>Semiresidential/Commercial</i>
<i>Daily, except Sundays and legal holidays, 7:00 a.m. to 8:00 p.m.</i>	<i>60 dBA</i>	<i>65 dBA</i>	<i>70 dBA</i>
<i>Daily, 8:00 p.m. to 7:00 a.m. and all day Sunday and legal holidays</i>	<i>50 dBA</i>	<i>55 dBA</i>	<i>60 dBA</i>

- 2) At business structures the following: Mobile equipment. Maximum noise levels for nonscheduled, intermittent, shortterm operation of mobile equipment: Daily, including Sunday and legal holidays, all hours: maximum of 85 dBA.*

- (c) *All mobile or stationary internal-combustion-engine powered equipment or machinery shall be equipped with suitable exhaust and air-intake silencers in proper working order.*

Section 8.12.810 – Residential air conditioning or refrigeration equipment. Operating or permitting the operation of any air conditioning or refrigeration equipment in such a manner as to exceed any of the following sound levels is prohibited:

<i>Measurement Location</i>	<i>Units Installed Before 1-1-80 dBA</i>	<i>Units Installed On or After 1-1-80 dBA</i>
<i>Any point on neighboring property line, five feet above grade level, no closer than three feet from any wall.</i>	60	55
<i>Center of neighboring patio, five feet above grade level, no closer than three feet from any wall.</i>	55	50
<i>Outside the neighboring living area window nearest the equipment location, not more than three feet from the window opening, but at least three feet from any other surface.</i>	55	50

Municipal Code regulations associated with vibrations are included in Municipal Code Section 8.12.840, *Vibration*.

Section 8.12.840 – Vibration. Operating or permitting the operation of any device that creates vibration which is above the vibration perception threshold of any individual at or beyond the property boundary of the source if on private property, or at 150 feet (46 meters) from the source if on a public space or public right-of-way is prohibited. The perception threshold shall be a motion velocity of 0.01 in/sec over the range of one to 100 Hertz.

Existing Conditions

The Project Site is located at the terminus of Crooked Creek Road, east of State Route 57 (SR-57) on a 12.9-acre property in the City of Diamond Bar. The surrounding jurisdictions include Pomona to the north, Chino Hills to the east, Brea and unincorporated Los Angeles County to the south, and the cities of Industry and Walnut and the unincorporated community of Rowland Heights to the west. Single-family residential uses are located to the north and northeast of the Project Site. Located to the south and southwest is open space.

Figure 1, Noise Measurement Locations, in **Appendix L** of this IS/MND illustrates locations of noise measurements taken near the Project Site. The results of ambient sound measurements taken to establish the existing environmental setting are summarized in **Table 4-13-2, Summary of Ambient Noise Measurements**. Receptor R1 is located on the Project Site west of the existing Crooked Creek Drive cul-de-sac and adjacent to the Brea Creek Channel. Receptor R2 is located at the existing Crooked Creek cul-de-sac. Receptor R3 is located at the Gold Run Drive and Crooked Creek Drive intersection. Receptor R4 is located southeast of the Project Site at the Castle Rock Road cu-de-sac. As shown in Table 4.13-2, the measured noise levels ranged from 52.5 dBA L_{eq} at noise sensitive receptor location R1 to 63.4 dBA L_{eq} at noise sensitive receptor location R4. The primary sources of noise in the Project vicinity is vehicular traffic on residential roadways as well as SR-57.

**TABLE 4.13-2
SUMMARY OF AMBIENT NOISE MEASUREMENTS**

Site ID	Monitoring Date(s)	Start Time	End Time	Daytime dBA L _{eq}
R1	10/29/2020	10:52 a.m.	11:07 a.m.	52.5
R2	10/29/2020	11:09 a.m.	11:24 a.m.	57.0
R3	10/29/2020	11:28 a.m.	11:43 a.m.	58.8
R4	10/29/2020	11:47 a.m.	12:02 p.m.	63.4

SOURCE: ESA 2020.

Environmental Evaluation

Would the Project:

- 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?**

Less than Significant Impact. Following is a discussion of construction and operational noise impacts associated with the proposed Project.

Construction

Project construction would take place for approximately 14 months, and is tentatively scheduled to begin in 2022 and end in 2023. Construction activities would occur in accordance with the City of Diamond Bar Noise Ordinance which is between 7:00 a.m. and 7:00 p.m., on Mondays through Saturdays except on federal holidays. Because daylight ends around 5:00 P.M. during the winter, no construction activities would occur after daylight. Construction of the Project would require the use of heavy equipment during the site preparation, grading/retaining wall construction, underground utilities installation, street improvements, home construction, and architectural coating activities at the Project Site. During each stage of Project construction, there would be a different number and mix of equipment operating. As such, construction activity noise levels at and near the Project Site would fluctuate depending on the particular type, number, and duration of use of the various pieces of construction equipment. Individual pieces of construction equipment anticipated to be used during Project construction could produce maximum noise levels (L_{max}) of 75 dBA to 85 dBA at a reference distance of 50 feet from the noise source, as shown in **Table 4.13-3, Construction Equipment and Estimated Noise Levels**. These maximum noise levels would occur when equipment is operating under full power conditions. The estimated usage factor for the equipment is also shown in Table 4.13-3. The usage factors are based on the Federal Highway Administration (FHWA) Roadway Construction Noise Model User's Guide (FHWA 2006).

**TABLE 4.13-3
CONSTRUCTION EQUIPMENT AND ESTIMATED NOISE LEVELS**

Type of Equipment	Estimated Usage Factor (%)	Reference Noise Level at 50 feet (dBA, L _{max})
Air Compressor	50%	78
Cement and Mortar Mixer	40%	79
Crane	16%	85
Dozer	40%	85
Forklift	20%	85
Other Equipment	50%	85
Tractor / Loader / Backhoe	20%	85

SOURCE: FHWA 2006; ESA 2020.

To more accurately characterize construction-period noise levels, the average (Hourly L_{eq}) noise level associated with each construction phase is estimated based on the quantity, type, and usage factors for each type of equipment used during each construction phase and are typically attributable to multiple pieces of equipment operating simultaneously.

Over the course of a construction day, the highest noise levels would be generated when multiple pieces of construction equipment are operated concurrently. The Project's estimated construction noise levels were calculated for a scenario in which a reasonable number of construction equipment was assumed to be operating simultaneously, given the physical size of the site and logistical limitations, and with the loudest equipment located at the construction area nearest to the affected sensitive receptors to present a conservative impact analysis. This is considered a worst-case evaluation as the Project would typically use fewer overall equipment simultaneously at any given time, and as such would likely generate lower noise levels than reported herein.

Table 4.13-4, *Estimated Construction Noise Levels at Sensitive Receptors*, presents the estimated total noise level for the combined Project construction equipment.

The estimated noise levels represent a conservative worst-case noise scenario where the construction activities are analyzed with the loudest piece of construction equipment in use along the perimeter of the construction area, the second loudest piece of equipment set back a reasonable distance, and the rest at the center of the Project Site. Construction typically would involve equipment in use throughout the Project Site maintaining safe equipment operating distances, and resulting in most equipment in use farther away from noise-sensitive receptors. As shown in Table 4.13-4, construction noise would result in a temporary increase in ambient conditions for all phases of construction at receptor locations R1, R2, and R4. Pursuant to Municipal Code Section 8.12.380(4), construction activity that occurs within allowable daytime hours is exempt from City noise regulations. Therefore, temporary increases in ambient noise due to construction would be less than significant.

**TABLE 4.13-4
ESTIMATED CONSTRUCTION NOISE LEVELS AT SENSITIVE RECEPTORS**

Location	Ambient Noise Levels (dBA L_{eq})	Distance from Closest Edge of Construction Activity to Noise Receptor (ft.)^a	Construction Phase	Estimated Construction Noise Levels (dBA L_{eq})
R1 – Single Family Residential Units to the northeast (west of the current terminus of Crooked Creek Drive)	52.5	25	Site Preparation	88
			Grading/Retaining Wall Construction	88
			Underground Utility Installation	88
			Paving	89
			Home Construction	84
R2 – Single Family Residential Units to the northeast (east of the current terminus of Crooked Creek Drive)	57.0	25	Site Preparation	88
			Grading/Retaining Wall Construction	88
			Underground Utility Installation	88
			Paving	89
			Home Construction	84
R3 – Single Family Residential Units at Crooked Creek Drive and Gold Run Drive	58.8	720	Site Preparation	51
			Grading/Retaining Wall Construction	53
			Underground Utility Installation	50
			Paving	53
			Home Construction	49
R4 – Single Family Residential Units located near southwestern terminus of Castle Rock Road	62.4	50	Site Preparation	83
			Grading/Retaining Wall Construction	84
			Underground Utility Installation	82
			Paving	85
			Home Construction	80

NOTE:

^a The distance represents the nearest construction on the Project area to the property line of the offsite receptor.

SOURCE: ESA 2020.

