Initial Study and Mitigated Negative Declaration

Public Review Draft

Prepared for:

City of Laguna Beach
Fire Department
505 Forest Avenue
Laguna Beach, CA 92651

LOWER HOBO AND DIAMOND CRESTVIEW FUEL MODIFICATION PROJECT

Technical Support Provided by:

Aspen environmental group

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Suite 200
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September 2024

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Initial Environmental Study / Checklist
City of Laguna Beach, California

1. Project Title

Lower Hobo and Diamond Crestview Fuel Modification Project

2. Lead Agency Name and Address

City of Laguna Beach
Laguna Beach Fire Department
505 Forest Ave.
Laguna Beach, CA 92651

3. Contact Person and Phone Number

Robert Montaghami, Fire Marshal
Laguna Beach Fire Department
Office: (949) 497-0352

4. Project Location

The proposed project consists of fuel modification zone (FMZ) 16 (Lower Hobo) and FMZ 19 (Diamond Crestview), as shown in Figure 1. FMZ 16 encompasses the canyons and hillsides abutting open space bounded roughly on the north by Nyes Place; on the west by Ashton Drive, Alexander Road, and Terry Road; on the south by Laguna Terrace North and M Street; and wraps around to the south side of K Street, ending just north of H Street.

FMZ 19 is located on the hillsides generally between single-family neighborhoods northeast of Highway 1. The north end of FMZ 19 begins west of Summit Drive and is bounded roughly by Diamond Street, Crestview Drive, Moss Street, and Glenneyre Street to the west, Catalina Street to the south, and Summit Drive, Baja Street, Hermosa Way, and Lomita Way to the east.

5. Project Sponsor's Name and Address

Laguna Beach Fire Department
505 Forest Ave.
Laguna Beach, CA 92651

6. General Plan Designations

FMZ 16 would traverse the following General Plan Designations: OS/C (Open Space/Conservation and Recreation), RHP (Residential Hillside Protection), VLD (Village Low Density), VMLD (Village Medium Low Density), and PI (Public/Institutional) (City of Laguna Beach, 2023).

FMZ 19 would traverse the following General Plan Designations: POS (Permanent Open Space) and VLD (Village Low Density) (City of Laguna Beach, 2023).

7. Zoning

FMZ 16 would traverse the following Land Use Zones: OS/C (Open Space/Conservation Zone), R/HP (Residential/Hillside Protection Zone), R1 (Residential Low Density Zone), and MH (Mobile Home Zone) (City of Laguna Beach, 2023).

FMZ 19 would traverse the following Land Use Zones: OS/P (Open Space/Passive Zone), OS/C (Open Space/Conservation Zone), and R1 (Residential Low Density Zone) (City of Laguna Beach, 2023).

8. Description of the Project

The City of Laguna Beach Fire Department (LBFD) proposes to apply fuel management practices within the City of Laguna Beach, California (see Figure 1). FMZ 16 (Lower Hobo) and FMZ 19 (Diamond Crestview) would consist of approximately 100-foot-wide zones of reduced vegetation. Removal and/or thinning of heavy vegetation would reduce potential wildfire ignition of primarily residential properties, increase the evacuation time for residents, and provide better access for firefighters to protect structures. In addition, the proposed project would reduce fire line intensity, reduce wildfire rates of spread, and improve occupant safety. Lastly, it would protect High and Very High Value Habitat containing special-status plant species.

Since the 1950s, the City of Laguna Beach has maintained a system of fuel breaks for protection from wildfires. After the 1993 wildfires, the program was expanded, and now the City currently maintains 27 FMZs managed by goat-grazing and hand crews. According to the City of Laguna Beach, FMZ 16 and FMZ 19 lie in a Very High Fire Hazard Severity Zone, and any wildfire would be an immediate threat to structures (City of Laguna Beach, 2023). The proposed project would establish fuel breaks directly along the wildland-urban interface to protect residential and public property. The LBFD would oversee the construction and maintenance of the fuel breaks in FMZ 16 and FMZ 19.

FMZ 16, an approximately 13.66-acre zone, predominantly borders residential single-family and mobile home communities along Nyes Place, Ashton Drive, Alexander Road, Terry Road, Laguna Terrace North, M Street, and K Street as well as the Laguna Beach Community and Recreation Center and future location of the Laguna Beach Fire Department administrative offices (see Figure 2). The single-family homes in this neighborhood are adjacent to large portions of densely vegetated, steep hillsides and are susceptible to wildfire hazards. FMZ 16 contains a variety of intact and disturbed habitat and contains multiple populations of big-leaved crownbeard, a State- and federally listed threatened species and intermediate mariposa-lily, a State-listed threatened species. Other native plant species within FMZ 16 include bigpod ceanothus, laurel sumac, California buckwheat, California brittlebush, California sagebrush, black sage, toyon, holly leaf redberry, coast live oak, scrub oak, heart leaved keckiella, blue elderberry, spiny redberry, deerweed, lemonade berry, and sticky monkeyflower. Non-native species include Victorian box, ngaio tree, garden nasturtium, fountain grass, coastal wattle, bank catclaw, athel, American century plant, glossy privet, and pride of madeira.

Big-leaved crownbeard, a federal and state threatened species, occurs along Nyes Place and K Street. Additionally, several patches of Coulter's Matilija Poppy (included in the California Native Plant Society Inventory of Rare and Endangered Plants as limited distribution) were observed in FMZ 16 adjacent to residential development. Special-status species would be flagged, and a 15-foot buffer installed during fuel management activities. See Attachment B, Biological Resources Technical Report, for additional information on special-status plants.

According to the City of Laguna Beach's GIS (geographic information system) Constraints layers, portions of FMZ 16 are designated as High/Very High Value Habitat and Seismic Hazard Landslide Areas (City of Laguna Beach, 2023). Areas categorized as Very High Value Habitat or have had rare plant sightings were surveyed by a qualified biologist in summer 2023, and the project design was refined to avoid rare plants and minimize vegetation clearance in these areas. Exclusion areas would be established throughout FMZ 16 to avoid disturbance of special-status plants and drainage courses (Figure 2). Seismic Hazard Landslide Areas would require specific treatment measures to minimize erosion hazards.

Table 1 provides the recommended access points to reach FMZ 16 treatment areas.

Table 1. FMZ 16 (Lower Hobo) Access Points (from west to east)

1.	Nyes Place (south of first switchback)
2.	Corner of Ashton Drive and Rounsevel Terrace
3.	South end of Rounsevel Terrace
4.	Intersection of Laguna Terrace North and P Street
5.	M Street (first side-drainage)
6.	Intersection of M Street and K Street
7.	K Street (near third side-drainage)
8.	End of K Street

Similar to FMZ 16, FMZ 19 is located on steep, densely vegetated slopes that pose the risk of wildfire hazards to nearby structures. FMZ 19 consists of approximately 25.44 acres bounded by Diamond Street to the west, Summit Drive to the north, and La Mirada Street and Alta Vista Way to the east and is surrounded by residential single-family homes (see Figure 3). According to the City of Laguna Beach's GIS Constraints layers, large portions of FMZ 16 are designated as High/Very High Value Habitat and Seismic Hazard Landslide Areas (City of Laguna Beach, 2023). The heavily vegetated steep slopes within and around FMZ 19 pose a risk of wildfire damage to adjacent homes and valuable habitat. FMZ 19, like FMZ 16, is also moderately impacted by non-native ornamental plants, such as Victorian box, ngaio tree, garden nasturtium, coastal wattle, bank catclaw, athel, American century plant, glossy privet, and pride of madeira, likely established by homeowners. There are also weedy invasives present including sweetclover, Italian thistle, black mustard, cape ivy, poison hemlock, tree tobacco, and castor bean. The areas with relatively intact native habitat contain laurel sumac, California buckwheat, California brittlebush, California sagebrush, black sage, coyote brush, toyon, holly leaf redberry, coast live oak, scrub oak, heart leaved keckiella, blue elderberry, sticky monkeyflower, spiny redberry, and deerweed. Big-leaved crownbeard, intermediate mariposa lily, and decumbent goldenbush, all special-status species, occur in FMZ 19. Exclusion areas would be established throughout FMZ 19 to avoid disturbance of special-status plants and drainage courses (Figure 3). Additionally, Fish's milkwort (included in the California Native Plant Society Inventory of Rare and Endangered Plants as limited distribution) occurs in the southern portion of FMZ 19. Portions of FMZ 19 that have been categorized as High/Very High Value Habitat or have had rare plant sightings were surveyed by a qualified biologist in June and September 2023 and the project design refined to avoid rare plants and minimize vegetation clearance in these areas.

Table 2 provides the recommended access points to reach FMZ 19 treatment areas. The City will work with the contractor and homeowners to obtain access to FMZs 16 and 19.

Table 2. FMZ 19 (Diamond Crestview) Access Points

1.	1131 and 1151 Summit Way
2.	Baja Street off Summit Drive
3.	End of Baja Street off Del Mar Avenue
4.	End of Del Mar Avenue
5.	996 and 915 Baja Street (vacant lot)
6.	Alta Vista Way and Bonita Way (pullout)
7.	End of Iris Way
8.	End of Kilo Way
9.	End of Lomita Way
10.	End of San Clemente Street
11.	870 Baja Street (staircase)[1]
12.	End of Inez/Fern Street (large staging area)[1]

Note: (1) Access requires homeowner permission.

Fuel Management Zone Treatment Protocols. The City's *Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting* (referred to as the "City's fuel modification treatment protocols"), which are included as Appendix A to this Initial Study, have been developed based on the best available science and studies. The proposed project was designed using the City's fuel modification treatment protocols.

All fuel management activities within FMZ 16 and FMZ 19 would be conducted to reduce available vegetation for potential wildfire ignition within approximately 100 feet of developed structures. Fuel management methods would rely exclusively on hand crews due to the presence of special-status species and the steep topography. Fuel loads would be reduced or completely removed depending on species composition. Non-native vegetation would be completely removed first; if 50 percent reduction in wildfire fuel is achieved by removing non-native vegetation, vegetation clearing would stop. If further thinning or removal needs to occur, crews would follow the hierarchical list in the City's fuel modification treatment protocols (see list under "Hand Crew Removal" below) to remove the least sensitive plants first. The project biologist may choose to adjust the order of species removal in order to preserve local diversity including, to the extent practicable, maintaining a plant community that supports sensitive and listed species likely to use the treatment area. To reduce the risk of erosion, the majority of perennial plant roots of native and non-native species would remain in erosion-prone areas.

Portions of both FMZ 16 and FMZ 19 would require specific treatment methods or complete avoidance to avoid impacts to biological resources (see Figures 2 and 3). A 25-foot buffer would be established on either side of "blue-line" drainages or streams (i.e., a water body such as a creek or stream that appears as a broken or solid blue line on a U.S. Geographical Survey topographic map). Approximately 1.09 acres in FMZ 16 and approximately 2.82 acres in FMZ 19 would be within these buffers, which would be limited to the removal of non-native plant species using hand crews only. Approximately 4.35 acres of FMZ 16 and approximately 0.28 acres of FMZ 19 containing big-leaved crownbeard, intermediate mariposa lily, decumbent goldenbush, and Fish's milkwort would be excluded from fuel modification activities to avoid impacts to these special-status species. In erosion-prone areas, such as steep slopes and the areas previously cleared by homeowners, measures may include worker fall protection (e.g., field personnel would be trained in fall prevention, and crews would be restricted from working on slopes where field supervisors or staff judge conditions to be unsafe for unprotected work) and post-treatment erosion control measures (e.g., scattered cut native brush clippings, jute netting, straw wattles, or similar

interventions as recommended by consulting geologists). If any special-status plants or animals are found, a trained biological monitor would flag such areas before treatment to ensure the species are protected and avoided. Within these flagged buffers herbicides may be used only in cases of targeted treatment of invasive vegetation removal as determined by a biologist and in consultation with the City. Herbicide treatment may be limited to application of cut stumps and stems of invasive species and potentially isolated spot foliar applications of individual invasive plants. Any necessary treatments outside of this range would be subject to removal of only targeted non-native, invasive weeds, or tree thinning and dead branch removal.

Treatment recommendations for FMZ 16 and FMZ 19 (see Figures 2 and 3) based on habitat type and existence of any sensitive species within the zones were developed based on initial biological surveys conducted by Aspen Environmental Group in June and September 2023. Table 3 provides the recommended acreages for each treatment type. These acreages may be slightly modified as the project is refined based on conditions at time of implementation.

Table 3. Proposed Treatment by Acreage

Treatment Methods	FMZ 16	FMZ 19
Hand	8.22	22.34
Drainage or Stream buffers (invasive control only)	1.09	2.82
Exclusion areas (big-leaved crownbeard, intermediate mariposa lily, decumbent goldenbush, and Fish's milkwort	4.35	0.28
Total	13.66	25.44

Source: Attachment B – Biological Resources Technical Report.

Hand Crew Removal. As described in the City's fuel modification treatment protocols (see Appendix A), hand crew treatment would be used in FMZ 16 and FMZ 19 in compliance with the California Coastal Act. Up to 16 hand crew workers (2 groups of 8 workers each) would be working in a single FMZ at a given time. The initial phase of vegetation removal would include the following steps:

a. Fuel modification will be conducted by hand crews with chainsaws, brush-cutters, and other hand tools.

b. Hand crew fuel modification conducted in High or Very High Value Habitat shall generally be limited to a width of 100 feet.

c. Crews will cut down all non-native vegetation (including unmaintained ornamental vegetation) and dead/dying native vegetation and carefully remove dead branches from trees and large shrubs. As noted above, an exception may be made where non-native shrubs are providing shading/nurse plant benefits for big-leaved crownbeard, as determined by the biological monitor.

d. Special care will be exercised to distinguish dormant native vegetation from dead/dying native vegetation.

e. Tree-form shrubs (e.g., laurel sumac (*Malosma laurina*), toyon (*Heteromeles arbutifolia*), lemonade berry (*Rhus integrifolia*) that are over 6 feet tall will be carefully pruned of their lower branches to increase the Crown Base Height to 50 percent of the plant height. For example, a 10-foot-tall plant would have its lower branches removed to a height of 5 feet. Branches will be pruned to within 1 inch or less of the branch crown. Southern Maritime Chaparral perennial shrub species shall be left fully intact except as noted below, and not pruned initially. Alternatively, with

the discretion of a qualified biologist, some plants may be pruned beginning from the upper branches, depending on the species and need for such pruning.

f. For large tree species within FMZ's, non-native trees (*Pinus*, *Eucalyptus*, *Washingtonia*, et. al.) shall be considered for removal on a case-by-case basis, taking into consideration their potential ignitability, potential to spread fire from or across the FMZ, and property/tree ownership.

g. Native large trees (*Quercus*, *Platanus*, et. al.) shall be pruned of dead components, and lower small branches removed to a height of 8 feet or one half their height, whichever is less, so as to disrupt "fuel ladder" potential. Dead and down tree components on the ground below large trees shall be removed.

Where there is still over 50 percent vegetative cover after the above material has been removed, the contractor will remove healthy live vegetation in accordance with the hierarchical list below, beginning with the first species listed, then in descending order through the list until a targeted 50 percent vegetative cover has been attained:

1. Coastal goldenbush (*Isocoma menziesii*)
2. Coyote brush (*Baccharis pilularis*)
3. California buckwheat (*Eriogonum fasciculatum*)
4. Black sage (*Salvia mellifera*)
5. California sagebrush (*Artemisia californica*)
6. Monkeyflower (*Diplacus* spp.)
7. Laurel sumac (*Malosma laurina*)
8. Toyon (*Heteromeles arbutifolia*)
9. Lemonade berry (*Rhus integrifolia*)

The project biologist shall provide additional guidance as necessary in addition to this hierarchy to maintain plant diversity and/or, to the extent practicable, maintain a plant community that supports sensitive and listed species likely to use the treatment area.

Stumps will be cut to within 4 inches or less of the ground. Thinning of healthy, live vegetation will be done in a dispersed manner to avoid creating new large openings. All healthy specimens of Southern Maritime Chaparral perennial species including bush rue (*Cneoridium dumosum*), spiny redberry (*Rhamnus crocea*) and bigpod lilac (*Ceanothus megacarpus*) will be retained.

As described in the City's fuel modification treatment protocols (see Appendix A), ephemeral water drainages or stream courses would be treated if invasive plant species are found. The primary invasive vegetation treatment is anticipated to be herbicide application within a 25-foot buffer on either side of any blue-line drainage or stream that crosses the treatment areas as defined by a USGS map or City website, pending consultation with the City. Additional site-specific steps consistent with best environmental practice may be implemented to establish breaks in fuel continuity in corridors formed by long drainages. These corridors pose a fire hazard to nearby residences in the event of a wildfire.

Herbicides may be used for targeted treatment of invasive species as identified and determined by the project biologist as part of an Integrated Pest Management approach and in consultation with the City. Herbicide treatment would be specific and limited to its intended use to not pose any risk to nearby sensitive species or water courses. As discussed above, herbicide application would be limited to treating specific individual plants or used in combination with a hand removal where the cut stump would be sprayed or dabbed with a sponge containing the herbicide. Herbicides would never be used on a landscape scale to remove large expanses of vegetation.

Fire safety and prevention measures during fuel management activities would include requiring fire extinguishers and hand tools on site, prohibiting smoking, prohibiting operation of power tools during red flag warnings, and implementing proper fueling locations and practices.

Erosion Control. The majority of roots of perennial plants would be left in place to minimize erosion. Mulch and other erosion control measures (such as scattered cut native brush clippings, straw wattles, or similar interventions) would be installed as necessary for additional protection without being obtrusive. Haul paths would be minimized and rehabilitated with mulch or other methods as deemed appropriate by the project biologist. Areas of relatively low slope (i.e., below 33 percent or 1:3 grade) would be mulched to an adequate depth to minimize weed propagation and ongoing maintenance needs.

Disposal and Maintenance. As mentioned in the City's fuel modification treatment protocols, all non-native vegetation waste would be removed from the site, transported via truck or dumpster, and hauled to a green waste recycler. The nearest green waste recycling facility to the site is Tierra Verde Industries at 8065 Marine Way, Irvine, CA 92618, but the contractor would ultimately determine the recycling site. Green waste that is not accepted by the green waste recycler would be hauled to a landfill. Under the proposed project, chipped native vegetation and mulch would be reused for erosion control, to retain soil moisture, and prevent weed growth within the project site. Excess materials would be hauled away for disposal as green waste. All efforts would be made to recycle as much native waste on site as possible. Native vegetation under 3 inches in diameter may be processed with hand tools on site and spread as mulch as an alternative to hauling and chipping, if it does not cover living native species and does not exceed 12 inches in depth. All trash and litter found on the project site would be removed and hauled to a landfill. The amount of trash and litter is expected to be minimal.

At the conclusion of the grant term, annual fuel break maintenance would be conducted by the City of Laguna Beach. The City would maintain fuel breaks by pruning, weeding, and controlling invasive vegetation, which may include spot treatment with herbicides at the City's discretion. Maintenance would include the use of hand tools such as chainsaws, string trimmers, loppers, and machetes, as well as herbicide and herbicide adjuvants (i.e., additive intended to improve the effectiveness of an herbicide) when necessary and at the City's discretion. If any private property owners opt out of the project following the initial treatment, they may be required to maintain the area to the specifications of the City's fuel modification treatment protocols at personal expense.

Schedule. Initial clearing of vegetation is anticipated to occur as early as 2024, and fuel modification activities are expected to occur over the course of approximately six months. Vegetation removal would occur during normal business hours from 8:00 a.m. to 5:00 p.m. Monday through Friday, excluding weekends, federal holidays, and adverse weather conditions such as rain and Red Flag conditions. Continued maintenance is expected to occur annually into perpetuity with City funding and includes vegetation thinning and invasive species control.

9. Surrounding Land Uses and Setting

The landscape adjacent to FMZ 16 and FMZ 19 consists primarily of two vegetation types, (1) lemonade berry scrub and (2) holly leaf cherry – toyon – greenbark ceanothus chaparral, along with populations of non-native and ornamental plant species in disturbed areas. FMZ 16 and FMZ 19 are located at varying elevations of steep canyon slopes.

The land surrounding FMZ 16 and FMZ 19 is predominantly low-density single-family residential uses, with public/institutional uses (Laguna Beach Community and Recreation Center and Laguna Beach Fire Department administrative offices) at 30516 Coast Highway within FMZ 16. FMZ 16 and FMZ 19 would serve as a barrier between the urban-wildland interface, as steep, undeveloped canyon slopes and hillsides are located adjacent to development in these areas. A large portion of FMZ 16 and FMZ 19 would overlap with open space that is adjacent to the residential communities. The southern portion of FMZ 16 (Laguna Terrace North, M Street, and K Street – Figures 1 and 2) is within the City's Deferred Certification

area (i.e., this area remains subject to the California Coastal Commission's [CCC] original permit jurisdiction until land use and zoning designations for this location are effectively certified); therefore, project activities within the Deferred Certification area will need to be submitted directly to CCC, and the Coastal Development Permit processed by the City will not cover this area.

10. Other Public Agencies Whose Approval Is Required (e.g., permits, financing approval, or participation agreement)

The proposed project would require the following approvals:

- City of Laguna Beach Planning Commission
- Coastal Development Permit, Deferred Certification, CCC

Attachments

Figure 1: Lower Hobo and Diamond Crestview Fuel Modification Project Location

Figure 2: Fuel Modification Zone 16 (Lower Hobo) Treatment Areas

Figure 3: Fuel Modification Zone 19 (Diamond Crestview) Treatment Areas

FOR HARD COPIES, APPENDICES ARE PROVIDED AT:
https://www.lagunabeachcity.net/government/departments/community-development/planning-zoning/public-notices

Appendix A: Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting

Appendix B: Air Quality Report

Appendix C: Biological Resources Technical Report

Appendix D: Cultural Resources Assessment Report for the Lower Hobo and Diamond Crestview Fuel Modification Project (CONFIDENTIAL)

Appendix E: Geotechnical Evaluation of Potential Slope Stability Impacts

- Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program Zone 16, Western Nyes Place and Hobo Canyon Area.
- Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program, Zone 19, Diamond Crestview to Arch Beach Heights Area.

Appendix F: Paleontological Resources Summary

Appendix G: Policy Consistency Analysis Memorandum

Figure 1: Lower Hobo and Diamond Crestview Fuel Modification Project Location

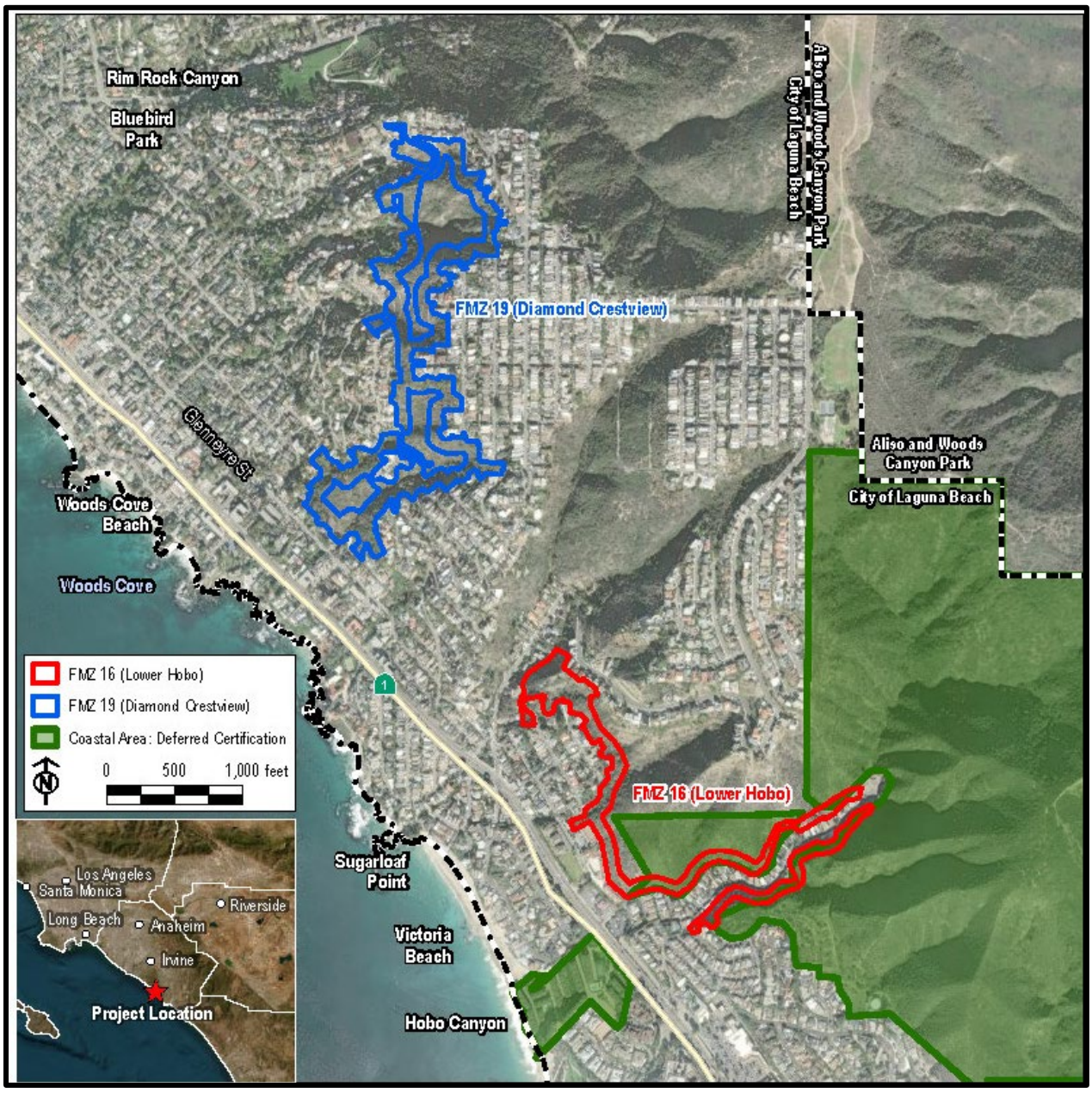


Figure 2: Fuel Modification Zone 16 (Lower Hobo) Treatment Areas

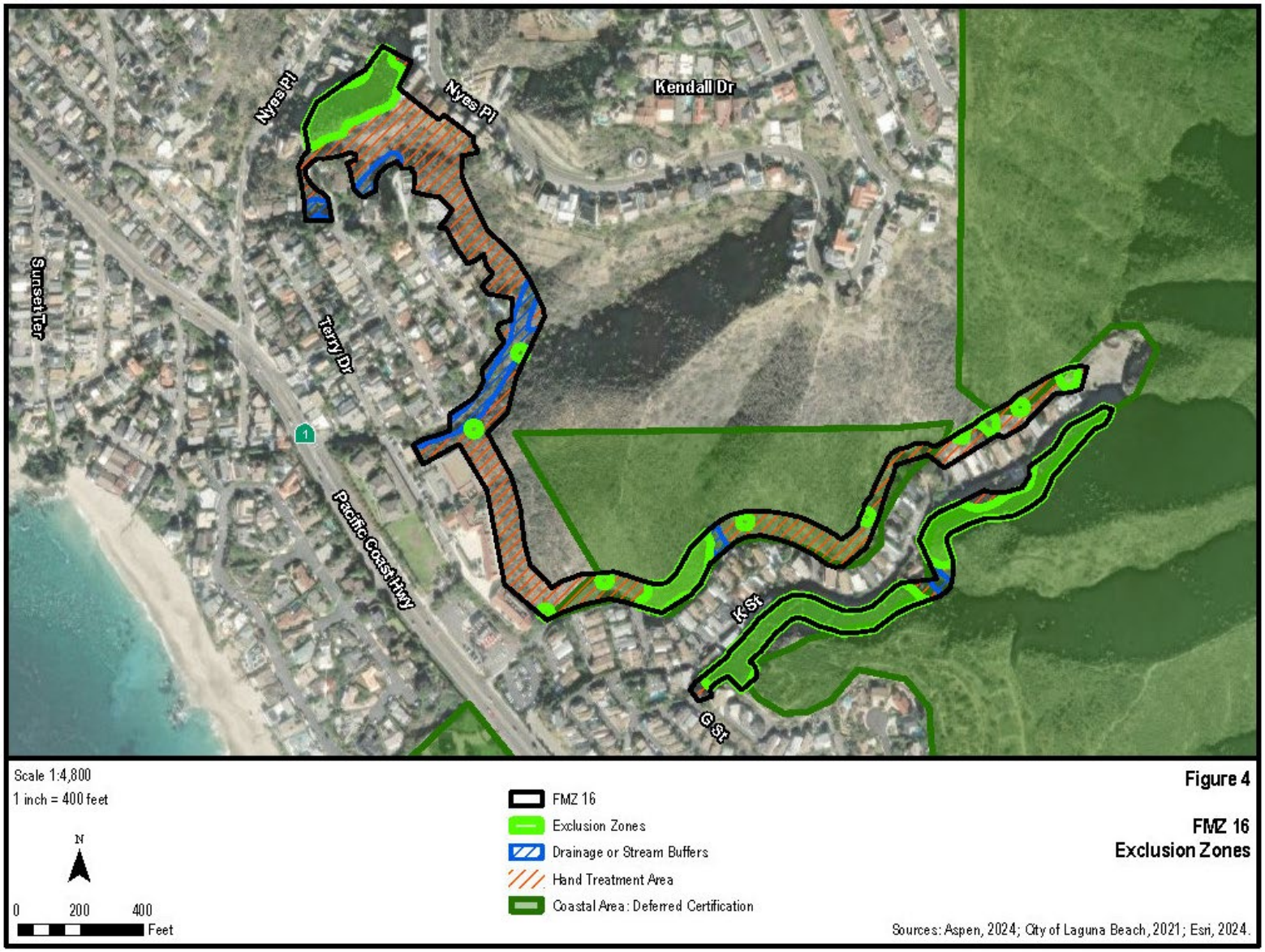
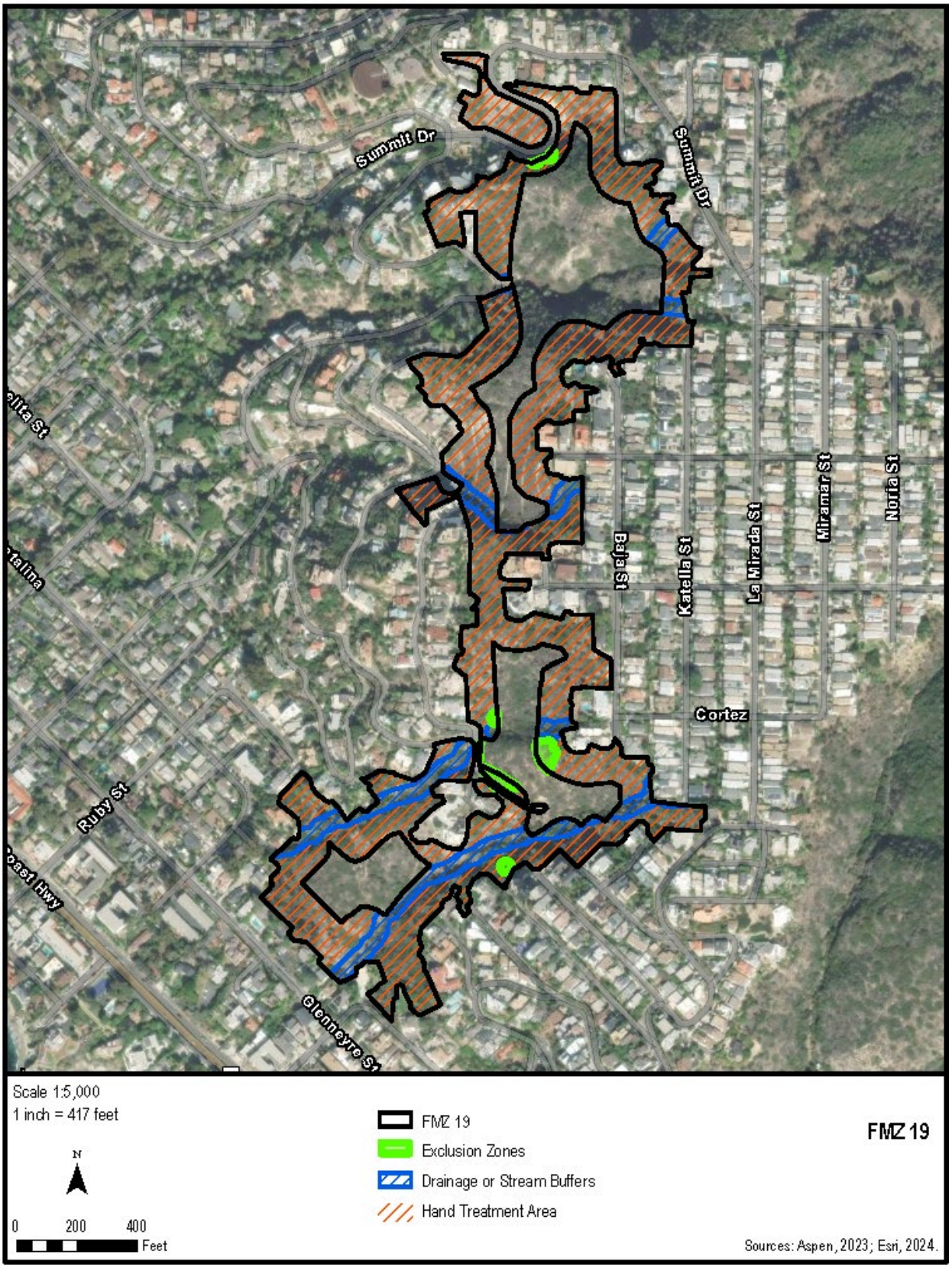


Figure 3: Fuel Modification Zone 19 (Diamond Crestview) Treatment Areas



Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" and requiring implementation of mitigation as indicated by the checklist on the following pages.

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

Determination

On the basis of this initial evaluation:

☐ I find that the Proposed Project COULD NOT have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.

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

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

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

☐ I find that although the Proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or 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.

Robert Montaghami

Robert Montaghami, Fire Marshal
Laguna Beach Fire Department

09/17/2024

Date

Evaluation of Environmental Impacts

1. **AESTHETICS. Except as provided in Public Resources Code Section 21099, would the project:**	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?	1, 2	☐	☐	☒	☐

Less Than Significant Impact. The project site is in an area with low to medium development and on the wildland-urban interface of a heavily vegetated landscape. Although the City of Laguna Beach's Landscape and Scenic Highways Element in its General Plan does not officially identify specific scenic vistas, it indicates that the concept of "scenic" is based on the visibility of a natural landscape as viewed by travelers, the visual quality, and the extent to which development does not intrude upon the traveler's enjoyment of the view. The proposed project would be located primarily near residential areas and public and institutional facilities and not highly visible to travelers from Coast Highway, the nearest eligible State scenic highway. Limited areas of the southwest-oriented portion of FMZ 16 would be partially visible from Coast Highway. However, the majority of views would be obscured due to topography, houses, and trees adjacent to Coast Highway. The proposed project would not change the topography of the hillsides within the FMZs. The fuel management activities would completely or partially remove vegetation depending on species composition, topography, and presence of cultural resources. Sensitive native vegetation would be limited to a reduction of up to a targeted 50 percent within the FMZs and follow requirements as outlined in the City's fuel modification treatment protocols. Risk of erosion would be minimized, as the majority of perennial plant roots would be left in place, and post-treatment erosion control measures would be implemented. Therefore, the proposed project would not adversely impact the surrounding natural landscape and scenic vista, and impacts would be less than significant.

b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	2	☐	☐	☒	☐

Less Than Significant Impact. The project site is located between approximately 0.05 mile and 0.6 mile away from Coast Highway, the nearest eligible State scenic highway. The County describes Coast Highway as a Viewscape Corridor in its Scenic Highway Plan and identifies this road as a valuable visual resource. The FMZs are generally located behind residences as well as the Laguna Beach Community and Recreation Center and future location of the Laguna Fire Department administrative offices. The FMZs would be obscured by the topography, houses, and trees, and therefore would be generally hidden from major public views from Coast Highway. Given that the proposed project would not be within the viewshed of a designated State scenic highway and minimal visibility from Coast Highway, impacts to scenic resources 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? (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?	1	☐	☐	☒	☐

Less Than Significant Impact. Fuel modification activities would occur on the wildland-urban interface of predominantly residential properties and public and institutional facilities. Although both FMZs would be visible from public vantage points such as residential roads, fuel modification activities would not substantially degrade the visual character of the area. Fuel modification activities would only prune dead and dying branches from native trees and reduce vegetation to a targeted 50 percent or less remaining native cover by prioritizing removal of non-native vegetation. Therefore, public views from residential roads would not be substantially degraded. Visibility from public viewing points along the residential roads would be limited, as homes and residential landscaping would obscure visibility of the fuel breaks. Public views of the project area during construction would be less than significant, as project activities would be limited to hand crew workers using equipment such as hand tools and trucks over a temporary period. Therefore, fuel modification activities would not degrade public views of the site and its surroundings, and the proposed project would have a less than significant impact.