Off-Site Construction Activities

Under worst case conditions, there would be approximately 13 haul truck trips and 10 workers' trips per day between the hours of 7:00 a.m. and 7:00 p.m. from Monday through Saturday during the grading phase. Because daylight ends around 5:00 P.M. during the winter, no construction activities would occur after daylight. Assuming that all construction workers would arrive during the morning peak hour and that the haul trucks would be evenly distributed over an eight-hour work day, peak hour construction traffic would consist of 10 worker trips and approximately two haul trucks. Due to the location of the Project Site, construction traffic would travel through the surrounding single-family residential neighborhood to access the regional roadway network. Noise associated with construction truck trips were estimated using the FHWA Traffic Noise Model (TNM) Version 2.5 method described in FHWA Traffic Noise Model Technical Manual (FHWA 1998) and based on the maximum number of truck and passenger trips in a day. The results of the analysis indicate that the Project truck trips would generate noise levels of approximately 49.0 dBA L_{eq} along residential roadways. This noise level from construction truck trips is below ambient conditions and would not exceed allowable construction noise levels (i.e.,

60 dBA) pursuant to Section 8.12.720 of the Diamond Bar Municipal Code. Additionally, the construction truck trips are temporary in nature and hauling would only take place for 45 days after which the Project would cease to have any significant lasting noise impact on the surrounding areas. Therefore, off-site construction traffic noise impacts would be less than significant.

Construction activities associated with the Project would not expose persons to, or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Therefore, onsite and offsite construction impacts would be less than significant.

Operation

The Project consists of the addition of seven single-family residential units and five accessory dwelling units within an existing residential neighborhood. Vehicle trips attributed to operation of the Project would increase the average daily traffic (ADT) volumes along residential roadways within the Project vicinity by approximately 66 ADT including a total of 5 AM peak hour trips and 7 PM peak hour trips.⁸ Given the level of residential traffic that currently occurs along Crooked Creek and the residential roadway network in the Project vicinity, the addition of Project trips would not result in perceptible increases in traffic noise levels. Impacts related to traffic noise would be less than significant.

The operation of mechanical equipment typical for residential developments like the Project, such as air conditioners may generate audible noise levels. Operation of such equipment would be subject to noise level limits as set forth by Municipal Code Section 8.12.810 – *Residential air conditioning or refrigeration equipment*. The Project would install air conditioning equipment that would generate characteristic noise levels for the type of equipment, consistent with applicable regulatory requirements. Therefore, operation of residential air conditioning equipment would not exceed the City's thresholds of significance, and impacts would be less than significant.

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

Less than Significant Impact with Mitigation Incorporated. Construction activities could expose persons to excessive groundborne vibrations or noise levels; however, mitigation is provided to reduce the potential for groundborne vibrations and noise levels to less than significant. Operational activities of the Project would not expose persons to excessive groundborne vibration or groundborne noise levels.

Foundations of Vibration

Vibration can be interpreted as energy transmitted in waves through the ground or man-made structures, which generally dissipate with distance from the vibration source. Because energy is lost during the transfer of energy from one particle to another, vibration becomes less perceptible with increasing distance from the source.

⁸ Urban Crossroads, 2020

As described in the Federal Transit Administration's (FTA) Transit Noise and Vibration Impact Assessment, common sources of groundborne vibration are trains, heavy trucks traveling on rough roads, and construction activities, such as blasting, pile-driving, and operation of heavy earth-moving equipment.⁹

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal in inches per second (in/sec), and is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is defined as the average of the squared amplitude of the signal and is most frequently used to describe the effect of vibration on the human body. Decibel notation (VdB) is commonly used to measure RMS. The relationship of PPV to RMS velocity is expressed in terms of the "crest factor," defined as the ratio of the PPV amplitude to the RMS amplitude. PPV is typically a factor of 1.7 to 6 times greater than RMS vibration velocity.¹⁰ The decibel notation VdB acts to compress the range of numbers required to describe vibration. Typically, groundborne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors for vibration include buildings where vibration would interfere with operations within the building or cause damage (especially historic buildings and older non-engineered timber and masonry structures), locations where people sleep, and locations with vibration sensitive equipment.¹¹

The effects of groundborne vibration include movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. Building damage is not a factor for most projects, with the occasional exception of blasting and pile-driving during construction or when construction is immediately adjacent to a fragile historic resource. Annoyance from vibration often occurs when the vibration levels exceed the threshold of perception by only a small margin. A vibration level that causes annoyance will be well below the damage threshold for normal buildings.

Federal Vibration Standards

There are no federal vibration standards or regulations adopted by any agency that are applicable to evaluating vibration impacts from land use development projects such as the Project. However, the Federal Transit Administration (FTA) has adopted vibration criteria that are commonly used to evaluate potential structural damage to buildings by building category from construction activities. The vibration damage criteria adopted by FTA are shown in **Table 4,13-5, Construction Vibration Damage Criteria**.

⁹ Caltrans, Transportation and Construction Vibration Guidance Manual, April 2020, p. 1.

¹⁰ FTA, Transit Noise and Vibration Impact Assessment Manual, 2018, Section 5.1.

¹¹ FTA, Transit Noise and Vibration Impact Assessment Manual, 2018, Sections 6.1, 6.2, and 6.3.

**TABLE 4.13-5
CONSTRUCTION VIBRATION DAMAGE CRITERIA**

Building Category	PPV (in/sec)
I. Reinforced-concrete, steel, or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12
SOURCE: FTA, Transit Noise and Vibration Impact Assessment, 2018.	

FTA has also adopted vibration criteria associated with the potential for human annoyance from groundborne vibration. However, the Diamond Bar Municipal Code (Section 8.12.840) prohibits the generation of vibration that is perceptible at or beyond the property boundary of the source if on private property. According to Section 8.12.840 of the Diamond Bar Municipal Code, the applicable threshold is 0.01 in/sec.

Given the nature of the Project, “excessive” groundborne vibration or noises that would occur at the Project Site would be those generated during Project construction. Construction activities at the Project Site have the potential to generate low levels of groundborne vibration as the operation of heavy equipment (i.e., dozer, backhoes, haul trucks, etc.) generates vibrations that propagate through the ground and diminish in intensity with distance from the source. The nearest offsite sensitive structures are located approximately 25 feet from construction activities.

Construction Vibration

The FTA document includes vibration source levels for typical construction equipment. It should be noted that there would be no pile driving or blasting during Project construction. **Table 4.13-6, Vibration Source Levels for Typical Construction Equipment**, presents typical construction equipment with vibration source levels.

**TABLE 4.13-6
VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT**

Equipment	Approximate PPV (in/sec)					
	25 Feet	50 Feet	75 Feet	80 Feet	105 Feet	115 Feet
Large Bulldozer/ Drill Rig	0.089	0.031	0.017	0.016	0.011	0.009
Loaded Trucks	0.076	0.027	0.015	0.013	0.009	0.008
Small Bulldozer	0.003	0.001	0.0006	0.001	0.000	0.000
SOURCE: FTA, 2018						

Structure Damage

The nearest residential uses are located approximately 25 feet to the Project Site from the Project construction activities. Construction activities would produce vibration velocities of up to

approximately 0.089 inches per second PPV at those off-site residential structures when heavy construction equipment operates within approximately 25 feet from the residential structures. This value would not exceed the 0.2 inch per second (in/sec) PPV significance threshold for potential building damage to non-engineered timber and masonry buildings. Therefore, impacts would be less than significant.

Human Annoyance

The vibration impact threshold for perceptibility is 0.01 in/sec. The nearest residential structures that would be affected by construction activity would be located approximately 25 feet which is the residence east of the existing Crooked Creek Drive cul-de-sac. Construction activities would produce vibration velocities of up to approximately 0.089 in/sec PPV at 25 feet. Therefore, the impact of human annoyance could be potentially significant.

On-road rubber-tired construction trucks would travel to and from the Project Site along the local roadway network. According to the FTA, the vibration generated by a typical heavy-duty truck would be up to 0.0068 in/sec PPV and vibration from rubber-tired traffic is rarely perceptible at 50 feet from the source.¹² Residential structures are set back approximately 35 feet from the roadway in Project area. At 35 feet, rubber-tired construction trucks would generate vibration velocities up to 0.01 in/sec PPV. This vibration velocity would not exceed the FTA's threshold for structural damage but would reach the City's established level of perceptibility. Therefore, the impact of human annoyance would be potentially significant.

Mitigation Measure

Mitigation Measure NOISE-1: The operation of large bulldozers and drill rigs shall be prohibited within 115 feet of existing residential structures located east and west of the existing Crooked Creek cul-de-sac. Instead, small construction equipment such as small bulldozers, shall be used within this area during the duration of construction.

Mitigation Measure NOISE-2: The operation of loaded trucks traveling within the on-site unpaved surfaces, shall not occur within 105 feet of existing residential structures located immediately east and west of the existing Crooked Creek Drive cul-de-sac adjacent to the Project Site. A temporary asphalt surface shall be installed, extending Crooked Creek Drive onto the Project Site to allow access for loaded trucks within 105 feet from existing residential structures.

Mitigation Measure NOISE-3: During all phases of construction, trucks traveling on paved surfaces (within the residential roadway network) shall travel at speeds no greater than 15 miles per hour.

Significance Determination After Mitigation

With the implementation of Mitigation Measure NOISE-1 and NOISE-2, the operation of a large bulldozer or drill rig would be prohibited within 115 feet and the operation of loaded trucks would be prohibited within 105 feet of the existing residential structures located immediately west and east of the existing Crooked Creek cul-de-sac. Instead, a small bulldozer not exceeding 105 horsepower would be used within 115 feet and loaded trucks be filled and travel onsite at

¹² FTA, Transit Noise and Vibration Impact Assessment, pp. 112-113.

distances no closer than 105 feet from residential structures when on unpaved surfaces. The use of a small bulldozer would generate 0.003 in/sec PPV at 25 feet. Establishing a buffer zone for large bulldozers (115 feet) and loaded trucks for travel on unpaved surfaces (105 feet) would result in vibration levels of 0.009 in/sec PPV at residential buildings, which would not exceed the City's vibration perceptibility threshold of 0.01 in/sec PPV. In addition, Mitigation Measure NOISE-2 requires the installation of a temporary asphalt surface that extends Crooked Creek Drive onto the Project Site to allow access by loaded trucks within 105 feet from residential uses. Therefore, with implementation of Mitigation Measures NOISE-1 and NOISE-2, potentially significant construction vibration impacts would be reduced to a less-than-significant level.

The travel of typical heavy-duty trucks on typical roadways would generate vibration velocities of up to 0.01 in/sec PPV, which meets the City's threshold for perceptibility. According to the FTA, reducing travel speed would result in lower vibration velocities.¹³ The residential roadway network that construction trucks would need to travel to reach the Project Site would require trucks to travel at lower speeds to avoid cars parked along the roadway, cars entering and exiting. The implementation of Mitigation Measure NOISE-3 would reduce potentially significant vibration impacts from trucks traveling on paved surfaces to less than significant.

Operation Vibration

The primary sources of transient vibration would include passenger vehicle circulation along the local roadway network, which is consistent with existing conditions and uses in the vicinity. Ground-borne vibration generated by such activity would not generate vibration velocities that would exceed the FTA's structural damage or the City's perceptibility threshold. As such, vibration impacts associated with Project operation would be below the significance threshold, and impacts would be less than significant.

- 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?**

No Impact. The Project Site is not located within a private airstrip, an airport land use plan, or within two miles of a public airport or public use airport. The nearest public-use airport is Fullerton Municipal Airport, located approximately 9 miles southwest of the Project Site. There are no private airstrips located within two miles of the Project Site. Therefore, the Project would expose people residing or working in the Project area to excessive noise levels. No impact would occur.

References

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4.14 Population and Housing

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
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 checked="" type="checkbox"/>	<input 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

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)?**

Less than Significant Impact. The Project would be located in the City of Diamond Bar that has an estimated population of 55,720 (Census, 2020). The average household size in Diamond Bar as of January 2018, was 3.19 persons per household, and the total number of housing units was 17,645 (Diamond Bar, 2020). The proposed development would be located in an urbanized, residential area. The Project, a low-density residential subdivision with accessory dwelling units, could help the City of Diamond Bar meet its Regional Housing Needs Assessment. The five accessory dwelling units are planned to be located within the same structure as the single family units. Based on the number of bedrooms proposed within the Project (7 master bedrooms and 25 non-master bedrooms), the total estimated population is 39 residents (14 residents within master bedrooms and 25 residents within non-master bedrooms). The Project Site has roadway access from the existing Crooked Creek Drive as well as utility connections. The Project would extend Crooked Creek Drive and sewer and water lines. The extensions would only serve the Project's residents because the extensions would terminate at a new cul-de-sac. No additional development or growth would be induced. Furthermore, the surrounding area is already built-out. The Project would generate approximately 39 residents which would not be considered substantial. Therefore, the Project would not induce substantial population growth, and impacts would be less than significant in this regard.

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

No Impact. The Project Site consists of undeveloped area, which does not contain any habitable structures. Single-family residences are located to the north, east, and west of the Site. Construction of the Project and construction staging areas would occur within the Project Site and no displacement of existing residents in the area would occur. As the Project would not displace

any people and would not necessitate the construction of replacement housing, the Project would have no impact in this regard.

References

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4.15 Public Services

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
XV. PUBLIC SERVICES —				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:				
i) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

- a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government 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 following public services:

i) **Fire protection.**

Less than Significant Impact. The Project Site is currently served by the Los Angeles County Fire Department (LACFD). The nearest fire station and first-in station to provide fire protection services includes Station 119 located at 20480 E. Pathfinder Road, Walnut, CA. which is approximately one mile northwest of the Project Site. Fire Station 120 is the second due-in station located at 1051 S. Grand Avenue in the City of Diamond Bar. The third due-in station is Fire Station 145 located at 1525 S. Nogales Avenue in the City of Rowland Heights. Following are the staff at each fire station.

- Fire Station 119 is constantly staffed with a 3-person engine company (one fire captain, one firefighter specialist, and one firefighter on duty for each 24-hour shift) and a 2-person paramedic squad (two firefighter paramedics on duty for each 24-hour shift).
- Fire Station 120 is constantly staffed with a 4-person assessment engine which includes an engine company with limited paramedic capabilities with one captain, one firefighter specialist, one firefighter/paramedic, and one firefighter.
- Fire Station 145 is constantly staffed with a 3-person engine company (one fire captain, one firefighter specialist, and one firefighter on duty for each 24-hour shift) and a 2-person emergency support team (one firefighter specialist and one firefighter on duty for each 24-hour shift).

During 2019, Fire Station 119 jurisdiction which includes areas outside of the City of Diamond Bar had an average emergency response time of 6:18 minutes and the City of Diamond Bar had an overall average emergency response time of 5:50 minutes. According to the LACFD, the estimated response time to the Project Site is five minutes. The Project design includes the installation of two public fire hydrants to provide adequate fire flow within the Project Site. This design feature would comply with the LACFD's policy of fire hydrant spacing every 600 feet.

Because the Project Site is located within a Very High Fire Hazard Severity Zone (VHFHSZ), the Project is required to implement a fuel modification plan (FMP). The purpose of a FMP is to create defensible space necessary for effective fire protection of homes. The LACFD reviews the location of structures, type of construction, topography, slope, amount and arrangement of vegetation, and overall site setting. As discussed in Section 4.20 and provided in Appendix O of this IS/MND, the LACFD has reviewed the building and landscape plans and approved, in concept only, the preliminary FMP for the proposed Project.

With the implementation of the proposed Project, the LACFD does not have any plans for the expansion of existing staff or facilities to serve the Project Site. Therefore, the Project would result in less than significant impacts on fire protection services.

ii) **Police protection.**

Less than Significant Impact. The Los Angeles County Sheriff's Department (LACSD) provides police protection services on the Project Site. LACSD's Walnut-Diamond Bar Station located at 21695 Valley Boulevard in Walnut serves the cities of Diamond Bar (including the Project Site), Rowland Heights, Walnut and the unincorporated areas of Covina Hills and West Covina. The LACSD Walnut-Diamond Bar Station is located approximately five miles north of the Project Site.

Implementation of the proposed Project includes seven single family residences with five attached accessory units that will include a population of approximately 39 residents. Given the nominal increase in residences and population served by the LACSD's Walnut-Diamond Bar Station, the Project would not result in the need to expand existing staff or facilities to serve the Project Site. Therefore, the Project would result in less than significant impacts on police protection services.

iii) **Schools.**

Less than Significant Impact. The Project Site is located within the Walnut Valley Unified School District (WVUSD), which provides K-12 grade education. As discussed above in Section 14 a), implementation of the Project would include the construction of seven single-family residences and five attached accessory units, in which would generate approximately 39 residents. Using the State-wide standard generation rate of 0.7 student/dwelling unit, the Project would add approximately 27 students to local K-12 schools (OPSC, 2019).

The Project Site is located within the attendance boundaries of Castle Rock Elementary School (K-5 grades), South Pointe Middle School (6-8 grades), and Diamond Bar High School (9-12

grades). Based on a review of the WVUSD 2020 School Accountability Report Card (SARC), enrollment at each of the schools was as follows for the 2019-2020 school year (WVUSD, 2020).

- Castle Rock Elementary School (662 students)
- South Pointe Middle School (932 students)
- Diamond Bar High School (2,625 students)

The addition of approximately 27 students to the WVUSD would be nominal. Although a nominal number of students would be generated from the implementation of the proposed Project, the Project applicant would pay development fees to WVUSD to fund capital improvements to school facilities pursuant to Senate Bill 50 (SB 50). Pursuant to Government Code 65995, payment of development fees is “complete and full mitigation” for impacts on schools. Impacts on schools from Project implementation would be less than significant.

iv) **Parks.**

Less than Significant Impact. As discussed in Section 14 a), the Project would add approximately 39 residents to the City of Diamond Bar’s population. The Project Site is adjacent to undeveloped area and the Firestone Boy Scout Reservation. The closest public park in proximity to the Project Site, is Diamond Canyon Park, which is located 0.26 miles north at 3385 South Brea Canyon Road. Although implementation of the Project would induce population growth by generating approximately 39 new residents, these residents are not anticipated to use the same park facility at a single time. As a standard condition for residential projects, the Applicant will be required to pay Quimby fees to provide funds for future park or recreational facilities. Furthermore, as indicated in the City’s Parks and Recreation Master Plan, the City Department of Parks and Recreation is proposing to acquire more land to develop additional parks and recreational opportunities in the City (City of Diamond Bar, 2011). At total build-out of the Project, it is likely that one or more of these park facilities would have been constructed, which provides additional recreation opportunities for existing members of the community and the residents of the Project. As such, the Project would not result in substantial adverse physical impacts associated with the provision of new or expanded park facilities and impacts to parks would be less than significant.

v) **Other public facilities.**

Less than Significant Impact. Other public facilities, such as libraries, churches, hospitals, and community centers would experience a nominal increased use as a result of the Project. The addition of the Project’s 39 residents to the City would increase the City population from 56,717 to 56,756 which represents an increase of 0.07 percent (State of California Department of Finance, 2021). This potential increase in the use of other public facilities would not result in the need for new or expanded public facilities, and impacts would be less than significant.