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

No Impact. The proposed project would not introduce any lighting elements or materials that would create a new source of light or glare. Fuel modification activities would occur during the day, and no nighttime activities would occur. Therefore, the proposed project would have no impact.

2. 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 Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. **Would the project:**	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	3	☐	☐	☐	☒

No Impact. According to the California Department of Conservation (DOC) California Important Farmland Finder, the proposed project does not lie within Prime Farmland, Unique Farmland, or Farmland of Statewide Importance and therefore would not convert farmland to non-agricultural use. The Orange County Important Farmland map depicts the locations of FMZ 16 and FMZ 19 as "urban and built-up land" and "other land" (low density rural developments not suitable for agricultural activities). Therefore, the proposed project would have no impact on Farmland.

b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	4	☐	☐	☐	☒

No Impact. The proposed project would not be located within an agricultural zone or Williamson Act parcel and would not conflict with existing zoning for an agricultural use or a Williamson Act contract. Therefore, the proposed project would have no impact.

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))?	4	☐	☐	☐	☒

No Impact. The proposed project would traverse the following City-designated land use zones: Open Space/Conservation, Residential/Hillside Protection, Residential Low Density, Mobile Home, and Open Space/Passive. None of the areas within the project site are zoned for forest land, timberland, or Timberland Production. The proposed activities would have no impact on forest land or timberland or cause rezoning of these lands. No conflicts with forest land zoning would occur.

d. Result in the loss of forest land or conversion of forest land to non-forest use?	4	☐	☐	☐	☒

No Impact. Because the proposed project would not occur on forest land, it would not result in the loss of forest land or convert forest land to non-forest use. The proposed project would have no impact on existing forest land.

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?	4	☐	☐	☐	☒

No Impact. Because the project site would not occur within or in proximity to zoned farmland or forest land, it would neither convert Farmland to non-agricultural use nor convert forest land to non-forest use. The proposed project would have no impact on Farmland or forest land.

3. 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:**	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	5	☐	☐	☐	☒

No Impact. South Coast Air Quality Management District (SCAQMD) and Southern California Association of Governments (SCAG) have developed air quality management plans (AQMPs) to meet the requirements of the Federal Clean Air Act . Air quality planning strategies to attain national ambient air quality standards (NAAQS) and California ambient air quality standards (CAAQS) are implemented through rules, regulations, and programs adopted by SCAQMD and the California Air Resources Board to control ozone precursors, particulate matter (PM)10 and PM2.5. All project activities would need to comply with the applicable rules, regulations, and programs. Strategies and control measures identified within the SCAQMD 2016 Air Quality Management Plan, and the updated 2022 AQMP, apply directly to project activities as promulgated through SCAQMD's rules and regulations.

The proposed project's emissions sources (on-road vehicles, chainsaws) would comply with State and local emissions regulations included in the currently approved SCAQMD AQMP. Additionally, the proposed project does not change any land use or growth assumptions forecast by SCAQMD and the Southern California Association of Governments (SCAG) in the AQMP. Additionally, the proposed project would be consistent with the City of Laguna Beach General Plan's growth projection since it would not change any development density or population assumptions. As such, the proposed project's initial and ongoing fuel modification activities would be consistent with the AQMP emission source estimate assumptions and consistent with the AQMP and local planning land use/growth assumptions. Accordingly, the project would be consistent with the SCAQMD's AQMP. No impact would occur.

b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard?	6, 7	☐	☐	☒	☐

Less Than Significant Impact. The SCAQMD has daily emissions thresholds to protect regional ambient air quality, which are outlined in Table 4. The proposed project involves hand cutting to clear vegetation in defined areas. The hand cutting and clearing would use gasoline fueled chainsaws, as many as eight operating per day, per FMZ, and other hand tools. The proposed project would also include employee commuting trips and small and large truck trips to haul waste and supplies. The scale of use for chainsaws and daily vehicle trips would not have the potential to produce emissions near the SCAQMD regional emissions thresholds. The worst-case daily emissions[1] are estimated (see Appendix B) and compared to the SCAQMD thresholds in Table 4. As shown, daily emissions would be below the SCAQMD thresholds and therefore less than significant.

Table 4. Maximum Daily Emissions (lbs/day)

	VOC	NO_X	CO	PM10	PM2.5
Chainsaws	41.67	41.67	310.18	1.16	1.16
CalEEMod/On-Road Vehicles	0.10	0.11	0.96	0.34	0.10
Total	41.77	41.78	311.14	1.49	1.26
SCAQMD Regional Significance Thresholds	75	100	550	150	55
Significant?	NO	NO	NO	NO	NO

Source: Appendix B.
Acronyms: VOC = volatile organic compounds; CO = Carbon Monoxide; NOx = Nitrogen Oxides; PM10 = Particulate Matter of diameter 10 micrometers or less; PM2.5 = Fine Particulate Matter of diameter less than 2.5 micrometers.
Note: VOC and NOx emissions factor for spark ignition engines (chainsaws) is based on a combined not to exceed value. To be conservative, both are assumed to be at the upper limit, but for gasoline-fueled engines the emissions will be primarily VOC emissions.

The proposed project is also required to comply with applicable rules and regulations, such as SCAQMD Rule 403 – Fugitive Dust, which requires control of fugitive dust causing activities. However, since grading, or other major earth-moving activities

[1] The maximum daily emissions are estimated with the following conservative assumptions: Eight 5.5 horsepower (HP) California Air Resources Board (CARB) spark-engine emissions factor-compliant gasoline powered chainsaws operating 8 hours per day, 16 passenger vehicle round trips per day, and 40 total haul trips.

3. 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:**	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

would not occur and unpaved road travel is unlikely to occur, fugitive dust emissions are expected be negligible and there would be no need for fugitive dust control mitigation measures; impacts would be less than significant. In the unlikely event that off-road vehicle use would occur, vehicles would likely travel short distances over vegetated areas to gather cut vegetation wastes. Fugitive dust impacts would remain less than significant because the vegetated ground cover would reduce dust emissions. Similarly, impacts during ongoing annual fuel modification activities, which involve a much lower level of activity than the initial fuel modification activities, would be below the SCAQMD thresholds, and the impact of project daily emissions would be less than significant.

c. Expose sensitive receptors to substantial pollutant concentrations?	8	☐	☐	☒	☐

Less Than Significant Impact. The project site is adjacent to sensitive receptors, specifically residential uses. Air pollutant emissions generated by construction activities are anticipated to cause temporary increases in local air pollutant concentrations. However, the construction equipment (e.g., chainsaws) used during hand clearing would generate minimal emissions, and the emissions would not occur rates that would exceed the SCAQMD's screening level localized significance thresholds (LST). Table 5 shows that the maximum daily emissions estimate including on-road emissions, which occur on area roadways accessing the sites and are not localized to the site, would be below the SCAQMD LSTs, when compared to the most conservative LST table assumptions for the proposed project (1-acre daily working area within the project site area that could be within 25 meters of a sensitive receptor).

Table 5. Maximum Daily Emissions (lbs/day)

	CO	NO_X	PM10	PM2.5
Chainsaws	310.18	41.67	1.16	1.16
CalEEMod/On-Road Vehicles	0.96	0.11	0.34	0.10
Total	311.14	41.78	1.49	1.26
SCAQMD Localized Significance Thresholds	647	92	4	3
Significant?	NO	NO	NO	NO

Source: Appendix B.
Notes: Thresholds are for SRA 20 (Central Orange County Coastal). VOC does not have an LST. Emissions are total daily emissions; the localized maximum daily emissions would be lower.

The quantity of toxic air contaminant (TAC) emissions from proposed project emissions sources, given the quantity and short duration of the proposed project's TAC emissions, are similarly minor in the context of the SCAQMD TAC significance thresholds. Given the low localized emissions potential for the proposed project, the impact of localized pollutant concentrations would be less than significant.

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

Less Than Significant Impact. The proposed project would not emit objectionable odors that would affect a substantial number of people. The proposed project would include emissions from construction equipment (e.g., chainsaws) that may generate minor odors; however, these odors would not be highly objectionable near the source, would dissipate quickly, and would be temporary. Therefore, the proposed project's odor sources would not affect a substantial number of people. A small amount of nuisance dust emissions would be generated by the proposed project, but these emissions would be minor; limited to dust kicked up by workers and limited short vehicle trips over vegetated areas. Additionally, the proposed project would be required to comply with the SCAQMD Rule 402, Nuisance. Therefore, objectionable odors and other nuisance emissions would not adversely affect a substantial number of people, and this impact would be less than significant.

4. **BIOLOGICAL RESOURCES. Would the project:**	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	9	☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. A biological resources report was prepared in 2023 for the proposed project. This report included a literature review of biological resources known from the area and field surveys to assess the habitat and search for special-status species, map jurisdictional drainages, and map vegetation. During the surveys, one State and federally listed species, big-leaved crownbeard (*Verbesina dissita*), was identified within the project site. The proposed project has been modified with exclusion areas (see Table 3) to avoid any potential impacts to big-leaved crownbeard.

California gnatcatcher (*Polioptila californica californica*), which is federally listed, was also determined to have a moderate potential to occur in coastal sage scrub habitat in or adjacent to the project site. Crotch bumble bee (*Bombus crotchii*), which is a state candidate for listing, was also determined to have a moderate potential to occur in coastal sage scrub habitat in or adjacent to the project site. Impacts to these species, including harassing, harming, pursuing, wounding, or killing would be significant, and without mitigation, the proposed project would have the potential to "take" these species. With implementation of Mitigation Measures BIO-1 (designation of a Project Biologist), BIO-2 (pre-construction survey for special-status species), BIO-3 (nesting bird avoidance), BIO-4 (biological monitoring), and BIO-5 (environmental training), impacts to these species, including "take" would be avoided and reduced to a less-than-significant level. Furthermore, habitat for both these species is abundant throughout the vicinity of the project site, and removal or thinning of a limited amount of suitable habitat would therefore be negligible.

Four additional special-status plants were present during focused surveys in 2023 and include intermediate mariposa-lily (*Calochortus weedii* var. *intermedius*), decumbent goldenbush (*Isocoma menziesii* var. *decumbens*), Fish's milkwort (*Polygala cornuta* var. *fishiae*), Coulter's matilija poppy (*Romneya coulteri*). Several additional special-status plants have a potential to be present including Catalina mariposa lily (*Calochortus catalinae*), summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*), paniculate tarplant (*Deinandra paniculata*), western dichondra (*Dichondra occidentalis*), many-stemmed dudleya (*Dudleya multicaulis*), Southern California black walnut (*Juglans californica*), Robinson's pepper grass (*Lepidium virginicum* var. *robinsonii*), Nuttall's scrub oak (*Quercus dumosa*); however, none of these were detected during the 2023 focused surveys.

Intermediate mariposa-lily, summer holly, many-stemmed dudleya, decumbent goldenbush, and Nuttall's scrub oak have a California Rare Plant Rank (CRPR) of 1B which indicates these plants are rare, threatened, or endangered in California and impacts to these species may be significant. Mitigation Measures (MMs) BIO-1 (designation of a Project Biologist), BIO-2 (pre-construction survey for special-status species), BIO-4 (biological monitoring), and BIO-5 (environmental training), would reduce the impact to these species to a less-than-significant level. Impacts would be avoided by (1) requiring a pre-construction clearance survey for special-status species, (2) identifying buffer areas around any special-status biological resources within or near the project site, and (3) conducting biological monitoring and environmental training.

Catalina mariposa lily, paniculate tarplant, western dichondra, Southern California black walnut, Robinson's pepper grass, Fish's milkwort, and Coulter's matilija poppy all have a CRPR of 4, which indicates that these species have a limited range but are not considered to be rare, threatened, or endangered in California. As such, impacts to these species are not considered to be significant and no mitigation is required.

One special-status wildlife species, Cooper's hawk (*Accipiter cooperii*) was detected within the project site during the surveys. Several additional special-status species, as noted in Table 3 of the Biological Resources Technical Report (see Appendix C), have varying degrees of potential to be present and include orange-throated whiptail (*Aspidoscelis hyperythra*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), red-diamond rattlesnake (*Crotalus ruber*), coast horned lizard (*Phrynosoma blainvillii*), Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), golden eagle (*Aquila chrysaetos*), coastal cactus wren (*Campylorhychus brunneicapillus sandiegensis*), white-tailed kite (*Elanus leucurus*), California horned lark (*Eremophila alpestris actia*), American peregrine falcon (*Falco peregrinus anatum*), hoary bat (*Lasiurus cinereus*), yuma myotis (*Myotis yumanensis*), and San Diego desert woodrat (*Neotoma lepida intermedia*).

Many of these species are State Species of Special Concern as designated by the California Department of Fish and Wildlife (CDFW). Impacts to these species may be significant and could include harass, harm, pursue, wound, or kill. With implementation of MMs BIO-1 (designation of a Project Biologist), BIO-2 (pre-construction survey for special-status species), BIO-3 (nesting bird avoidance), BIO-4 (biological monitoring), and BIO-5 (environmental training), impacts to these species would be reduced to a less-than-significant level. Impacts would be avoided by (1) avoiding nesting season, if possible, (2) requiring a pre-construction clearance survey for special-status species, (3) requiring a pre-construction clearance surveys

4. BIOLOGICAL RESOURCES. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

during bird nesting season, (4) identifying buffer areas around any bird nest or special-status biological resources within or near the project site, and (5) conducting environmental training.

The federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Code Sections 3503, 3503.5, and 3513 prohibit take of migratory birds, including eggs or active nests, except as permitted by regulation (e.g., licensed hunting). MMs BIO-1 (designation of a Project Biologist), BIO-3 (nesting bird avoidance), BIO-4 (biological monitoring), and BIO-5 (environmental training), would avoid potential "take" or other adverse impacts to nesting birds by (1) avoiding nesting season if possible, (2) requiring a pre-construction clearance surveys during bird nesting season, (3) identifying buffer areas around any bird nest within or near the project site, and (4) conducting environmental training.

Mitigation Measures

BIO-1 The City of Laguna Beach (City) shall assign a qualified biologist to the project (i.e., Project Biologist). The qualified biologist shall be responsible for conducting pre-construction surveys (MM BIO-2), implementing nesting bird avoidance (MM BIO-3), monitoring project activities (MM BIO-4), and conducting worker training (MM BIO-5). The "qualified biologist" is defined as a person with appropriate education, training, and experience to conduct the required surveys, monitor project activities, provide worker education programs, and supervise or perform other monitoring-related actions. The Project Biologist shall be authorized by the City to temporarily halt project activities, if needed, to prevent take of listed species or harm to any other special-status species.

BIO-2 Prior to start of project activities, the Project Biologist shall survey the work area to determine if any special-status species are present. During the survey, the Project Biologist shall search for nesting birds, special-status plants, and other special-status species. Pre-clearing surveys shall be performed during the appropriate blooming period for special-status plants to ensure species present are identified. Any special-status species or sensitive resources shall be flagged and avoided, in coordination with the Project Biologist. If big-leaved crownbeard are located within the project site, they shall be flagged, and a 50-foot buffer installed. Plants with a CRPR of 1B or 2B shall be flagged and a 15-foot buffer installed. Any willow canopy that falls outside the 25-foot buffer around "blue-line" drainages (per the City's fuel modification treatment protocols), shall be avoided. San Diego desert woodrat nests shall be avoided with a 15-foot buffer. No work shall be permitted within these buffers. The Project Biologist shall also flag coast live oak seedlings and western sycamore seedlings for avoidance, as feasible. The Project Biologist shall also search for shot hole borers on all oak and sycamore trees that are proposed for pruning. If shot hole borers are found, the Project Biologist shall notify the City who will then coordinate with CDFW, and the U.S. Fish and Wildlife Service. All pruning tools shall be cleaned and disinfected prior to use within the project area and at least weekly during the project to further reduce the spread of pathogens. To the extent practicable, thinning within coastal sage scrub and chaparral habitats shall be limited to winter months outside the growing season.

BIO-3 Vegetation removal and initial ground disturbance shall be completed outside the breeding season (i.e., no removal of potential nesting habitat from January 1 through September 1), or after a pre-construction nesting bird survey has been completed. The Project Biologist shall confirm that no birds are nesting in or adjacent to areas to be disturbed. If native birds are nesting on the site, then project activities shall be postponed until nesting is completed or the Project Biologist shall designate appropriate avoidance buffers around nests to protect nesting birds. No project related disturbance shall be allowed within these buffers.

BIO-4 The Project Biologist shall be present as needed on the project site during vegetation clearing done by hand crews to document compliance with the avoidance and minimization measures and to provide guidance in avoiding or minimizing impacts to biological resources. The Project Biologist shall also conduct quarterly monitoring of the project site for 12 months after the completion of the fuel treatment. During this post-treatment monitoring the Project Biologist shall inspect the mulched plant material for Argentine ants and will also note wildlife use of the treatment areas. If Argentine ants are found within the mulched plant material, the City shall implement an ant control program to remove them from these areas. If any new non-native plants are found within the project area, the City shall implement a control program for these species to ensure they are eradicated and not allowed to spread into adjacent natural lands.

BIO-5 The Project Biologist shall conduct training to ensure that all workers on the project site are aware of all applicable mitigation measures for biological resources. Specifically, workers shall be required to (1) limit all activities to approved work areas; (2) report any special-status species; (3) report any bird nests; (4) avoid contact with any wildlife that may approach a work area, and be aware of potential venomous reptile bites from carelessness or unnecessary harassment; (5) pick up and properly dispose of any food, trash, or construction refuse; and (6) report any spilled materials (e.g., oil, fuel, solvent, engine coolant, raw concrete, or other material potentially hazardous to wildlife) to the supervisor. During the training, the Project Biologist shall briefly discuss special-status species that may occur in the work areas, their habitats, and requirements to avoid or minimize impacts. In addition, all workers shall be informed of civil and criminal penalties for violations of the federal Endangered Species Act, California Endangered Species Act, and the Migratory Bird Treaty Act.

4. **BIOLOGICAL RESOURCES. Would the project:**	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	9	☐	☐	☒	☐

Less Than Significant Impact. Impacts to native vegetation would focus on the removal of non-native species and dead or dying material to reduce vegetative cover by up to 50 percent, as specified in the City's fuel modification treatment protocols.

The project site includes several drainage courses that do not support riparian habitat, but many have scattered riparian species. Impacts to these drainage courses would be avoided in accordance with the City's fuel modification treatment protocols, which require a 25-foot buffer be established on either side of any "blue-line" ephemeral drainages or stream courses crossing the treatment area.

The proposed project would also result in direct impacts to approximately 21.58 acres of Lemonade Berry Scrub (*Rhus integrifolia* Shrubland Alliance) habitat which has a State Rank of S3, and impacts may be significant. This includes 19.80 acres within the hand treatment areas and 1.78 acres within the drainage course buffers. Per the City's fuel modification treatment protocols, impacts to areas of chaparral habitat, including Lemonade Berry Scrub, would not have more than 50-percent of the vegetation removed in accordance with the hierarchy developed for the proposed project (Appendix A). Specifically, vegetation thinning would remove all non-native species first and then have additional native removals where there is still more than 50-percent cover. Per the City's fuel modification treatment protocols, Lemonade Berry Scrub is the last element in the removal hierarchy, which would limit the amount of Lemonade Berry Scrub that would otherwise be removed, reducing impacts to less than significant.

Additionally, the proposed project would impact a combined total of 8.38 acres of High Value (6.95 acres) and Very High Value (1.43 acres), as identified by the City of Laguna Beach Local Coastal Program. This includes habitats consisting of chaparral and coastal sage habitat types. Impacts would be reduced to less than significant with the avoidance of the High and Very High Habitat Value and big-leaved crownbeard, per the proposed project's exclusion areas and measures set forth in the City's Treatment Protocols. With implementation of the City's fuel modification treatment protocols, impacts to High and Very High Value Habitat would be reduced to less than significant.

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?	9	☐	☐	☒	☐

Less Than Significant Impact. There are no wetlands as defined by the state or under Section 404 of the Clean Water Act, and there would be no impacts due to implementation of the proposed project. An assessment of jurisdictional features within the project site was conducted by Aspen. One United States Geological Survey (USGS) blue-line drainage and portions of 14 segments of Significant Stream Courses occur within the project site. Alteration to these drainages would necessitate authorization from the California Regional Water Quality Control Board in Section 401 of the Clean Water Act. In addition, the streambeds and any adjacent riparian vegetation on the project site are regulated under Section 1600 of the California Fish and Game Code and alteration to these features would necessitate authorization from the CDFW. As noted in the City's fuel modification treatment protocols, a 25-foot buffer on each side of each significant drainage course would be established and the only vegetation removed from within the significant drainage course would consist of non-native invasive species identified during pre-removal surveys. With establishment of the 25-foot buffers from both edges of each significant drainage and limited vegetation removal, impacts to drainages as defined by the City's Local Coastal Program would be less than significant.

4. BIOLOGICAL RESOURCES. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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. The proposed project encompasses natural lands at the edge of residential development. It supports limited wildlife movement as a result of the surrounding development and steep terrain. Movement through the project site appears to be limited to low-lying canyon bottoms and is not likely to occur in areas immediately adjacent to residential development where fuel modification activities are proposed. Additionally, the proposed project is not expected to erect any permanent barriers to wildlife movement or alter wildlife movement through the area; therefore, the proposed project would have no significant impact on wildlife movement.

The project site provides suitable nesting habitat for many birds and nursery sites for other wildlife species. Impacts to nesting bird would be avoided with implementation of MM BIO-3 (nesting bird avoidance) as discussed above for question (a). No additional mitigation measures are needed to reduce impacts to a less-than-significant level. Any impacts to common wildlife species would be less than significant given that habitat would either not be removed, would be improved by removal of non-natives, and similar habitat is abundant throughout the vicinity of the project site. Impacts would be less than significant

e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	9	☐	☐	☒	☐

Less Than Significant Impact. The project site is located within the coastal zone, which is under the permitting authority of the City of Laguna Beach through the City's Local Coastal Program. In addition, the City has inventoried biological resources occurring within the City and has designated several categories of habitat value, ranging from low value habitats to very high value habitats. A portion of the project site occurs within an area designated as high and very high value habitat. The City requires that all development proposals, including fuel modification proposals, located within or adjacent to high value or very high value habitat, undergo detailed biological assessments. Pursuant to the City's general plan, these biological assessments are to utilize the biological value criteria specified in the City's Biological Resource Inventories to conduct an updated, and smaller-scale assessment of the resources present on site.

The proposed project would impact High and Very High Value Habitats consisting of coastal sage or chaparral habitats. The project proposes to reduce the cover within these areas by up to 50 percent with selective thinning. The impact to High and Very High Value Habitats would be less than significant because habitat would not be entirely removed from the project site, is abundant in the open space surrounding the project site, and the total acreage of potential impacts to these habitats would be limited. Removal of non-native invasives would benefit habitat.

Additionally, to protect watershed areas and natural watercourses, the City has designated certain drainage features throughout the City as "significant drainage courses." Avoidance of these drainage courses is recommended within the City's General Plan to minimize the likelihood of disasters such as flooding and mudslides, and to protect water supply, water quality, and valuable habitat lands and ecological systems. As discussed under question (c), one USGS blue-line drainage and portions of 14 segments of Significant Stream Courses are present within the project site. With establishment of the 25-foot buffers from both edges of each significant drainage and limited vegetation removal per the City's fuel modification treatment protocols, impacts to the City's significant drainage courses would be less than significant.

Lastly, for areas with coast live oak or western sycamore trees, trees would not be removed. Rather, as set forth in the City's fuel modification treatment protocols, large trees such as oaks and sycamores shall be pruned of dead components, and lower small branches removed to a height of 8 feet or one half their height, whichever is less, to disrupt "fuel ladder" potential. Dead and down tree components on the ground below large trees shall be removed. With implementation of City's fuel modification treatment protocols (Appendix A), the project would not conflict with local policies and ordinances and impacts to the large trees would be less than significant.

4. BIOLOGICAL RESOURCES. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?		☐	☐	☒	☐

Less Than Significant Impact. The project site is entirely within the Orange County Central Coastal Natural Community Conservation Plan (NCCP)/ Habitat Conservation Plan (HCP) area. The City of Laguna Beach is not a signatory to the Orange County Central Coastal NCCP/HCP and the project does not conflict with the NCCP/HCP because the project proposes to remove invasive species from the project site and reduce the total cover by up to 50 percent using only hand tools. It does not propose to completely remove native habitat. In addition, all potential impacts to sensitive habitats and species are mitigated for as described elsewhere in this document. As such, the proposed project would not conflict with adopted HCPs, NCCPs, or other approved local, regional, or State habitat conservation plan.

5. CULTURAL RESOURCES. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	10	☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. A cultural resources study was prepared for the project site (Appendix D – Confidential). The study included a cultural resources records search at the South Central Coastal Information Center (SCCIC), a Native American Heritage Commission Sacred Lands File search, Tribal outreach, and an attempted field survey. The record search showed that neither FMZ 16 nor FMZ 19 have been subjected to an archaeological study thus no previously recorded resources have been identified. However, a large pre-contact village site was identified within 0.25-miles of the project area. A pedestrian survey was not feasible at the time of the study because of safety concerns with the steep slopes and the density of vegetation. Since the project area is sensitive for cultural resources, including those that could be considered historical resources under CEQA, and a pedestrian survey was not feasible, it is possible the project could impact resources that are yet to be documented. As such, MMs CUL-1 and CUL-2 are recommended to reduce impacts to unanticipated discoveries to a less-than-significant level.

Mitigation Measures

CUL-1 A qualified professional archaeologist and local Native American monitor shall be retained to provide monitoring services when crews are working in areas on slopes less than 30 degrees. If any such resources are discovered when the monitor is not present, contractors should stop work in the immediate area of the find and contact the archaeologist to assess the nature of the find and determine if future monitoring is appropriate. If deemed appropriate, monitoring should continue until vegetation removal activities are complete, or until the monitoring archaeologist, based on field observations, is satisfied there is no likelihood of encountering intact archaeological deposits. Upon completion of any monitoring activities, the archaeologist should prepare a report to document the methods and results of monitoring activities. This report should be submitted to the South Central Coastal Information Center.

CUL-2 Prior to the initiation of construction, all construction personnel shall be trained by a qualified archaeologist regarding the recognition of possible buried cultural resources (i.e., prehistoric and/or historical artifacts, objects, or features) and protection of all archaeological resources during construction. Training shall inform all construction personnel of the procedures to be followed upon the discovery of cultural materials. All personnel shall be instructed that unauthorized removal or collection of artifacts is a violation of State law. Any excavation contract (or contracts for other activities that may have subsurface soil impacts) shall include clauses that require construction personnel to attend the Workers' Environmental Training Program, so they are aware of the potential for inadvertently exposing buried archaeological deposits.

b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	10	☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. The record search showed that neither FMZ 16 nor FMZ 19 have been subjected to an archaeological study thus no previously recorded resources have been identified. However, a large pre-contact village site was identified within 0.25-miles of the project area. A pedestrian survey was not feasible at the time of the study because of safety concerns with the steep slopes and the density of vegetation. Since the project area is sensitive for archaeological resources, particularly rock shelters, and a pedestrian survey was not feasible, it is possible the project could impact resources that are yet to be documented. As such, MMs CUL-1 and CUL-2 are recommended to reduce impacts to unanticipated discoveries to a less-than-significant level.

5. CULTURAL RESOURCES. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c. Disturb any human remains, including those interred outside of dedicated cemeteries?	10	☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. No human remains, including those interred outside of dedicated cemeteries, are known in the project site. The project site therefore has a low sensitivity for encountering human remains. MM CUL-3 is recommended to reduce this impact to a less-than-significant level.

Mitigation Measure

CUL-3 All human remains discovered are to be treated with respect and dignity. Upon discovery of human remains, all work within 50 feet of the discovery area must cease immediately, nothing is to be disturbed, and the area must be secured. The County Coroner's Office must be called. The Coroner has two working days to examine the remains after notification. The appropriate land manager/owner of the site (i.e., Orange County Parks) is to be called and informed of the discovery. It is very important that the suspected remains, and the area around them, are undisturbed and the proper authorities called to the scene as soon as possible, as it could be a crime scene. The Coroner will determine if the remains are archaeological/historic or of modern origin and if there are any criminal or jurisdictional questions.

After the Coroner has determined the remains are archaeological/historic-era, the Coroner will make recommendations concerning the treatment and disposition of the remains to the person responsible for the excavation, or to his or her authorized representative. If the Coroner believes the remains to be those of a Native American, he/she shall contact the Native American Heritage Commission (NAHC) by telephone within 24 hours.

The NAHC will immediately notify the person it believes to be the most likely descendant (MLD) of the remains. The MLD has 48 hours to make recommendations to the landowner for treatment or disposition of the human remains. If the descendant does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from further disturbance. If the landowner does not accept the descendant's recommendations, the owner or the descendant may request mediation by NAHC.

According to the California Health and Safety Code, six (6) or more human burials at one (1) location constitute a cemetery (Section 8100), and willful disturbance of human remains is a felony (Section 7052).

6. ENERGY. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 proposed project would consume energy in the form of diesel and gasoline fuels used in off-road equipment (woodchipper) and on-road vehicles and hand-held equipment (chainsaws). The proposed project is designed to efficiently remove areas of heavy vegetation that pose a wildfire threat. The proposed project is designed to reduce the potential for wildfires, which would indirectly reduce the potential for much greater future energy consumption events that would otherwise be required for firefighting and fire damage repair without the proposed project. Therefore, the proposed project would not include the wasteful, inefficient, or unnecessary consumption of energy resources. Impacts would be less than significant.

b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?		☐	☐	☒	☐

Less Than Significant Impact. The proposed project does not include renewable energy, restrict renewable energy projects, or restrict the use of renewable energy. The proposed project does not include energy consumption sources that are directly subject to State or local energy efficiency plans. Indirectly, on-road vehicles used during fuel management activities would have to meet the ongoing federal and State fuel efficiency requirements. Therefore, the proposed project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Impacts would be less than significant.

7. GEOLOGY AND SOILS. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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.	11	☐	☐	☐	☒

No Impact. According to the California Geological Survey (CGS) Earthquake Hazards Zone Application, no known Alquist-Priolo earthquake fault zones exist across or immediately adjacent to FMZ 16 and FMZ 19. The closest Alquist-Priolo earthquake fault zone to the project is along the Newport-Inglewood fault zone approximately 15 miles northwest of the project site. Therefore, the fuel modification activities would have no impact on the potential cause of the rupture of an Alquist-Priolo earthquake fault zone nor would rupture of an Alquist-Priolo earthquake fault zone result in adverse effects from the project. No impact would occur.

ii) Strong seismic ground shaking?	11, 12	☐	☐	☒	☐

Less Than Significant Impact. The Laguna Beach area is located within seismically active Southern California with numerous active on- and offshore faults within 50 miles of the project capable of producing strong seismic ground shaking. The closest mapped active onshore fault to the project is the Newport-Inglewood fault zone located approximately 15 miles northwest of the project site, and the closest offshore fault is the offshore segment of the Newport-Inglewood fault zone located approximately 2 miles offshore from the project site. Strong to severe ground shaking could occur due to large earthquakes on any of the significant active faults in the region. Despite the potential for strong seismic ground shaking within the project area, none of the proposed project activities involve the erection of structures or grading, thus eliminating any risk of additional substantial adverse effects to human life and health caused by seismic ground shaking. Impacts would be less-than-significant.

iii) Seismic-related ground failure, including liquefaction?	11	☐	☐	☐	☒

No Impact. According to the CGS Earthquake Hazards Zone Application, FMZ 19 is not located within or near a liquefaction zone. The valley sediments underlying Hobo Canyon (along K and M Streets) near the southern end of FMZ 16 are, however, mapped as within a liquefaction zone. The adjacent slopes where fuel modification for FMZ 16 would occur are not located within a mapped liquefaction zone. Furthermore, the proposed project would not exacerbate seismic-related ground failure such as liquefaction. No structures would be constructed that could be damaged due to liquefaction. Therefore, the proposed project would have no impact on causing adverse effects relating to seismic-related ground failure.

iv) Landslides?	1, 11, 13, 14	☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. According to the CGS Earthquake Hazards Zone Application, portions of both FMZ 16 and FMZ 19 are located within landslide zones. However, the proposed project's activities would not exacerbate the risk of landslides because the exclusive use of hand removal would avoid complete removal of vegetation and reduce erosion, reducing the probability of a landslide. In very steep areas and slopes previously cleared by homeowners, post-treatment erosion control measures such as scattered cut native brush clippings, jute netting, or similar interventions as recommended in the FMZ 16 and FMZ 19 geotechnical reports (see Appendix E) would be implemented to further minimize the potential for landslides. The use of hand crew treatment would leave up to 50 percent or more of native perennial root systems in the soil which would aid in retaining slope stability. As assessed in the project-specific geotechnical evaluation reports (provided as Appendix E to this Initial Study), the overall likelihood of increased gross slope instability as a result of fuel modification is very low. No mapped landslides are present on the slopes within FMZ 16. However, several minor, mature existing mapped landslides are present underlying portions of FMZ 19 (see Appendix E). These landslides are mantled by thin residual soils. One of the existing landslides identified within FMZ 19 has been repaired by grading and placement of buttress fill.

The majority of the fuel modification areas are underlain by relatively shallow soil and moderately hard to very hard bedrock. Residual soils on the bedrock are subject to shallow instability in moderately steep terrain, but steep slopes do not typically support soil accumulation, and therefore pose a relatively low debris flow potential. A study on shallow soil instability that includes the project area by the USGS indicates that the risk for surficial instability on the upper slopes near some of the adjacent residential properties varies from low to high, with high-risk areas appearing to be focused near the mapped minor

7. GEOLOGY AND SOILS. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

failures (Appendix E – see red areas in "Slope Ratio – Zone 16" for FMZ 16 and "Slope Ratio, Regional Geology, Landslides" for FMZ 19). Fuel modification efforts are not anticipated to have significant impacts on the relatively minor landslide deposits identified on the ridges in FMZ 19. Sensitive surficial instability areas are indicated in both figures in each geotechnical report (see Appendix E – "Slope Ratio – Zone 16" and "Slope Ratio, Regional Geology, Landslides"). As suggested in the geotechnical evaluation reports, MM GEO-1 is recommended, which would require vegetation to be removed in the spring and completed in the early summer in landslide-prone areas within the FMZs, limiting fuel modification effort to the canopy and seasonal grasses, minimizing damage to existing root systems, and using spray adhesives, fiber rolls, or jute matting to maintain soil stability in landslide-prone areas in FMZ 16 and FMZ 19. Therefore, impacts would be less than significant with mitigation incorporated.