References

City of Diamond Bar. 2011. Parks and Recreation Master Plan. Adopted July 19, 2011.

California Government Code, Title 7, Division 1, Chapter 4.9. Payment of Fees, Charges, Dedications, or Other Requirements Against a Development Project [65995-65998].

Office of Public School Construction (OPSC). 2019. School Facility Program Handbook, page 15. Adopted July, 2019.

State of California Department of Finance. 2021. E-1 Population Estimates for Cities, Counties, and the State – January 1, 2020 and 2021. Available at: <https://www.dof.ca.gov/forecasting/demographics/estimates/e-1/>, accessed on June 14, 2021.

WVUSD. 2020. 2019-20 School Accountability Report Card. Available at https://www.wvusd.org/apps/pages/index.jsp?uREC_ID=54529&type=d&pREC_ID=89758, accessed on June 14, 2021.

4.16 Recreation

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
XVI. RECREATION —				
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 checked="" type="checkbox"/>	<input 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

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?**

Less than Significant Impact. The Project Site is located adjacent to the undeveloped area and the Firestone Boy Scout Reservation, which contain hiking and equestrian trails. In addition, Diamond Canyon Park is located 0.26 miles north of the Site. The Project would add approximately 39 residents to the City of Diamond Bar's population. As discussed in the Parks and Recreation Master Plan, the City has conceptually identified the future Crooked Creek Trail (CCT) within the Project site and a potential connection to the future implementation of the Schabarum Trail (City of Diamond Bar, -2011). The Project includes a public easement that would be located over the proposed sidewalk that would extend to the proposed Crooked Creek Drive cul-de-sac to the proposed trail access and trail head. The trail head would serve as an access point for a future trail connection with the conceptually planned Schabarum Trail that would be constructed in the future as part of a separate project. The trail head and access point are part of the Project and would include decomposed granite, City signage, and a shaded bench per City design standards.

The CCT, trail head and trail access would provide additional recreation opportunities for the Project Site residents and provide local residents direct access to the future Schabarum Trail. The Project applicant would also provide in lieu park fees to the City of Diamond Bar for the development of park facilities elsewhere. As such, the Project would offset its physical deterioration of existing neighborhood or regional parks. Impacts to parks from Project implementation would be less than significant.

- 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?**

No Impact. The Project includes the development of the Crooked Creek Trail along the west side of Crooked Creek Drive and includes the construction of the trail head and trail access adjacent to the proposed Crooked Creek Drive cul-de-sac. The trail head would serve as an access point for a future trail connection with the conceptually planned Schabarum Trail that would be constructed in the future as part of a separate project. Although the Project includes a trail and trail head, the Project would not require the construction or expansion of other recreational facilities to serve the Project. Therefore, the Project would result in no impacts to parks.

References

City of Diamond Bar. 2011. City of Diamond Bar Parks Master Plan. Available at: <https://www.diamondbarca.gov/195/Parks-Master-Plan>, access on June 14, 2021.

4.17 Transportation

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
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 due 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

The following analysis is based on the *Crooked Creek Trip Generation & VMT Screening Assessment* (Traffic Memo), located in **Appendix M** of this IS/MND (Urban Crossroads, 2020).

Would the Project:

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

Less than Significant Impact. The City of Diamond Bar has established policies with respect to Project-related traffic increases on local streets such as Crooked Creek Drive in the Circulation Element of the General Plan. The desired roadway capacity on a residential local street shall not exceed about 2,500 vehicles per day and 200-300 vehicles per peak period (Diamond Bar, 2019a).

The following analysis below is based on the Crooked Creek Trip Generation & VMT Screening Assessment (Appendix M) prepared by Urban Crossroads.

The Project would involve the construction of seven single-family residences with five of the residences including an attached accessory dwelling unit for multi-generational living space. The Project also contains associated infrastructure including a southward expansion of the existing Crooked Creek Drive and a maintenance access easement. Trip generation rates for the analysis are based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, Tenth Edition. Because the ITE Trip Generation Manual does not have a trip rate for accessory dwelling units, the most suitable rate to utilize is the multi-family (low-rise) residential rate. Trip generation represents the amount of traffic which is both attracted to and produced by a development. Determining traffic generation for a specific project is therefore based upon forecasting the amount of traffic that is expected to be both attracted to and produced by the specific land uses being proposed for a given development.

Table 4.17-1 provides the estimated net new trips resulting from the Project. The Project would result in 104 net new daily trips, 8 net new AM peak hour trips, and 10 net new PM peak hour trips.

**TABLE 4.17-1
PROJECT TRIP GENERATION SUMMARY**

Land Use ¹	ITE LU Code	Units ²	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Single Family Residential Detached	210	DU	0.19	0.56	0.74	0.62	0.37	0.99	9.44
Accessory Dwelling Unit (Multi-Family Residential (Low-Rise))	220	DU	0.11	0.35	0.46	0.35	0.21	0.56	7.32

Land Use	Quantity	Units	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	Total	Out	Total	
Single Family Residential	7	DU	1	4	5	4	3	7	66
Accessory Dwelling Unit	5	DU	1	2	3	2	1	3	38
Total			2	6	8	6	4	10	104

¹ Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Tenth Edition (2017).

² DU = Dwelling Units

SOURCE: Appendix M (Urban Crossroads, 2020)

Using ITE trip generation rates for the 22 existing single-family residential detached residences located along Crooked Creek Drive south of Gold Run Drive, there are 208 existing daily trips, including 17 net AM peak trips and 22 net PM peak trips. Based on the surrounding roadway network, all Project-related traffic would be oriented north towards Gold Run Drive. Based on the estimated 104 net new daily trips on Crooked Creek Drive, the Project's traffic increase is estimated to increase volume on Crooked Creek Drive south of Gold Run Drive to 312 daily trips, 25 net AM peak trips, and 32 net PM peak trips. The total of 312 daily trips is substantially less than the City's desired roadway capacity of 2,500 daily trips on a residential local street. As a result, the Project would not conflict with any ordinance or policy addressing the circulation system, and impacts would be less than significant.

Pedestrian, Bicycle, and Transit Circulation

The City of Diamond Bar does not have a standardized metric by which to evaluate the effectiveness of the bicycle circulation system nor the pedestrian circulation system (Diamond Bar, 2019b). The Project would construct a sidewalk along the Crooked Creek Drive frontage that would represent the Crooked Creek Trail (CCT). The CCT would connect to the proposed trail head that would be located on the southern portion of the Project Site at the end of the proposed extension of Crooked Creek Drive. Public access to the trail head would be provided via a public easement along the western side of Crooked Creek Drive. However, the trail head would be fully

used after the future implementation of the Schabarum Trail by the City. The implementation of the CCT and the trail head would implement the City of Diamond Bar Parks Master Plan and would not conflict with it. Therefore, the Project would result in less than significant impacts on pedestrian facilities.

The Project is anticipated to generate minimal bicycle traffic as a result of the proposed development. As stated, the temporary construction activities would generate a nominal number of trips associated with construction worker trips and vendor trips, and would not require any lane closures that could impact adjacent bicycle facilities. As discussed above in Section 4.14 a), the Project would result in approximately 39 residents at the Project Site, which is not considered substantial. Furthermore, at Project completion, Crooked Creek Drive would continue to operate similar to existing conditions and would not impact bicycle facilities on adjacent roadways. The impact to bicycle circulation would be less than significant.

Traffic delay caused by vehicle trips generated by the Project would have the potential to also increase the delay time of transit buses at these intersections. However, as described in Section 4.3.2 above, the Project would include a 43-foot wide southward expansion of the existing Crooked Creek Drive, which would then be designated as a private roadway. Therefore, transit vehicles would not be affected as a result of the Project. Overall, impacts related to pedestrian, bicycle, or transit facilities would be less than significant.

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

Less than Significant Impact. Changes to California Environmental Quality Act (CEQA) Guidelines were adopted in December 2018, which require all lead agencies to adopt VMT as a replacement for automobile delay-based level of service (LOS) as the new measure for identifying transportation impacts for land use projects. This statewide mandate went into effect July 1, 2020. To aid in this transition, the Governor's Office of Planning and Research (OPR) released a Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR, 2018). It should be noted that the City recently adopted the City of Diamond Bar Vehicle Miles Traveled (VMT) Baselines and Thresholds of Significance (VMT Thresholds) on July 21, 2020 per City Council Resolution No. 2020-30 (Diamond Bar, 2020). In addition, in September 2020, the City of Diamond Bar adopted the *City of Diamond Bar Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment* (City Guidelines). The City Guidelines identified that projects generating less than 110 daily vehicle trips would be presumed to have a less than significant VMT impact. This City Guideline is consistent with OPR's Small Project screening criteria.

Short-term construction trips and associated VMT would be temporary, and primarily be limited to those associated with construction worker trips and vendor trips traveling to and from the Project Site. Due to the limited scope and duration of construction, it is not expected that significant impacts related to VMT would occur. As such, impacts in regard to short-term construction would be less than significant.

As shown above in Table 4.17-1, operation of the Project would result in an additional 104 trips per day, which is less than the 110 trips per day identified in the City's adopted Guidelines as resulting in a less than significant VMT impact. Therefore, the Project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b).

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

Less than Significant Impact. The Project would not include any changes to existing local streets or intersections. The existing single-family residences along Crooked Creek Drive have separate driveways that provide access to the existing roadway network. The Project would utilize a new 43-foot-wide southward extension of Crooked Creek Drive, which would provide access to the residential units from other neighboring streets. This private access road would be intended for residents and their guests and would enhance internal circulation. As required by the Circulation Element of the Diamond Bar General Plan and the Citywide Design Guidelines, the City Engineer would approve the plans for the southward extension prior to construction. As such the Project would not introduce or increase hazards due to a design feature, and impacts would be less than significant.

d) **Result in inadequate emergency access?**

Less than Significant Impact. Neither construction nor long-term occupancy of the residences would require changes to the local street system that would affect emergency access. Emergency access to the Project Site would be provided by a private southward extension of Crooked Creek Drive, as well as a maintenance access easement to the undeveloped/open space area of the Project site. As required by the City of Diamond Bar Municipal Code Section 21.30, the proposed roadway extension, as well as the proposed access within the maintenance easement would meet the requirements of the Diamond Bar Development Guidelines (City of Diamond Bar, 1998). As a result, the implementation of the proposed Project would result in less than significant impacts related to emergency access.

References

- California Office of Planning and Research (OPR). 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA. State of California, s.n., December, 2018.
- City of Diamond Bar (Diamond Bar). 2019a. City of Diamond Bar General Plan Circulation Element. Adopted December 17, 2019.
- City of Diamond Bar. 2020. City of Diamond Bar Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment. Adopted September 2020.
- City of Diamond Bar (Diamond Bar). 2019b. Draft Environmental Impact Report for the General Plan 2040 and Climate Action Plan 2040. SCH No. 2018051066.
- City of Diamond Bar (Diamond Bar). 2020. City Council Resolution No. 2020-30: Establishment of Vehicle Miles Traveled Thresholds of Significance Related to the California Environmental Quality Act.

City of Diamond Bar (Diamond Bar). 1998. City Council Resolution No. 98-01: Citywide Design Guidelines. Adopted June 16, 1998.

Institute of Transportation Engineers. 2017. *Trip Generation Manual*. 10th Edition. 2017.

U.S. Census Bureau. Quick Facts, City of Diamond Bar. Available
<https://www.census.gov/quickfacts/diamondbarcitycalifornia>, accessed December 8, 2020.

Urban Crossroads, 2021. Crooked Creek Trip Generation & VMT Screening Assessment, prepared by Urban Crossroads, dated August 3, 2021.

4.18 Tribal Cultural Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
XVIII. TRIBAL CULTURAL RESOURCES —				
a) 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:				
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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

Would the Project:

- a) **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:**
- 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).**
- 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.**

Less than Significant Impact with Mitigation Incorporated. The SCCIC records search (Galaz, 2020) and a pedestrian survey (ESA, 2020a) did not identify potential tribal cultural resources within the Project Site. The Native American Heritage Commission (NAHC) Sacred Lands File (SLF) search returned positive results (Quinn, 2020). The letter did not provide details

on the resources identified, but suggested contacting the Gabrieleño Band of Mission Indians – Kizh Nation. The NAHC also provided a list of other Native American tribes to contact as they may have knowledge of cultural resources within the Project Site. The City conducted consultation with California Native American tribes pursuant to AB 52 to identify tribal cultural resources in or near the Project Site (see **Appendix P** of this IS/MND).

On September 22, the City sent notification letters via certified mail with return receipted requested and email to the designated representatives of eight California Native American tribes (**Table 4.18-1**). The letters provide brief descriptions of the Project and its location, with maps, the lead agency's contact information, and a notification that the tribe has 30 days to request consultation pursuant to Public Resources Code section 21080.3.1.

**TABLE 4.18-1
SUMMARY OF AB 52 CONSULTATION**

Tribe	Contact/Title	Date Letter Sent	Response
Gabrieleño Band of Mission Indians-Kizh Nation	Andrew Salas, Chairperson	9/22/2020	In a letter dated 9/23/2020, Chairman Salas requested consultation.
Gabrielino Tongva Indians of California Tribal Council	Robert Dorame, Chairperson	9/22/2020	No response
Gabrielino Tongva Nation	Sandonne Goad, Chairperson	9/22/2020	No response
Gabrielino-Tongva Tribe	Charles Alvarez	9/22/2020	No response
San Fernando Band of Mission Indians	Donna Yocum, Chairperson	9/22/2020	No response
San Gabriel Band of Mission Indians	Anthony Morales, Chief	9/22/2020	No response
Soboba Band of Luiseno Indians	Joseph Ontiveros, Cultural Resource Director	9/22/2020	No response
Pauma Band of Luiseno Indians – Pauma & Yuima Reservation	Temet Aguilar, Chairperson	9/22/2020	No response

One request for consultation was received. In a letter dated September 23, 2020, Chairman Salas of the Gabrieleño Band of Mission Indians-Kizh Nation requested consultation. The City met with representatives of the Gabrieleño Band of Mission Indians-Kizh Nation on December 9, 2020. The tribe indicated that numerous artifacts have been found in the Chino Hills, which is why the sacred lands file search for the Project Site was positive. The tribe also indicated that the Project Site is located within a tribal corridor adjacent to a water source that supported natural resources and trade routes. The tribe indicated that burials or cremated remains could be present along trade routes since individuals were buried where they died. The tribe indicated that areas of high human activity would likely contain cultural materials, which could be deeply buried due to sedimentation from water flow. The tribe indicated that they would provide historic maps and review the cultural resources mitigation measures, and let the City know if they had additional measures.

On December 11, 2020, the tribe provided the City with historic maps (dated 1881, 1898, 1901, 1920, and 1938), articles discussing village sites, and their tribal cultural resources mitigation measures. The maps dated 1881, 1898, and 1901 depict the Project Site as located within Rancho Rincon de la Brea (the 1881 map has a typographical error and calls it Rancho Rincon de la Grea); however, none of these maps provide information on resources within the Project Site or immediate vicinity to the Project Site. The 1920 map still exhibits the Project Site within Rancho Rincon de la Brea, but also shows Rodeo Canyon (trade route per information provided during the consultation call) as located in close proximity and west of the Project Site. The 1938 map depicts villages to the north, west, and southwest of the Project Site; however, none are depicted within the Project Site, or in the Diamond Bar area as suggested during the consultation call. Additionally, the articles provided only discuss general information on where villages would have been located (such as in close proximity to water sources), discuss how Rancherías would have had about 500 to 1,500 huts, and indicate that the village of *Wapijangna* (mentioned in the consultation call) was once located in the town of Chino/Rancho del Chino, which is located outside of the Project Site. As such, the historic maps and articles did not provide information that indicates a tribal cultural resource is located within the Project Site. Lastly, the mitigation measures provided by the tribe include the retention of a Native American monitor during ground disturbing activities, steps to follow if human remains and associated funerary objects are encountered, and procedures to follow for burials and funerary remains.

While the Project Site is sensitive for the presence of buried prehistoric archaeological resources, no known tribal cultural resources were identified within the Project Site. However, based on the information provided by the Gabrieleño Band of Mission Indians-Kizh Nation, potential impacts to unknown resources could be significant.

Mitigation Measures

Mitigation Measure TCR-1: Prior to the commencement of any ground-disturbing activity at the Project Site, the Applicant shall retain a Native American monitor. The Native American monitor shall be selected from a tribe that has requested that a monitor be present, and in which the Project Site is within their ancestral region of occupation. The Native American monitor shall only be present on-site during the construction phases that involve ground-disturbing activities. Ground-disturbing activities are defined as activities that may include, but are not limited to, grubbing, tree removals, boring, grading, excavation, drilling, and trenching. The Native American monitor shall complete daily monitoring logs that shall provide descriptions of the day's activities, including construction activities, locations, soil, and any cultural materials identified. The on-site monitoring shall end when all ground-disturbing activities on the Project Site are completed, or when the Native American monitor has indicated that all upcoming ground-disturbing activities at the Project Site have little to no potential for impacting tribal cultural resources.

Mitigation Measure TCR-2: In the event tribal cultural resources are discovered during Project construction, construction activities shall cease in the immediate vicinity of the find (not less than the surrounding 100 feet) until the find can be assessed. All tribal cultural resources unearthed by Project activities shall be evaluated by the Native American monitor and the Qualified Archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards for Archaeology. If the tribal cultural

resources are also historical resources or unique archaeological resources, the affected tribe, City, and Qualified Archaeologist will confer on the final disposition of the resource(s), which may include onsite reburial, curation at a public, non-profit institution, or donation to the affected tribe. If the tribal cultural resources are not also historical resources or unique archaeological resources, the affected tribe will retain it/them in the form and/or manner the tribe deems appropriate, for educational, cultural and/or historic purposes. Work may continue in other parts of the Project Site while evaluation and any required recovery activities take place. Preservation in place (i.e., avoidance) is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis.