Mitigation Measure

GEO-1 The City of Laguna Beach shall adhere to the following fuel modification protocols in landslide-prone areas in FMZ 16 and FMZ 19:

- Fuel modification activities shall be conducted in the spring and summer and allow for some re-establishment of the native canopy prior to the next rainy season.
- Fuel modification efforts shall be limited to the canopy and seasonal grasses and should minimize damage to the existing root systems.
- Spray adhesives, fiber rolls, or jute matting shall be used in areas with a thick accumulation of soil on slopes between a 2:1 to 1:1 (horizontal:vertical) ratio prior to winter.

b. Result in substantial soil erosion or the loss of topsoil?	1	☐	☐	☒	☐

Less Than Significant Impact. Although there is potential for project activities to increase soil erosion and topsoil loss, the use of hand crew treatment would leave up to 50 percent or more of native perennial root systems in the soil to minimize potential for erosion. Removed native vegetation may be chipped and spread on the ground for erosion protection. Other erosion control methods such as scattered cut native brush clippings, straw wattles, or similar interventions would be installed where necessary, as recommended by the geotechnical reports. Haul paths would be minimized and rehabilitated with mulch or other methods as deemed appropriate by the Project Biologist. Areas of relatively low slope (i.e., below 33 percent or 1:3 grade) would be mulched to an adequate depth to minimize weed propagation and ongoing maintenance needs. The proposed project would not use heavy machinery that would disrupt a substantial amount of topsoil. Therefore, impacts to soil erosion or loss of topsoil would be less than significant.

c. Be located on geologic units 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?	13, 14	☐	☒	☐	☐

Less Than Significant With Mitigation Incorporated. According to the geotechnical reports (see Appendix E), some slopes in FMZ 16 and FMZ 19 with horizontal:vertical ratios ranging from 4:1 to 2:1 have a moderate potential for debris and/or mudflows from major fuel modification activities, and slopes with ratios of 2:1 to 1:1 have high potential. These areas are shown in the figures in the geotechnical reports (see Appendix E – "Slope Ratio – Zone 16" for FMZ 16 and "Slope Ratio, Regional Geology, Landslides" for FMZ 19). In these areas, safety measures would include worker fall protection (e.g., field personnel would be trained in fall prevention, and crews would be restricted from working on slopes where field supervisors or staff judge conditions to be unsafe for unprotected work) and post-treatment erosion control measures (e.g., scattered cut native brush clippings, jute netting, straw wattles, or similar interventions as recommended by consulting geologists). Furthermore, MM GEO-1 would reduce the risk of landslides, lateral spreading, liquefaction, and collapse in areas of unstable geologic units. Therefore, impacts would be less than significant with mitigation incorporated.

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?*		☐	☐	☐	☒

No Impact. Under the proposed project, no new structures or buildings would be built. Therefore, the potential presence of expansive soil would not cause adverse effects to structures or buildings resulting in risks to life or property. No impact from expansive soil would occur.

7. GEOLOGY AND SOILS. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?		☐	☐	☐	☒

No Impact. The proposed project would not require the development or use of any septic or wastewater disposal systems. No impact from soils incapable of supporting wastewater disposal would occur.

f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	15	☐	☐	☒	☐

Less Than Significant Impact. A paleontological resource report was completed covering the project area (see Appendix F). According to the report, the project area is mostly underlain by San Onofre Breccia and some exposures of the Topanga Group and Old Quaternary paralic deposits. The paleontological resources records search yielded no localities within the project area. However, there were four localities in the general area in the Topanga Formation, and two within the San Onofre Breccia. As determined in the report, the proposed project is unlikely to substantially impact unique paleontological resources because ground disturbance would be minimal. There is no clear evidence that the either the Topanga Group, the San Onofre Breccia, or the Old Quaternary paralic deposits would be impacted and would at most be impacted only by pedestrian traffic. Therefore, the proposed project would result in less-than-significant impacts.

8. GREENHOUSE GAS EMISSIONS. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	6	☐	☐	☒	☐

Less Than Significant Impact. The proposed project would generate greenhouse gas (GHG) emissions through the removal of vegetation with off-road construction equipment. The period of construction would be short-term, and construction-phase GHG emissions would occur directly from the off-road equipment used at the project site. Maintenance and operations would be negligible as the proposed project would only remove vegetation and does not revisit the site after.

The SCAQMD has established a GHG significance threshold for industrial facilities in terms of carbon dioxide-equivalents (CO_2e) of 10,000 metric tons per year. This threshold is based on project-life amortized average annual emissions. The SCAQMD has also proposed, but not adopted, the use of a "bright line" GHG emissions significance threshold of 3,000 MT CO_2e/year for residential/commercial projects. Other local jurisdictions in Southern California, such as Los Angeles County, San Bernardino County, and Riverside County have approved this emissions level as a CEQA screening level or significance threshold, which is considered reasonable and appropriate for the proposed project. The proposed project's emissions include temporary emissions from vehicles, chainsaws, and other handheld mechanical devices. The proposed project's total GHG emissions would be substantially below the significance threshold of 3,000 MT CO_2e (<30 MT CO_2e); therefore, the impact on the environment of GHG emissions generated by the proposed project would be less than significant.

b. Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	16, 17	☐	☐	☒	☐

Less Than Significant Impact. GHG emissions for the proposed project would be generated from off-road equipment uses and are expected to be minimal. Operational GHG emissions, as noted above, would be negligible. Estimated GHG emissions of the proposed project would be well below the threshold of the federal and State mandatory reporting regulations. The proposed project's GHG emissions would not trigger regulatory action under the federal 40 Code of Federal Regulations Part 52 or the State Cap-and-Trade regulations. Other applicable plans adopted for the purpose of reducing GHG emissions include the most recent California Air Resources Board's (CARB) Scoping Plan (the 2022 Scoping Plan for Achieving Carbon Neutrality), Southern California Association of Government's (SCAG's) 2020-2035 Regional Transportation Plan/ Sustainable Communities Strategy, and the City of Laguna Beach Climate Protection Action Plan. The proposed project would temporarily generate small amounts of GHG emissions during fuel modification activities by using small off-road equipment items such as chainsaws, and through the necessary vehicle trips for the workers' commutes, contractor work trucks, and waste haul trucks. The proposed project would not change the project area's use, and the less intensive ongoing annual vegetation maintenance would not result in substantial long-term emissions. The proposed project would also appropriately dispose of green waste; all efforts would be made to recycle as much native waste on site as possible. Native green waste may be chipped or mulched and applied on the project site, and non-native green waste would be sent to a green waste recycler.

These disposal methods conform with State and City GHG emissions reduction goals to maximize recycling and minimize landfill waste. Therefore, the proposed project would not conflict with any applicable plan, policy, or regulations adopted for the purpose of reducing the GHG emissions. This impact would be less than significant.

9. HAZARDS AND HAZARDOUS MATERIALS. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	1	☐	☒	☐	☐

Less Than Significant With Mitigation Incorporated. The proposed project would not involve the routine transport, use, or disposal of hazardous materials. Equipment would be limited to hand tools (e.g., chainsaws, brush-cutters), chippers, and trucks during temporary fuel modification activities. Many of these tools would be powered by gas and/or diesel fuel. Any on-site refueling would need to occur in a containment system to prevent spills, as required by MM HAZ-1. Similarly, trucks would need to be fueled off site (see MM HAZ-1). Per the City's fuel modification treatment protocols, herbicides would be used for spot treatment of invasive species, would not occur within 25 feet of any blue-line ephemeral drainages or stream courses that cross the treatment areas, and would be specific to the intended use and be used in a manner as not to pose excessive risk to nearby sensitive species or water courses. Herbicides would not be used on a landscape scale to defoliate large expanses of vegetation. Therefore, impacts would be less than significant with mitigation incorporated.

Mitigation Measure

HAZ-1 The City of Laguna Beach shall include the following provisions or similar in the contractor bid contract for hand clearing:

- All power tools shall be fueled in an area clear of fire hazards.
- Fueling of power tools in the fuel modification zones shall occur over a containment system (e.g., plastic tray or tub) to catch and prevent spills.
- Any fuel spills shall be cleaned up immediately and properly disposed.
- All trucks and larger equipment, such as chippers, shall be fueled off site.
- Engine fuel shall not be used as a cleaning solvent.

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?	1	☐	☐	☒	☐

Less Than Significant Impact. Hazardous material used during temporary fuel modification activities would be limited to gas and/or diesel fuel for equipment and herbicides (if targeted treatment for invasive species is required and determined necessary by a qualified biologist as part of an Integrated Pest Management approach and in consultation with the City). Herbicide application, if used, would be limited to treating specific individual plants or used in combination with hand removal where the cut stump would be sprayed or dabbed with a sponge containing the herbicide. Herbicides would never be used on a landscape scale to remove large expanses of vegetation. Hazardous materials would not be used or stored on site in quantities that could create a foreseeable upset or accident condition that could create a significant hazard to the public or the environment. Impacts would be less than significant.

c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	1	☐	☐	☐	☒

No Impact. The proposed project is not located within 0.25 mile of any existing or proposed schools. The nearest school is Anneliese Schools – Aliso Campus (21542 Wesley Drive, Laguna Beach), approximately 0.3 mile south of FMZ 16. The amount of fuel used by hand equipment and trucks on site would be nominal and would not create a hazardous condition for students or the public. No impacts would occur.

9. HAZARDS AND HAZARDOUS MATERIALS. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	18, 19, 20	☐	☐	☐	☒

No Impact. Hazardous materials sites pursuant to Government Code Section 65962.5 include all hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the California Health and Safety Code (HSC), all land designated as hazardous waste property or border zone property pursuant to former Article 11 (commencing with Section 25220) of Chapter 6.5 of Division 20 of the HSC, all information received by the Department of Toxic Substances Control (DTSC) on hazardous waste disposals on public land pursuant to HSC Section 25242, and all sites listed pursuant to HSC Section 25356. A review of DTCS's EnviroStor database and the State Water Resources Control Board GeoTracker database, both of which track cleanup, permitting, enforcement, and investigation efforts at facilities with known hazardous waste or groundwater contamination or sites where there may be reasons to investigate further, yielded no known hazardous materials sites within the project footprint. Several GeoTracker sites were identified near the project site in urbanized areas; however, all have been cleaned up and have a status of "Completed – Case Closed." No impact would occur.

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?	21	☐	☐	☐	☒

No Impact. The proposed project is not located within an airport land use plan or within two miles of an airport. John Wayne Airport is over 11 miles northwest of the project site. No impact would occur.

f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	22	☐	☐	☒	☐

Less Than Significant Impact. Hand crew vehicles would travel along residential streets and be temporarily staged at various access points throughout FMZs 16 and 19 to allow hand crews to complete fuel management activities. Access points (Tables 1 and 2) would generally be along residential streets and private roads. Fuel modification activities would generally be conducted behind homes, open space, and public and institutional facilities. Access through private roads and driveways would be coordinated with homeowners. Access along public roadways would be maintained, and no road closures would be required. As such, implementation of the proposed project would not interfere with adopted emergency response plans or emergency evacuation plans, 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?	i, 22	☐	☐	☐	☒

No Impact. The project site lies within a designated Very High Fire Hazard Severity Zone as identified by the City of Laguna Beach. FMZ 16 and FMZ 19 are within the City of Laguna Beach Local Responsibility Area (LRA). The proposed project would reduce the risk of wildland fires by removing vegetation cover within 100 feet of developed structures, thereby reducing fire threats to people and structures. Additional fire safety and prevention measures during fuel management activities would include requiring fire extinguishers and hand tools on site, prohibiting smoking, prohibiting operation of power tools during red flag warnings, and implementing proper fueling locations and practices. This impact would be beneficial, and no adverse impacts would occur.

10. HYDROLOGY AND WATER QUALITY. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	1	☐	☐	☒	☐

Less Than Significant Impact. The project area includes several drainage areas that drain to the Pacific Ocean approximately 0.15 to 0.68 mile downstream (see drainage/stream buffers in Figures 2 and 3). Impacts to water quality could occur as a result of disturbing topsoil and reducing vegetation coverage. Increased sediment delivery to these drainages may result in the addition of organic sediments and herbicides (if used).

Both FMZs would be managed by hand crews using chainsaws, brush-cutters, and other hand tools. Hand crews would minimize the potential for fuels and lubricants normally associated with larger mechanized equipment and would minimize the disturbance of soil that could cause displacement of sediment to surface waters. As described in the Project Description, 25-foot buffers would be established on either side of blue-line streams to limit impacts to drainages from erosion and sedimentation. Within these buffers, only non-native plant species would be removed by hand crews in accordance with the City's fuel modification treatment protocols, and all other native plant species would be left in place. All watercourses recognized by the City and California Coastal Commission as "blue line" would be protected within this buffer, except for hand crew removal of invasive plants and certain case-by-case exceptions such as removal of excessive dead plant matter and rubbish. Additionally, hazardous steep slopes, some of which are nearly vertical in some areas, may require modified treatment or avoidance to prevent disturbing unstable areas that could adversely impact nearby water courses. Native vegetation may be chipped and spread on the ground, which would act as a deterrent to surface erosion. Roots of perennial plants would be left in place to reduce erosion where possible. Mulch and other erosion-control measures such as cut native brush clippings, jute netting, straw wattles, or similar interventions would be installed as necessary for erosion protection as recommended by consulting geologists. Haul paths would be minimized and rehabilitated with mulch or other methods as deemed appropriate by the project biologist. Areas of relatively low slope (i.e., below 33 percent or 1:3 grade) would be mulched to an adequate depth to minimize weed propagation and ongoing maintenance needs. Trash and litter found on the site would be removed.

Herbicide use would be limited to targeted treatment of invasive species as identified by a biologist in consultation with the City and used in a manner to not pose an excessive risk to watercourses. Herbicide application, if used, would be limited to treating specific individual plants or used in combination with hand removal where the cut stump would be sprayed or dabbed with a sponge containing the herbicide. Herbicides would never be used on a landscape scale to remove large expanses of vegetation. Herbicide use would be subject to the conditions of the Municipal Separate Storm Sewer System (MS4) Permit for the San Diego Region of the State Water Resources Control Board. Based on the above considerations, this impact is determined to 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?		☐	☐	☐	☒

No Impact. The proposed project would not use any groundwater supplies, nor would it increase impervious areas or otherwise interfere with recharge. No impact would occur.

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;	1, 23	☐	☐	☒	☐

Less Than Significant Impact. There is a potential for increased erosion and siltation into the Pacific Ocean resulting from the removal of vegetative cover. However, the proposed project would be completed by hand crews, which would minimize disturbance of soil that could cause displacement of sediment to surface waters. The treatment area has been evaluated and mapped by a geologist for stability (see Appendix E).

Unstable areas may be avoided if deemed unsafe by field supervisors or staff. All blue-line streams would be given a 25-foot buffer from treatment (except for hand crew removal of invasive plants and case-by-case exceptions as described in (a)). Native vegetation may be chipped and spread on the ground, which will act as a deterrent to surface erosion. Roots of perennial plants would be left in place to reduce erosion where possible. Mulch and other erosion-control measures, such as scattered cut native brush clippings, jute netting, straw wattles or similar interventions as recommended by consulting geologists, would be installed as necessary for erosion protection. Haul paths would be minimized and rehabilitated with mulch or other methods as deemed appropriate by the project biologist. Areas of relatively low slope (i.e., below 33 percent or 1:3 grade) would be mulched to an

10. HYDROLOGY AND WATER QUALITY. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

adequate depth to minimize weed propagation and ongoing maintenance needs. The total area to be treated is approximately 34.47 acres (see Table 3) which represents only a small portion (approximately 0.4 percent) of the overall Laguna Canyon Channel watershed area (approximately 8,136 acres). Therefore, impacts to existing drainage patterns 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;	1	☐	☐	☒	☐

Less Than Significant Impact. There is a potential for increased runoff into the various drainages within and adjacent to the project area due to reduced vegetation cover. This impact is considered less than significant primarily due to the small size of the area to be treated in comparison to the Laguna Canyon Channel watershed (see (i) above). Increased runoff would be further reduced by chipping and spreading native vegetation on the ground, leaving roots of perennial plants in place, using mulch, scattered cut native brush clippings, and straw wattles for erosion protection, and leaving some vegetative cover in place. Impacts would be less than significant.

(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	1, 23	☐	☐	☒	☐

Less Than Significant Impact. Runoff from the project site would flow into the Pacific Ocean. A small increase in stormwater runoff may result from the proposed project due to reduced vegetation, but this increase would be less than significant as described under (ii) above. The project site makes up approximately 0.4 percent of the overall Laguna Canyon Channel watershed area, and the reduction in vegetative cover would be offset by leaving most perennial plant roots in place and leaving ground cover in the form of mulch to reduce erosion. Therefore, the proposed project would not create runoff water that would exceed the capacity of the stormwater drainage system or create polluted runoff. Impacts would be less than significant.

(iv) impede or redirect flood flows?		☐	☐	☐	☒

No Impact. The proposed project would remove vegetative cover and would not alter the terrain or install structures that could impede or redirect flood flows. No impact would occur.

d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	24	☐	☐	☒	☐

Less Than Significant Impact. Based on the *California Emergency Management Agency Tsunami Inundation Map Laguna Beach Quadrangle*, the proposed project is not within a tsunami inundation zone. Seiches are wave inundations typically produced within closed bodies of water, such as large lakes. There are no lakes adjacent to the project site and therefore no possibility of a seiche. Except as described under item (a), the proposed project would produce no pollutants that could affect flood waters. As such, flood hazard impacts would be less than significant.

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

No Impact. The proposed project would have no effect on groundwater, as all work would be completed by hand crews, and has no features that could conflict with or obstruct a water quality control plan. No impact would occur.

11. LAND USE PLANNING. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Physically divide an established community?		☐	☐	☐	☒

No Impact. The proposed project would not result in any structures that would physically divide an established community. The proposed fuel breaks would be located on the outer edges of urban development. No impact is anticipated.

11. LAND USE PLANNING. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	25, 26, 27, 28, 29, 30, 31, 32	☐	☐	☒	☐

Less Than Significant Impact. The proposed project would primarily occur within the planning boundary of the City of Laguna Beach. Project activities would be subject to the policies of the City's General Plan and Local Coastal Program, the Diamond/ Crestview Specific Plan, the Arch Beach Heights Specific Plan, and the California Coastal Act. The policy consistency memorandum (Appendix G to this Initial Study) identifies the relevant policies from these applicable plans and demonstrates the project's consistency with these policies. The proposed project would have a less-than-significant impact because it does not conflict with any land use plan, policy, or regulation.

12. MINERAL RESOURCES. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	33	☐	☐	☐	☒

No Impact. According to the California DOC's Generalized Aggregate Resource Classification Map, FMZs 16 and 19 traverse mineral resources zone (MRZ) 1 and MRZ 3. MRZ 1 is defined as areas where no significant aggregate deposits are present, or where presence is unlikely. MRZ 3 is defined as areas where inadequate information is available to determine the significance of deposit presence. Fuel modification activities would not result in the loss of availability of a known valuable regional or State mineral resource. Therefore, no impact is anticipated.

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?	25, 26, 32	☐	☐	☐	☒

No Impact. No locally important mineral resource recovery sites are delineated in the City of Laguna Beach General Plan or Diamond/Crestview and Arch Beach Heights specific plans. No impact would occur.

13. NOISE. Would the project result in:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	34	☐	☐	☒	☐

Less Than Significant Impact. No new development or land uses are proposed that would generate noise levels in excess of established standards. The proposed project, which is limited to construction-type activities and maintenance, would be completed in compliance with the City of Laguna Beach Noise Ordinance (Title 7 Health and Sanitation, Chapter 7.25 Noise, Section 7.25.080 Construction activity noise regulations). Under these regulations, construction noise is allowed between 7:30 a.m. and 6:00 p.m. Monday through Friday within the City of Laguna Beach. Work completed by hand crews, which would involve the use of mechanical equipment, such as chainsaws and a woodchipper, would be limited to Monday through Friday 8:00 a.m. to 5:00 p.m. and would not occur on federal holidays. Therefore, a less-than-significant impact would occur.

13. NOISE. Would the project result in:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b. Generation of excessive groundborne vibration or groundborne noise levels?	35	☐	☐	☒	☐

Less Than Significant Impact. Equipment used during vegetation clearing activities would be limited to woodchipper, chainsaws, brush-cutters, and hand tools. This equipment would not generate excessive groundborne vibration or noise levels. Chippers used to create mulch, however, could generate groundborne vibrations. Vibrations generated would attenuate quickly at short distances (within 200 feet or less) and would not be at a level to cause building damage. Any vibrations from equipment would be negligible to nearby structures and would result in less-than-significant impacts.

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?	21	☐	☐	☐	☒

No Impact. The proposed project is not located in the vicinity of a private airstrip or within an airport land use plan. John Wayne Airport is over 11 miles northwest of the project site. No impact would occur.

14. POPULATION AND HOUSING. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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)?		☐	☐	☐	☒

No Impact. The proposed project would not introduce any new development that would directly or indirectly induce substantial unplanned population growth. No impact would occur.

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

No Impact. The proposed project would not create any new development or involve demolition that would displace people or housing. No impact would occur.

15. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Fire protection?		☐	☐	☐	☒

No Impact. The proposed project would not involve any construction activities or require increased fire protection services. Instead, it would enhance fire safety and reduce wildfire hazards for the public. No new or physically altered fire facilities would be necessary, and no impact would occur.

b. Police protection?		☐	☐	☐	☒

No Impact. The proposed project is not a development project and would not result in any substantial population increase or new structures that require increased police protection. No impact would occur.

15. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c. Schools?		☐	☐	☐	☒

No Impact. The proposed project is not a development project and would not create demands for new or expanded school facilities. No impact would occur.

d. Parks?		☐	☐	☐	☒

No Impact. The proposed project is not a development project and would not increase the demand for parks. The proposed project would not affect the park service ratio, and no new or expanded parks would be necessary. No impact would occur.

e. Other public facilities?		☐	☐	☐	☒

No Impact. The proposed project is not a development project that would affect other public facilities such as library services or hospitals. The proposed project would not increase the demand for such public services or otherwise affect performance objectives. No impact would occur.

16. RECREATION. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. 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?		☐	☐	☐	☒

No Impact. The proposed project would neither cause a population increase nor create new developments that would increase the use of existing recreational facilities. Therefore, no physical deterioration of recreational facilities would occur or be accelerated. No impact would occur.

b. 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 proposed project does not include any recreational facilities or require the construction or expansion of recreational facilities. Therefore, no impact would occur.

17. TRANSPORTATION. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	36, 37	☐	☐	☒	☐

Less Than Significant Impact. The proposed project would include the use of several vehicles to transport up to an estimated maximum of 16 crew members and equipment. Because there are no major construction activities that would require a substantial number of workers and large equipment, the number of vehicles is expected to be minimal and temporary, and as a result, have nominal impact on local traffic conditions. According to the Caltrans Traffic Volumes report from 2017, approximately 36,800 to 37,750 vehicles travel on the segment of Coast Highway nearest to FMZ 16 and FMZ 19 (Doheny Park Road in Dana Point to Mountain Road in Laguna Beach). The addition of a few vehicles for the proposed project would not add a substantial amount of traffic to existing traffic volumes. The fuel modification activities would not conflict with any of the policies as outlined in the City General Plan's Transportation, Circulation, and Growth Management Element. Therefore, there impacts to the City's circulation policy would be less than significant.

17. TRANSPORTATION. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?		☐	☐	☒	☐

Less Than Significant Impact. Section 15064.3 of the State CEQA Guidelines describes vehicle miles traveled (VMT) as an appropriate measure of transportation impacts. In this case, VMT is analyzed qualitatively as the proposed project is most similar to a construction project. Up to 16 crew members would be on site at any given time to conduct work and are likely to come from local areas. VMT would be generated by transporting workers, equipment, and green waste. The proposed project would involve a relatively small quantity of vehicles, trips, and total VMT that it would not have a substantial effect on the level of service on Coast Highway and other associated roads. Impacts would be less than significant.

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

No Impact. The proposed project would not introduce any new geometric design features to roads or include incompatible uses that would substantially increase road hazards. The proposed project would include compatible uses such as trucks to transport hand crew personnel and small hand-held equipment such as chainsaws, brush-cutters, and other hand tools. No impact would occur.

d. Result in inadequate emergency access?		☐	☐	☐	☒

No Impact. FMZs 16 and 19 would each have multiple access points that would also serve as potential staging areas and provide emergency access if needed. Vehicles used in FMZs 16 and 19 would either be parked along residential roads or private roads that would require coordination with property owners and would not impede on the public's need for emergency access. The daily temporary staging areas for the proposed projects would not impede emergency access. Therefore, no impact to emergency access would occur.

18. TRIBAL CULTURAL RESOURCES. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:					
(i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or		☐	☒	☐	☐

Less Than Significant with Mitigation Incorporated. Assembly Bill (AB) 52 consultation was not completed for this project as no Native American tribes have requested consultation with the City of Laguna Beach for this project area. On September 20, 2023, Aspen requested that the Native American Heritage Commission (NAHC) conduct a search of its Sacred Lands Files to determine if resources significant to Native Americans have been recorded within the project site. On November 23, 2023, Aspen received a response from the NAHC stating that the search of its Sacred Lands File was positive for the presence of resources within the project site or adjacent vicinity (Appendix D - Confidential). The NAHC also provided its contact list of interested Native Americans to contact for additional information regarding resources in the area. Aspen sent outreach letters on November 21, 2023, to each of the listed representatives asking if any additional information could be provided regarding resources within the project site. One response has been received to date from the Gabrielino Tongva Indians of California, indicating that the area is significant to the Tribe and recommended monitoring. Given the fact that the project area has not been subject to any archaeological investigations and is within a culturally sensitive area, it is possible the project could impact unknown resources that could be considered Tribal Cultural Resources under CEQA. As such, MMs CUL-1 and CUL-2 (provided in Section 5 above) are recommended to reduce impacts to unanticipated discoveries to a less-than-significant level.

18. TRIBAL CULTURAL RESOURCES. **Would the project:**	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(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 Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.		☐	☐	☐	☒

No Impact. AB 52 consultation was not completed for this project as no Native American tribes have requested consultation for this area of Laguna Beach. As stated above, the NAHC did indicate the presence of sensitive resources either within the project site or surrounding vicinity. Those tribes contacted through tribal outreach did not indicate the presence of Tribal Cultural Resources in the project site.

19. UTILITIES AND SERVICE SYSTEMS. **Would the project:**	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?		☐	☐	☐	☒

No Impact. The proposed project would not include any new development. No utilities or other service systems would be needed. No impact would occur.

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

No Impact. The proposed project would not include any development. No water supplies would be needed to serve the project. No impact would occur.

c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?		☐	☐	☐	☒

No Impact. The proposed project would neither include any development nor require wastewater treatment. No impact would occur.

d. Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?		☐	☐	☒	☐

Less than Significant Impact. The proposed fuel modification activities would only generate green waste and small amounts of trash. The amount of green waste would be minimal compared to the amount of solid waste generated by the general public on a daily basis. Of the total amount of green waste generated, native green waste would be left on site, while the majority of non-native green waste would be hauled to a green waste recycling facility. Any remaining green waste that is not accepted by the green waste recycler would be hauled to a landfill. All trash and litter found on the project site would be removed and hauled to a landfill. The total amount of solid waste is not expected to be in excess of the capacity of local infrastructure. Therefore, impacts would be less than significant.

19. UTILITIES AND SERVICE SYSTEMS. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?		☐	☐	☐	☒

No Impact. The proposed project would not generate solid waste other than a small amount of trash, which would be hauled to a landfill, and green waste, which would be converted to mulch and left in place or taken to a green waste recycling facility or landfill. The proposed project would not conflict with federal, state, or local statutes and regulations related to solid waste, and no impact would occur.

20. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, **would the project:**	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?		☐	☐	☐	☒

No Impact. The proposed project would not impair the City's adopted emergency response plan and would instead improve wildfire response. Fuel breaks would create defensible space between wildfires and urban development to reduce the risk of ignition. Therefore, no impacts would occur.

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

No Impact. Removal of fuels in the wildland-urban interface would reduce the risk of ignition and flammability in developed areas. Therefore, project occupants would not be exposed to hazards from exacerbated wildfire risks. No impact would occur.

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

No Impact. The proposed project aims to create and maintain fuel breaks with the intention of reducing fire risk to nearby urban structures. It would not exacerbate fire risks and thus would not require installation or maintenance of infrastructure to reduce those risks. No impact would occur.

d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	1	☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. Fuel modification activities would remove vegetation cover in landslide-prone areas in FMZ 16 and FMZ 19. However, the proposed project would implement the City's fuel modification treatment protocols and incorporate erosion control methods such as installing spray adhesives, fiber rolls, and/or jute netting in areas with a thick accumulation of soil on slopes between a 2:1 to 1:1 ratio prior to winter, as recommended by MM GEO-1, thus maintaining stable topsoil and reducing runoff. Additionally, in very steep areas and slopes previously cleared by homeowners, post-treatment erosion control measures such as scattered cut native brush clippings, jute netting, straw wattles, and similar interventions as recommended by the consulting geologists would be implemented to further minimize the potential for landslides. Although some slopes in FMZ 16 and FMZ 19 may have a moderate to high potential for debris and/or mudflows from significant fuel modification, spring or early summer fuel modification should not exacerbate the future mudflow potential, as some of the native canopy would re-establish by the rainy season which would maintain soil stability. Mitigation measures for unstable geologic units within FMZ 16 and FMZ 19 are discussed in MM GEO-1. Flooding, landslides, and post-fire slope instability impacts would be less than significant with mitigation incorporated.

21. MANDATORY FINDINGS OF SIGNIFICANCE	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 Impact With Mitigation Incorporated. Section 4, Biological Resources, discusses the potential impacts to wildlife, plants, and the quality of the environment as well as any required mitigation measures. See MMs BIO-1 through BIO-5. Section 5, Cultural Resources, and Section 18, Tribal Cultural Resources, discuss impacts that would be less than significant to historic and prehistoric California artifacts and remains with mitigation incorporated. See MMs CUL-1, CUL-2, and CUL-3. Impacts to these resources would be less than significant with mitigation incorporated.

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

Less Than Significant Impact. Impacts that may contribute cumulatively with concurrent or past projects may include air quality, greenhouse gases, noise, and transportation. The proposed project would utilize a minimal number of vehicles and motorized hand equipment that would not substantially contribute to the impacts of other projects. Due to the highly localized, temporary, and brief nature of the proposed project, these impacts are expected to remain less than significant and not result in a cumulatively considerable impact.

c. Does the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?		☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. As discussed in Section 9, Hazards and Hazardous Materials, gas or diesel would be used to fuel equipment. MM HAZ-1 would mitigate any fuel spillage hazards to avoid potential adverse effects on human beings. Section 7, Geology and Soils, refers to the geotechnical reports' (Appendix E) findings of areas of potential soil unit instability within FMZ 16 and FMZ 19. Section 20(d) of Wildfire also discusses the potential for post-fire downslope landslides. MM GEO-1 would mitigate mudflow and general soil instability risks mentioned in these two sections. Implementing these mitigation measures would reduce impacts and potential effects on human beings to a less-than-significant level.

22. SOURCE REFERENCES

Project Description

i City of Laguna Beach. 2023. Public GIS Map Viewer. [Online]: https://gis.lagunabeachcity.net/Html5Viewer/index.html? viewer=LagunaBeachPublicGIS. Accessed August 13, 2023.

Evaluation of Environmental Impacts

1 City of Laguna Beach Fire Department. 2018. Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting.

2 City of Laguna Beach. 2018. Laguna Beach General Plan (Landscape and Scenic Highways Element). Accessed October 13, 2023. [Online]: https://www.lagunabeachcity.net/home/showpublisheddocument/8156/637502780391970000.

3 DOC (California Department of Conservation). 2022. California Important Farmland Finder. October 11, 2023. [Online]: https://maps.conservation.ca.gov/dlrp/ciff/.

22. SOURCE REFERENCES

4	City of Laguna Beach. 2023. Public GIS Map Viewer. October 13, 2023. [Online]: http://gisweb.lagunabeachcity.net/Html5Viewer/index.html?configBase=http://gisweb.lagunabeachcity.net/Geocortex/Essentials/REST/sites/GISMap3/viewers/HTML5_22/virtualdirectory/Resources/Config/Default.
5	SCAQMD (South Coast Air Quality Management District). 2022. Air Quality Management Plan. Accessed January 2024. [Online]: https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan.
6	SCAQMD. 2023a. SCAQMD Air Quality Significance Thresholds. 2023. Accessed January 2024. [Online]: http://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf?sfvrsn=25.
7	SCAQMD. 2023b. South Coast Air Quality Management District Rules and Regulations. Accessed January 2024. [Online]: http://www.aqmd.gov/home/regulations/rules/scaqmd-rule-book.
8	SCAQMD LST. 2009. Air Quality Analysis Guidance Handbook, Localized Significance Thresholds – Appendix C – Mass rate Look-up Table. Accessed January 2024. [Online]: https://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/localized-significance-thresholds.
9	Aspen Environmental Group. 2023. Biological Resources Technical Report for the Proposed Fuel Modification Zones 16 & 19 Projects. Provided as Appendix C to this document.
10	DeOliveira, Lauren, and Emily Smith. 2023. Cultural Resources Assessment Report for the Lower Hobo and Diamond Crestview Fuel Modification Project (Confidential). Aspen Environmental Group, Agoura Hills, CA. Provided as Appendix D (Confidential) to this document.
11	CGS (California Geological Survey). 2024. Earthquake Zones of Required Investigation website. Accessed January 2024. [Online]: https://maps.conservation.ca.gov/cgs/EQZApp/app/.
12	City of Laguna Beach. 2023. City of Laguna Beach Local Hazard Mitigation Plan. Accessed January 2024. [Online]: https://www.lagunabeachcity.net/home/showpublisheddocument/17422/638388384762330000
13	Geofirm. 2017. October 27. Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program Zone 16, Western Nyes Place and Hobo Canyon Area, Laguna Beach, California. Prepared for City of Laguna Beach Fire Department. Provided as Appendix E to this document.
14	Stoney-Miller Consultants, Inc. 2023. November 28. Revised Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program Zone 19, Diamond Crestview to Arch Beach Heights Area, Laguna Beach, California. Prepared for City of Laguna Beach Fire Department. Provided as Appendix E to this document.
15	Stewart, Joe. 2023. Project Memorandum, Paleontological Resources Summary for the Lower Hobo and Diamond Crestview Fuel Modification Project. Aspen Environmental Group, Agoura Hills, CA. Provided as Appendix F to this document.
16	CARB (California Air Resources Board). 2022. Climate Change Scoping Plan. Accessed January 2024. [Online]: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan.
17	SCAG (Southern California Association of Governments). 2020. Regional Transportation Plan. Accessed January 2024. [Online}: https://scag.ca.gov/read-plan-adopted-final-connect-socal-2020.
18	California Legislative Information. 2022. Government Code Title 7, Planning and Land Use, Division 1, Planning and Zoning, Chapter 4.5 Review and Approval of Development Projects, Article 6 Development Permits for Classes of Projects, Section 65962.5. Accessed November 11, 2023. [Online]: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=GOV&sectionNum=65962.5.
19	California Department of Toxic Substances Control. EnviroStor. 2023. Accessed October 12, 2023. [Online]: https://www.envirostor.dtsc.ca.gov/public/.