Significance Determination After Mitigation

With implementation of Mitigation Measures TCR-1 and TCR-2, potential impacts to tribal cultural resources would be reduced to less than significant. In addition, the implementation of Mitigation Measure CUL-5, presented in Section 4.5, Cultural Resources, would reduce impacts to human remains to less than significant.

References

ESA. 2020a. *Crooked Creek Residential Subdivision Project, City of Diamond Bar, California: Cultural Resources Assessment Report*. Document prepared for City of Diamond Bar. Document prepared by Environmental Science Associates. December 2020.

Galaz, Michelle. 2020. Records Search Results for the Diamond Bar Crooked Creek Residential Project. Records Search File No.: 21696.7793. September 28, 2020.

Quinn, Steven. 2020. Native American Heritage Commission Sacred Lands File Search Results for the Crooked Creek Project, Los Angeles County. September 29, 2020.

4.19 Utilities and Service Systems

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
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 checked="" type="checkbox"/>	<input 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

The discussion within this section includes information from the *Crooked Creek Sewer Study Verification, Tract 54081, City of Diamond Bar, California* (2020 Sewer Study), located in **Appendix N** of this IS/MND (Michael Baker International, 2020) and the Walnut Valley Water District 2015 Urban Water Management Plan as well as additional sources as identified in the evaluation.

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?**

Less than Significant Impact. The Project Site is located within the jurisdiction of the Walnut Valley Water District (WVWD) and the County Sanitation Districts of Los Angeles County (Sanitation Districts).

Water

Water is provided to the Project Site by the WVWD, which imports all potable water from the Metropolitan Water District of Southern California (MWD) (City of Diamond Bar, 2019b). The

Project includes the development of seven single-family dwellings, five attached accessory dwelling units, and associated infrastructure including a southward expansion of the existing Crooked Creek Drive and a maintenance access easement within the Proposed Development Area of the approximately 12.9-acre undeveloped Project Site. Construction of the Project would include all necessary on-site water infrastructure improvements and connections to adequately connect to the existing water system provided by the WVWD. The Project would include the installation of a 6-inch domestic water line beneath the proposed southward expansion of Crooked Creek Drive to a connection with the existing 6-inch domestic water line located within the existing Crooked Creek Drive. The Project would not require the construction or relocation of offsite water infrastructure that would cause significant environmental effects. Therefore, the Project would result in less than significant environmental impacts associated with water infrastructure.

Wastewater

Wastewater services for the Project Site are provided by the City. The City is under contract with the County to provide wastewater collection and treatment services. The Los Angeles County Public Works Department (LACPWD) provides operation and maintenance services on the local collections system, while the Los Angeles County Sanitation District (LACSD) provides operation and maintenance services on trunk sewers and wastewater treatment services. According to the 2015 Walnut Valley Water District Urban Water Management Plan (UWMP), wastewater produced in the area is currently transported from the WVWD via sewer to the LACSD San Jose Creek WRP for treatment (WVWD, 2016). The San Jose Creek Water Reclamation Plant (SJCWRP), located in an unincorporated area of Los Angeles near the City of Whittier, discharges into San Jose Creek and the San Gabriel River. The San Jose Creek WRP has an existing treatment capacity of 100 million gallons of wastewater per day (mgd). The LACSD wastewater system is structured such that wastewater that is not needed to satisfy recycled water demands bypasses tertiary treatment and flows directly to the Joint Water Pollution Control Plant (JWPCP). This 420-acre plant is located in the City of Carson and provides both primary and secondary treatment for approximately 280 mgd (WVWD, 2016). According to the City, the local collection system contains 11 pump stations and 162 miles of sewer mains, which are in good standing with no known major system deficiencies (City of Diamond Bar, 2019b). According to the Sewer Study provided in Appendix N of this IS/MND, the proposed seven single family residences would generate 0.00752 cubic feet per second (0.0049 mgd). The Project would contribute a nominal amount of wastewater for treatment and would not require the construction or relocation of offsite wastewater treatment infrastructure that would cause significant environmental effects. Therefore, the Project would result in less than significant environmental impacts associated with wastewater treatment infrastructure.

The Project includes the installation of an 8-inch sewer line beneath the proposed southward expansion of Crooked Creek Drive. The proposed sewer line would connect to the existing 8-inch sanitary sewer lines located within the existing Crooked Creek Drive. The existing sewer line within Crooked Creek Drive as well as within Gold Run Drive and Castle Rock Road were analyzed to determine if there was adequate capacity in the existing lines to accommodate sewer flows from the seven proposed residential lots. **Table 4.19-1** shows that each of the eight sewer

segments have adequate capacity to accommodate wastewater flows from the seven residential lots.

**TABLE 4.19-1
CAPACITY OF SEWER LINES SERVING PROJECT**

Sewer Reach #/Location	Pipe Size	Existing Flow (cfs)	Existing plus Project Flow (cfs)	Pipe Flow Capacity (cfs)	Adequate Capacity?
1 / Crooked Creek Drive south of Gold Run Drive	8	0.008	0.016	0.27	Yes
2 / Crooked Creek Drive south of Gold Run Drive	8	0.015	0.023	0.27	Yes
3 / Gold Run Drive between Crooked Creek Drive and Castle Rock Road	10	0.414	0.422	0.58	Yes
4 / Castle Rock Road south of Gold Run Drive	12	0.442	0.450	0.96	Yes
5 / Castle Rock Road south of Gold Run Drive	12	0.450	0.458	1.56	Yes
6 / Castle Rock Road south of Gold Run Drive	12	0.456	0.464	1.56	Yes
7 / Castle Rock Road south of Gold Run Drive	12	0.461	0.469	1.56	Yes
8 / Castle Rock Road south of Gold Run Drive	15	0.463	0.471	3.28	Yes

SOURCE: Michael Baker International, 2020 (Appendix N)

Although the wastewater flows in Table 4.19-1 accounts for the seven single-family residences, wastewater flows will also be generated from the five accessory dwelling units. Based on a worst-case assumption that the accessory dwelling units would generate the same amount of wastewater as the proposed single-family units, there would be an approximately 71 percent increase (i.e., 12 units/7 units = 1.71). The seven single-family residences would generate 0.008 cfs. Based on a comparative wastewater generation per unit, the five attached accessory dwelling units would generate a wastewater flow of approximately 0.006 cfs for a total Project generation of 0.0137 cfs. The total Project generation represents a 71 percent increase in wastewater flow compared to the flows provided in Table 4.19-1 that accounted for only the single-family residences. Based on a review of the Existing plus Project (seven single-family residences) Flow in Table 4.19-1, the addition of 0.006 cfs (five accessory units) at each of the eight sewer reaches would not exceed the Pipe Flow Capacity provided in Table 4.19-1. Therefore, the eight sewer reaches analyzed would have adequate sewer capacity to serve both the seven single-family units and the five attached accessory dwelling units. The Project would not require the construction or relocation of offsite sewer facilities that would cause significant environmental effects. Therefore, the Project would result in less than significant environmental impacts associated with sewer facilities.

Stormwater

The existing topography results in the conveyance of storm water within three drainage areas (see Figure 8 of the Project Description). Drainage Area A encompasses 6.2 acres, located on the west side of the Project Site, and conveys storm water from east to west to the Brea Canyon Channel via surface runoff. Drainage Area B encompasses 6.9 acres, located in the southeast portion of the Project Site, and conveys storm water from southeast to northwest to a v-ditch located behind the existing residential lots along the existing Crooked Creek Drive. These flows are directed to a culvert located on the south side of the existing residential lot (north of proposed Lot 1) and conveyed to the existing Crooked Creek Drive cul-de-sac. Drainage Area C is located in the northeastern portion of the Project Site, encompasses 3.0 acres, and conveys storm water from east to northwest to a v-ditch located behind the existing residential lots along the existing Crooked Creek Drive. These flows are conveyed north to Gold Run Drive.

The proposed development area will be located within Drainage Area A. The proposed drainage facilities within Drainage Area A will convey storm water to storm drains and ultimately to the Brea Canyon Channel west of the Project Site. The majority of the storm water east of the proposed Crooked Creek Drive will be conveyed to a proposed v-ditch located behind the proposed retaining wall that borders the east side of Crooked Creek Drive. Storm water entering into the proposed v-ditch would be conveyed south to the proposed cul-de-sac and enter a proposed 54-inch storm drain that extends the length of the proposed Crooked Creek Drive. The remaining amount of storm water east of Crooked Creek Drive will be conveyed north toward proposed Lot 1 and will either be directed to the east or west side of Lot 1 and eventually into the proposed 54-inch storm drain along the proposed Crooked Creek Drive. Storm water entering into the proposed 54-inch storm drain along Crooked Creek Drive will be conveyed south from the northern portion of the proposed development area or conveyed north from the proposed Crooked Creek cul-de-sac. Storm water within the 54-inch storm drain would be directed to a proposed 42-inch storm drain that would extend through Lot 4 and convey storm water west to Brea Canyon Channel. Storm water from the front yards of the proposed development area west of Crooked Creek Drive would be conveyed to proposed 12-inch storm drains extending from the backyards of Lot 2, 3, 5, 6 and 7 to the proposed 54-inch storm drain along Crooked Creek Drive. An additional 12-inch storm drain from the backyard of Lot 4 would extend to the proposed 42-inch storm drain. Storm water within the proposed 54-inch storm drain would be conveyed to the proposed 42-inch storm drain and then to the proposed water quality structure that provides bioretention/biofiltration treatment prior to entering into the proposed 24-inch storm drain that would convey storm water to Brea Canyon Creek Channel. Furthermore, a portion of the site area south of the Project Site conveys storm water onto the Project Site and west toward Brea Canyon Channel. The Project includes a proposed v-ditch that will convey storm water to the west onto the Project Site and to a proposed 12-inch storm drain in the southwest corner of the Project Site. Storm water within the proposed 12-inch storm drain would be conveyed into the Brea Canyon Channel.

As described in Section 4.9 (a), stormwater flows for the peak 2-year and 25-year storm flow with the implementation of the proposed Project would be equal or be less than the stormwater flows during existing conditions for Drainage Areas A, B and C. Because the Project would result in less peak stormwater flows, the implementation of the Project would not require the construction

or relocation of offsite drainage facilities that would cause significant environmental effects. Therefore, the Project would result in less than significant environmental impacts associated with drainage facilities.

Electric Power, Natural Gas, Telecommunications

The Project would result in the construction of seven single family residences that includes five attached accessory dwelling units on the undeveloped Project Site. As such, utility services are not currently in place on the Project Site, but are provided to the surrounding area and adjacent residential homes. The proposed Project would require the extension of the existing electricity, natural gas and telecommunication utilities; however, the Project would not require the construction or relocation of offsite electric, natural gas or telecommunication infrastructure that would cause significant environmental effects. Therefore, the Project would result in less than significant environmental impacts associated with electric, natural gas or telecommunication infrastructure.

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

Less than Significant Impact. Water services, including potable water and fire flow, are provided by the WVWD. The WVWD's service area encompasses an area of approximately 29 square miles. The WVWD service area includes the City of Diamond Bar, portions of the cities of Walnut, Industry, West Covina, Pomona, and the eastern portion of the unincorporated area of Rowland Heights. The Metropolitan Water District of Southern California (MWD) Weymouth Water Treatment Plant and the Three Valleys Municipal Water District (TVMWD) Miramar Plant are the primary suppliers to the WVWD who is the water purveyor that provides water to the Project Site. Existing water resources include wholesale (imported) supplies, local groundwater, and recycled water. As concluded in the 2015 UWMP, the WVWD and the retail purveyors have adequate supplies to meet WVWD service area demands, that includes the Project, during normal, single-dry, and multiple-dry years (Civiltec Engineering Inc., 2016).

The Project includes the development of seven single-family residences along with five attached accessory dwelling units. Based on the WVWD's 2015 UWMP estimate of water demand per capita for the City of Diamond Bar (144 gallons of water per capita per day), the anticipated 39 Project residents, including landscaped slopes and common areas, would result in an estimated water demand of 2.05 million gallons per year (6.29 acre-feet per year). Compliance with water conservation measures such as those required by Title 24 building standards would help to reduce the Project's water demand. Construction of the Project would include all necessary water infrastructure improvements and connections to adequately connect to the existing WVWD water system. Infrastructure improvements would include the conditions of approval outlined in the correspondence received by the County of Los Angeles Fire Department's Fire Prevention Division including, fire hydrant standards, a fire flow rate 1250 gpm at 20 psi residual pressure for 2 hours, vehicular access requirements, and submittal and approval of a fuel modification plan (LACFD, 2020).

As the Project would not generate a water demand greater than that of 500 dwelling units or its equivalent, the Project would not be subject to Senate Bill (SB) 610 which requires that a water supply assessment be conducted by the water service provider to determine if there is sufficient water supply to serve the Project during normal, single dry, and multiple dry water years. According to the Diamond Bar General Plan 2040 and Climate Action Plan 2040 Draft Environmental Impact Report prepared in September 2019, the WVWD's projected water supplies are expected to meet project demands from 2020 to 2040 under single dry-year and multiple dry-year conditions. Further, the Project Applicant would be required to pay the appropriate facility capacity fees, as required by the WVWD. Therefore, sufficient water supplies would be available to serve the Project from existing entitlements and resources, and new or expanded entitlements would not be necessary. As a result, impacts would be less than significant.

- 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?**

Less than Significant Impact. The LACSD constructs, operates, and maintains trunk sewers and wastewater treatment and disposal facilities serving residential, industrial, institutional, and commercial users throughout the County. Local wastewater collection systems (lateral sewers) are constructed, operated, and maintained by other public agencies, including the County and various cities. Such systems are typically tributary to and discharge into the LACSD's sewerage systems. Operation and maintenance of local sewers and laterals that connect to LACSD's trunk sewers are the responsibilities of local jurisdictions.

The Project Site is located in District 21 of the LACSD. Sewer flows generated within the City are treated at the LACSD's San Jose Creek Water Reclamation Plant (SJWRP). The SJWRP has a capacity of 100 mgd and currently processes an average flow of 64.6 mgd. Wastewater that exceeds the capacity of the SJWRP and all sludge are diverted to and treated at the LACSD's Joint Water Pollution Control Plant (JWPCP) (24501 South Figueroa Street, Carson). The JWPCP has a capacity of 400 mgd and currently processes an average flow of about 256 mgd. As discussed above in Section 4.19 (a), the Project is projected to generate approximately 0.0049 mgd of wastewater which would represent a negligible increase with respect to the JWPCP's available capacity of 400 mgd. The existing wastewater facilities have adequate capacity to serve the projected Project generation of wastewater. Therefore, the Project would result in less than significant environmental impacts associated with wastewater treatment infrastructure.

- 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?**

Less than Significant Impact. The Waste Management Act (AB 939) requires each California city and county to prepare, adopt, and submit to the California Department of Resources Recycling and Recovery (CalRecycle) a source reduction and recycling element (SRRE) that demonstrates how the jurisdiction will meet AB 939's mandated diversion goals of 50 percent.

According to the City of Diamond Bar General Plan, the City partners with Los Angeles County and participates in the Countywide Integrated Waste Management Plan (CIWMP) (City of Diamond Bar, 2019a). The current Disposal of solid waste from the Project would be consistent with the policies and programs contained within the County of Los Angeles SRRE and CIWMP.

Diamond Bar is contracted with Waste Management, Inc. for solid waste, compost and recycling collection, bulky item pick-up, and leaf and limb pick-up for single-family residential uses (City of Diamond Bar, 2019a and 2019b). Once collected from areas within the City, the refuse is delivered to El Sobrante Landfill. The most current annual report for El Sobrante Landfill found that at the current rate of waste disposal, the landfill had 42 years of site life remaining (Riverside County Department of Waste Resources, 2018).

The Project Site is located within the service area of El Sobrante Landfill. El Sobrante Landfill is a Class III regional disposal facility permitted up to 70,000 tons per week and has a maximum permitted throughput of 16,054 tons per day (tpd) with a remaining capacity of 3,834,470 cubic yards and an estimated closure date of August 1, 2047 (CalRecycle, 2019; Riverside County Department of Waste Resources, 2019). According to the Diamond Bar General Plan Draft Environmental Impact Report, El Sobrante Landfill has additional capacity through 2059.

Construction of the Project would result in solid waste that would need to be disposed of in off-site facilities. The types of construction solid waste that would be generated include building materials, asphalt, concrete, metal, and landscaping material. All of the construction waste would be removed by a California State-licensed contractor and disposed of in accordance with applicable laws and regulations. As previously described above, AB 939 and the County of Los Angeles SRRE requires implementation of programs to recycle and reduce refuse at the source, to achieve a 50 percent reduction in solid waste being taken to landfills. To assist in meeting this goal, the Project would incorporate the collection of recyclable materials into the Project design and to require contractors to reuse construction supplies where practicable or applicable to the extent feasible. Therefore, solid waste generated during construction of the Project would result in a less than significant impact.

During operations, the Project's residential uses (i.e., food, yard/garden debris, organic materials, and paper) would generate solid waste, which would be disposed of at the landfill(s) serving the City. The Project would provide recycling containers and appropriate storage areas for residential and public use to decrease the Project's solid waste disposal need. Due to the scope of the Project, the anticipated solid waste generated by Project operations would be negligible and would not exceed the projected landfill capacity as discussed above. Thus, the capacity of the El Sobrante Landfill would be able to accommodate the solid waste generated from operation of the Project. Therefore, solid waste generated during operation of the Project would result in a less than significant impact.