22. SOURCE REFERENCES

20	State Water Resources Control Board. GeoTracker. 2023. Accessed October 12, 2023. [Online]: https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=laguna+beach#.
21	Orange County Airport Land Use Commission. 2008. Land Use Plan for John Wayne Airport. Amended April 17, 2008. Figure 1. Accessed October 12, 2023. [Online]: https://files.ocair.com/media/2021-02/JWA_AELUP-April-17-2008.pdf?VersionId=cB0byJjdad9OuY5im7Oaj5aWaT1FS.vD.
22	City of Laguna Beach. 2018. City of Laguna Beach Local Hazard Mitigation Plan: FEMA Approved Plan. June. Accessed October 11, 2023. [Online]: https://www.lagunabeachcity.net/home/showpublisheddocument/8494/637762037257700000.
23	Orange County Public Works. 2010. Orange County Flood Control District Drainage System. Accessed October 13, 2023. [Online]: https://ocip.ocpublicworks.com/sites/ocpwocip/files/import/data/files/32736.pdf.
24	CEMA (California Emergency Management Agency) 2009. Tsunami Inundation Map for Emergency Planning – Laguna Beach Quadrangle. California Emergency Management Agency, California Geological Survey, University of Southern California. March 15. Accessed October 13, 2023. [Online]: https://www.conservation.ca.gov/cgs/Documents/Publications/Tsunami-Maps/Tsunami_Inundation_LagunaBeach_Quad_Orange.pdf.
25	City of Laguna Beach. 2022. City of Laguna Beach General Plan, Land Use Element. Amended on April 12, 2022. Accessed November 7, 2023. [Online]: https://www.lagunabeachcity.net/home/showpublisheddocument/8146/638001338428230000
26	City of Laguna Beach. 2005. Laguna Beach General Plan (Open Space/Conservation Element). Amended 2005. Accessed November 7, 2023. [Online]: https://www.lagunabeachcity.net/home/showpublisheddocument/8160/637848346690530000.
27	City of Laguna Beach. 2010. Diamond/Crestview Specific Plan. Accessed November 11, 2023. [Online]: https://www.lagunabeachcity.net/home/showpublisheddocument/260/637360447937670000.
28	City of Laguna Beach. 2023. Local Coastal Program. Accessed November 7, 2023. [Online]: https://www.lagunabeachcity.net/government/departments/community-development/planning-zoning/land-use-plans/local-coastal-program.
29	California Coastal Commission. 2023. Laws & Regulations, The Coastal Act. Accessed November 7, 2023. [Online]: https://www.coastal.ca.gov/laws/.
30	City of Laguna Beach. 1992a. Resolution No. 92.014: A Resolution of the City Council of the City of Laguna Beach Approving and Adopting its Local Coastal Program Pursuant to the California Coastal Act of 1976. Adopted February 18. Accessed January 26, 2011. [Online]: http://www.lagunabeachcity.net/civicax/filebank/blobdload.aspx?t=41949.64&BlobID=23490.
31	City of Laguna Beach. 2020. Information Guide for a Coastal Development Permit. Revised December 30. Accessed November 7, 2023. [Online]: https://www.lagunabeachcity.net/home/showpublisheddocument/8872/637824227864570000.
32	City of Laguna Beach. 2023. Arch Beach Heights Specific Plan. Accessed November 7, 2023. [Online]: https://ecode360.com/42900648?highlight=&searchId=8385970954419183#42900650.
33	DOC. 1981. Generalized Aggregate Resource Classification Map, Orange County – Temescal Valley and Adjacent Production – Consumption Regions. [Online]: https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=mlc.
34	City of Laguna Beach. 2024. Laguna Beach Municipal Code. Title 7 Health and Sanitation, Chapter 7.25 Noise, Section 7.25.080 Construction activity noise regulations. Accessed January 18, 2024. [Online]: https://ecode360.com/42887312#42887312.

22. SOURCE REFERENCES

35	Federal Transit Administration. 2018. Transit Noise and Vibration Impact Assessment Manual. September. Accessed January 18, 2024. [Online]: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation//transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf.
36	City of Laguna Beach. 1992. Laguna Beach General Plan, Transportation, Circulation, and Growth Management Element. Accessed November 22, 2023. [Online]: https://www.lagunabeachcity.net/home/showpublisheddocument/8164/637502783442030000.
37	Caltrans. 2017. 2017 Traffic Volumes: Route 1. Accessed November 22, 2023. [Online]: https://dot.ca.gov/programs/traffic-operations/census/traffic-volumes/2017/route-1.

23. MITIGATION MEASURES

For effects that are "Less Than Significant Impact with Mitigation Incorporated," describe the mitigation measure(s) which were incorporated and the extent to which they address site-specific conditions of the project. The responsible person, Department, Agency, etc., that will be responsible for verification and the event or time of verification should also be specified. The following mitigation measures were identified for the proposed project. A Mitigation Monitoring Program is included in Table 4.

4. BIOLOGICAL RESOURCES

4(a). BIO-1 The City of Laguna Beach (City) shall assign a qualified biologist to the project (i.e., Project Biologist). The qualified biologist shall be responsible for conducting pre-construction surveys (MM BIO-2), implementing nesting bird avoidance (MM BIO-3), monitoring project activities (MM BIO-4), and conducting worker training (MM BIO-5). The "qualified biologist" is defined as a person with appropriate education, training, and experience to conduct the required surveys, monitor project activities, provide worker education programs, and supervise or perform other monitoring-related actions. The Project Biologist shall be authorized by the City to temporarily halt project activities, if needed, to prevent take of listed species or harm to any other special-status species.

4(a). BIO-2 Prior to start of project activities, the Project Biologist shall survey the work area to determine if any special-status species are present. During the survey, the Project Biologist shall search for nesting birds, special-status plants, and other special-status species. Pre-clearing surveys shall be performed during the appropriate blooming period for special-status plants to ensure species present are identified. Any special-status species or sensitive resources shall be flagged and avoided, in coordination with the Project Biologist. If big-leaved crownbeard are located within the project site, they shall be flagged, and a 50-foot buffer installed. Plants with a CRPR of 1B or 2B shall be flagged and a 15-foot buffer installed. Any willow canopy that falls outside the 25-foot buffer around "blue-line" drainages (per the City's fuel modification treatment protocols), shall be avoided. San Diego desert woodrat nests shall be avoided with a 15-foot buffer. No work shall be permitted within these buffers. The Project Biologist shall also flag coast live oak seedlings and western sycamore seedlings for avoidance, as feasible. The Project Biologist shall also search for shot hole borers on all oak and sycamore trees that are proposed for pruning. If shot hole borers are found, the Project Biologist shall notify the City who will then coordinate with CDFW, and the U.S. Fish and Wildlife Service. All pruning tools shall be cleaned and disinfected prior to use within the project area and at least weekly during the project to further reduce the spread of pathogens. To the extent practicable, thinning within coastal sage scrub and chaparral habitats shall be limited to winter months outside the growing season.

4(a, d). BIO-3 Vegetation removal and initial ground disturbance shall be completed outside the breeding season (i.e., no removal of potential nesting habitat from January 1 through September 1), or after a pre-construction nesting bird survey has been completed. The Project Biologist shall confirm that no birds are nesting in or adjacent to areas to be disturbed. If native birds are nesting on the site, then project activities shall be postponed until nesting is completed or the Project Biologist shall designate appropriate avoidance buffers around nests to protect nesting birds. No project related disturbance shall be allowed within these buffers.

4(a). BIO-4 The Project Biologist shall be present as needed on the project site during vegetation clearing done by hand crews to document compliance with the avoidance and minimization measures and to provide guidance in avoiding or minimizing impacts to biological resources. The Project Biologist shall also conduct quarterly monitoring of the project site for 12 months after the completion of the fuel treatment. During this post-treatment monitoring the Project Biologist shall inspect the mulched plant material for Argentine ants and will also note wildlife use of the treatment areas. If Argentine ants are found within the mulched plant material, the City shall implement an ant control program to remove them from these areas. If any new non-native plants are

found within the project area, the City shall implement a control program for these species to ensure they are eradicated and not allowed to spread into adjacent natural lands.

4(a). BIO-5 The Project Biologist shall conduct training to ensure that all workers on the project site are aware of all applicable mitigation measures for biological resources. Specifically, workers shall be required to (1) limit all activities to approved work areas; (2) report any special-status species; (3) report any bird nests; (4) avoid contact with any wildlife that may approach a work area, and be aware of potential venomous reptile bites from carelessness or unnecessary harassment; (5) pick up and properly dispose of any food, trash, or construction refuse; and (6) report any spilled materials (e.g., oil, fuel, solvent, engine coolant, raw concrete, or other material potentially hazardous to wildlife) to the supervisor. During the training, the Project Biologist shall briefly discuss special-status species that may occur in the work areas, their habitats, and requirements to avoid or minimize impacts. In addition, all workers shall be informed of civil and criminal penalties for violations of the federal Endangered Species Act, California Endangered Species Act, and the Migratory Bird Treaty Act.

5. CULTURAL RESOURCES and 18. TRIBAL CULTURAL RESOURCES

5(a, b), 18(a)(i).

CUL-1 A qualified professional archaeologist and local Native American monitor shall be retained to provide monitoring services when crews are working in areas on slopes less than 30 degrees. If any such resources are discovered when the monitor is not present, contractors should stop work in the immediate area of the find and contact the archaeologist to assess the nature of the find and determine if future monitoring is appropriate. If deemed appropriate, monitoring should continue until vegetation removal activities are complete, or until the monitoring archaeologist, based on field observations, is satisfied there is no likelihood of encountering intact archaeological deposits. Upon completion of any monitoring activities, the archaeologist should prepare a report to document the methods and results of monitoring activities. This report should be submitted to the South Central Coastal Information Center.

5(a, b), 18(a)(i).

CUL-2 Prior to the initiation of construction, all construction personnel shall be trained by a qualified archaeologist regarding the recognition of possible buried cultural resources (i.e., prehistoric and/or historical artifacts, objects, or features) and protection of all archaeological resources during construction. Training shall inform all construction personnel of the procedures to be followed upon the discovery of cultural materials. All personnel shall be instructed that unauthorized removal or collection of artifacts is a violation of State law. Any excavation contract (or contracts for other activities that may have subsurface soil impacts) shall include clauses that require construction personnel to attend the Workers' Environmental Training Program, so they are aware of the potential for inadvertently exposing buried archaeological deposits.

5(c). CUL-3 All human remains discovered are to be treated with respect and dignity. Upon discovery of human remains, all work within 50 feet of the discovery area must cease immediately, nothing is to be disturbed, and the area must be secured. The County Coroner's Office must be called. The Coroner has two working days to examine the remains after notification. The appropriate land manager/owner of the site (i.e., Orange County Parks) is to be called and informed of the discovery. It is very important that the suspected remains, and the area around them, are undisturbed and the proper authorities called to the scene as soon as possible, as it could be a crime scene. The Coroner will determine if the remains are archaeological/historic or of modern origin and if there are any criminal or jurisdictional questions.

After the Coroner has determined the remains are archaeological/historic-era, the Coroner will make recommendations concerning the treatment and disposition of the remains to the person responsible for the excavation, or to his or her authorized representative. If the Coroner believes the remains to be those of a Native American, he/she shall contact the Native American Heritage Commission (NAHC) by telephone within 24 hours.

The NAHC will immediately notify the person it believes to be the most likely descendant (MLD) of the remains. The MLD has 48 hours to make recommendations to the landowner for treatment or disposition of the human remains. If the descendant does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from further disturbance. If the landowner does not accept the descendant's recommendations, the owner or the descendant may request mediation by NAHC.

According to the California Health and Safety Code, six (6) or more human burials at one (1) location constitute a cemetery (Section 8100), and willful disturbance of human remains is a felony (Section 7052).

7. GEOLOGY AND SOILS and 20. WILDFIRE

7(a, c), 20(d).

GEO-1 The City of Laguna Beach shall adhere to the following fuel modification protocols in landslide-prone areas in FMZ 16 and FMZ 19:

- Fuel modification activities shall be conducted in the spring and summer and allow for some re-establishment of the native canopy prior to the next rainy season.
- Fuel modification efforts shall be limited to the canopy and seasonal grasses and should minimize damage to the existing root systems.
- Spray adhesives, fiber rolls, or jute matting shall be used in areas with a thick accumulation of soil on slopes between a 2:1 to 1:1 (horizontal:vertical) ratio prior to winter.

9. HAZARDS AND HAZARDOUS MATERIALS

9(a). HAZ-1 The City of Laguna Beach shall include the following provisions or similar in the contractor bid contract for hand clearing:

- All power tools shall be fueled in an area clear of fire hazards.
- Fueling of power tools in the fuel modification zones shall occur over a containment system (e.g., plastic tray or tub) to catch and prevent spills.
- Any fuel spills shall be cleaned up immediately and properly disposed.
- All trucks and larger equipment, such as chippers, shall be fueled off site.
- Engine fuel shall not be used as a cleaning solvent.

Table 6. Mitigation Monitoring Program for Fuel Breaks in FMZ 16 and FMZ 19

Environmental Factor	Reference Number	Mitigation Measures	Responsible Party	Timing
4. BIOLOGICAL RESOURCES	4(a)	**BIO-1** The City of Laguna Beach (City) shall assign a qualified biologist to the project (i.e., Project Biologist). The qualified biologist shall be responsible for conducting pre-construction surveys (MM BIO-2), implementing nesting bird avoidance (MM BIO-3), monitoring project activities (MM BIO-4), and conducting worker training (MM BIO-5). The "qualified biologist" is defined as a person with appropriate education, training, and experience to conduct the required surveys, monitor project activities, provide worker education programs, and supervise or perform other monitoring-related actions. The Project Biologist shall be authorized by the City to temporarily halt project activities, if needed, to prevent take of listed species or harm to any other special-status species.	City of Laguna Beach Fire Chief	Prior to and during fuel modification activities
	4(a)	**BIO-2** Prior to start of project activities, the Project Biologist shall survey the work area to determine if any special-status species are present. During the survey, the Project Biologist shall search for nesting birds, special-status plants, and other special-status species. Pre-clearing surveys shall be performed during the appropriate blooming period for special-status plants to ensure species present are identified. Any special-status species or sensitive resources shall be flagged and avoided, in coordination with the Project Biologist. If big-leaved crownbeard are located within the project site, they shall be flagged, and a 50-foot buffer installed. Plants with a CRPR of 1B or 2B shall be flagged and a 15-foot buffer installed. Any willow canopy that falls outside the 25-foot buffer around “blue-line” drainages (per the City’s fuel modification treatment protocols), shall be avoided. San Diego desert woodrat nests shall be avoided with a 15-foot buffer. No work shall be permitted within these buffers. The Project Biologist shall also flag coast live oak seedlings and western sycamore seedlings for avoidance, as feasible. The Project Biologist shall also search for shot hole borers on all oak and sycamore trees that are proposed for pruning. If shot hole borers are found, the Project Biologist shall notify the City who will then coordinate with CDFW, and the U.S. Fish and Wildlife Service. All pruning tools shall be cleaned and disinfected prior to use within the project area and at least weekly during the project to further reduce the spread of pathogens. To the extent practicable, thinning within coastal sage scrub and chaparral habitats shall be limited to winter months outside the growing season.	City of Laguna Beach Fire Chief	Prior to and during fuel modification activities
	4(a, d)	**BIO-3** Vegetation removal and initial ground disturbance shall be completed outside the breeding season (i.e., no removal of potential nesting habitat from January 1 through September 1), or after a pre-construction nesting bird survey has been completed. The Project Biologist shall confirm that no birds are nesting in or adjacent to areas to be disturbed. If native birds are nesting on the site, then project activities shall be postponed until nesting is completed or the Project Biologist shall designate appropriate avoidance	City of Laguna Beach Fire Chief	Prior to fuel modification activities outside of bird

Table 6. Mitigation Monitoring Program for Fuel Breaks in FMZ 16 and FMZ 19

Environmental Factor	Reference Number	Mitigation Measures	Responsible Party	Timing
		buffers around nests to protect nesting birds. No project related disturbance shall be allowed within these buffers.		breeding season
	4(a)	**BIO-4** The Project Biologist shall be present as needed on the project site during vegetation clearing done by hand crews to document compliance with the avoidance and minimization measures and to provide guidance in avoiding or minimizing impacts to biological resources. The Project Biologist shall also conduct quarterly monitoring of the project site for 12 -months after the completion of the fuel treatment. During this post-treatment monitoring the Project Biologist shall inspect the mulched plant material for Argentine ants and will also note wildlife use of the treatment areas. If Argentine ants are found within the mulched plant material, the City shall implement an ant control program to remove them from these areas. If any new non-native plants are found within the project area, the City shall implement a control program for these species to ensure they are eradicated and not allowed to spread into adjacent natural lands.	City of Laguna Beach Fire Chief	During fuel modification activities and continuing for at least 12 months following completion of activities
	4(a)	**BIO-5** The Project Biologist shall conduct training to ensure that all workers on the project site are aware of all applicable mitigation measures for biological resources. Specifically, workers shall be required to (1) limit all activities to approved work areas; (2) report any special-status species; (3) report any bird nests; (4) avoid contact with any wildlife that may approach a work area, and be aware of potential venomous reptile bites from carelessness or unnecessary harassment; (5) pick up and properly dispose of any food, trash, or construction refuse; and (6) report any spilled materials (e.g., oil, fuel, solvent, engine coolant, raw concrete, or other material potentially hazardous to wildlife) to the supervisor. During the training, the Project Biologist shall briefly discuss special-status species that may occur in the work areas, their habitats, and requirements to avoid or minimize impacts. In addition, all workers shall be informed of civil and criminal penalties for violations of the federal Endangered Species Act, California Endangered Species Act, and the Migratory Bird Treaty Act.	City of Laguna Beach Fire Chief	Prior to fuel modification activities
5. CULTURAL RESOURCES 18. TRIBAL CULTURAL RESOURCES	5(a, b) 18(a)(i)	**CUL-1** A qualified professional archaeologist and local Native American monitor shall be retained to provide monitoring services when crews are working in areas on slopes less than 30 degrees. If any such resources are discovered when the monitor is not present, contractors should stop work in the immediate area of the find and contact the archaeologist to assess the nature of the find and determine if future monitoring is appropriate. If deemed appropriate, monitoring should continue until vegetation removal activities are complete, or until the monitoring archaeologist, based on field observations, is satisfied there is no likelihood of encountering intact archaeological deposits. Upon completion of any monitoring activities, the archaeologist should prepare a report to	City of Laguna Beach Fire Chief	During fuel modification activities

Table 6. Mitigation Monitoring Program for Fuel Breaks in FMZ 16 and FMZ 19

Environmental Factor	Reference Number	Mitigation Measures	Responsible Party	Timing
		document the methods and results of monitoring activities. This report should be submitted to the South Central Coastal Information Center.		
	5(a, b) 18(a)(i)	**CUL-2** Prior to the initiation of construction, all construction personnel shall be trained by a qualified archaeologist regarding the recognition of possible buried cultural resources (i.e., prehistoric and/or historical artifacts, objects, or features) and protection of all archaeological resources during construction. Training shall inform all construction personnel of the procedures to be followed upon the discovery of cultural materials. All personnel shall be instructed that unauthorized removal or collection of artifacts is a violation of State law. Any excavation contract (or contracts for other activities that may have subsurface soil impacts) shall include clauses that require construction personnel to attend the Workers' Environmental Training Program, so they are aware of the potential for inadvertently exposing buried archaeological deposits.	City of Laguna Beach Fire Chief	Prior to fuel modification activities
	5(c)	**CUL-3** All human remains discovered are to be treated with respect and dignity. Upon discovery of human remains, all work within 50 feet of the discovery area must cease immediately, nothing is to be disturbed, and the area must be secured. The County Coroner's Office must be called. The Coroner has two working days to examine the remains after notification. The appropriate land manager/owner of the site (i.e., Orange County Parks) is to be called and informed of the discovery. It is very important that the suspected remains, and the area around them, are undisturbed and the proper authorities called to the scene as soon as possible, as it could be a crime scene. The Coroner will determine if the remains are archaeological/historic or of modern origin and if there are any criminal or jurisdictional questions. After the Coroner has determined the remains are archaeological/historic-era, the Coroner will make recommendations concerning the treatment and disposition of the remains to the person responsible for the excavation, or to his or her authorized representative. If the Coroner believes the remains to be those of a Native American, he/she shall contact the Native American Heritage Commission (NAHC) by telephone within 24 hours. The NAHC will immediately notify the person it believes to be the most likely descendant (MLD) of the remains. The MLD has 48 hours to make recommendations to the landowner for treatment or disposition of the human remains. If the descendant does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from further disturbance. If the landowner does not accept the	City of Laguna Beach Fire Chief	During fuel modification activities

Table 6. Mitigation Monitoring Program for Fuel Breaks in FMZ 16 and FMZ 19

Environmental Factor	Reference Number	Mitigation Measures	Responsible Party	Timing
		descendant's recommendations, the owner or the descendant may request mediation by NAHC. According to the California Health and Safety Code, six (6) or more human burials at one (1) location constitute a cemetery (Section 8100), and willful disturbance of human remains is a felony (Section 7052).		
7. GEOLOGY AND SOILS 20. WILDFIRE	7(a, c) 20(d)	**GEO-1** The City of Laguna Beach shall adhere to the following fuel modification protocols in landslide-prone areas in FMZ 16 and FMZ 19: • Fuel modification activities shall be conducted in the spring and summer and allow for some re-establishment of the native canopy prior to the next rainy season. • Fuel modification efforts shall be limited to the canopy and seasonal grasses and should minimize damage to the existing root systems. • Spray adhesives, fiber rolls, or jute matting shall be used in areas with a thick accumulation of soil on slopes between a 2:1 to 1:1 (horizontal:vertical) ratio prior to winter.	City of Laguna Beach Fire Chief	During fuel modification activities
9. HAZARDS AND HAZARDOUS MATERIALS	9(a)	**HAZ-1** The City of Laguna Beach shall include the following provisions or similar in the contractor bid contract for hand clearing: • All power tools shall be fueled in an area clear of fire hazards. • Fueling of power tools in the fuel modification zones shall occur over a containment system (e.g., plastic tray or tub) to catch and prevent spills. • Any fuel spills shall be cleaned up immediately and properly disposed. • All trucks and larger equipment, such as chippers, shall be fueled off site. • Engine fuel shall not be used as a cleaning solvent.	City of Laguna Beach Fire Chief	Prior to fuel modification contract signing

Appendix A

Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting

Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting

The intent of this protocol is to define City procedures for achieving compliance with regulation of the California Coastal Commission, California Environmental Quality Act (CEQA), California Department of Fish and Wildlife, and U.S. Fish and Wildlife Service, (et. al.) regarding fuel modification in zones requiring a Coastal Development Permit.

Fuel Modification Zones (FMZ's) are managed by the City of Laguna Beach under two different approaches;

a. Public Nuisance Abatement sites – Those legacy sites which have a history of long-term grazing disturbance. These sites and their associated management by goat grazing predates the adoption of the Coastal Act and has been judged by the State Attorney General as exempt from the act as a pre-existing condition. This generally refers to sites grazed by goats in FMZ's 1-10.

b. Coastal Development Permit sites- Those sites subject to the Coastal Act for which a Coastal Development Permit must be obtained for fuel modification. This treatment protocol guides fuel modification for these sites, which includes all zones currently maintained under Coastal Development Permits (FMZ's 10-15), and all program expansion sites planned for future development.

Reduction of Fire Behavior Potential

The objective of any fuel modification treatment shall be to achieve at least an average 75% reduction in potential wildfire fire line intensity (energy release), as measured by lame length and rate of spread. In general, a 50% reduction of fuel loading, accomplished by the parameters of this protocol will achieve such a reduction. (*Fuel Modification Impacts to Potential Fire Behavior- A Case Study for the City of Laguna Beach, Rohde, 2017*, and *Catastrophic Wildfire Assessment- City of Laguna Beach, Franklin, 2013*).

Treatment Area Determination:

Fuel Modification treatments will generally be limited to those areas that are within 100 feet of developed properties or structures. Treatments outside of these areas will be limited to removal of targeted invasives, general non-natives weeds control, or tree thinning and dead branch removal. Fuel modification outside of the 100 foot zone shall be conducted with intent to minimize impacts to adjacent intact habitats, serve as partial on-site mitigation for fuel modification impacts when required, or for prevention of fire branding over the fuel break.

The primary methods for vegetation management shall consist of grazing or hand crew modification. Other methods including mechanical mastication, prescribed burning, mass herbicide use, crushing, chaining, or other means of mechanical conversion have been generally eliminated from consideration for environmental, risk, or social/political concerns.

Geotechnical Findings:

Proposed FMZ's shall be evaluated by a qualified geologist for geologic stability and flood/debris movement potential. Treatment within areas determined to be geologically unstable in the geotechnical report may be modified or eliminated. Unstable sites may include historic landslide or debris flow areas, unstable soil or rock structure, or similar sites.

Archeological/Paleontological Findings:

Proposed FMZ's shall be evaluated for archeological and paleontological resources in accordance with CEQA requirements. Such evaluation requires solicitation of tribal interests, survey of data sources for known resources, and site survey. Areas determined to have a presence of identified archaeological and/or paleontological resources may require fuels treatment to be modified or eliminated.

Sensitive Species Protection:

For all Coastal Development Permit FMZ's, a qualified biologist shall inspect proposed fuel modification sites for the presence of sensitive species prior to the initiation of work. If the presence of sensitive species are identified, a trained biological monitor shall be present at all times while work is conducted in the immediate vicinity of identified habitat to ensure no accidental takings occur, and sensitive species are protected. Crews conducting fuel modification work shall receive instruction and training in sensitive species management and avoidance prior to initiation of work.

Sensitive species include those identified in the California Endangered Species Act (CESA), the Native Plant Protection Act (NPPA), the California Environmental Quality Act (CEQA), the Natural Community Conservation Planning Act (NCCPA), California Penal Code Section 384a, or by Federal designation in the Endangered Species Act (F-ESA). Sensitive species shall not be disturbed by fuel modification activities.

Sensitive plant species of principal concern in Laguna Beach include:

1. Big-leaved Crownbeard (*Verbesina dissita*)
2. Intermediate Mariposa Lilly (*Calochortus weedii* var. *intermedius)*
3. Many-Stemmed Dudleya (*Dudleya multicaulis*)
4. Fish's Milkwort (*Polygala cornuta* var. *fishae*)
5. Cliff Spurge (*Euphorbia misera*)
6. Catalina Mariposa Lily (*Calochortus catalinae*)
7. Coulter's Matillija Poppy (*Romneya coulteri*)
8. Western Dichondra (*Dichondra occidentalis*)
9. Laguna Beach Life-forever (*Dudleya stolonifera*)
10. Many-stemmed Dudleya (*Dudleya multicaulus*)

Whenever sensitive plant species are identified, they will be protected by establishing a flagged, 15-foot buffer around all specimens of the sensitive species, inside of which no material shall be initially removed. Such presence and limits shall be effectively communicated to project contractors. Based upon the species identified, its ecology and phenology, hand removal of non-native vegetation within the 15 foot buffer may be initiated at the direction of the biological monitor, if it is determined to be ecologically beneficial for the identified species. For Big-Leaved Crownbeard (*Verbesina dissita*), the potential shading/nurse plant benefit of non-native shrubs would be considered before removing non-native shrubs with such a determination to be made by the biological monitor.

To avoid impacts to nesting and migratory birds, including the Coastal California Gnatcatcher (*Polioptila californica*), removal of vegetation should occur outside of nesting season (February 1 to August 31 in upland habitats) as much as is practicable. If work is conducted during nesting season, a qualified biologist will conduct a Nesting Bird Survey in the work area within 48 hours of the commencement of work. If any are found, a buffer zone will be flagged around the nesting site(s) in compliance with the biologist's recommendations before work commences. Contractor personnel will be directed to check all vegetation for nests before cutting and to cease work in the area immediately if one is found, until a qualified biologist can assess it. If work ceases for more than two days, another nesting bird survey will be required before work can re-commence.

<u>Grazing Treatment Protocols:</u>

Goats will be used to implement grazed fuel modification treatment in areas of Low to Moderate Habitat Value as defined in the *Laguna Beach Biological Resources Inventory, (Marsh et. al 1983,* `see Appendix). To determine habitat value for this purpose, Laguna Beach City GIS maps based on the above-referenced document will be initially referenced, and modified as necessary based on site visits by a qualified biologist to reflect current conditions.

a. The fur and hooves of all goats will be cleaned of seeds and debris before arriving at the treatment area and when being moved between enclosures to prevent the spread of invasive plant species.
b. No more than 75 goats will be permitted per acre.
c. Goats shall remain in secure enclosures at all times.
d. Sensitive plant species shall be protected from trampling or consumption by establishing the secure enclosures a minimum distance of at least 15 feet between sensitive plants and the limits of grazing.
e. Grazing animals shall be moved periodically to ensure enough vegetative cover remains to promote erosion control, inhibit dust, and preserve view aesthetics.
f. Goat grazing shall be preferred for removal of nonnatives, or native herbaceous species. Up to 80% of the native and 100% of the non-native species in this cover type may be removed in such areas.

g. Goat grazing in woody (Coastal Marine Chaparral) or woody-herbaceous (Coastal Sage Scrub) chaparral species shall be limited to removal of 50% of the vegetative cover, and, and provide for a shaded fuel break outcome.
h. Goat grazed fuel breaks should generally be limited to 100 foot width. Penned areas may be extended to a maximum 150 feet when physical obstructions such as rock outcrops, cliffs, water courses etc. prevent reasonable establishment of pens at 100 foot width.
i. Goats shall be used for brush reduction only and shall be immediately removed when the brush clearance has been accomplished.
j. A targeted invasive control plan will be implemented in all future goat-grazed areas to prevent invasive species from propagating and impacting adjacent intact habitat.
k. Where practicable and environmentally appropriate, goat grazing may be used as the maintenance method for areas which required initial clearance by hand crews.

Hand Crew Treatment Protocols:

Hand crews will be used to implement fuel modification in areas of High or Very High Habitat Value as defined in the *Laguna Beach Biological Resources Inventory, (Marsh et. al 1983,* see Appendix). To determine habitat value for this purpose, Laguna Beach City GIS maps based on the above-referenced document will be initially referenced, and modified as necessary based on site visits by a qualified biologist to reflect current conditions.

The initial phase of vegetation removal shall include the following steps:

a. Fuel Modification will be conducted by hand crews with chainsaws, brush-cutters and other hand tools.
b. Hand crew fuel modification conducted in high or very high value habitat shall generally be limited to a width of 100 feet.
c. Crews will cut down all non-native vegetation (including unmaintained ornamental vegetation) and dead/dying native vegetation and carefully remove dead branches from trees and large shrubs. As noted above, an exception may be made where non-native shrubs are providing shading/nurse plant benefits for Big-Leaved Crownbeard, as determined by the biological monitor.
d. Special care will be exercised to distinguish dormant native vegetation from dead/dying native vegetation.
e. Tree-form shrubs (*e.g.* Laurel Sumac (*Malosma laurina*), Toyon (*Heteromeles arbutifolia*), Lemonade Berry (*Rhus integrifolia*)) that are over 6 feet tall will be carefully pruned of their lower branches to increase the Crown Base Height to 50% of the plant height. For example, a 10-foot-tall plant would have its lower branches removed to a height of 5 feet. Branches will be pruned to within 1 inch or less of the branch crown. Southern Maritime Chaparral shrub species shall be left fully intact except as noted below, and not pruned initially.
f. For large tree species within FMZ's, non-native trees (P*inus, Eucalyptus*, *Washingtonia*, et. al.) shall be considered for removal on a case-by-case basis, taking into consideration their potential ignitability, potential to spread fire from or across the FMZ, and property/tree ownership. Native

g. large trees (Quercus, *Platanus*, et. al.) shall be pruned of dead components, and lower small branches removed to a height of 8 feet or one half their height, whichever is less, so as to disrupt "fuel ladder" potential. Dead and down tree components on the ground below large trees shall be removed.

Where there is still over 50% vegetative cover after the above material has been removed, the contractor will remove healthy live vegetation in accordance with the hierarchical list below, beginning with the first species listed, then in descending order through the list until 50% vegetative cover has been attained:

1. Coastal Goldenbush (*Isocoma menziezii*)
2. California Buckwheat (*Erigonium fasciculatum*),
3. Black Sage (*Salivia mellifera*)
4. California Sagebrush (Artemisia californica)
5. Monkeyflower (*Mimulus aurantiacus*)
6. Laurel Sumac (*Malosma laurinus*)
7. Toyon (*Heteromeles arbutifolia*)
8. Lemonade Berry (*Rhus integrifolia*)

Stumps will be cut to within 4" or less of the ground. Thinning of healthy, live vegetation will be done in a dispersed manner to avoid creating new large openings. All healthy specimens of Southern Maritime

Chaparral species including Bush Rue (*Cneoridium dumosum*), Spiny Redberry (*Rhamnus crocea*) and Bigpod Lilac (*Ceanothus megacarpus*) will be retained.

Treatment of Water Courses

Pampas Grass and other invasive plant removal and herbicide treatment will be the primary vegetation management within a 25-foot buffer on either side of any "blue-line" ephemeral drainages or stream courses (as listed by USGCS map or City Website) that cross the treatment areas. For long drainages which may form a corridor through which fire may be ushered into residences at the head of drainages, additional site-specific steps may be implemented to establish breaks in fuel continuity within these corridors on a site-specific basis consistent with best environmental practice.

Herbicide Use

Herbicides may be used for spot treatment of invasive species when identified as appropriate by the site biologist. Herbicides shall be specific to the intended use and be used is such a manner as to not pose excessive risk to nearby sensitive species or water courses. Herbicides shall not be used on a landscape scale to defoliate large expanses of fuels.

Erosion Control

The preponderance of roots of perennial plants will be left in place to minimize erosion. Mulch and other erosion control measures (such as straw wattles and/or jute netting) will be installed as necessary for additional protection without being obtrusive, as recommended in site geotechnical reports. Haul paths will be minimized and rehabilitated with mulch or other methods as deemed appropriate by the project biologist. Areas of relatively low slope (i.e., below 33% or 1:3 grade) will be mulched to an adequate depth to minimize weed propagation and ongoing maintenance needs.

Disposal of Cut Materials

All dead and cut material will be disposed of properly. All non-native material will be removed from the site, placed in a truck or dumpster and hauled to a green waste recycler. City contractors will generally be conditioned within their contracts to pay all dump fees related to disposal. Native material will be chipped and used as mulch on-site in areas of moderate slope to reduce erosion and weed propagation. Native material unable to be reused on site will be hauled to a green waste recycler, though efforts will be made to reuse as much native material on site as possible.

Native vegetation under 3 inches in diameter, live or dead, may be processed with hand tools on site and spread in place as mulch as an alternative to hauling and chipping, if it is cut into pieces not exceeding 12 inches, lays flat on the ground, does not cover remaining native plant species and total mulch depth does not exceed 12 inches. All coarse non-native material (e.g., woody debris, Pampas Grass leaves), live or dead, must be removed from the site, including any material dumped in the Project

Area by residents or others. Fine material treated with herbicide (e.g., non-native grasses and annual weeds) may be left on site.

Additional Mitigations

Additional site mitigations may be considered when recommended or required by environmental permitting agencies on a case-by-case basis.

Trash and Litter Found On-site

Trash and litter found throughout the Project Area will be removed from the site and hauled to a landfill.

Site Monitoring and Documentation

An annual monitoring report shall be prepared by the City detailing the following:

1. Dates and locations of vegetation treatment or modification
2. Treatment methods utilized by site
3. Number of acres managed
4. Photos of treatment sites, pre- and post- treatment

5. Description of any violations or failure to meet conditions of the Coastal Development Permit

HABITAT CLASSIFICATION

The following definitions are utilized in the classification of habitat types within the City of Laguna Beach: (Excerpt from: *Laguna Beach Biological Resources Inventory*, *Marsh et. al 1983 pp. 35-36)*

Biological Value Mapping is based on the parameters of habitat integrity and extent, faunal use, and presence of endangered, rare, or locally unique biota. From these, a ranking system was developed of low, medium, high, and very high value habitat. These habitats are classified as follows:

LOW VALUE HABITAT:
Disturbed, impacted sites, often dominated by ruderals, annual plants, and escaped horticulturals. Such areas are usually highly fragmented by, or are contiguous to urban development. These sites are biologically simplified and are of low faunal carrying capacity. Low value habitats do not possess biological constraints to urban development, but may, if developed, be areas where spillover impact adversely affects contiguous higher value settings

MODERATE VALUE HABITAT:
These sites may contain either native vegetation of a specific community type, or ornamental species in a setting providing horizontal and vertical structural diversity. The sites are usually, however, limited in area extent, being contiguous to urban development. Thus their faunal carrying capacity, and often, the native floral species diversity, is lower than "high value" habitats described below.

HIGH VALUE HABITAT:
These are extensive areas dominated by indigenous plant communities which possess good species diversity. They are often, but not always, linked to extensive open space areas, within or outside of the city, by wild-fauna transversable open space corridors. Their faunal carrying capacity is good to excellent, many areas are utilized as bedding and foraging sites by mule deer or possess large resident populations of avifauna or native small animals.

VERY-HIGH VALUE HABITAT:
These include the habitats of endangered, rare, or locally unique native plant species (including disjunct and outpost populations). Also included are areas of southern oak Woodland and natural (not irrigation augmented) springs and seeps. Among the very-high value habitats inventoried are areas of significant rock outcrop exposures, because of the assemblages of sensitive plant species which often occupy such settings.

Appendix B

Air Quality Emissions Estimate

Lower Hobo and Diamond Crestview Fuel Modification Project

Emissions Estimate

Chainsaws		EFs (g/bhp)			
Number	**Hours/day**	**VOC**	**NOx**	**CO**	**PM**
8	8	53.691275	53.691275	399.70172	1.4914243

EFs Based on CARB emissions standards applicable since 2005 model year.

Assumes 70 cc, 5.5 hp chainsaw

	Emissions				
	VOC	**NOx**	**CO**	**PM**	
g/day	18,899	18,899	140,695	525	
lbs/day	41.67	41.67	310.18	1.16	
	VOC	**NOx**	**CO**	**PM10**	**PM2.5**
CalEEMod	0.10	0.11	0.96	0.34	0.10
Total	41.77	41.78	311.14	1.49	1.26

Appendix C

Biological Resources Technical Report

BIOLOGICAL RESOURCES TECHNICAL REPORT
Proposed Fuel Modification Zones 16 & 19 Projects

Prepared for:

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March 2024

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1.0 Introduction

This Biological Resources Technical Report (BRTR) was prepared under contract to the City of Laguna Beach to describe biological resources within the proposed Lower Hobo (Fuel Modification Zone [FMZ] 16) and Diamond Crestview (FMZ 19) Fuel Modification Project (Project).

FMZs 16 and 19 are located within the City of Laguna Beach, Orange County, California (Figure 1; Attachment 1). Project activities in FMZs 16 and 19 would include vegetation thinning and removal to create a 100-foot zone of cleared vegetation across roughly 2.5 linear miles to reduce the risk of wildfire for adjacent residences in the area. Removal of heavy vegetation would reduce potential wildfire ignition of residential properties as well as reduce potential for wildfire to spread to high value habitat in wildlands. In addition, the Project would reduce fire line intensity, reduce wildfire rates of spread, and improve occupant safety.

Aspen Environmental Group (Aspen) conducted biological resources surveys in FMZ 16 (approximately 13.5 acres) and FMZ 19 (approximately 25.5 acres) in June 2023. This report summarizes the findings of the biological surveys and potential Project impacts to biological resources, including special-status plant and wildlife species, nesting birds, wildlife movement, and waters.

2.0 Project and Property Description

2.1 Project Location

The Project location is shown in Figure 1 (Attachment 1). It is within the California United States Geological Survey (USGS) Laguna Beach 7.5-minute Quadrangle (Quad), near the border with the San Juan Capistrano USGS Quad to the east. The elevation of the survey area ranges from approximately 150 to 630 feet elevation above mean sea level.

FMZ 16 consists of approximately 13.5 acres located northeast of Pacific Coast Highway (Hwy 1) between Nyes Place to the west, and Laguna Terrace North and K Street to the east, behind residential and community properties (Figure 2a; Attachment 1). FMZ 19 consists of approximately 25.5 acres located northeast of Hwy 1, bounded by Diamond Street to the west, Summit Drive to the north, and La Mirada Street and Alta Vista Way to the east, adjacent to residential properties (Figure 2b; Attachment 1).

2.2 Project Description

In FMZ 16 and FMZ 19, fuel management would be achieved by crews using a variety of power and non-power hand tools. Vehicle staging would be on existing paved roads, dirt roads, and other unvegetated areas. Several mitigation measures (MMs) are proposed in this BRTR (Section 6.0) to further reduce potential impacts to the FMZs. Implementation of these MMs would reduce potential effects to the biological resources.

Fuel Modification Implementation. The City's *Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting* (i.e., Treatment Protocols; Appendix A) has been developed based on the best available science and studies. The proposed FMZs have been designed using the City's Treatment Protocols. Fuel modification activities in FMZs 16 and 19 would reduce fuel loads up to 50 percent, prioritizing the removal of non-native species and dead or dying plants first; if reduction of vegetation to 50 percent or less of remaining cover is achieved by removing invasive vegetation, vegetation clearing would stop. If further thinning or removal needs to occur, crews would follow the hierarchical list in the

City's Treatment Protocols (listed below under "Hand Crew Treatment Protocols") to remove the least sensitive plants first. In erosion-prone areas, perennial plant roots would remain to reduce the risk of erosion.

Management within FMZs 16 and 19 would consist of hand removal. If any special-status plants or animals are found, a trained biological monitor would flag such areas before treatment to ensure the species are protected and avoided. Within these flagged buffers, 50 percent removal may not be feasible. Vegetation removal by hand crews would be completed using hand clearing tools such as chainsaws, loppers, and other hand tools. As part of City contracts with contractors, project equipment would be required to have spark arrest features, noise-reduction intake and exhaust mufflers, and engine shrouds, as appropriate for each piece of equipment. Additionally, idling of large trucks and chainsaws would be limited to five minutes consistent with the requirements of the California Air Resources Board and State law.

Erosion control and prevention measures would be implemented concurrently with vegetation removal activities in steeper areas prone to instability. Erosion control measures may include strategic placement of cut native vegetative material and the installation of straw wattles and bales as prescribed by the FMZ-specific geotechnical study which will be completed prior to vegetation removal. Prudent herbicide use may be used only in cases of targeted treatment of invasive vegetation removal as determined by a biologist. Any necessary treatments outside of this range would be subject to removal of only targeted non-native, invasive weeds, or tree thinning and dead branch removal.

Hand Crew Treatment Protocols. Per the City's Treatment Protocols, hand crews would be used to implement fuel modification in areas of High Value or Very High Value Habitat as defined in the Laguna Beach Biological Resources Inventory. To determine habitat value for this purpose, Laguna Beach City GIS maps based on the above-referenced document would be initially referenced and modified as necessary based on site visits by a qualified biologist to reflect current conditions. In general, hand treated sites would be dominated by woody herbaceous or shrub species.

The initial phase of vegetation removal shall include the following steps:

a. Fuel Modification will be conducted by hand crews with chainsaws, brush-cutters, and other hand tools.

b. Hand crew fuel modification shall be the preferred method for fuel modification in high or very high value habitat and shall generally be limited to a width of 100 feet from primary flammable structures.

c. Crews will cut down all non-native vegetation (including unmaintained ornamental vegetation) and dead/dying native vegetation and carefully remove dead branches from trees and large shrubs. An exception may be made where non-native shrubs are providing shading/nurse plant benefits for big-Leaved crownbeard (*Verbesina dissita*), as determined by the biological monitor.

d. Special care will be exercised to distinguish dormant native vegetation from dead/dying native vegetation.

e. Tree-form shrubs (e.g., Laurel sumac (*Malosma laurina*), toyon (*Heteromeles arbutifolia*), Lemonade Berry (*Rhus integrifolia*)) that are over 6 feet tall will be carefully pruned of their lower branches to increase the Crown Base Height to 50 percent of the plant height. For example, a 10-foot-tall plant would have its lower branches removed to a height of 5 feet. Branches will be pruned to within 1 inch or less of the branch crown. Southern Maritime Chaparral shrub species shall be left fully intact except as noted below, and not pruned unless all other hierarchy

opportunities have been exhausted. Pruning methods shall be determined by environmental monitors based upon needs of specific species to maximize probability of survival.

f. For large tree species within FMZ's, non-native trees (*Pinus, Eucalyptus, Washingtonia*, et. al.) shall be considered for removal on a case-by-case basis, taking into consideration their potential ignitability, potential to spread fire from or across the FMZ, and property/tree ownership.

Native large trees (*Quercus, Platanus*, et. al.) shall be pruned of dead components, and lower small branches removed to a height of 8 feet or one half their height, whichever is less, so as to disrupt "fuel ladder" potential. Dead and down tree components on the ground below large trees shall be removed. In areas where vegetative cover is still over 50 percent after the above material has been removed, the contractor will remove healthy live vegetation in accordance with the hierarchical list below, beginning with the first species listed, then in descending order through the list until 50 percent vegetative cover has been attained:

1. Coastal goldenbush (*Isocoma menziezii*)
2. Coyote brush (*Baccharis pilularis*)
3. California buckwheat (*Erigonum fasciculatum*)
4. Black sage (*Salivia mellifera*)
5. California sagebrush (*Artemisia californica*)
6. Monkeyflower (*Mimulus aurantiacus*)
7. Laurel sumac (*Malosma laurina*)
8. Toyon (*Heteromeles arbutifolia*)
9. Lemonade berry (*Rhus integrifolia*)

Stumps will be cut to within 4 inches or less of the ground. Thinning of healthy, live vegetation would be done in a dispersed manner to avoid creating new large openings. All healthy specimens of Southern Maritime Chaparral species including Bush Rue (*Cneoridium dumosum*), Spiny Redberry (*Rhamnus crocea*) and Bigpod Lilac (*Ceanothus megacarpus*) would be retained.

Herbicide Use. Herbicides may be used for targeted treatment of invasive species when identified by the site biologist. Herbicides shall be specific to the intended use and be used is such a manner as to not pose excessive risk to nearby sensitive species or water courses. Herbicides shall not be used on a landscape scale to defoliate large expanses of fuels.

Erosion Control. The majority of roots of perennial plants would be left in place to minimize erosion. Mulch and other erosion control measures (such as scattered brush clippings, straw wattles, straw bales, and/or jute netting) would be installed as necessary for additional protection without being obtrusive, as recommended per site-specific geotechnical reports. Haul paths would be minimized and rehabilitated with mulch or other methods as deemed appropriate by the project biologist. Areas of relatively low slope (i.e., below 33 percent or 1:3 grade) would be mulched to an adequate depth to minimize weed propagation and ongoing maintenance needs.

Disposal of Cut Materials. All dead and cut material would be disposed of properly. All non-native material would be removed from the site, placed in a truck or dumpster, and hauled to a green waste recycler. Green waste that is not accepted by the green waste recycler would be hauled to a landfill. City contractors would generally be conditioned within their contracts to pay all dump fees related to disposal.

Native material would be chipped and used as mulch on-site in areas of moderate slope to reduce erosion and weed propagation. Native material unable to be reused on site would be hauled to a green waste recycler, though efforts would be made to reuse as much native material on site as possible.

Native vegetation under 3 inches in diameter, living or dead, may be processed with hand tools on site and spread in place as mulch, as an alternative to hauling and chipping, if it is cut into pieces not exceeding 12 inches, lays flat on the ground, does not cover remaining native plant species and total mulch depth does not exceed 12 inches. All coarse non-native material (e.g., woody debris, Pampas Grass leaves), living or dead, would be removed from the site, including any material dumped on the Project sites by residents or others.

3.0 Methods

3.1 Literature Review

Prior to conducting field surveys, Aspen biologists reviewed available literature to identify special-status biological resources known from the vicinity of the survey area. The literature and databases listed below were reviewed.

- U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) for the survey area (USFWS, 2023b).
- California Natural Diversity Database (CNDDB) (CDFW, 2023a) for the following 7.5-minute USGS topographic quads: Dana Point, El Toro, Laguna Beach, Newport Beach, San Juan Capistrano, and Tustin.
- California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2023), for the same topographic quads.

The CNDDB results are listed in Attachment 2. Several special-status species identified during the literature review only occur in specialized native habitats that are absent from the survey area or occur at higher or lower elevations. These plants and animals are listed in Attachment 3 but are not addressed further in this report.

3.2 Field Surveys

Aspen biologists Justin Wood, Kala Barron, and Shaun Kehrmeyer completed field surveys of the survey area on May 24, June 5, and June 27, 2023. During the site visits, the biologists conducted 100 percent coverage biological surveys of the survey area where safely accessible. In steep inaccessible terrain, the biologists used binoculars to scan the terrain for biological resources. During the field surveys, all plant and wildlife species observed were recorded in field notes and sensitive species locations were recorded using hand-held GPS units. All plant and wildlife species observed during the surveys are listed in Attachment 4. Representative site photos were captured during the survey and are included in Attachment 5.

The botanical surveys were conducted in conformance with California Department of Fish and Wildlife (CDFW) guidelines (CDFW, 2018). The surveys were (a) conducted during flowering seasons for the special status plants known from the area, (b) floristic in nature, (c) consistent with conservation ethics, (d) systematically covered all habitat types on the sites, and (e) well documented by this report and by voucher specimens to be deposited at California Botanic Garden (formerly Rancho Santa Ana Botanic

Garden) and other herbaria. Plants of uncertain identity were collected and identified later using keys, descriptions, and illustrations in Baldwin et al. (2012).

Vegetation mapping was done by drawing tentative boundaries onto high-resolution aerial images during a site visit on May 24, 2023. These boundaries were then digitized into Geographic Information System (GIS) shapefiles. Vegetation maps were field verified for accuracy on June 27, 2023, and again on August 31, 2023 (see Attachment 1; Figure 3: Vegetation and Land Cover). Vegetation within the survey area is further described below using the names and descriptions in *A Manual of California Vegetation* (Sawyer et al., 2009). Vegetation was mapped digitally using ArcGIS (version 10.7) and one-foot pixel aerial imagery. The smallest mapping unit was approximately 0.05 acre, and most mapped vegetation boundaries are accurate to within approximately 5 feet. Any vegetation map is subject to imprecision for several reasons:

1. Vegetation types tend to intergrade on the landscape so that there are no true boundaries in the vegetation itself. In these cases, a mapped boundary represents best professional judgment.
2. Vegetation types as they are named and described tend to intergrade; that is, a given stand of real-world vegetation may not fit into any named type in the classification scheme used. Thus, a mapped and labeled polygon is given the best name available in the classification, but this name does not imply that the vegetation unambiguously matches its mapped name.
3. Vegetation tends to be patchy. Small patches of one named type are often included within mapped polygons of another type. The size of these patches varies, depending on the minimum mapping units and scale of available aerial imagery.

During the survey, the biologists also assessed the presence of significant stream courses within the survey area. These stream courses, if any, were mapped for avoidance during Project implementation.

In addition to the biological surveys described above, Aspen biologist Jason Berkley completed protocol-level breeding season surveys for coastal California gnatcatcher (*Polioptila californica californica*) within the survey area. Mr. Berkley conducted these surveys according to the USFWS protocol, which requires a total of six surveys to be conducted during the breeding season (USFWS, 1997). Mr. Berkley conducted these surveys on April 12, 26, May 3, 1, 18, and 25, 2023. Additional details on the methods used can be found in the Coastal California Gnatcatcher Survey Report (Appendix B to this report). Results from these surveys have been incorporated into this report.

Rainfall: Rainfall is greatest during the months of November through March, with an average annual precipitation total of 13.55 inches (U.S. Climate Data, 2023). Rainfall for the 2021 to 2022 year was less than 50 percent of average with approximately 6.2 inches falling in the region (Orange County Public Works, 2023).

4.0 General Biological Survey Results

4.1 Vegetation and Cover Types

Vegetation within the survey area consists primarily of lemonade berry scrub, holly leaf cherry – toyon-greenbark ceanothus chaparral, and ornamental/developed areas. Other vegetation types are shown in Table 1 and described below.

Chaparral vegetation within the survey area is dominated by lemonade berry and toyon. Coastal sage scrub vegetation within the survey area is dominated by California sagebrush and black sage. The

vegetation and cover types within the survey area are described in detail below, and acreages are presented in Table 1 and shown in Figure 3 (Attachment 1).

Table 1. Vegetation and Other Cover Types on the Survey Area (Acres)

	Area (Acres)		
Native Vegetation Type	**FMZ 16**	**FMZ 19**	**Survey Area**
Bigpod ceanothus chaparral	0.53	0	0.53
California sagebrush - black sage scrub	0	1.83	1.83
Holly leaf cherry - toyon - greenbark ceanothus chaparral	0.77	3.69	4.46
Lemonade berry scrub	9.23	15.38	24.61
Other Cover Types			
Fountain grass swards	0.38	0	0.38
Ornamental vegetation and development	2.75	4.53	7.28
Total	**13.66**	**25.43**	**36.37**

Bigpod ceanothus chaparral (*Ceanothus megacarpus* Shrubland Alliance). Bigpod ceanothus chaparral is dominated by bigpod ceanothus (Ceanothus megacarpus) which grows on several of the north-facing slopes FMZ 16. Bigpod ceanothus chaparral forms nearly monotypic stands with some occasional shrubs and perennial herbs such as Laurel sumac (*Malosma laurina*), California buckwheat (*Eriogonum fasciculatum*), California brittlebush (*Encelia californica*), and big-leaved crownbeard (*Verbesina dissita*). Bigpod ceanothus chaparral has a State Rank of S4 and is therefore not recognized as a sensitive natural community by CDFW (CDFW, 2023).

California sagebrush scrub – black sage scrub *(Artemisia californica – Salvia mellifera* Shrubland Alliance). California sagebrush - black sage scrub is a type of coastal sage scrub that is dominated by California sagebrush. Within the survey area, black sage (*Salvia mellifera*) is nearly absent as this vegetation dominates an engineered slope that appears to have been restored in the past. In addition to California sagebrush, sweetclover (*Melilotus* sp.), Italian thistle (*Carduus pycnocephalus*), and coyote brush (*Baccharis pilularis*) are also present. California sagebrush scrub – black sage scrub is located in the central portion of FMZ 19 on a restored slope. California sagebrush - black sage scrub has a State Rank of S4 and is therefore not recognized as a sensitive natural community by CDFW (CDFW, 2023).

Holly leaf cherry - toyon - greenbark ceanothus chaparral (*Prunus ilicifolia - Heteromeles arbutifolia - Ceanothus spinosus* Shrubland Alliance). Holly leaf cherry - toyon - greenbark ceanothus chaparral is dominated by toyon (*Heteromeles arbutifolia*) with other shrub and trees species such as coast live oak (*Quercus agrifolia*), scrub oak (*Quercus berberidifolia*), holly leaf redberry (*Rhamnus ilicifolia*), heart leaved keckiella (*Keckiella cordifolia*), blue elderberry (*Sambucus nigra*), and sticky monkeyflower (*Diplacus aurantiacus*) also present. Several non-native species are comprised of a variety of species such as Victorian box (*Pittosporum undulatum*), ngaio tree (*Myoporum laetum*), and garden nasturtium (*Tropaeolum majus*). Holly leaf cherry - toyon - greenbark ceanothus chaparral is present on many of the more mesic north-facing slopes throughout the survey area. Holly leaf cherry - toyon - greenbark ceanothus chaparral has a State Rank of S4 and is therefore not recognized as a sensitive natural community by CDFW (CDFW, 2023d).

Lemonade berry Scrub *(Rhus integrifolia* Shrubland Alliance). Lemonade berry scrub is dominated by lemonade berry (*Rhus integrifolia*). Lemonade berry shrubs grow in low stature with many coastal sage scrub species such as California sagebrush, black sage, California buckwheat, Spiny redberry (*Rhamnus crocea*), deerweed, and occasional larger shrubs such as toyon, laurel sumac, and blue elderberry. Lemonade berry scrub has a State Rank of S3 and is therefore recognized as a sensitive natural community by CDFW (CDFW, 2023d). FMZ 16 and FMZ 19 are dominated by lemonade berry scrub.

Fountain grass swards (*Pennisetum setaceum - Pennisetum ciliare* Herbaceous Semi-Natural Alliance). Fountain grass (*Pennisetum setaceum*) is a non-native invasive grass in California. It is cultivated as an ornamental species and frequently escapes into natural lands. Within the survey area, fountain grass swards dominate one south-facing slope on the western edge of Hobo Canyon within FMZ 16. It appears to be spreading further into the surrounding wildlands. Fountain grass swards are not ranked because they are a non-native plant community, therefore they are not recognized as a sensitive natural community by CDFW (CDFW, 2023d).

Ornamental vegetation and development. This cover type includes landscaped areas and residential developments within the survey area. Ornamental vegetation is comprised of a variety species such as Victorian box, ngaio tree, coastal wattle (*Acacia cyclops*), bank catclaw (*Acacia redolens*), athel (*Tamarix aphylla*), American century plant (*Agave americana*), glossy privet (*Ligustrum lucidum*), pride of madeira (*Echium candicans*), and garden nasturtium. It should also be noted that several Coulter's matilija poppy (*Romneya coulteri*) are also present in these landscaped areas, as discussed in Section 5.1. In addition to the ornamental vegetation, this cover type also includes paved roads, unpaved roads, residential areas, and other unvegetated areas. The ornamental vegetation and development cover type is not ranked because it is a non-native plant community, therefore it is not recognized as a sensitive natural community by CDFW (CDFW, 2023d).

4.2 Sensitive Natural Communities

Sensitive vegetation communities are defined by CDFW (2018) as, "...communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects." The literature review identified eight sensitive vegetation communities recorded near the survey area. These included southern coast live oak riparian forest, southern coastal salt marsh, southern cottonwood willow riparian forest, southern dune scrub, southern foredunes, southern riparian scrub, southern sycamore alder riparian woodland, and valley needlegrass grassland (CDFW, 2023a). None of these sensitive natural communities are present in the survey area. Lemonade berry scrub is the only sensitive natural community present, as described above in Section 4.1.

4.3 Wildlife Habitat

The term habitat refers to the environment and ecological conditions where a species is found. Wildlife habitat is often described in terms of vegetation, though a more thorough explanation includes detail such as availability or proximity to water, suitable nesting or denning sites, shade, foraging perches, cover sites to escape from predators, soils that are suitable for burrowing or hiding, proximity of noise and disturbance, and other factors that are unique to each species. For many wildlife species, vegetation reflects important components of habitat, including regional climate, physical structure, and biological productivity and food resources. Thus, the vegetation descriptions in Section 4.1 are useful overarching descriptors for wildlife habitat.

Wildlife and wildlife signs observed during the field surveys included species common in the region, such as western fence lizard (*Sceloporus occidentalis*), Bewick's wren (*Thryomanes bewickii*), turkey vulture (*Cathartes aura*), and California ground squirrel (*Otospermophilus beecheyi*). One special-status wildlife species, Cooper's hawk (*Accipiter cooperii*), was observed during the surveys and are discussed below in Section 5.0.

5.0 Special-Status Species Results

Based on review of the literature and databases listed above, and on local expertise with the flora and fauna of the survey area, lists of special-status plants and wildlife with potential to occur on the survey area or in the project vicinity were compiled (see Table 2). Plant and wildlife taxa were treated as special-status species if they were classified in one or more of the categories listed in Table 2.

Table 2. Definitions of Special-Status Species

Species Designation	Agency	Definition
Federal Endangered	USFWS	A species that is in danger of extinction throughout all or a significant portion of its range.
Federal Threatened	USFWS	A species that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.
Federal Candidate	USFWS	A species the US Fish and Wildlife Service (USFWS) has designated as a candidate for listing under Section 4 of the federal Endangered Species Act (ESA), published in its annual candidate review, and defined as a species that has sufficient information on its biological status and threats to propose it as endangered or threatened under the ESA, but for which development of a proposed listing regulation is precluded by other higher priority listing activities.
Federal Proposed	USFWS	A species that the USFWS has proposed for listing under Section 4 of the ESA, by publishing a Proposed Rule in the Federal Register.
Protected under the federal Bald and Golden Eagle Protection Act (BGEPA)	USFWS	Bald and golden eagles are protected from take, including harassment, except as permitted by USFWS.
State Endangered	CDFW	A species that is in serious danger of becoming extinct throughout all or a significant portion of its range due to one or more causes, including loss or change in habitat, overexploitation, predation, competition, or disease.
State Threatened	CDFW	A species that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of special protection and management efforts.
State Candidate	CDFW	A species that has been officially noticed by the California Fish and Game Commission as being under review by the CDFW for addition to the threatened or endangered species lists. CDFW candidate species are given no extra-legal protection under state laws.
Fully Protected	CDFW	Animal species fully protected under the California Fish and Game Code. The CDFW may not issue take authorization except for scientific purposes or as provided under SB 618 (2011).
Species of Special Concern	CDFW	A species, subspecies, or distinct population of an animal native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria:

Table 2. Definitions of Special-Status Species

Species Designation	Agency	Definition
		Is extirpated from the state or, in the case of birds, in its primary seasonal or breeding role. Is on the federal, but not state list, of threatened or endangered species. Meets the state definition of threatened or endangered but has not formally been listed. Is experiencing or formerly experienced serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for state threatened or endangered status; or Has naturally small populations exhibiting high susceptibility to risk from any factor(s) that if realized, could lead to declines that would qualify it for state threatened or endangered status. This is an administrative designation and carries no formal legal status. This designation is intended to focus attention on animals at conservation risk, to stimulate research on poorly known species, and to achieve conservation and recovery before these species meet the California Endangered Species Act (CESA) criteria for listing. California Species of Special Concern are considered under the California Environmental Quality Act (CEQA) and require a discussion of impacts and appropriate mitigation to reduce impacts.
Watch List	CDFW	Taxa that were previously Species of Special Concern, but no longer merit that status or which do not meet criteria for designation as Species of Special Concern, but for which there is concern and a need for additional information to clarify status.
Special Animal	CDFW	An animal species that is tracked in the CNDDB but has no other status at the state or federal level.
California Rare Plant Rank (CRPR) 1A	CDFW	Plants presumed to be extinct in California.
CRPR 1B	CDFW	Plants rare or endangered in California and elsewhere.
CRPR 2A	CDFW	Plants presumed extinct in California but more common elsewhere.
CRPR 2B	CDFW	Plants rare or endangered in California but more common elsewhere.
CRPR 3	CDFW	Plants about which more information is needed – a review list.
CRPR 4	CDFW	Plants of limited distribution – a watch list.

Plants or wildlife may be ranked as special-status species due to declining populations, vulnerability to habitat change, or restricted distributions. Certain species have been listed as threatened or endangered under the Federal Endangered Species Act (FESA) or California Endangered Species Act (CESA). Others have not been listed, but declining populations or habitat availability cause concern for their long-term viability. These species of conservation concern appear on lists compiled by resource agencies or private conservation organizations. In this report, "special-status species" includes all plants and wildlife listed as threatened or endangered or included in these other compilations. All special-status plants and wildlife occurring in the region in habitats similar to those found in the survey area are addressed in Table 3, with brief descriptions of habitat and distribution, conservation status, and probability of occurrence on the site.

Table 3. Special-Status Species with Potential to Occur in the Survey Area

Species Name	Habitat Requirements	Flowering or Activity Season	Conservation Status	Potential to Occur
PLANTS				
Aphanisma blitoides Aphanisma	Coastal bluff scrub, coastal dunes, coastal dune scrub; sea level to about 1,000 ft. elev.; San Diego Co. north to Santa Barbara Co.	Feb-Jun	Fed: None CA: S2, 1B.2	**Low**; minimally suitable habitat is present in survey area.
Atriplex coulteri Coulter's saltbush	Perennial herb occurring on ocean bluffs, ridgetops as well as alkaline low places. Coast bluff scrub, coastal dunes, coastal scrub, valley, and foothill grassland.	Mar-Oct	Fed: None CA: S1S2, 1B.2	**Low**; minimally suitable habitat is present in survey area.
Atriplex pacifica South coast saltscale	Annual herb occurring on ocean bluffs, dunes, coastal scrub, and playas; sea level to about 450 ft. elev.; San Diego Co. north to Santa Barbara Co.	Mar-Oct	Fed: None CA: S2, 1B.2	**Low**; minimally suitable habitat is present in survey area.
Calochortus catalinae Catalina mariposa lily	Perennial herb (bulb); chaparral, woodlands, coastal sage scrub, and grasslands with heavy soils; 50-2,300 ft. elev., Riverside Co. north to Santa Barbara Co.	Feb-Jun	Fed: None CA: S3S4, 4.2	**Moderate**; marginally suitable habitat is present in survey area.
Calochortus weedii var. *intermedius* Intermediate mariposa-lily	Occurs on dry, rocky slopes of coastal scrub, chaparral and valley and foothill grasslands; 350-2,800 ft. elev.; Los Angeles, Orange, Riverside, and San Bernardino Cos.	May-Jul	Fed: None CA: S3, 1B.2	**Present**; numerous plants observed within the survey area.
Camissoniopsis lewisii Lewis' evening-primrose	Sandy or clay soils in coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland: sea level to about 1,000 ft. elev.; Los Angeles, Orange, Riverside, San Bernardino, and San Diego Cos.	Mar-May	Fed: None CA: S4, 3	**Low**; minimally suitable habitat is present in survey area.
Cistanthe maritima Seaside cistanthe	Sandy soils in coastal bluff scrub, coastal scrub, and valley and foothill grassland. 50-1,000 ft. elev.; Los Angeles, Orange, and San Diego Cos.	Mar-Jun	Fed: None CA: S3, 4.2	**Low**; minimally suitable habitat is present in survey area.
Comarostaphylis diversifolia ssp. *diversifolia* Summer holly	Chaparral and cismontane woodlands.100-2,590 ft. elev.; Orange and San Diego Cos.	Apr-Jun	Fed: None CA: S2, 1B.2	**High**; previously reported from FMZ 19, unable to relocate during focused surveys.
Deinandra paniculata Paniculate tarplant	Usually in vernally mesic, sometimes sandy soils in coastal scrub, valley and foothill grassland, and vernal pools. 80-3,100 ft. elev.; Los Angeles, Orange, Riverside, San Bernardino, and San Diego Cos.	Apr-Nov	Fed: None CA: S4, 4.2	**Moderate**; suitable habitat is present in survey area.
Dichondra occidentalis Western dichondra	Coastal sage scrub, chaparral, oak woodland. Often in dry sandy banks in scrub or under trees. 150-1,700 ft elev.;	Mar-Jul	Fed: None CA: S3S4, 4.2	**Moderate**; suitable habitat is present in survey area.

Table 3. Special-Status Species with Potential to Occur in the Survey Area

Species Name	Habitat Requirements	Flowering or Activity Season	Conservation Status	Potential to Occur
	Los Angeles, Orange, and San Diego Cos.			
Dudleya blochmaniae ssp. *blochmaniae* Blochman's dudleya	Associated with coastal scrub, coastal bluff scrub, chaparral, valley and foothill grasslands. Open, rocky slopes; often is shallow clays over serpentine areas	Apr-Jun	Fed: none CA: S2, 1B.1	**Low**; minimally suitable habitat is present in survey area.
Dudleya multicaulis Many-stemmed dudleya	Occurs in coastal plains, chaparral often in clay soils and sandstone outcrops; 50-2,600 ft. elev.; Los Angeles and San Bernardino Cos. south to San Diego Co.	Apr-Jul	Fed: None CA: S2, 1B.2	**High**; suitable habitat is present in survey area.
Dudleya stolonifera Laguna Beach dudleya	Rock faces within chaparral, cismontane woodland, coastal sage scrub, valley, and foothill grassland. Occurring on rocky outcrops. 35-855 ft elev. Orange County.	May-Jul	Fed: **THR** CA: **THR**, S1, 1B.1	**Low**; minimally suitable habitat is present in survey area.
Euphorbia misera Cliff spurge	Coastal bluff scrub and coastal sage scrub. Occurring on rocky soils.35-1640 ft elev. Orange and San Diego Cos.	Dec-Aug	Fed: None CA: S2, 2B.2	**Low**; minimally suitable habitat is present in survey area.
Horkelia cuneata var. *puberula* Mesa horkelia	Dry, sandy, coastal chaparral, and cismontane woodland; 200-2,700 ft. elev.; San Luis Obispo Co. south to San Diego Co.	Feb-Jul	Fed: None CA: S1, 1B.1	**Low**; minimally suitable habitat is present in survey area.
Isocoma menziesii var. *decumbens* Decumbent goldenbush	Utilizes coastal sage scrub habitat intermixed with grassland and is more partial to clay soils than other closely related varieties; 35-445 ft. elev.; Los Angeles, Orange, and San Diego Cos.	Apr-Nov	Fed: None CA: S2, 1B.2	**Present**; northern portion FMZ 19.
Juglans californica Southern California black walnut	Small tree; chaparral, woodlands, coastal scrub, and riparian woodlands; 165-3000 ft. elev.; San Diego Co. north throughout much of coastal California.	Mar-Aug	Fed: none CA: S4, 4.2	**High**; suitable habitat is present in survey area.
Lepidium virginicum var. *robinsonii* Robinson's pepper grass	Chaparral and coastal sage scrub; sea level to about 2,900 ft. elev.; Los Angeles and San Bernardino Cos. south to San Diego Co.	Jan-Jul	Fed: None CA: S3, 4.3	**Moderate**; suitable habitat is present in survey area.
Lycium californicum California box-thorn	Coastal bluff scrub, coastal scrub; 15-490 ft. elev.; Los Angeles, Orange, Riverside, San Bernardino, and San Diego Cos.	Mar-Aug	Fed: None CA: S4, 4.2	**Low**; marginally suitable habitat is present in survey area.
Malacothrix saxatilis var. *saxatilis* Cliff malacothrix	Coastal bluff scrub, coastal scrub. 10-655 ft. elev.; Santa Barbara Co. south to Orange Co.	Mar-Sep	Fed: None CA: S4, 4.2	**Low**; minimally suitable habitat is present in survey area.
Phacelia ramosissima var. *austrolitoralis*	Sandy, sometimes rocky soils in chaparral, coastal dunes, coastal scrub, and marshes and swamps (coastal salt);	Mar-Aug	Fed: None CA: S3, 3.2	**Low**; marginally suitable habitat is present in survey area.