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

Less than Significant Impact. The Project includes the development of seven single-family dwellings, five attached accessory dwelling units, and associated infrastructure including a

southward expansion of the existing Crooked Creek Drive and a maintenance access easement within the Proposed Development Area. Solid waste generated by the Project would consist primarily of the standard organic and inorganic waste normally associated with these uses. Substantial hazardous wastes are not anticipated. As noted above, the site is adequately served by the El Sobrante Landfill. Additionally, per AB 939, the County has implemented a recycling program to divert at least 50 percent of all solid waste. As such, the Project would be required to comply with the County's SRRE and CIWMP. The Project would comply with all applicable federal, state, and local statutes and regulations related to solid waste handling, transport, and disposal during both construction and long-term operations. Therefore, a less than significant impact related to solid waste would occur.

References

- CalRecycle, 2019. SWIS Facility/Site Activity Details El Sobrante Landfill (33-AA-0217). Available: <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2256?siteID=2402>. Accessed November 2020.
- City of Diamond Bar, 2019a. *Diamond Bar General Plan 2040*. Adopted December 17. Available: <https://www.diamondbarca.gov/DocumentCenter/View/7072/Diamond-Bar-General-Plan-2040?bidId=>. Accessed November 2020.
- City of Diamond Bar, 2019b. *Diamond Bar General Plan 2040 & Climate Action Plan 2040 Draft Environmental Impact Report*. September 2019. Available: <https://www.diamondbarca.gov/DocumentCenter/View/7074/Draft-Environmental-Impact-Reportpdf?bidId=>. Accessed November 2020.
- Civiltec Engineering Inc. 2016. Walnut Valley Water District 2015 Urban Water Management Plan. Available at: <https://www.wvwd.com/wp-content/uploads/2018/08/201520UWMP.pdf>, accessed on April 7, 2021.
- Michael Baker International. 2020. Crooked Creek Sewer Study Verification. See Appendix N of this IS/MND.
- Riverside County Department of Waste Resources, 2018. El Sobrante Landfill 2017 Annual Report. Available: <http://www.rcwaste.org/Portals/0/Files/ElSobrante/2018/COC%20Final%202017%20El%20Sobrante%20Landfill%20Annual%20Reports.pdf>. Accessed November 2020.
- Riverside County Department of Waste Resources, 2019. El Sobrante Landfill Citizens Oversight Committee. Available: http://www.rcwaste.org/Portals/0/Files/ElSobrante/2019/El_Sobrante_COC_Newsletter_2nd_Qtr_2019.PDF. Accessed November 20, 2020.
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4.20 Wildfire

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

Would the Project:

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

Less than Significant Impact. As described in Section 4.9(f), the City of Diamond Bar does not have an adopted emergency evacuation plan, however, the City facilitates the coordination of emergency response efforts through its Emergency Operations Center (EOC), which is a central location of authority that allows for face-to-face coordination and decision making between City staff and outside organizations (Diamond Bar, 2021). The Project does not propose to modify and would not interfere with the EOC.

Construction activities would be located on the Project site or at the existing Crooked Creek Drive cul-de-sac. No lane closures are expected to be required during construction activities. As a result, the Project construction activities would not impair or interfere with emergency response or emergency evacuation.

Based on the surrounding roadway network, all Project-related vehicular traffic would be oriented north towards Gold Run Drive. As discussed in Section 4.17, *Transportation*, implementation of the Project would result in the addition of 66 daily trips. The operation of the Project would not impact the roadway capacity of Crooked Creek Drive, and would not physically interfere with emergency response or emergency evacuation. Therefore, the Project's operational activities would not impair or interfere with an adopted emergency response plan or emergency evacuation plan, and impacts would be less than significant.

- 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?**

Less than Significant Impact. The Project Site contains slopes that range from 0 percent to a maximum of 100 percent. Prevailing winds are from the west. The existing onsite slopes as well as winds could exacerbate wildfire risks. As a result, a Fuel Modification Plan has been prepared as discussed in Section 4.9 (g). The LACFD reviewed the location of structures, type of construction, topography, slope, amount and arrangement of vegetation and overall site setting. LACFD determined that the FMP provided the necessary defensible space necessary for effective fire protection of the homes proposed on the Project Site. Based on the review, the LACFD has approved the FMP in concept. Therefore, the implementation of the proposed Project would not expose the Project occupants to significant wildland fire risks and would be less than significant.

- 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?**

Less than Significant Impact. The proposed Project includes the installation of two fire hydrants within the Project Site to provide adequate fire flow. Power lines and other utilities are proposed to be placed underground. The installation of the Project infrastructure would not exacerbate fire risks or result in temporary or ongoing impacts to the environment, and therefore, impacts would be less than significant.

- 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?**

Less than Significant Impact. The existing slopes on the Project site that would remain would be located along Crooked Creek Drive and south of Lot 1. The proposed onsite grading would occur within a landslide area located within proposed Lot 1. The grading activities would remove the soils susceptible to a landslide. After removal, the area would be re-stabilized with a combination of new soil and compaction.

According to the Geotechnical Report, the portion of the landslide area within Lot 1 underlying the pad areas below a depth ranging 5 to 15 feet was found to be dense/stiff, slightly compressible, and competent, and is considered to be suitable for support of proposed structures below those depths (LGC Valley, Inc., 2020). Because the Project would be required to comply with applicable seismic-related regulatory requirements of Title 15, Building and Construction Safety, of the City's Municipal Code and the latest standards of the CBC, implementation of the Project would result in less than significant seismic-related ground failure impacts.

Both Crooked Creek Drive and Lot 1 include retaining walls and drainage culverts that would separate the slopes from the proposed development. Therefore, the possibility of downstream

flooding or landslide impacts on proposed residential structures would be reduced and less than significant impacts would occur.

References

City of Diamond Bar (Diamond Bar). 2021. City Emergency Operation Center – Website.
Available <https://www.diamondbarca.gov/222/City-Emergency-Operation-Center>, accessed
January 21, 2021

LGC Valley, Inc., 2020. Geotechnical Report, Tract 54081, City of Diamond Bar, California,
prepared by LGC Valley, Inc., dated August 31, 2020.

Studio H Landscape Architecture. 2021. Preliminary Fuel Modification Plan. Appendix O of this
IS/MND.

4.21 Mandatory Findings of Significance

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
XXI. MANDATORY FINDINGS 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

Would the Project:

- 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?**

Less than Significant with Mitigation Incorporated. The Project would impact the California walnut groves which are considered sensitive natural communities. The Project has the potential to impact nesting birds and potential conflict with the City tree policies through the removal of onsite coast live oak trees and southern California walnut trees. There is also a potential for prehistoric and historic cultural resources and tribal cultural resources to exist and if resources are encountered during grading activities, significant impacts could occur.

Mitigation Measures

Implementation of Mitigation Measures BIO-3, BIO-4, CUL-1 through CUL-4, TCR-1, and TCR-2 is required.

Significance Determination After Mitigation

After the implementation of Mitigation Measures BIO-4 and BIO-5, potential impacts to nesting bird species and City tree policies would be reduced to less than significant. After the implementation of Mitigation Measures CUL-1 through CUL-4, TCR-1 and TCR-2, potential

impacts to potential prehistoric and historic archaeological resources would be reduced to less than significant.

- b) **Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?**

Less than Significant with Mitigation Incorporated. The potential for cumulative impacts occurs when the impacts of a project are combined with impacts from related development projects and result in impacts that are greater than the impacts of a project alone. The City of Diamond Bar does not have projects currently being processed that are in the immediate vicinity of the Project Site. Although not in the direct vicinity of the Project Site, other projects could result in potential impacts to environmental resources including biological resources, cultural resources, paleontological resources, noise vibration, and tribal cultural resources. The Project’s incremental contribution to cumulative impacts to biological resources, cultural resources, paleontological resources, noise vibration, and tribal cultural resources could be cumulatively considerable and therefore potentially significant.

Mitigation Measures

Implementation of Mitigation Measures BIO-1 through BIO-4, CUL-1 through CUL-5, PALEO-1 through PALEO-4, NOISE-1 through NOISE-3, TCR-1, and TCR-2 is required.

Significance Determination After Mitigation

After the implementation of Mitigation Measures BIO-1 through BIO-4, the Project’s contribution to cumulative impact to biological resources would be reduced to less than cumulatively considerable. After the implementation of Mitigation Measure CUL-1 through CUL-5, the Project’s contribution to cumulative cultural resources impacts would be reduced to less than cumulatively considerable. With the implementation of Mitigation Measures PALEO-1 through PALEO-4, the Project’s contribution to cumulative paleontological resources impacts would be reduced to less than cumulatively considerable. With the implementation of Mitigation Measures NOISE-1 and NOISE-2, the Project’s contribution to cumulative noise vibration impacts would be reduced to less than cumulatively considerable. Finally, with the implementation of Mitigation Measures TCR-1 and TCR-2, the Project’s contribution to cumulative tribal cultural resources impacts would be reduced to less than cumulatively considerable. Therefore, with the implementation of the mitigation measures identified above, the Project would result in less than cumulative impacts.

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

Less than Significant with Mitigation Incorporated. Implementation of the Project would result in potential significant noise vibration impacts that could be considered substantial adverse effects on human beings. No additional impacts associated with the Project would result in substantial effects on human beings.

Mitigation Measures

Implementation of Mitigation Measures NOISE-1 through NOISE-3 is required.

Significance Determination After Mitigation

With the implementation of Mitigation Measures NOISE-1 and NOISE-2, the Project's potential effects on human beings would be reduced to less than significant.