Table 3. Special-Status Species with Potential to Occur in the Survey Area

Species Name	Habitat Requirements	Flowering or Activity Season	Conservation Status	Potential to Occur
South coast branching phacelia	15-985 ft. elev.; Santa Barbara Co. south to San Diego Co.			
Polygala cornuta var. *fishiae* Fish's Milkwort	Mesic chaparral and coastal sage scrub, dry drainage courses; 180-5,800 ft. elev.; Los Angeles, Orange, and San Diego Cos.	May-Aug	Fed: None CA: S4, 4.3	**Present**; one patch of plants observed in southern portion FMZ 19.
Quercus dumosa Nuttall's scrub oak	Closed-cone coniferous forest, chaparral, and coastal sage scrub. Occurring on sandy, clay loam soils; sea level to about 650 ft. elev.; Santa Barbara Co. south to San Diego Co.	Feb-Mar	Fed: None CA: S3, 1B.1	**Moderate**; suitable habitat is present in survey area.
Romneya coulteri Coulter's matilija poppy	Chaparral and coastal scrub, often in burned areas, 65-4000 ft. elev.; San Diego Co. north throughout much of coastal Southern California.	Mar-Jul	Fed: None CA: S4, 4.2	**Present**; several planted individuals observed in FMZ 16.
Senecio aphanactis Chaparral ragwort	Chaparral, cismontane woodland, coastal scrub. Sometimes associated with alkaline soils; 50-2,625 ft. elev.; Santa Barbara Co. south to San Diego Co.	Jan-Apr	Fed: None CA: S2, 2B.2	**Low**; marginally suitable habitat is present in survey area.
Suaeda taxifolia Woolly seablite	Coastal bluff scrub, coastal dunes, marshes, and swamps (margins of coastal salt); sea level to about 165 ft. elev.; San Luis Obispo Co., south to San Diego Co.	Jan-Dec	Fed: None CA: S4, 4.2	**Low**; marginally suitable habitat is present in survey area.
Verbesina dissita Big-leaved crownbeard	Southern maritime chaparral, coastal sage scrub; 150-675 ft. elev.; Los Angeles and Orange Cos.	Apr-Jul	Fed: **THR** CA: **THR**, S1, 1B.1	**Present;** throughout FMZ 16.
INVERTEBRATES				
Bombus crotchii Crotch bumble bee	Colonial insect; open grassland and scrub; underground colonies, often in old rodent burrows. Many food plants including *Chaenactis, Lupinus, Phacelia, Salvia*, and *Eriogonum*. Much of southern and central CA, SW Nevada, and Baja.	Spring – Summer	Fed: None CA: **CAN (END)**, S2	**Moderate**; suitable habitat and food plants present.
Danaus plexippus pop. 1 Monarch – California overwintering population	Closed-cone coniferous forest habitat; roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	Year-round	Fed: **CAN** CA: S2	**Low** (roosting); **High** (foraging); suitable foraging habitat present, limited roosting habitat present.
REPTILES				
Anniella stebbinsi Southern California legless lizard	Occurs in a variety of habitats, chaparral, coastal scrub generally in moist, loose soil.	Spring – Summer	Fed: None CA: S3, CSC	**Low**; marginally suitable habitat is present in survey area.

Table 3. Special-Status Species with Potential to Occur in the Survey Area

Species Name	Habitat Requirements	Flowering or Activity Season	Conservation Status	Potential to Occur
Arizona elegans occidentalis California glossy snake	Generalist occurring in a range of scrub and grassland habitats, often with loose or sandy soils.	Feb-Nov	Fed: None CA: S2, CSC	**Low**; marginally suitable habitat is present in survey area.
Aspidoscelis hyperythra Orange-throated whiptail	Prefers washes and other sandy areas with patches of brush and rocks. Perennial plants necessary for its major food source; termites.	Year-round	Fed: None CA: S2S3, WL	**High**; suitable habitat is present in survey area.
Aspidoscelis tigris stejnegeri Coastal whiptail	Occurs in deserts and semi-arid areas with sparse vegetation in firm soil, sandy, or rocky soils.	Year-round	Fed: None CA: S3, CSC	**High**; suitable habitat is present in survey area.
Crotalus ruber Red-diamond rattlesnake	Prefers coastal sage scrub, rocky hillsides, and lower woodlands.	Spring – Summer	Fed: None CA: S3, CSC	**High**; suitable habitat is present in survey area.
Phrynosoma blainvillii Coast horned lizard	Forest, shrubland or grassland; sandy soils; W Calif. From LA Co S through N Baja Calif., below about 6000 ft. elev.	Temp dependent	Fed: None CA: S4, CSC	**High**; suitable habitat is present in survey area.
Salvadora hexalepis virgultea Coast patch-nosed snake	Burrows in loose soil in semi-arid bushy areas and chaparral in canyon, rocky hillsides, and plains.	Year-round	Fed: None CA: S3, CSC	**Low**; marginally suitable habitat is present, not known from within 10 miles.
BIRDS				
Accipiter cooperii Cooper's hawk	Woodland, chiefly of open, interrupted, or marginal type; nest sites mainly in riparian growths of deciduous trees.	Year-round	Fed: None CA: S4, WL	**Present**; suitable foraging and nesting habitat throughout.
Aimophila ruficeps canescens Southern California rufous-crowned sparrow	Arid and steep rocky areas chaparral and coastal sage scrub including low grasses and shrubs.	Spring – Summer	Fed: None CA: S3, WL	**High**; suitable habitat is present in survey area.
Ammodramus savannarum Grasshopper sparrow	Favors native grasslands with a mix of grasses, forbs, and scattered shrubs. Loosely colonial when nesting.	Spring – Summer	Fed: None CA: S3, CSC	**Low**; minimally suitable habitat present.
Aquila chrysaetos Golden eagle	Forages in open grasslands, desert scrub and agricultural fields. Nests on ledges on cliff faces, rock outcrops and occasionally in large trees.	Year-round	Fed: **BGEPA** CA: S3, FP	**Minimal** (nesting); no suitable nesting habitat. **Moderate** (foraging only); suitable habitat present.
Athene cunicularia Burrowing owl	Nests mainly in rodent burrows, usually in open grassland or shrubland; forages in open habitat; increasingly uncommon in S Calif.; through W US and Mexico.	Year-round	Fed: None CA: S3, CSC	**Minimal** (nesting); no nesting habitat. **Low** (foraging only); limited suitable foraging and wintering habitat.

Table 3. Special-Status Species with Potential to Occur in the Survey Area

Species Name	Habitat Requirements	Flowering or Activity Season	Conservation Status	Potential to Occur
Buteo regalis Ferruginous hawk	Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon and juniper habitats.	Year-round	Fed: None CA: S3S4, WL	**Minimal** (nesting); **Low** (foraging only); not within nesting range, suitable foraging habitat present.
Buteo swainsoni Swainson's hawk	Grasslands with scattered trees, juniper-sage flats, riparian areas, and agricultural lands.	Year-round	Fed: None CA: **THR**, S3	**Minimal** (nesting); **Low** (foraging only); not within nesting range, suitable foraging habitat.
Campylorhynchus brunneicapillus sandiegensis Coastal cactus wren	Coastal sage scrub requires tall opuntia cactus for nesting and roosting.	Year-round	Fed: None CA: S2, CSC	**Moderate**; marginally suitable habitat is present within the survey area.
Elanus leucurus White-tailed kite	Typically nests at lower elevations in riparian trees, including oaks, willows, and cottonwoods, forages over open country. Throughout much of cismontane California.	Spring – Summer	Fed: None CA: S3S4, FP	**Minimal** (nesting); **High** (foraging only); suitable foraging habitat present, known from within 0.5 miles.
Eremophila alpestris actia California horned lark	Open, flat lands incl. sparse sagebrush or grassland, meadows, alkali flats; wide elev. range; breeds in western Calif (San Diego Co through Humboldt Co) and Baja Calif; winters in same range.	Year-round	Fed: None CA: S4, WL	**Moderate** (seasonal foraging); **Low** (nesting); Marginally suitable nesting habitat.
Falco peregrinus anatum American peregrine falcon	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, and human-made structures.	Year-round	Fed: DEL CA: DEL, S3S4, FP	**Low** (nesting); **High** (foraging only); suitable nesting habitat present.
Polioptila californica californica Coastal California gnatcatcher	Permanent resident of coastal sage scrub in arid washes, on mesas and slopes.	Year-round	Fed: **THR** CA: S2, CSC	**Moderate**; suitable habitat is present. Not detected in protocol-level surveys.
MAMMALS				
Choeronycteris mexicana Mexican long-tongued bat	Pinyon and juniper woodlands, riparian scrub. Roosts in relatively well-lit caves and in and around buildings.	Spring – Summer	Fed: None CA: S1, CSC	**Minimal** (roosting); **Low** (foraging); roosting habitat is not present, marginally suitable habitat is present.
Eumops perotis californicus Western mastiff bat	Lowlands (rare exceptions); cent. and S Calif., S Ariz., NM, SW Tex., N Mexico; roost in deep rock crevices, forage over wide area.	Year-round	Fed: None CA: S3S4, CSC	**Minimal** (roosting); roosting habitat is absent. **Low** (foraging); marginally suitable habitat is present.

Table 3. Special-Status Species with Potential to Occur in the Survey Area

Species Name	Habitat Requirements	Flowering or Activity Season	Conservation Status	Potential to Occur
Lasiurus cinereus Hoary bat	Prefers deciduous and coniferous woodlands; primarily roosts in tree foliage.	Spring – Summer	Fed: None CA: S4	**Low** (roosting); **High** (foraging). Suitable foraging habitat is present; suitable roosting habitat is limited.
Myotis yumanensis Yuma myotis	Distribution tied to water bodies, optimal habitats are open forests and woodlands.	Spring – Summer	Fed: None CA: S4	**Low** (roosting); **Moderate** (foraging). Suitable foraging habitat is present; suitable roosting habitat is limited.
Neotoma lepida intermedia San Diego desert woodrat	Arid shrublands, esp. around rocky outcrops & crevices; cismontane Calif from San Luis Obispo to San Diego Co, and NW Baja Calif.	Year-round	Fed: None CA: S3S4, CSC	**High**; suitable habitat is present.
Nyctinomops macrotis Big free-tailed bat	Arid lowlands throughout S. Calif., roosts on high cliffs in rocky outcrops. Forages in a variety of habitats and feeds on months.	Spring – Summer	Fed: None CA: S3, CSC	**Minimal** (roosting); roosting habitat is absent. **Low** (foraging); marginally suitable habitat is present.

General references (botany): Baldwin et al., 2012; CDFW, 2023a; CDFW, 2023b; CNPS, 2023; and CCH, 2023. General references (wildlife): American Ornithologists' Union, 1998 (including supplements through 2013); Barbour and Davis, 1969; CDFW, 2023a; CDFW, 2023c; eBird.org, 2023; Feldhamer et al., 2003; Garrett and Dunn, 1981; Hall, 1981; iNaturalist.org, 2023; Jennings and Hayes, 1994; Stebbins, 2003; Wilson and Ruff, 1999; and Zeiner et al., 1990.

Conservation Status

***Federal designations* (*Fed*):** (federal ESA, USFWS).

END: Federally listed, endangered.
THR: Federally listed, threatened.
CAN: Sufficient data are available to support federal listing, but not yet listed.
Proposed: Formally proposed for the federal status shown.
BGEPA: Bald and Golden Eagle Protection Act
DEL: Delisted

***State designations* (*CA*):** (CESA, CDFW)

END: State listed, endangered.
THR: State listed, threatened.
CAND: Sufficient data are available to support federal listing, but not yet listed.
RARE: State listed as rare (applied only to certain plants).
CSC: California Species of Special Concern. Considered vulnerable to extinction due to declining numbers, limited geographic ranges, or ongoing threats.
WL: Species that were either previously listed as SC and have not been state listed under CESA; or were previously state or federally listed and now are on neither list; or are on the list of "Fully Protected" species.
FP: Fully protected. May not be taken or possessed without permit from CDFW.

CDFW Natural Diversity Data Base Designations: Applied to special-status plants and sensitive plant communities; where correct category is uncertain, CDFW uses two categories or question marks.

S1: Fewer than 6 occurrences or fewer than 1,000 individuals or less than 2,000 acres.
S1.1: Very threatened
S1.2: Threatened
S1.3: No current threats known
S2: 6-20 occurrences or 1,000-3,000 individuals or 2,000-10,000 acres (decimal suffixes same as above).
S3: 21-100 occurrences or 3,000-10,000 individuals or 10,000-50,000 acres (decimal suffixes same as above).
S4: Apparently secure in California; this rank is clearly lower than S3 but factors exist to cause some concern, i.e., there is some threat or somewhat narrow habitat. No threat rank.

S5: Demonstrably secure or ineradicable in California. No threat rank.
SH: All California occurrences historical (i.e., no records in > 20 years).
SX: Presumed extirpated in California.

California Rare Plant Rank designations. Note: According to the California Native Plant Society (http://www.cnps.org/cnps/rareplants/ranking.php), plants ranked as CRPR 1A, 1B, and 2 meet definitions as threatened or endangered and are eligible for state listing. That interpretation of the state Endangered Species Act is not in general use.
1A: Plants presumed extinct in California.
1B: Plants rare and endangered in California and throughout their range.
2A: Plants presumed extinct in California but more common elsewhere in their range.
2B: Plants rare, threatened or endangered in California but more common elsewhere in their range.
3: Plants about which we need more information; a review list.
4: Plants of limited distribution; a watch list.

California Rare Plant Rank Threat designation extensions:
.1 Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 Fairly endangered in California (20-80% occurrences threatened)
.3 Not very endangered in California (<20% of occurrences threatened or no current threats known)

Definitions of occurrence probability: Estimated occurrence probabilities are based on literature sources cited earlier, field surveys, and habitat analyses reported here.
Present: Observed on the site by qualified biologists.
High: Habitat is a type often utilized by the species and the site is within the known range of the species.
Moderate: Site is within the known range of the species and habitat on the site is a type occasionally used.
Low: Site is within the species' known range but habitat is rarely used, or the species was not found during focused surveys covering less than 100% of potential habitat or completed in marginal seasons.
Minimal: No suitable habitat on the site; or well outside the species' known elevational or geographic ranges; or a focused study covering 100% of all suitable habitat, completed during the appropriate season and during a year of appropriate rainfall, did not detect the species.

5.1 Special-Status Plants

5.1.1 Listed Threatened or Endangered Plants

This section describes plant species reported from the region that are listed as threatened or endangered under the federal ESA or CESA and are present or have a potential to be present on the survey area. Several listed plant species were identified during the literature review but none of these species were observed during the biological surveys.

Big-leaved crownbeard (*Verbesina dissita*). Big-leaved crownbeard is a federal and state threatened species with a CRPR of 1B.1 (CDFW, 2023a). It is a perennial herb native to California found in shrubby coastal slopes at lower elevations. CNDDB occurrences overlap with the Project area in FMZ 16. Big-leaved crownbeard was observed during surveys in FMZ 16, in the western portion of the survey area along Nyes Place and in the eastern portion along K Street (see Figure 4; Attachment 1).

5.1.2 Other Special-Status Plants

In addition to the federal and state endangered species regulations noted above, CDFW and CNPS maintain lists of plants of conservation concern. The CDFW compiles these species including CDFW and CNPS rankings as CRPR 1, 2, 3, or 4 in its compendium of "Special Plants" (CDFW, 2023b). These plants are treated here as "special-status species." Two CRPR 1B species and two CRPR 4 species were observed in the survey area. Several other CRPR ranked species have at least a moderate potential to be present and are discussed below.

Intermediate mariposa lily (*Calochortus weedii var. intermedius*). Intermediate mariposa lily has a CRPR of 1B.2 (CDFW, 2023b). It is a perennial bulbiferous herb that occurs in rocky areas in chaparral, coastal sage scrub, and valley and foothill grassland. It is native to California and is found in Los Angeles, Orange, Riverside, and San Bernardino Counties. The nearest CNDDB occurrences are adjacent to FMZ 16, between Nyes Place and K Street and to the south and east in Aliso and Wood Canyons Wilderness Park.

Intermediate mariposa lily was observed during surveys in both FMZs 16 and 19 (see Figure 4; Attachment 1).

Decumbent goldenbush (*Isocoma menziesii var. decumbens*). Decumbent goldenbush has a CRPR of 1B.2 (CDFW, 2023a). It is a perennial shrub that is native to California and occurs in sandy soils in chaparral, coastal sage scrub on the landward side of dunes and arroyos primarily in Southern California coastal areas. The nearest CNDDB occurrence is less than 0.5 mile south of FMZ 16. Decumbent goldenbush was observed in FMZ 19, in the northern portion of the survey area near Summit Drive (see Figure 4; Attachment 1).

Many stemmed dudleya (*Dudleya multicaulis*). Many stemmed dudleya has a CRPR of 1B.2 (CDFW, 2023a). It is an ephemeral perennial that grows on heavy soils and rocky outcrops in coastal sage scrub. It is known from approximately 154 occurrences that stretch from Ventura and Los Angeles Counties south to San Diego County (CDFW, 2022a). Many stemmed dudleya was not observed within the survey area, but suitable habitat is present. The nearest occurrence is less than 1 mile north of FMZ 19 and there is a high potential for this species to be present (CDFW, 2023a).

Summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*). Summer holly has a CRPR of 1B.2 (CDFW, 2023a). It is a large shrub that grows in chaparral and cismontane woodlands. It is known from approximately 112 extant occurrences in Orange and San Diego Counties (CDFW, 2023a). Summer holly was not observed within the survey area but is known from a previous record within FMZ 19 (CDFW, 2023a). There is a possibility that summer holly was overlooked because of the steep terrain and dense vegetation within this portion of the survey area. Aside from this occurrence, the nearest extant occurrence is approximately 0.25 miles east of FMZ 19 (CDFW, 2023a).

Nuttall's scrub oak (*Quercus dumosa*). Nuttall's scrub oat is a perennial evergreen shrub with a CRPR of 1B.1 (CDFW, 2023a). It is generally found in sandy soils near the coast within chaparral and coastal sage scrub habitats. It is known throughout most of the California coastal areas. Although this species was not observed at the survey area, known occurrences are found just over 1 mile to the east of the survey area and there is a moderate potential for this species to occur.

California Rare Plant Rank (CRPR) 4 Species. Two CRPR 4 species (i.e., a "watch list," not indicating rarity), Fish's milkwort (*Polygala cornuta* var. *fishiae*) and Coulter's matilija poppy (*Romneya coulteri*), were found during the biological surveys within the survey area. One patch of Fish's milkwort was observed in FMZ 19, in the southern portion of the survey area. Several patches of Coulter's matilija poppy were observed in FMZ 16, adjacent to residential development, and were likely planted. In addition, Southern California black walnut (*Juglans californica*), was not observed but has a high potential to be present, while paniculate tarplant (*Deinandra paniculata*), western dichondra (*Dichondra occidentalis*), and Robinson's pepper grass (*Lepidium virginicum* var. *robinsonii*) have a moderate potential to occur.

5.2 Special-Status Wildlife

5.2.1 Listed Threatened or Endangered Wildlife

This section includes species listed as threatened or endangered under CESA or FESA which were detected or have at least a moderate potential to be present on the survey area. No listed wildlife species were observed on the survey area during the surveys, but three species have a potential to be present and are discussed below. No designated critical habitat for federally listed wildlife species is present within the survey area.

Coastal California gnatcatcher (*Polioptila californica californica*). Coastal California gnatcatcher is listed as threatened under the FESA (CDFW, 2023a). Its geographic range is primarily coastal Southern California from Ventura County, inland to the Santa Clarita area, Banning area, and southward through northwestern Baja California. Its habitat is coastal sage scrub largely composed of California sagebrush, California buckwheat, and other low-growing, drought-deciduous shrubs. There is suitable habitat for Coastal California gnatcatcher within the survey area, but none were detected during protocol-level surveys conducted in 2023 (see Appendix B to this report). CNDDB occurrences overlap with the Project in FMZ 16.

Crotch bumble bee (*Bombus crotchii*). Crotch bumble bee is a Candidate for listing under CESA. Crotch bumble bee is a widespread secretive species that is known from more than two hundred locations over a broad geographic range (CDFW, 2023a). It is typically found in openings in grassland and scrub habitats where it burrows into the ground and lives in colonies. It feeds on native plants including milkweed, pincushion, lupine, phacelia, sage, snapdragon, clarkia, bush poppy, and buckwheat. Many of these food plants are present on the survey area and suitable burrowing habitat is also present. Crotch bumblebee has a moderate potential to be present on the site and is known from numerous observations in the region, including a recent observation within 2 miles of FMZ 16 (iNaturalist, 2023).

Monarch (*Danaus plexippus* pop. 1). Overwintering populations of monarch in California are a candidate for federal listing under the ESA. The listing would only protect these overwintering sites and not individual butterflies or their food plants. Monarch and their food plants are widespread in California and although milkweed was not seen on the survey area, monarchs have a high potential to be present. Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico and roosts are generally located in wind-protected tree groves. No monarch butterflies were observed during the surveys but there is a high potential for butterflies to forage within the survey area. No overwintering roost sites are known from within the survey area and there is a low potential for roosting.

5.2.2 Species Protected Under the Federal Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 U.S.C. §§ 668-668d; BGEPA) prohibits take of bald eagles and golden eagles. The BGEPA defines *take* to include "pursuing, shooting, shooting at, poisoning, wounding, killing, capturing, trapping, collecting, molesting, and disturbing." The USFWS (2007) further defines *disturb* as "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

Golden Eagle (*Aquila chrysaetos*). Golden eagles are year-round residents throughout most of their range in the western United States. In the southwest, they are more common during winter when eagles that nest in Canada migrate south into the region. They breed from late January through August in California (Pagel et al., 2010). Golden eagles are wide-ranging predators, especially outside of the nesting season, when they do not need to return to tend eggs or young at their nests. Golden eagle foraging habitat consists of open terrain such as grasslands, deserts, savanna, and early successional forest and shrubland habitats throughout the regional foothills, mountains, and deserts. They prey primarily on rabbits and rodents but will also take other mammals, birds, reptiles, and carrion (Kochert et al., 2002). Suitable nesting habitat is absent from the survey area. Golden eagles were not observed during the survey but have been reported in the vicinity of the survey area and have a moderate potential to forage.

5.2.3 Wildlife Species Fully Protected Under the California Fish and Game Code

Under the state Fish and Game Code, selected fish and wildlife species are designated as fully protected, prohibiting take except under permit for scientific purposes. Most designated fully protected species occur well outside the Project vicinity, but several may be found in the survey area. These include golden eagle (discussed above, species protected under the Bald and Golden Eagle Protection Act), American peregrine falcon, and white-tailed kite as discussed below. It should also be noted that a recently proposed trailer bill is making its way through the state legislation that would reclassify fully protected species and do away with the current regulation in Fish and Game Code. Of the 37 species currently protected as fully protected species in California, 15 will be listed as threatened under the CESA, 19 will be listed as endangered under CESA, and three will have no listing status and would retain the protections afforded to species generally under the Fish and Game Code.

American Peregrine Falcon (*Falco peregrinus anatum*). Peregrine falcons were formerly listed under CESA and ESA but have been delisted under both acts. They are fully protected under the state Fish and Game Code. They are found regularly in the coastal region of Southern California. They feed primarily on birds captured during flight. Waterfowl and shorebirds make up a large proportion of their prey, and nest sites are often within foraging range of large water bodies. American peregrine falcon was not observed during the recent surveys but are known from numerous records in the region (eBird.org, 2023).

White-tailed Kite (*Elanus leucurus*). White-tailed kites are not formerly listed under CESA and ESA but are fully protected under the state Fish and Game Code. They are found regularly in rolling foothills, valleys, riparian river bottoms, and woodlands. They feed primarily on small mammals and are permanent residents in Southern California. White-tailed kites were not observed during the survey, but there is suitable foraging habitat in portions of the survey area. White-tailed kite was not observed during the recent surveys but are known from numerous records in the region (eBird.org, 2023).

5.2.4 California Wildlife Species of Special Concern

Coastal whiptail (*Aspidoscelis tigris stejnegeri*). Coastal whiptail are found in coastal Southern California, mostly west of the Peninsular Ranges and south of the Transverse Ranges. Their range extends north into Ventura County and south to Baja California. The coastal whiptail occurs in a variety of habitats including various upland and riparian habitats. It is most commonly associated with areas of dense vegetation but is also found around sandy areas along gravelly arroyos or washes (Stebbins, 2003). Coastal whiptail were not observed within the survey area but have a high potential to be present throughout the survey area.

Red-diamond rattlesnake (*Crotalus ruber*). Red-diamond rattlesnake live between sea level and about 5,000 feet elevation throughout most of Orange County and western Riverside County, south through San Diego and Baja California, and inland to the Colorado Desert margins. Their habitats include coastal sage scrub, chaparral, and woodlands through most of their geographic range, and desert scrub at the eastern margins of their range. There are numerous records of red diamond rattlesnakes from the Santa Ana Mountains to the east of the survey area. The nearest known occurrence is about 2 miles to the east of FMZ 16. Red diamond rattlesnake has not been reported on the survey area, but habitat throughout the site appears suitable and there is a high potential to be present.

Coast horned lizard (*Phrynosoma blainvillii*). Coast horned lizard are found throughout much of coastal Southern California, inland as far as the southern Mojave Desert and to about 6,000 ft elevation in the mountains. Coast horned lizards occur in sandy soils in a variety of shrubland, grassland, and woodland habitat types. They have been extirpated from much of their historic range by land use changes, but they

remain fairly common in natural open space areas where their primary prey (native ants) is found. Coast horned lizard were not observed within the survey area but have a high potential to be present on the survey area.

Coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*). Coastal cactus wrens are found in coastal Southern California, from Orange and Riverside Counties south into San Diego County and Baja California. Coastal cactus wrens occur in coastal sage scrub habitat, primarily in areas with patches of cactus (*Opuntia* sps.). Coastal cactus wrens were not observed within the survey area but are known from within less than 1 mile of FMZ 16 (eBird.org, 2023). There is a moderate potential for cactus wren to be present within the survey area.

San Diego desert woodrat (*Neotoma lepida intermedia*). San Diego desert woodrat is known from coastal and desert scrub and rocky outcrops throughout much of Southern California (CDFW, 2022). It frequently builds large middens (piles of sticks and debris arranged to form a shelter) in rock outcrops or around the bases of shrubs. In some portions of its range, it builds middens primarily at the bases of cactus (*Opuntia* sps.) and yucca (*Yucca* sps.) plants (Feldhamer et al., 2003). This species was not observed but the habitat is suitable, and it has a high potential to occur in the survey area.

Bats. Five special-status bat species have at least a low potential to forage over the survey area: Western mastiff bat (*Eumops perotis californicus*), hoary bat (*Lasiurus cinereus*), Yuma myotis (*Myotis yumanensis*), Mexican long-tongued bat (*Choeronycteris Mexicana*), and big free-tailed bat (*Nyctinomops macrotis*). Most of these bats forage in open areas over grasslands, agricultural areas, shrublands, and open water. They generally roost in rock crevices, mines, caves, and occasionally buildings and foliage of trees. These species are unlikely to roost in the survey area because of a lack of suitable roosting habitat.

5.2.5 Other Special-Status Wildlife Species

Orange-throated whiptail (*Aspidoscelis hyperythra*). Orange-throated whiptail are found in coastal Southern California, mostly from Riverside and Orange Counties south into San Diego County and Baja California. The orange-throated whiptail occurs in a variety of habitats including woodlands, coastal sage scrub, and chaparral. It is often found in sandy areas with patches of brush and rocks (CDFW, 2023a). Orange-throated whiptail were not observed during recent surveys but are known from within approximately 1 mile of FMZ 16 and have a high potential to be present (iNaturalist, 2023).

Other Special-status Birds. Cooper's hawk (*Accipiter cooperii*) is the only special-status animals observed in the survey area (see Figure 4; Attachment 1). Cooper's hawk is a "Watch List" wildlife bird species but has no formal protection. Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*) is also a "Watch List" wildlife bird species and has a high potential to be present. Neither of these species are afforded specific protection under either state or federal regulations.

5.3 Designated Critical Habitat

The literature review conducted prior to conducting field surveys determined that the survey area is not within federally designated critical habitat for any species. The nearest designated critical habitat to the Project area is for tidewater goby and coastal California gnatcatcher, approximately 0.5 mile to the southeast along Aliso Creek (USFWS, 2023a). Critical habitat for thread-leaved brodiaea (*Brodiaea filifolia*) is located approximately 2 miles to the east (USFWS, 2023a).

5.4 Native Birds: Migratory Bird Treaty Act (MBTA) / California Fish and Game Code

The federal MBTA prohibits take of any migratory bird, including eggs or active nests, except as permitted by regulation (e.g., licensed hunting of waterfowl or upland game species). Under the MBTA, "migratory bird" is broadly defined as "any species or family of birds that live, reproduce or migrate within or across international borders at some point during their annual life cycle" and thus applies to most native bird species. California Fish and Game Code Section 3503 prohibits take, possession, or needless destruction of bird nests or eggs; Section 3503.5 prohibits take or possession of birds of prey or their eggs; and Section 3513 prohibits take or possession of any migratory nongame bird. Except for a few non-native birds, such as European starling, the take of any birds or loss of active bird nests or young is regulated by these statutes. Most of these species have no other special conservation status as defined above.

The survey area has many trees, shrubs, and open areas that may provide nesting habitat. Numerous common birds are known to nest on the survey area or have a potential to nest there. Many adult birds would flee from work areas during project activities; however, nestlings and eggs would be vulnerable. If project activities include heavy equipment or brush removal during nesting season, then it would likely destroy bird nests, including eggs or nestling birds. For most birds, these impacts can be avoided by scheduling brush clearing and activities outside the nesting season. Or, if brush clearing and activities are undertaken during nesting season, work may be limited only to areas where no nesting birds are present, as documented by pre-activity nest surveys.

Some birds are likely to nest in the survey area during work activities, even after initial brush clearing have been completed. Depending on the species, birds may nest on the ground; in adjacent vegetation; or on equipment that is left overnight or during a long weekend. The species most likely to nest in the survey area during construction include species such as common ravens, house finches, California towhee, and mourning doves, all of which are protected by the MBTA and Fish and Game Code. Due to the high probability that birds may nest on site during work activities, regular monitoring and nest site management may be necessary throughout the breeding season.

5.5 Wildlife Movement

The ability for wildlife to move freely among populations and habitat areas is important to long-term genetic variation and demography. Fragmentation and isolation of natural habitat may cause loss of native species diversity in fragmented habitats. In the short term, wildlife movement may also be important to individual animals' ability to occupy their home ranges, if their ranges extend across a potential movement barrier. These considerations are especially important for rare, threatened, or endangered species, and wide-ranging species such as large mammals, which exist in low population densities.

The California Essential Habitat Connectivity Project was commissioned by the California Department of Transportation (Caltrans) and CDFW to create a statewide assessment of essential habitat connectivity to be used for conservation and infrastructure planning (Caltrans and CDFW, 2010). One of its goals was to create the Essential Connectivity Map, which depicts large, relatively natural habitat blocks that support native biodiversity (natural landscape blocks) and areas essential for ecological connectivity between them (essential connectivity areas). This assessment does not reflect the needs of particular species but is based on overall biological connectivity and ecological integrity. The survey area is not located within any identified Essential Habitat Connectivity Areas or Natural Landscape Blocks; however, a natural landscape block is located less than 1 mile to the east in Aliso and Wood Canyons Wilderness Park. The survey area is likely to support more localized movement within the region.

5.6 Jurisdictional Waters

One USGS blue-line drainages is mapped within FMZ 16 in the bottom of Hobo Canyon and at the time of the surveys surface water was present. This feature is likely to fall under the jurisdiction of the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), CDFW, and/or California Coastal Commission (CCC). A total of 14 Significant Drainage Courses, including Hobo Canyon, have also been mapped by the City of Laguna Beach within the survey area (see Figure 4; Attachment 1). These mapped Significant Drainage Courses would potentially be regulated as jurisdictional waters by the USACE, RWQCB, CDFW, and/or CCC.

5.7 High and Very High Value Habitat

"High value" and "very high value" habitats were mapped by the City of Laguna Beach in the City's General Plan, Open Space and Conservation Elements (City of Laguna Beach, 2005). The Biological Value Map is based on the habitat integrity and extent, faunal use, and presence of endangered, rare or locally unique biota. "High value" habitats are dominated by a diversity of indigenous plant communities and wildlife dispersion corridors and are usually linked with open space areas outside the City. "Very high value" habitats include the habitats of endangered, rare or locally unique native plant species, and represent the most significant and sensitive open space areas that are likely to experience the most impact from urban development. Acres of High Value and Very High Value habitat are outlined in Table 4 and depicted in Figure 4 (Attachment 1).

Table 4. High Value Habitats in the Survey Area (Acres)

	Area (Acres)		
Habitat Type	**FMZ 16**	**FMZ 19**	**Survey Area**
High Value Habitat	0.00	6.99	6.99
Very High Value Habitat	3.21	0.04	3.25
Total	**3.21**	**7.03**	**10.24**

6.0 Project Related Impacts

As part of the proposed project, this impacts analysis considers and incorporates the City of Laguna Beach *Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting*, dated May 27, 2020. This impact analysis also incorporates results from Aspen biological surveys.

6.1 Thresholds of Significance

Environmental impacts relative to biological resources are assessed using impact significance threshold criteria, which reflect the policy statement contained in CEQA, Section 21001(c) of the California Public Resources Code. Accordingly, the State Legislature has established it to be the policy of the State of California:

> *"Prevent the elimination of fish or wildlife species due to man's activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and*

> *preserve for future generations representations of all plant and animal communities..."*

Determining whether a project may have a significant effect, or impact, plays a critical role in the CEQA process. According to CEQA, Section 15064.7 (Thresholds of Significance), each public agency is encouraged to develop and adopt (by ordinance, resolution, rule, or regulation) thresholds of significance that the agency uses in the determination of the significance of environmental effects. A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant. In the development of thresholds of significance for impacts to biological resources CEQA provides guidance primarily in Section 15065, Mandatory Findings of Significance, and the CEQA Guidelines, Appendix G, Environmental Checklist Form. Section 15065(a) states that a project may have a significant effect where:

> *"The project has 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 wildlife community, reduce the number or restrict the range of an endangered, rare, or threatened species, ..."*

Therefore, for the purpose of this analysis, impacts to biological resources are considered potentially significant (before considering offsetting mitigation measures) if one or more of the criteria discussed in Section 6.2 would result from implementation of the proposed activities.

6.2 Discussion of Impacts in Accordance with the California Environmental Quality Act (CEQA)

In accordance with Appendix G (Environmental Checklist Form) to the State CEQA Guidelines, the project would have a significant biota impact if it would result in impacts to items (a) through (f) listed and described below.

(a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Potential effects on special-status plants and wildlife could result from fuels reduction through vegetation thinning and removal. Acres of impact to vegetation types are shown in Table 1, where the entirety of the survey area may be impacted.

Vegetation, including potential habitat, would be trimmed, cut, crushed, trampled, damaged, and/or removed from use of hand tools and site access by crews. If used to treat invasive weeds, herbicides could drift to and degrade non-target vegetation. Disturbance of soils and removal and transport of vegetation may result in the spread of non-native invasive species in native habitats. Impacts to vegetation, in turn, could affect special-status plants and wildlife that may be present in the Project area. Project activities would result in temporary increases in human presence, noise, and dust, and habitat used by wildlife for sheltering, foraging, burrowing, and nesting would be disturbed.

The proposed Project has been designed using the City's Treatment Protocols for FMZs, which prioritize removal of non-native and dead and dying vegetation first for fuels reduction (Section 2.2). If additional

fuels reduction is required, vegetation removal would proceed according to the City's hierarchical list to subsequently remove least sensitive plants. Overall, removal of non-native vegetation where it occurs would directly benefit treated habitats, and the selective thinning of native vegetation would benefit habitats and species in the long term by reducing wildfire risk.

Use of the Treatment Protocols for FMZs and mitigation measures (MMs), as listed below, would minimize impacts to less than significant.

Special-Status Plants. As noted in Section 5.1 and Table 3, several special-status plants have at least a moderate potential to occur or were detected in the survey area. One State and federally listed plant, big-leaved crownbeard, was observed in the survey area in FMZ 16. Two special-status plants with a CRPR of 1B were also observed including intermediate mariposa lily and decumbent goldenbush. Lastly, two special-status plants with a CRPR of 4 were also observed and include Fish's milkwort and Coulter's matilija poppy.

Impacts to special-status plants may occur during vegetation thinning and removal, as described above. However, the Project would prioritize the removal of non-native species, dead or dying vegetation, and least sensitive plants first. Use of hand tools would result in minimal, temporary impacts in the Project area. If any special-status plants or animals are found, a trained biological monitor would flag such areas before treatment to ensure the species are protected and avoided.

To further minimize impacts to special-status plants, MMs would be implemented as described below. With avoidance of special-status plants and use of MMs, impacts would be less than significant.

Special-Status Wildlife. As noted in Section 5.2, several special-status wildlife species have at least a moderate potential to occur in the Project area. Cooper's hawk was the only special-status wildlife species observed within the survey area.

Impacts to special-status wildlife may occur during vegetation thinning and removal. Wildlife habitat would be modified through trimming, cutting, trampling, and removal, as previously described. Increased human activity would cause most mobile wildlife species to vacate the area of disturbance, however wildlife dispersing from the site could be temporarily displaced from home territories. Project activities could result in crushing of less mobile or burrowing species by crews. Increased noise could temporarily affect wildlife in adjacent habitats by disrupting foraging or breeding activities; or may cause wildlife to avoid otherwise suitable habitat surrounding the site. If used to treat invasive weeds, herbicides that persist on site could injure wildlife that ingest or come into contact with target plants.

Per the City's Treatment Protocols, proposed fuel modification activities would not entirely remove suitable habitat but would be restricted to selective vegetation thinning and removal of dead plant material and non-native vegetation. Use of hand tools would result in minimal, temporary impacts in the Project area. Selective vegetation-thinning and the associated openings created could potentially benefit certain species of plants that may be host plants or food plants for monarch butterfly and Crotch bumble bee or certain wildlife species that prefer more open habitat structure, such as the coast horned lizard and whiptail species.

MMs would be implemented as described below, and impacts would be less than significant.

Mitigation Measures

BIO-1 The City of Laguna Beach (City) shall assign a qualified biologist to the project (i.e., Project Biologist). The Project Biologist shall be responsible for conducting pre-construction surveys

(MM BIO-2), implementing nesting bird avoidance measures (MM BIO-3), monitoring project activities (MM BIO-4), conducting worker training (MM BIO-5), and flagging drainages (MM BIO-6). A "qualified biologist" is defined as a person with appropriate education, training, and experience to conduct the required surveys, monitor project activities, provide worker education programs, and supervise or perform other monitoring-related actions. The Project Biologist shall be authorized by the City to temporarily halt project activities, if needed, to prevent take of listed species or harm to any other special-status species.

BIO-2 Prior to start of project activities, the Project Biologist shall survey the work area to determine if any special-status species are present. During the survey, the Project Biologist should search for nesting birds, special-status plants, and other special-status species. Any special-status species or sensitive resources shall be flagged and avoided, as feasible. Listed plant species, including big-leaved crownbeard, and special-status species with a CRPR of 1B, including intermediate mariposa-lily and decumbent goldenbush, shall be flagged, and a 15-foot buffer installed. No work shall be permitted within these buffers. The Project Biologist shall also flag coast live oak seedlings and western sycamore seedlings for avoidance, as feasible. The Project Biologist shall also search for shot hole borers on all oak and sycamore trees that are proposed for pruning. If shot hole borers are found, the Project Biologist will notify the City who will then coordinate with Orange County Parks, California Department of Fish and Wildlife (CDFW), and the U.S. Fish and Wildlife Service (USFWS). All pruning tools shall be cleaned and disinfected prior to use within the project area and at least weekly during the project to further reduce the spread of pathogens.

BIO-3 Vegetation removal and initial ground disturbance shall be completed outside the bird breeding season (i.e., no removal of potential nesting habitat from January 1 through September 1), or after a pre-construction nesting bird survey has been completed. The survey shall be completed no more than three days prior to Project activities to ensure that birds are not engaged in active nesting within the Project sites and 100-foot buffer. If any birds are nesting on the site, then project activities will be postponed until nesting is completed or the Project Biologist shall designate appropriate avoidance buffers around nests to protect nesting birds. The width of the buffer will be determined by the Project Biologist. Typically, this is a minimum of 100-300 feet from the nest site in all directions, species dependent, and up to 500 feet for raptors or coastal California gnatcatcher. No project related disturbance shall be allowed within these buffers until the Project Biologist has confirmed that the juveniles have fledged and there has been no evidence of a second attempt at nesting.

BIO-4 The Project Biologist shall be present as needed on the project sites during vegetation clearing done by hand crews as necessary to ensure compliance with the avoidance and minimization measures and to provide guidance in avoiding or minimizing impacts to biological resources . The Project Biologist shall also conduct quarterly monitoring of the Project sites for 12 months after the completion of the fuel treatment. During this post-treatment monitoring the Project Biologist will inspect the mulched plant material for Argentine ants and will also note wildlife use of the treatment areas. If Argentine ants are found within the mulched plant material, the City shall implement an ant control program to remove them from these areas. If any new non-native plants are found within the project area, the City shall implement a control program for these species to ensure they are eradicated and not allowed to spread into adjacent natural lands.

BIO-5 The Project Biologist shall conduct training to ensure that all workers on the Project sites are aware of all applicable mitigation measures for biological resources. Specifically, workers will be required to (1) limit all activities to approved work areas; (2) report any special-status species;

(3) report any bird nests; (4) avoid contact with any wildlife that may approach a work area, and be aware of potential venomous reptile bites from carelessness or unnecessary harassment; (5) pick up and properly dispose of any food, trash, or construction refuse; and (6) report any spilled materials (e.g., oil, fuel, solvent, engine coolant, raw concrete, or other material potentially hazardous to wildlife) to the supervisor. During the training, the Project Biologist shall briefly discuss special-status species that may occur in the work areas, their habitats, and requirements to avoid or minimize impacts. In addition, all workers shall be informed of civil and criminal penalties for violations of the federal Endangered Species Act, California Endangered Species Act, and the Migratory Bird Treaty Act.

BIO-6 To avoid or reduce potential impacts to listed or non-listed special-status plants, the Project Biologist shall complete a protocol-level survey for special-status plants within the Project site. The survey shall follow the methods in the current version of CDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW, 2018). The survey shall be (a) conducted during flowering seasons for the special-status plants known from the area, (b) floristic in nature, (c) consistent with conservation ethics, (d) systematically covered all habitat types on the sites, and (e) well documented. The results of this survey will help the Project Biologist locate all special-status plants and install appropriate buffers as specificized in MM BIO-2.

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

Riparian Habitat. Riparian habitat is absent from the Project sites, and no impacts would occur.

If present, in accordance with the City's Treatment Protocols, a 25-foot buffer would be required on either side of any "blue-line" ephemeral drainages or stream courses (as listed by USGS map or City Website) that cross the project site. Within the buffer, only non-native vegetation identified during pre-project surveys would be removed, unless site specific conditions require additional removal for fire breaks.

Lemonade Berry Scrub (Rhus integrifolia **Shrubland Alliance (S3G3)).** The Project would result in direct impacts to 24.61acres of lemonade berry scrub (see Table 1 and Figures 3 and 4). Impacts would be similar to those described for vegetation in Section 6.2(a). The fuel modification program is designed to limit potential impacts through selective thinning that would ensure that native vegetation cover is never reduced by more than one-half. Impacts to areas of chaparral habitat, including lemonade berry scrub, would not remove more than 50-percent of the total vegetative cover. In accordance with the City's Treatment Protocols, vegetation thinning would remove all non-native and dead vegetation first, followed by native species in hierarchical order, as presented in Section 2.2. While lemonade berry scrub is the last element in the removal hierarchy, it may require removal specifically in areas where the lemonade berry scrub exhibits more than 50 percent cover. However, with implementation of the City's Treatment Protocols and MMs, impacts to lemonade berry scrub would be less than significant.

High Value/Very High Value Habitat. The Project would impact approximately 7.03 acres of High Value Habitat in FMZ 19 and approximately 3.21 acres of Very High Value Habitat within FMZ 16. Impacts would be similar to those described for vegetation in Section 6.2(a). Removal of non-native vegetation where it occurs would directly benefit these habitats, and the selective thinning of native vegetation would benefit habitats and species in the long term by reducing wildfire risk.

With avoidance of special-status plants, implementation of the City's Treatment Protocols, and use of project MMs, impacts to High and Very High Value Habitat would be less than significant.

The following MMs would further reduce potential impacts to sensitive natural communities by minimizing the spread of plant pathogens and noxious and invasive weeds.

BIO-7 To prevent the spread of plant pathogens in sensitive natural communities, riparian habitats, and oak woodlands, the following shall be implemented:

- Clean and sanitize vehicles, equipment, tools, footwear, and clothes before arriving at a treatment site and when leaving a contaminated site, or a site in a county where contamination is a risk;
- Include training on Phytopthora diseases and other plant pathogens in the worker awareness training (MM BIO-5);
- Minimize soil disturbance as much as possible by limiting the number of vehicles, avoiding off-road travel as much as possible, and limiting use of mechanized equipment;
- Minimize movement of soil and plant material within the site, especially between areas with high and low risk of contamination;
- Clean soil and debris from equipment and sanitize hand tools, buckets, gloves, and footwear when moving from high risk to low-risk areas or between widely separated portions of a treatment area; and
- Follow the procedures listed in Guidance for plant pathogen prevention when working at contaminated restoration sites or with rare plants and sensitive habitat (Working Group for Phytoptheras in Native Habitats, 2016).

BIO-8 To prevent the spread of invasive plants, noxious weeds, and invasive wildlife, the following shall be implemented:

- Clean clothing, footwear, and equipment used during treatments of soil, seeds, vegetative matter, other debris or seed-bearing material, or water (e.g., rivers, streams, creeks, lakes) before entering the treatment area or when leaving an area with infestations of invasive plants, noxious weeds, or invasive wildlife;
- For all heavy equipment and vehicles traveling off road, pressure wash, if feasible, or otherwise appropriately decontaminate equipment at a designated weed-cleaning station prior to entering the treatment area from an area with infestations of invasive plants, noxious weeds, or invasive wildlife. Anti-fungal wash agents shall be specified if the equipment has been exposed to any pathogen that could affect native species;
- Inspect all heavy equipment, vehicles, tools, or other treatment-related materials for sand, mud, or other signs that weed seeds or propagules could be present prior to use in the treatment area. If the equipment is not clean, the Project Biologist shall deny entry to the work areas;
- Stage equipment in areas free of invasive plant infestations unless there are no un-infested areas present within a reasonable proximity to the treatment area;

- Identify significant infestations of invasive plant species (i.e., those rated as invasive by Cal-IPC or designated as noxious weeds by California Department of Food and Agriculture) during reconnaissance-level surveys and target them for removal during treatment activities. Treatment methods will be selected based on the invasive species present and may include herbicide application and use of power and non-power hand tools and will be designed to maximize success in killing or removing the invasive plants and preventing reestablishment based on the life history characteristics of the invasive plant species present. Treatments will be focused on removing invasive plant species that cause ecological harm to native vegetation types, especially those that can alter fire cycles;
- Dispose of invasive plant biomass offsite at an appropriate waste collection facility; transport invasive plant materials in a closed container or bag to prevent the spread of propagules during transport;
- Implement Fire and Fuel Management Best Management Practices outlined in the "Preventing the Spread of Invasive Plants: Best Management Practices for Land Mangers" (Cal-IPC 2012, or current version); and

(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?

Wetlands. There are no wetlands as defined by the state or under Section 404 of the Clean Water Act, occurring within the project site, and there would be no impacts due to implementation of the fuel modification program.

The Project sites contain one USGS blue-line drainage and portions of 14 segments of Significant Stream Courses. As specified in the City's Treatment Protocols, a 25-foot buffer on each side of each Significant Stream Course would be established where only non-native vegetation identified during pre-project surveys would be removed, unless site specific considerations require additional vegetation removal for fire breaks. To reduce potential impacts to protected wetlands, the following MM would be implemented.

BIO-9 The Project Biologist shall flag the limits of all drainages crossing through or entering the project sites for avoidance. The flagging will be installed 25 feet from the edges of the drainage or to the edge of riparian vegetation, whichever is a greater distance. No project related disturbance shall be allowed within these buffers with the exception of necessary treatment and/or removal of non-native plant species.

(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?

Wildlife Movement. Movement through the Project sites is likely limited to low-lying canyon bottoms and is not likely to occur along residential margins where fuel modification activities are proposed. Additionally, the sites are not located within or adjacent to a wildlife movement corridor. While a certain level of resident wildlife is expected to move within the Project sites, per the City's Treatment Protocols proposed fuel modification activities will thin vegetation in a manner that maintains use by resident wildlife. As such, there would be no significant impacts to wildlife movement.

Nesting Birds and Migratory Bird Treaty Act Considerations. The Project sites currently support a mix of native and non-native shrubs, trees and herbaceous cover that have the potential to support nesting birds.

Potential impacts to nesting birds would be mitigated to less than significant with implementation of pre-project nesting bird surveys, as needed, and general avoidance of the nesting season, per the City's Treatment Protocols.

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

High Value/Very High Value Habitat. The Project sites are located within the coastal zone, which is under the permitting authority of the City of Laguna Beach through the City's Local Coastal Program. In addition, the City has inventoried biological resources occurring within the City and has designated several categories of habitat value, ranging from low value habitats to very high value habitats. Portions of the project site occur within areas designated as High Value and Very High Value habitat, as described in Section 5.7. The City requires that all development proposals, including fuel modification proposals, located within or adjacent to High Value or Very High Value habitat, undergo detailed biological assessments. Pursuant to the City's General Plan, these biological assessments are to utilize the biological value criteria specified in the City's Biological Resource Inventories to conduct an updated, and smaller-scale assessment of the resources present on site.

The project would impact a combined total of 10.24 acres of High Value (6.99 acres) and Very High Value (3.25 acres) Habitats consisting of chaparral and coastal sage habitat types. The project proposes to reduce the cover within these areas by up to 50 percent with selective thinning. However, with the implementation of the City's Treatment Protocols and the avoidance of sensitive species, impacts to High and Very High Value Habitats would be reduced given; (1) that the habitat would not be entirely removed from the project site; (2) that the habitat is abundant in adjacent open space surrounding the project site; and (3) that the total acreage of potential impacts to these habitats would be limited. Additionally, disturbed portions of habitat currently mapped as High Value and Very High Value habitat would benefit directly from the removal of non-native invasive plant species and selective thinning, which would reduce wildlife risk.

Significant Drainage Courses. To protect watershed areas and natural watercourses, the City of Laguna Beach has designated certain drainage features throughout the City as "significant drainage courses." Avoidance of these drainage courses is recommended within the City's General Plan to minimize the likelihood of disasters such as flooding and mudslides, and to protect water supply, water quality, and valuable habitat lands and ecological systems. As discussed under question (c), one USGS blue-line drainage and portions of 14 segments of Significant Stream Courses cross or partially intersect the project site. With establishment of the 25-foot buffers from both edges of each significant drainage and limited vegetation removal per the City's Treatment Protocols, impacts to the City's significant drainage courses would be less than significant.

Trees. Native trees would not be removed. Per the City's Treatment Protocols, large trees such as oaks and sycamores shall be pruned of dead components, and lower small branches removed to a height of 8 feet or one half their height, whichever is less, to disrupt "fuel ladder" potential. Dead and downed tree components on the ground below large trees would be removed. With implementation of the City's Treatment Protocols, impacts to the large trees would be less than significant.

With implementation of the City's Treatment Protocols as part of the proposed Project and use of MMs, the Project would not conflict with local policies and ordinances and impacts would be less than significant.

BIO-10 To mitigate for the loss of Very High Value Habitat, the City shall complete 0.5:1 ratio of active restoration, 1:1 ratio of partial restoration (20-50%), or 1.5:1 ratio of passive restoration for each

acre of Very High Value Habitat impacted. Prior to the start of the project, the City shall develop and implement a Habitat Restoration Plan, subject to site and methods approval of the California Coastal Commission. The plan shall include adaptive management practices to achieve the specified ratio for restoration/ enhancement. At a minimum, the plan shall include a description of the existing conditions of the receiver site(s), goals and timeline, installation methods, monitoring procedures, plant spacing, adaptive management strategies, and maintenance requirements which will be reviewed and approved by the monitoring biologist to ensure the sensitive communities referred to above are reestablished successfully at the ratios set forth above. The plan will also include information on the responsible party for implementation of the mitigation. The Habitat Restoration Plan will be made available to the Wildlife Agencies for review and approval prior to implementation. The Habitat Restoration Plan shall be implemented no more than 12 months after the start of project activities.

(f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The project sites occur entirely within the Orange County Central Coastal Natural Community Conservation Plan (NCCP)/ Habitat Conservation Plan (HCP) area. The City of Laguna Beach is not a signatory to the Orange County Central Coastal NCCP/HCP; however, the Project does not conflict with the NCCP/HCP as the Project proposes to benefit habitat by removing invasive species and to reduce wildfire risk by reducing total vegetation cover by up to fifty percent. It does not propose to completely remove native habitat.

All potential impacts to sensitive habitats and species are mitigated through the City's Treatment Protocols and mitigation measures. As such, the proposed Project would not conflict with adopted HCPs, NCCPs, or other approved local, regional, or State habitat conservation plan.

7.0 Recommended Measures

7.1 Treatment Protocol Measures

In addition to the recommended mitigation measures, the City's Treatment Protocols include the following measures which must be implemented as part of the proposed project. These measures would avoid and/or minimize impacts to the following biological resources.

Special-Status Plants. Whenever sensitive plant species are identified prior to conducting fuel modification activities, they will be protected by establishing a flagged, 15-foot buffer around all specimens of the sensitive species, inside of which no material shall be initially removed.

High and Very High Value Habitat. To minimize impacts to native vegetation designated as High or Very High Value Habitat, including lemonade berry scrub, thinning will focus on the removal of non-native species and dead or dying material to achieve a threshold of no more than fifty-percent vegetative cover. In areas dominated by non-native species or dead and dying material, cover may be reduced to less than fifty percent. Where it is not possible to reduce cover to at least 50 percent through the removal of only non-natives and dead or dying material, woody native species may be removed until cover is reduced to 50% using the hierarchy listed in Section 2.2.

Riparian Habitat. A 25-foot buffer shall be avoided on either side of any "blue-line" ephemeral drainages or stream courses (as listed by USGS map or the City of Laguna Beach) that cross the treatment area.

Nesting Birds. To avoid impacts to nesting and migratory birds protected under Sections 3503 and 3503.5 of the California Fish and Game Code, it is recommended that any removal or clearing of vegetation be conducted outside of the breeding season, (February 1 to August 31). In the event that seasonal conditions promote a high risk for wildfires, work may occur during the breeding season if a qualified biologist conducts a survey for nesting birds within 48 hours prior to the commencement of fuel modification activities in the area and ensures that no active nests are affected.

8.0. Literature Cited

American Ornithologists' Union. 1998. Checklist of the North American Birds, 7th ed. Prepared by Committee on Classification and Nomenclature. American Ornithologists' Union, Washington DC.

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, D.H. Wilken (eds.) 2012. The Jepson Manual: Vascular Plants of California, 2nd ed. University Press, Berkeley, California.

Barbour, R.W. and W.H. Davis. 1969. Bats of America. University Press of Kentucky, Lexington, Kentucky. CBOC (California Burrowing Owl Consortium). 1993. Burrowing owl survey protocol and mitigation guidelines. Alviso, California. 13 pp.

CDFW (California Department of Fish and Wildlife). 2023a. California Natural Diversity Database (CNDDB), Rarefind, Version 5. Heritage section, CDFW, Sacramento.

_____. 2023b. Special Vascular Plants, Bryophytes, and Lichens List. CDFW, Sacramento. Online: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline

_____. 2023c. Special Animals List. CDFW, Sacramento. Online: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline

_____. 2023d. California Sensitive Natural Communities List. CDFW. Sacramento. Online: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153609&inline

_____. 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities. Online: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959

CalTrans and CDFW (California Department of Transportation and California Department of Fish and Wildlife). 2010. California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California. Online: http://www.dfg.ca.gov/habcon/connectivity/

CNPS (California Native Plant Society). 2023. Inventory of rare and endangered plants. California Native Plant Society. Sacramento. Online: http://www.cnps.org/inventory. Accessed June 2023.

City of Laguna Beach. 2005. Laguna Beach General Plan, Open Space and Conservation Elements. Adopted May 1, 1984.

CCH (Consortium of California Herbaria). 2023. Botanical specimen data provided by the participants of the Consortium of California Herbaria. Online: http://ucjeps.berkeley.edu/consortium/. Accessed June 2023.

eBird.org. 2023. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Online: http://www.ebird.org. Accessed June 2023.

Feldhamer, G.A., B.C. Thompson, and J.A. Chapman (eds.). 2003. Wild Mammals of North America: Biology, Management and Conservation, 2nd ed. Johns Hopkins University Press, Baltimore MD.

Garrett, K. and J. Dunn. 1981. Birds of Southern California: Status and Distribution. Los Angeles Audubon Society, Los Angeles, California.

Hall, E.R. 1981. The Mammals of North America. John Wiley and Sons, New York.

iNaturalist. 2023. Online: https://www.inaturalist.org/observations Accessed June 2023.

Jennings, M.R. and M.P. Hayes. 1994. Amphibian and reptile species of special concern in California. California Dept. of Fish and Game, Sacramento.

Kochert, M. N., K. Steenhof, C. L. Mcintyre and E. H. Craig. 2002. Golden Eagle (Aquila chrysaetos), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology. Online: http://bna.birds.cornell.edu/bna/species/684doi:10.2173/bna.684

Orange County Public Works. 2023. Hydrology Data Portal. Online: http://hydstra.ocpublicworks.com/web.htm Accessed June 2023.

Pagel, J.E., D.M. Whittington, and G.T. Allen. 2010. Interim Golden Eagle technical guidance: inventory and monitoring protocols; and other recommendations in support of eagle management and permit issuance. Division of Migratory Bird Management, U.S. Fish and Wildlife Service.

Sawyer, J.O., T. Keeler-Wolf, and J.M. Evans. 2009. Manual of California Vegetation, 2nd ed. California Native Plant Society, Sacramento, California. 1300 pp.

Stebbins, R.C. 2003. Western Reptiles and Amphibians, 3rd ed. Houghton Mifflin Company, Boston Mass.

U.S. Climate Data, 2023. U.S. Climate Data Website. Online: https://www.usclimatedata.com/climate/lagunabeach/california/united-states/usca0027 Accessed June 2023.

USFWS (U.S. Fish and Wildlife Service). 2023a. ECOS (Environmental Conservation Online System), Threatened & Endangered Species Active Critical Habitat Report, Online Mapper. Available at: https://ecos.fws.gov/ecp/report/table/critical-habitat.html.

_____. 2023b. IPaC Information for Planning and Consultation. Online: https://ipac.ecosphere.fws.gov/. Accessed June 2023.

_____. 2007. Protection of Eagles; Definition of ‘‘Disturb.’’ Federal Register 72:31132 -31140 (5 Jun).

_____. 1997. Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Protocol. Unpublished report. USFWS Field Office, Carlsbad, CA.

Wilson, D.E. and S. Ruff (eds.). 1999. Smithsonian Book of North American Mammals. Smithsonian Institution Press, Washington DC.

Zeiner, D. C., W. F. Laudenslayer, Jr., K. E. Mayer, and M. White (eds.). 1990. California's Wildlife. Vol. III. Mammals. California Department of Fish and Wildlife, Sacramento.

Attachment 1 – Figures

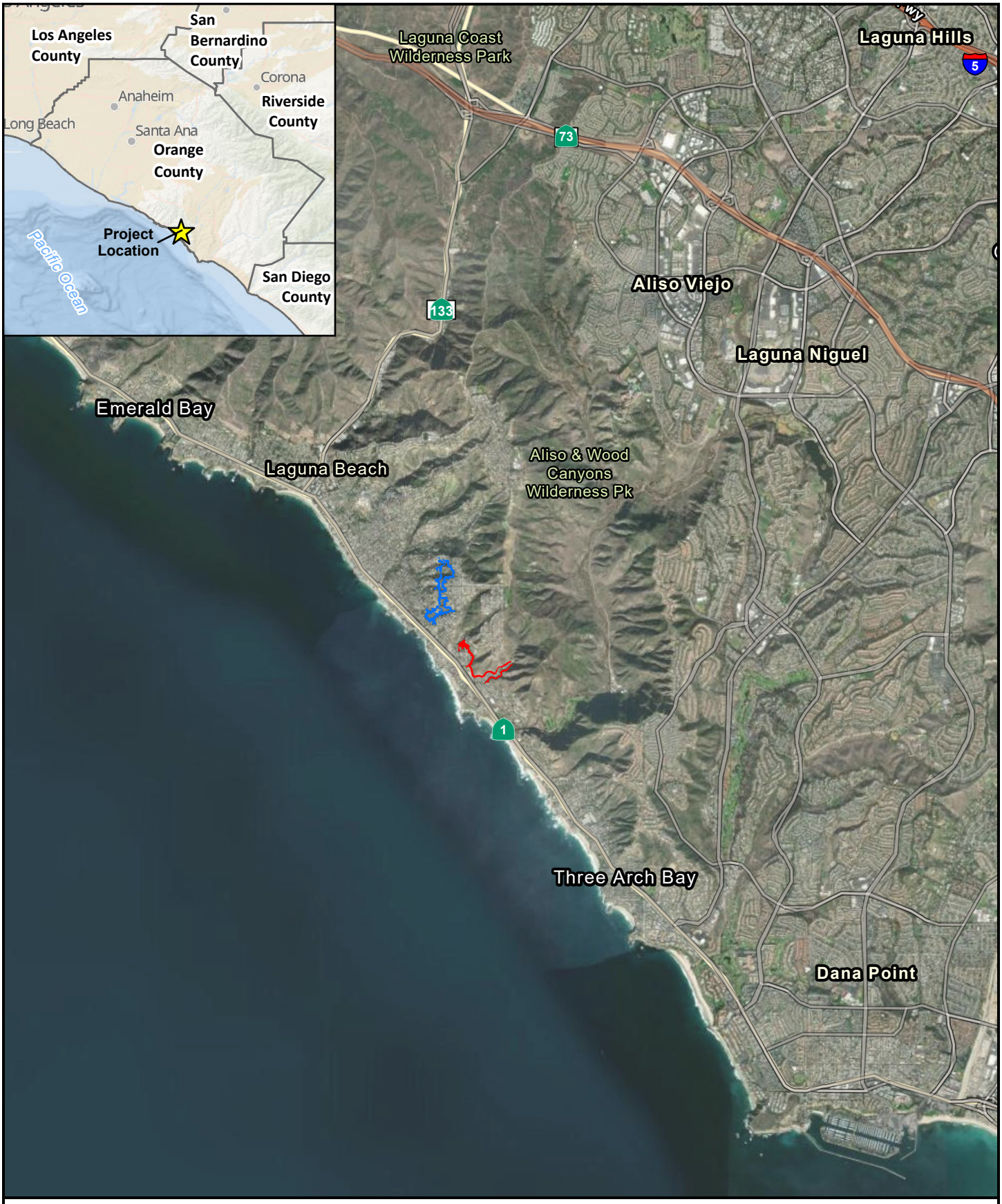


Figure 1
Regional Map

Figure 2a

Project Site

Sources: Aspen, 2023; ESRI, 2023.

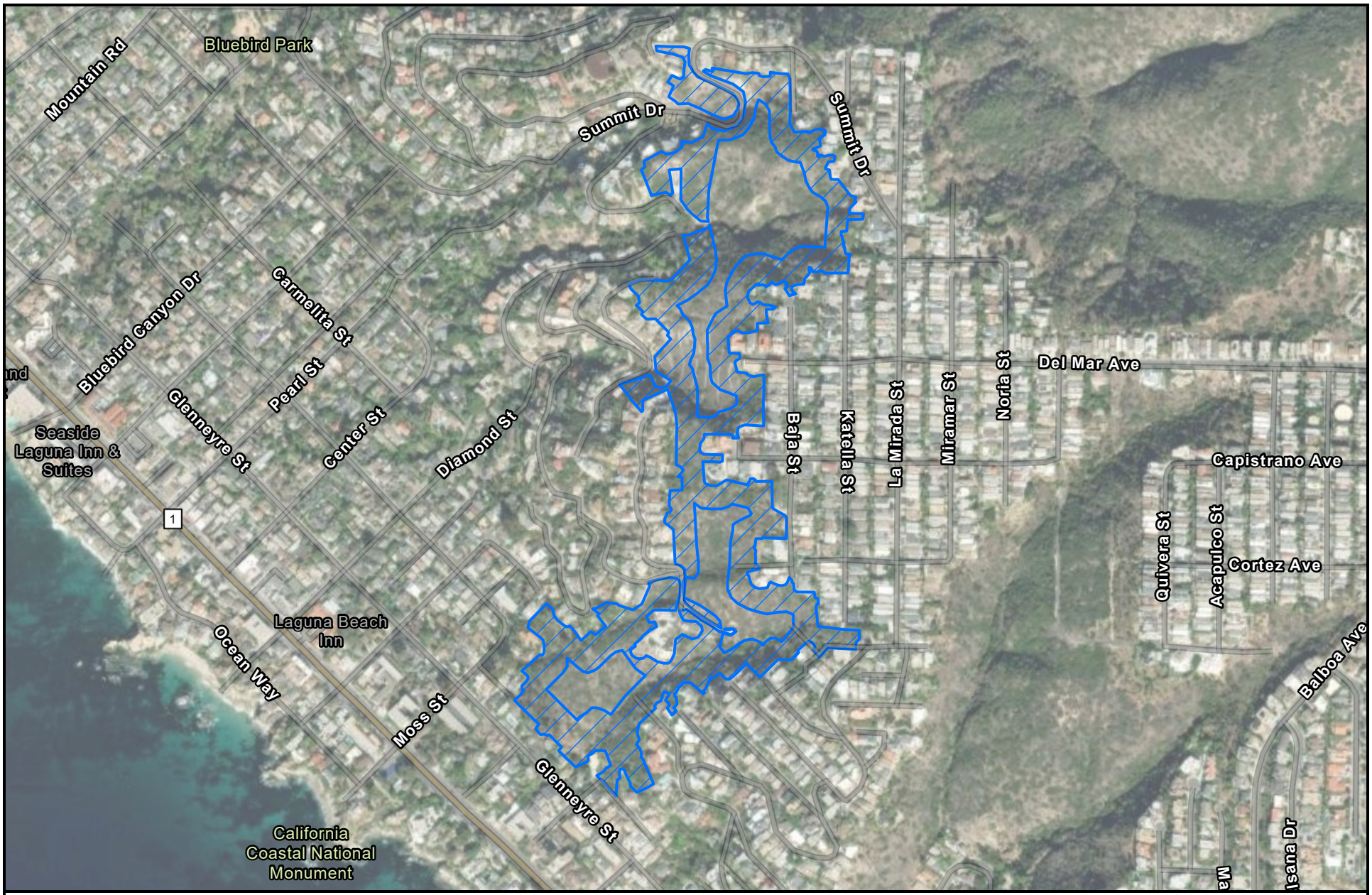
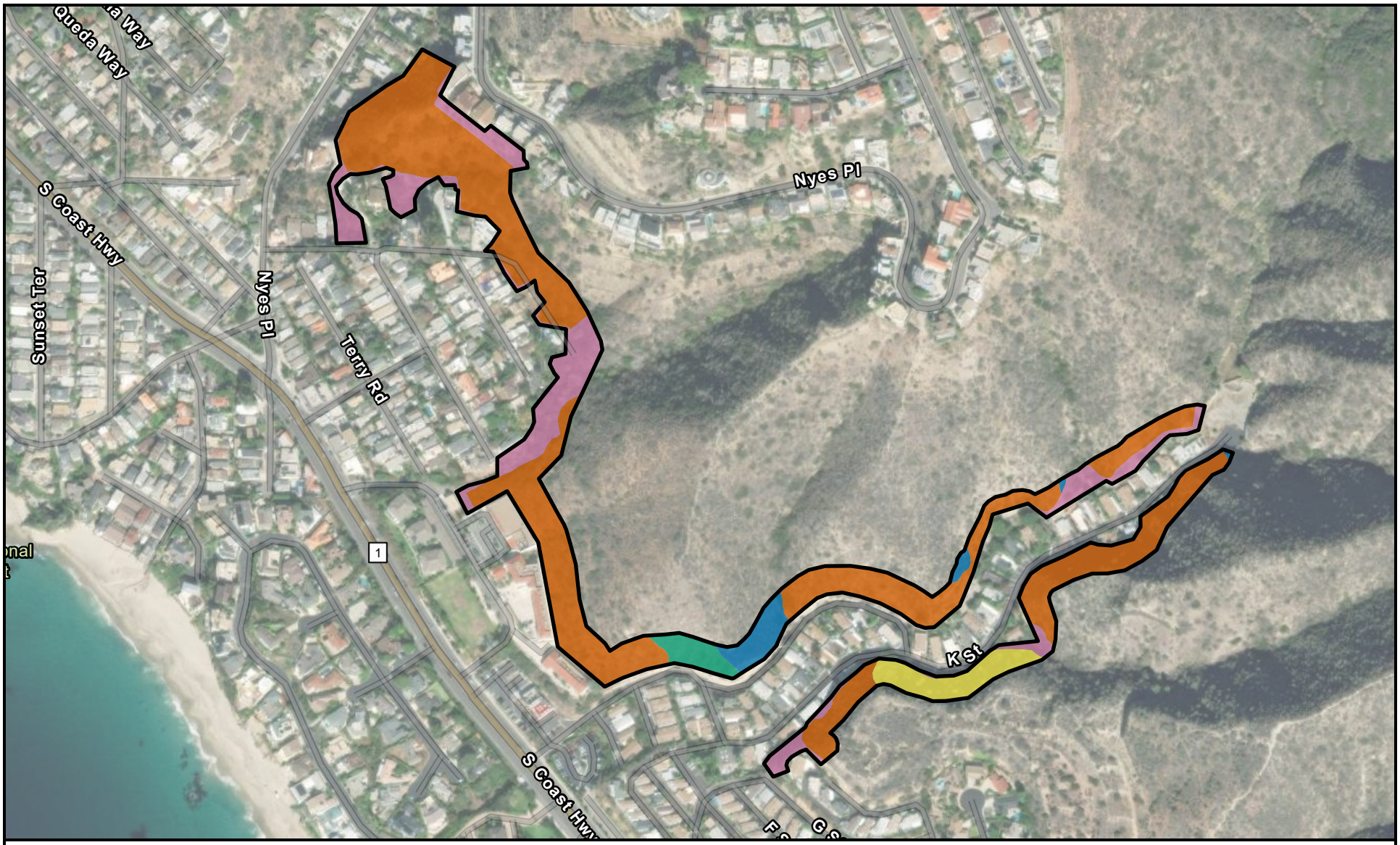


Figure 2b

Project Site

Sources: Aspen, 2023; ESRI, 2023.



Scale 1:4,800

1 inch = 400 feet

N

0 200 400

Feet

FMZ 16

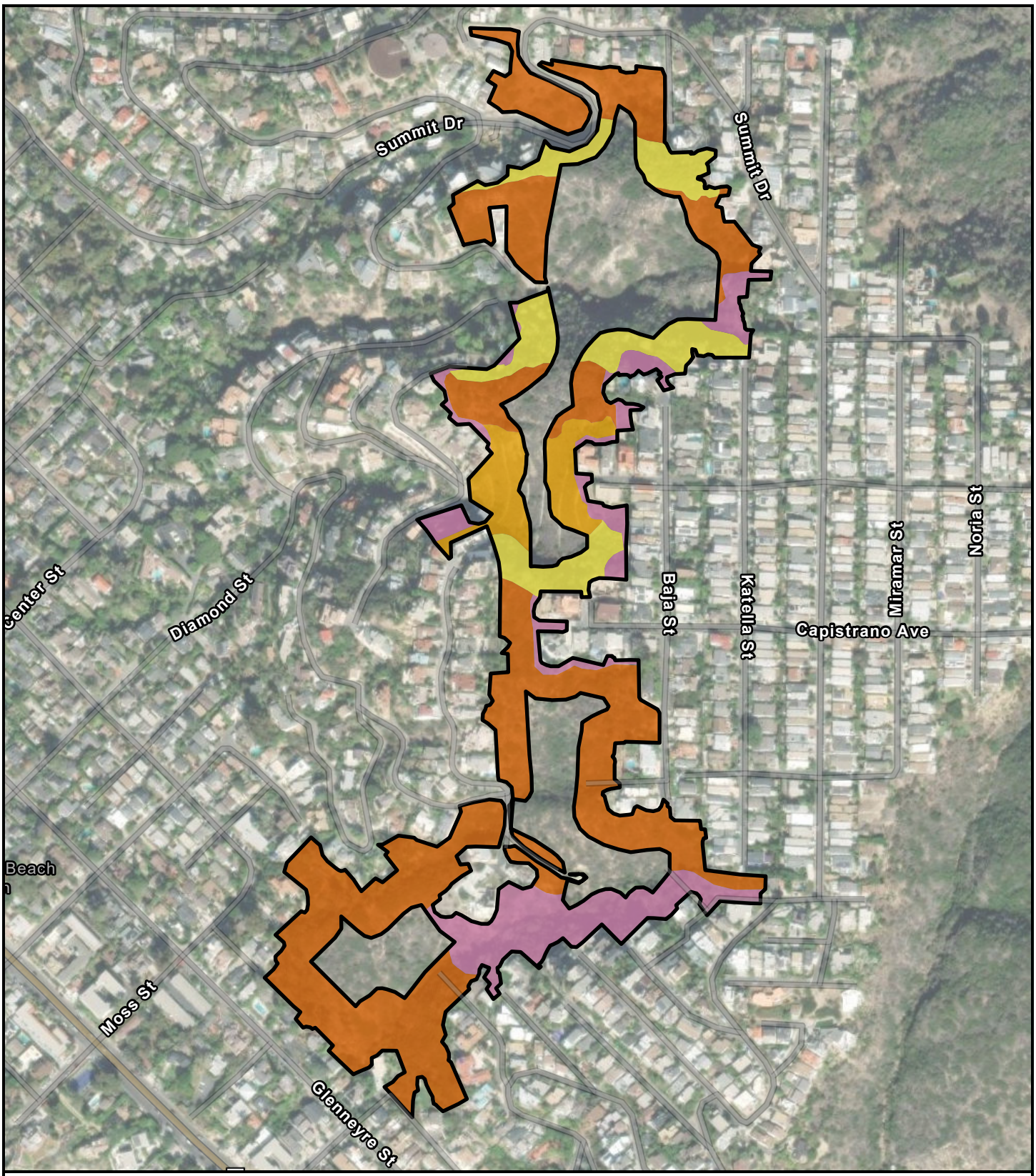
Vegetation and Land Cover

- Ceanothus
- Fountain grass swards
- Holly leaf cherry - toyon - greenbark ceanothus chaparral
- Lemonade berry scrub
- Ornamental vegetation and development

Figure 3a

Vegetation and Land Cover

Sources: ESRI, 2023.



Scale 1:4,851
1 inch = 404 feet

N

0 200 400
Feet

FMZ 19

Vegetation and Land Cover

- California sagebrush - black sage scrub
- Holly leaf cherry - toyon - greenbark ceanothus chaparral
- Lemonade berry scrub
- Ornamental vegetation and development

Figure 3b
Vegetation and Land Cover

Sources: ESRI, 2023.

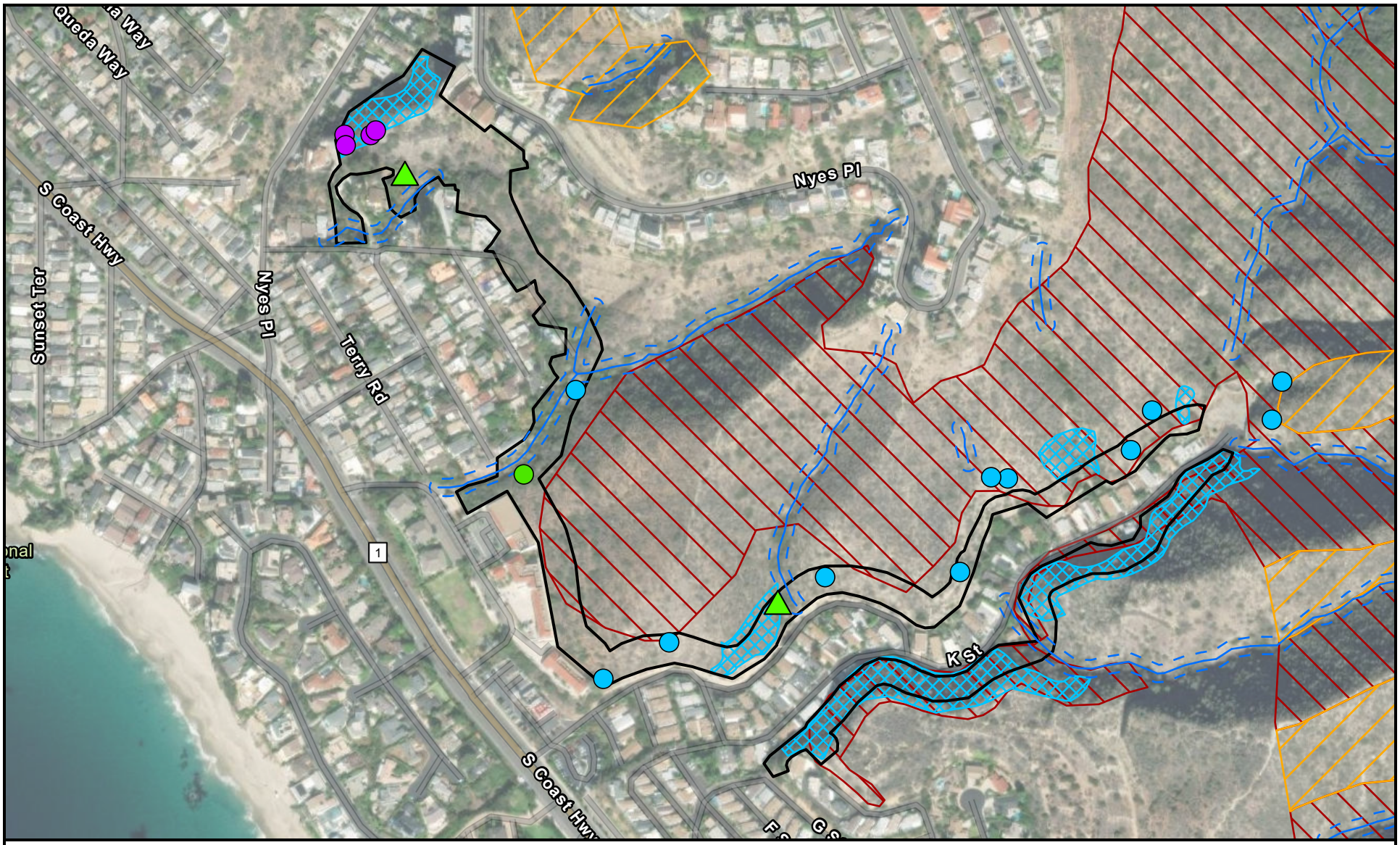
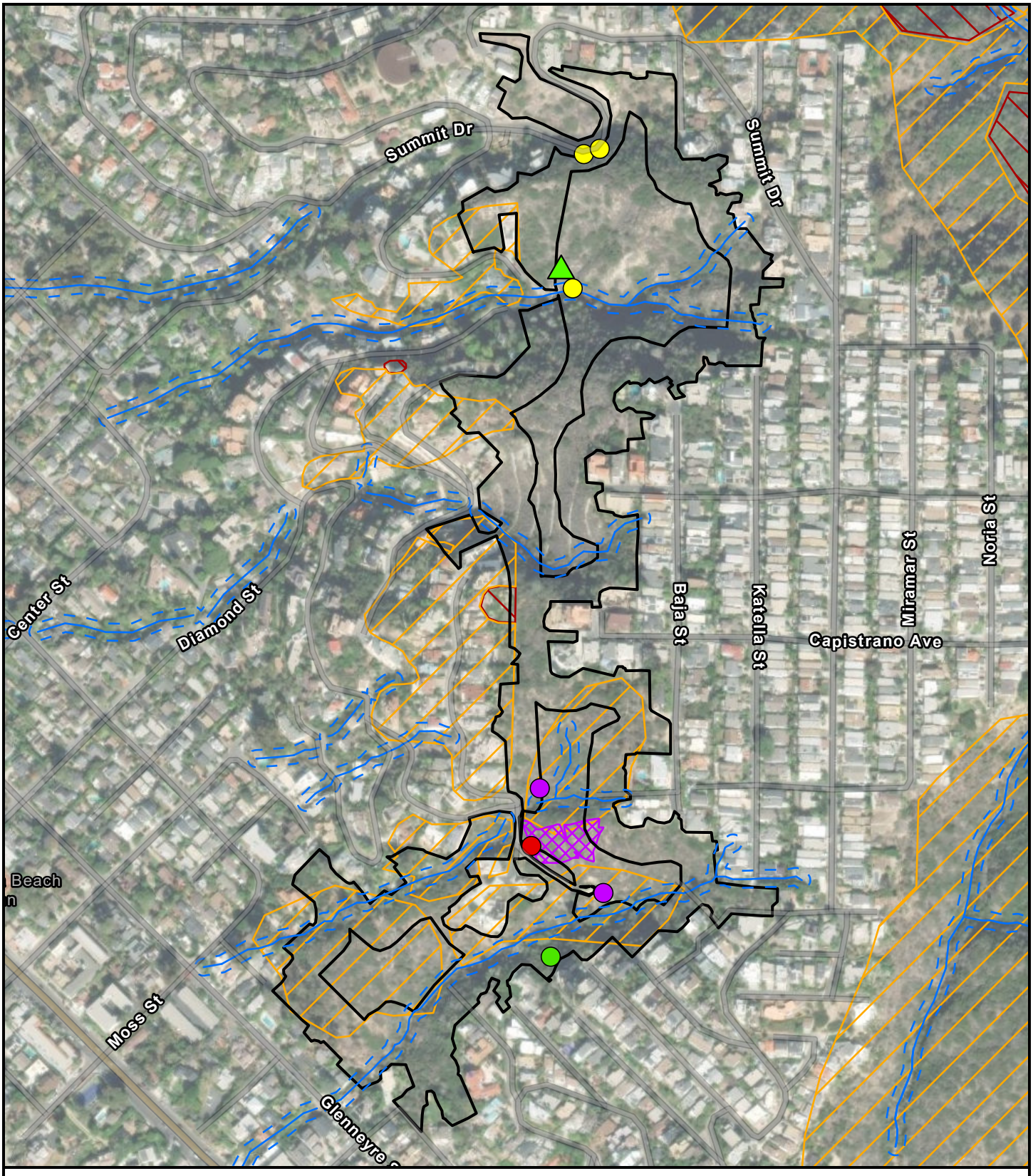


Figure 4a
Biological Resources



Scale 1:4,800
1 inch = 400 feet

N

0 200 400
Feet

Special-Status Wildlife
- Cooper's Hawk

Special-Status Plants
- Coulter's matilija poppy
- Decumbent goldenbush
- Fish's milkwort
- Intermediate mariposa lily
- Intermediate mariposa lily

- FMZ 19
- Significant Drainage Course Centerline
- Drainage Course 25ft Buffer
- High Value Habitat
- Very High Value Habitat

Figure 4b Biological Resources

Attachment 2 – CNDDB Query Results

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Newport Beach (3311768) OR Tustin (3311767) OR El Toro (3311766) OR Laguna Beach (3311757) OR San Juan Capistrano (3311756) OR Dana Point (3311746))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Abronia villosa var. aurita chaparral sand-verbena	PDNYC010P1	None	None	G5T2?	S2	1B.1
Accipiter cooperii Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S2	SSC
Aimophila ruficeps canescens southern California rufous-crowned sparrow	ABPBX91091	None	None	G5T3	S3	WL
Ammodramus savannarum grasshopper sparrow	ABPBXA0020	None	None	G5	S3	SSC
Anaxyrus californicus arroyo toad	AAABB01230	Endangered	None	G2G3	S2	SSC
Anniella stebbinsi Southern California legless lizard	ARACC01060	None	None	G3	S3	SSC
Aphanisma blitoides aphanisma	PDCHE02010	None	None	G3G4	S2	1B.2
Arizona elegans occidentalis California glossy snake	ARADB01017	None	None	G5T2	S2	SSC
Aspidoscelis hyperythra orange-throated whiptail	ARACJ02060	None	None	G5	S2S3	WL
Aspidoscelis tigris stejnegeri coastal whiptail	ARACJ02143	None	None	G5T5	S3	SSC
Astragalus brauntonii Braunton's milk-vetch	PDFAB0F1G0	Endangered	None	G2	S2	1B.1
Astragalus hornii var. hornii Horn's milk-vetch	PDFAB0F421	None	None	GUT1	S1	1B.1
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Atriplex coulteri Coulter's saltbush	PDCHE040E0	None	None	G3	S1S2	1B.2
Atriplex pacifica south coast saltscale	PDCHE041C0	None	None	G4	S2	1B.2
Atriplex parishii Parish's brittlescale	PDCHE041D0	None	None	G1G2	S1	1B.1
Atriplex serenana var. davidsonii Davidson's saltscale	PDCHE041T1	None	None	G5T1	S1	1B.2
Bombus crotchii Crotch bumble bee	IIHYM24480	None	Candidate Endangered	G2	S2	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Branchinecta sandiegonensis San Diego fairy shrimp	ICBRA03060	Endangered	None	G2	S1	
Brodiaea filifolia thread-leaved brodiaea	PMLIL0C050	Threatened	Endangered	G2	S2	1B.1
Buteo regalis ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
Calochortus weedii var. intermedius intermediate mariposa-lily	PMLIL0D1J1	None	None	G3G4T3	S3	1B.2
Campylorhynchus brunneicapillus sandiegensis coastal cactus wren	ABPBG02095	None	None	G5T3Q	S2	SSC
Centromadia parryi ssp. australis southern tarplant	PDAST4R0P4	None	None	G3T2	S2	1B.1
Chaenactis glabriuscula var. orcuttiana Orcutt's pincushion	PDAST20095	None	None	G5T1T2	S1	1B.1
Chaetodipus californicus femoralis Dulzura pocket mouse	AMAFD05021	None	None	G5T3	S3	SSC
Chaetodipus fallax fallax northwestern San Diego pocket mouse	AMAFD05031	None	None	G5T3T4	S3S4	SSC
Charadrius nivosus nivosus western snowy plover	ABNNB03031	Threatened	None	G3T3	S3	SSC
Chloropyron maritimum ssp. maritimum salt marsh bird's-beak	PDSCR0J0C2	Endangered	Endangered	G4?T1	S1	1B.2
Choeronycteris mexicana Mexican long-tongued bat	AMACB02010	None	None	G3G4	S1	SSC
Cicindela hirticollis gravida sandy beach tiger beetle	IICOL02101	None	None	G5T2	S2	
Cicindela latesignata western beach tiger beetle	IICOL02110	None	None	G2G3	S1	
Coccyzus americanus occidentalis western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
Coelus globosus globose dune beetle	IICOL4A010	None	None	G1G2	S1S2	
Comarostaphylis diversifolia ssp. diversifolia summer holly	PDERI0B011	None	None	G3T2	S2	1B.2
Coturnicops noveboracensis yellow rail	ABNME01010	None	None	G4	S1S2	SSC
Crotalus ruber red-diamond rattlesnake	ARADE02090	None	None	G4	S3	SSC
Danaus plexippus plexippus pop. 1 monarch - California overwintering population	IILEPP2012	Candidate	None	G4T1T2Q	S2	
Dudleya blochmaniae ssp. blochmaniae Blochman's dudleya	PDCRA04051	None	None	G3T2	S2	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Dudleya multicaulis many-stemmed dudleya	PDCRA040H0	None	None	G2	S2	1B.2
Dudleya stolonifera Laguna Beach dudleya	PDCRA040P0	Threatened	Threatened	G1	S1	1B.1
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Eremophila alpestris actia California horned lark	ABPAT02011	None	None	G5T4Q	S4	WL
Eryngium aristulatum var. parishii San Diego button-celery	PDAPI0Z042	Endangered	Endangered	G5T1	S1	1B.1
Eucyclogobius newberryi tidewater goby	AFCQN04010	Endangered	None	G3	S3	
Eumops perotis californicus western mastiff bat	AMACD02011	None	None	G4G5T4	S3S4	SSC
Euphorbia misera cliff spurge	PDEUP0Q1B0	None	None	G5	S2	2B.2
Gila orcuttii arroyo chub	AFCJB13120	None	None	G2	S2	SSC
Habroscelimorpha gabbii western tidal-flat tiger beetle	IICOL02080	None	None	G2G4	S1	
Harpagonella palmeri Palmer's grapplinghook	PDBOR0H010	None	None	G4	S3	4.2
Helianthus nuttallii ssp. parishii Los Angeles sunflower	PDAST4N102	None	None	G5TX	SX	1A
Horkelia cuneata var. puberula mesa horkelia	PDROS0W045	None	None	G4T1	S1	1B.1
Icteria virens yellow-breasted chat	ABPBX24010	None	None	G5	S3	SSC
Isocoma menziesii var. decumbens decumbent goldenbush	PDAST57091	None	None	G3G5T2T3	S2	1B.2
Lasiurus cinereus hoary bat	AMACC05032	None	None	G3G4	S4	
Lasthenia glabrata ssp. coulteri Coulter's goldfields	PDAST5L0A1	None	None	G4T2	S2	1B.1
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3T1	S2	FP
Lepidium virginicum var. robinsonii Robinson's pepper-grass	PDBRA1M114	None	None	G5T3	S3	4.3
Monardella hypoleuca ssp. intermedia intermediate monardella	PDLAM180A4	None	None	G4T2?	S2?	1B.3

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Myotis yumanensis Yuma myotis	AMACC01020	None	None	G5	S4	
Nama stenocarpa mud nama	PDHYD0A0H0	None	None	G4G5	S1S2	2B.2
Nasturtium gambelii Gambel's water cress	PDBRA270V0	Endangered	Threatened	G1	S1	1B.1
Navarretia prostrata prostrate vernal pool navarretia	PDPLM0C0Q0	None	None	G2	S2	1B.2
Nemacaulis denudata var. denudata coast woolly-heads	PDPGN0G011	None	None	G3G4T2	S2	1B.2
Neotoma lepida intermedia San Diego desert woodrat	AMAFF08041	None	None	G5T3T4	S3S4	SSC
Nolina cismontana chaparral nolina	PMAGA080E0	None	None	G3	S3	1B.2
Nyctinomops macrotis big free-tailed bat	AMACD04020	None	None	G5	S3	SSC
Oncorhynchus mykiss irideus pop. 10 steelhead - southern California DPS	AFCHA0209J	Endangered	Candidate Endangered	G5T1Q	S1	
Onychomys torridus ramona southern grasshopper mouse	AMAFF06022	None	None	G5T3	S3	SSC
Orcuttia californica California Orcutt grass	PMPOA4G010	Endangered	Endangered	G1	S1	1B.1
Pandion haliaetus osprey	ABNKC01010	None	None	G5	S4	WL
Panoquina errans wandering (=saltmarsh) skipper	IILEP84030	None	None	G4G5	S2	
Passerculus sandwichensis beldingi Belding's savannah sparrow	ABPBX99015	None	Endangered	G5T3	S3	
Pentachaeta aurea ssp. allenii Allen's pentachaeta	PDAST6X021	None	None	G4T1	S1	1B.1
Perognathus longimembris pacificus Pacific pocket mouse	AMAFD01042	Endangered	None	G5T2	S2	SSC
Phrynosoma blainvillii coast horned lizard	ARACF12100	None	None	G4	S4	SSC
Polioptila californica californica coastal California gnatcatcher	ABPBJ08081	Threatened	None	G4G5T3Q	S2	SSC
Pseudognaphalium leucocephalum white rabbit-tobacco	PDAST440C0	None	None	G4	S2	2B.2
Quercus dumosa Nuttall's scrub oak	PDFAG050D0	None	None	G3	S3	1B.1
Rallus obsoletus levipes light-footed Ridgway's rail	ABNME05014	Endangered	Endangered	G3T1T2	S1	FP

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Rhinichthys osculus ssp. 8 Santa Ana speckled dace	AFCJB3705K	None	None	G5T1	S1	SSC
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S3	
Salvadora hexalepis virgultea coast patch-nosed snake	ARADB30033	None	None	G5T4	S3	SSC
Senecio aphanactis chaparral ragwort	PDAST8H060	None	None	G3	S2	2B.2
Setophaga petechia yellow warbler	ABPBX03010	None	None	G5	S3S4	SSC
Sidalcea neomexicana salt spring checkerbloom	PDMAL110J0	None	None	G4	S2	2B.2
Sorex ornatus salicornicus southern California saltmarsh shrew	AMABA01104	None	None	G5T1?	S1	SSC
Southern Coast Live Oak Riparian Forest Southern Coast Live Oak Riparian Forest	CTT61310CA	None	None	G4	S4	
Southern Coastal Salt Marsh Southern Coastal Salt Marsh	CTT52120CA	None	None	G2	S2.1	
Southern Cottonwood Willow Riparian Forest Southern Cottonwood Willow Riparian Forest	CTT61330CA	None	None	G3	S3.2	
Southern Dune Scrub Southern Dune Scrub	CTT21330CA	None	None	G1	S1.1	
Southern Foredunes Southern Foredunes	CTT21230CA	None	None	G2	S2.1	
Southern Riparian Scrub Southern Riparian Scrub	CTT63300CA	None	None	G3	S3.2	
Southern Sycamore Alder Riparian Woodland Southern Sycamore Alder Riparian Woodland	CTT62400CA	None	None	G4	S4	
Spea hammondii western spadefoot	AAABF02020	None	None	G2G3	S3S4	SSC
Sternula antillarum browni California least tern	ABNNM08103	Endangered	Endangered	G4T2T3Q	S2	FP
Streptocephalus woottoni Riverside fairy shrimp	ICBRA07010	Endangered	None	G1G2	S2	
Suaeda esteroa estuary seablite	PDCHE0P0D0	None	None	G3	S2	1B.2
Symphyotrichum defoliatum San Bernardino aster	PDASTE80C0	None	None	G2	S2	1B.2
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Thamnophis hammondii two-striped gartersnake	ARADB36160	None	None	G4	S3S4	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Tryonia imitator	IMGASJ7040	None	None	G2	S2	
mimic tryonia (=California brackishwater snail)						
Valley Needlegrass Grassland	CTT42110CA	None	None	G3	S3.1	
Valley Needlegrass Grassland						
Verbesina dissita	PDAST9R050	Threatened	Threatened	G1G2	S1	1B.1
big-leaved crownbeard						
Vireo bellii pusillus	ABPBW01114	Endangered	Endangered	G5T2	S3	
least Bell's vireo						

Record Count: 107

Attachment 3 – Special-Status Species Not Addressed

Attachment 3. Special-Status Species Not Addressed[1]

Latin Name	Common Name	Reason for Exclusion
PLANTS		
Abronia villosa var. *aurita*	Chaparral sand-verbena	No suitable wash habitat.
Abronia maritima	red sand-verbena	No suitable coastal dune habitat.
Astragalus brauntonii	Braunton's milk-vetch	No suitable carbonate soils.
Astragalus hornii var. *hornii*	Horn's milk-vetch	No suitable alkali or playa habitat.
Atriplex parishii	Parish's brittlescale	No suitable alkali or playa habitat.
Atriplex serenana var. *davidsonii*	Davidson's saltscale	No suitable alkali or playa habitat.
Brodiaea filifolia	Thread-leaved brodiaea	No suitable clay soils.
Calochortus plummerae	Plummer's mariposa-lily	Well outside of geographic range.
Centromadia parryi ssp. *australis*	Southern tarplant	No suitable alkali or playa habitat.
Chaenactis glabriuscula var. *orcuttiana*	Orcutt's pincushion	No suitable coastal dune habitat.
Chloropyron maritimum ssp. *maritimum*	Salt marsh bird's-beak	No suitable salt marsh habitat.
Convolvulus simulans,	Small-flowered morning-glory	No suitable clay soils.
Diplacus clevelandii,	Cleveland's bush monkeyflower	Well outside of geographic range.
Eleocharis parvula	small spikerush	No suitable vernal pool or wetland habitat.
Eryngium aristulatum var. *parishii*	San Diego button-celery	No suitable vernal pool habitat.
Harpagonella palmeri	Palmer's grapplinghook	No suitable clay soils.
Helianthus nuttallii ssp. *parishii*	Los Angeles sunflower	No suitable seeps or springs.
Hordeum intercedens	vernal barley	No suitable vernal pool or wetland habitat.
Juncus acutus ssp. leopoldii	southwestern spiny rush	No suitable marsh or wetland habitat.
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	No suitable vernal pool habitat.
Microseris douglasii ssp. platycarpha	small-flowered microseris	No suitable clay soils.
Monardella hypoleuca ssp. *intermedia*	Intermediate monardella	Well outside of geographic range.
Nama stenocarpa	Mud nama	No suitable vernal pool or lakebed habitat.
Nasturtium gambelii	Gambel's water cress	No suitable seeps or springs.
Navarretia prostrata	Prostrate vernal pool navarretia	No vernal pool habitat.
Nemacaulis denudata var. *denudata*	Coast woolly-heads	No suitable coastal dune habitat.
Nolina cismontana	Chaparral nolina	Well outside of geographic range.
Orcuttia californica	California Orcutt grass	No suitable vernal pool habitat.
Pentachaeta aurea ssp. *allenii*	Allen's pentachaeta	Well outside of geographic range.
Pentachaeta aurea ssp. *aurea,*	Golden-rayed pentachaeta	Well outside of geographic range.
Phacelia hubbyi	Hubby's phacelia	Well outside of geographic range.
Pseudognaphalium leucocephalum	White rabbit-tobacco	No suitable wash habitat.
Sidalcea neomexicana	Salt spring checkerbloom	No suitable seeps or springs.
Suaeda esteroa	Estuary seablite	No estuaries or salt marsh habitat.
Symphyotrichum defoliatum	San Bernardino aster	No suitable seeps or springs.
Viguiera laciniata	San Diego County viguiera	Well outside of geographic range.
INVERTEBRATES		
Branchinecta sandiegonensis	San Diego fairy shrimp	No vernal pool habitat.
Cicindela hirticollis gravida	Sandy beach tiger beetle	No suitable coastal dune habitat.
Cicindela latesignata	Western beach tiger beetle	No suitable coastal dune habitat.
Coelus globosus	Globose dune beetle	No suitable coastal dune habitat.
Habroscelimorpha gabbii	Western tidal-flat tiger beetle	No suitable tidal flat habitat.

Attachment 3. Special-Status Species Not Addressed[1]

Latin Name	Common Name	Reason for Exclusion
Panoquina errans	Wandering skipper	No estuaries or salt marsh habitat.
Streptocephalus woottoni	Riverside fairy shrimp	No suitable vernal pool habitat.
Tryonia imitator	California brackishwater snail	No suitable brackish aquatic habitat.
FISHES		
Eucyclogobius newberryi	Tidewater goby	No suitable aquatic habitat.
Gila orcuttii	Arroyo chub	No suitable aquatic habitat.
Oncorhynchus mykiss irideus pop. 10	Steelhead - southern California DPS	No suitable aquatic habitat.
Rhinichthys osculus ssp. 8	Santa Ana speckled dace	No suitable aquatic habitat.
AMPHIBIANS		
Anaxyrus californicus	Arroyo toad	No suitable aquatic habitat.
Spea hammondii	Western spadefoot	No suitable aquatic habitat.
REPTILES		
Emys marmorata	Western pond turtle	No suitable aquatic habitat.
Thamnophis hammondii	Two-striped gartersnake	No suitable aquatic habitat.
BIRDS		
Agelaius tricolor	Tricolored blackbird	No suitable marsh or agricultural habitat.
Charadrius nivosus nivosus	Western snowy plover	No suitable lakebed or playa habitat.
Coccyzus americanus occidentalis	Western yellow-billed cuckoo	No suitable riparian habitat.
Coturnicops noveboracensis	Yellow rail	No suitable wetland or playa habitat.
Empidonax traillii extimus	Southwestern Willow Flycatcher	No suitable riparian habitat.
Icteria virens	Yellow-breasted chat	No suitable riparian habitat.
Laterallus jamaicensis coturniculus	California black rail	No suitable saltmarsh habitat.
Pandion haliaetus	Osprey	No suitable roosting or foraging habitat.
Passerculus sandwichensis beldingi	Belding's savannah sparrow	No suitable saltmarsh habitat.
Rallus obsoletus levipes	Light-footed Ridgway's rail	No suitable wetland or playa habitat.
Riparia riparia	Bank swallow	Extirpated from Southern California.
Setophaga petechia	Yellow warbler	No suitable riparian habitat.
Sternula antillarum browni	California least tern	No suitable coastal dune habitat.
Vireo bellii pusillus	Least Bell's vireo	No suitable riparian habitat.
MAMMALS		
Chaetodipus californicus femoralis	Dulzura pocket mouse	Well outside of geographic range.
Chaetodipus fallax fallax	Northwestern San Diego pocket mouse	Well outside of geographic range.
Onychomys torridus ramona	Southern grasshopper mouse	Well outside of geographic range.
Perognathus longimembris pacificus	Pacific pocket mouse	Well outside of geographic range.
Sorex ornatus salicornicus	Southern California saltmarsh shrew	No suitable saltmarsh habitat.
Taxidea taxus	American badger	Surrounded by development, not adequately sized to support animals.

Note:
[1] Special-status species reported from the region, but not addressed in this report due to habitat or geographic range.

Attachment 4 – Project Species List

Attachment 4. Project Species List

Latin Name	Common Name
VASCULAR PLANTS	
Dicotyledons	
POLYPODEACEAE	FERN FAMILY
Polypodium californicum	California polypody
PINACEAE	PINE FAMILY
* *Pinus* sp.	Unid. ornamental
ADOXACEAE	MUSKROOT FAMILY
Sambucus nigra ssp. *cerulea*	Mexican elderberry, blue elderberry
AIZOACEAE	FIG-MARIGOLD or ICEPLANT FAMILY
* *Carpobrotus edulis*	Freeway iceplant, hottentot fig
* *Mesembryanthemum crystallinum*	Crystalline ice plant
ANACARDIACEAE	SUMAC or CASHEW FAMILY
Malosma laurina	Laurel sumac
Rhus integrifolia	Lemonade berry
Rhus ovata	Sugar bush
* *Schinus molle*	Peruvian pepper tree
* *Schinus terebinthifolius*	Brazilian pepper tree
Toxicodendron diversilobum	Western poison oak
APIACEAE	CELERY FAMILY
Apiastrum angustifolium	Wild celery
* *Conium maculatum*	Poison hemlock
* *Foeniculum vulgare*	Fennel
APOCYNACEAE	DOGBANE FAMILY
* *Vinca major*	Greater periwinkle, blue periwinkle
ARALIACEAE	GINSENG FAMILY, IVY FAMILY
* *Hedera helix*	English ivy
ASTERACEAE	ASTER FAMILY
Acourtia microcephala	Sacapellote
Ambrosia psilostachya	Western ragweed
Artemisia californica	California sagebrush
Artemisia douglasiana	Douglas mugwort
Baccharis pilularis	Coyote brush
Baccharis salicifolia	Mule fat
* *Carduus pycnocephalus*	Italian thistle
* *Centaurea melitensis*	Tocalote
Corethrogyne filaginifolia	Common sand aster
* *Cotula australis*	Brass buttons
* *Cynara cardunculus*	Artichoke thistle, cardoon
* *Delairea odorata*	Cape ivy
Deinandra fasciculata	Clustered tarweed
* *Dipomophotheca fructicosa*	Trailing African daisy
Encelia californica	California encelia
Eriophyllum confertiflorum	Common yarrow
* *Glebionis coronaria*	Garland daisy
Hazardia squarosa	Saw-tooth goldenbush

Attachment 4. Project Species List

	Latin Name	Common Name
*	*Helminthotheca echioides*	Bristly ox-tongue
	Heterotheca grandiflora	Telegraph weed
*	*Hypochaeris glabra*	Smooth cat's-ear
**	*Isocoma menziesii* var. *decumbens*	Decumbent goldenbush
	Isocoma menziesii var. *menziesii*	Menzie's goldenbush
*	*Lactuca seriola*	Wire lettuce
	Malacothrix saxatilis var. *tenuifolia*	Short leaved cliff aster
	Pseudognaphalium biolettii	Bicolored cudweed
	Pseudognaphalium stramineum	Cottonbatting plant
*	*Pulicaria paludosa*	Spanish false fleabane
*	*Senecio vulgaris*	Common groundsel
*	*Silybum marianum*	Milk thistle
*	*Sonchus asper*	Prickly sow thistle
*	*Sonchus oleraceus*	Sow thistle
	Stephanomeria virgata	Twiggy wreath plant
*	*Taraxacum officinale*	Red-seeded dandelion
*	*Verbesina dissita*	Crownbeard
BORAGINACEAE		BORAGE OR WATERLEAF FAMILY
	Amsinckia intermedia	Large flower rancher's fiddleneck
	Cryptantha sp.	Unid. annual cryptantha
*	*Echium candicans*	Pride of Madeira
	Eucrypta chrysanthemifolia	Common eucrypta
	Phacelia distans	Common phacelia
	Phacelia parryi	Parry's phacelia
	Phacelia ramosissima	Branching phacelia
	Pholitoma auritum	Fiesta flower
BRASSICACEAE		MUSTARD FAMILY
*	*Brassica nigra*	Black mustard
*	*Capsella bursa-pastoris*	Shepherd's purse
*	*Hirschfeldia incana*	Shortpod mustard
*	*Lobularia maritima*	Sweet alyssum
*	*Raphanus sativus*	Wild radish
*	*Sisymbrium irio*	London rocket
*	*Sisymbrium orientale*	Hare's ear cabbage
CACTACEAE		CACTUS FAMILY
	Cylindropuntia prolifera	Coastal cholla
	Opuntia littoralis	Coastal prickly pear
CAPRIFOLIACEAE		HONEYSUCKLE FAMILY
*	*Lonicera japonica*	Japanese honeysuckle
	Symphoricarpos mollis	Snowberry
CARYOPHYLLACEAE		PINK FAMILY
*	*Polycarpon tetraphyllum*	Four leaved allseed
*	*Stellaria media*	Chickweed
CHENOPODIACEAE		GOOSEFOOT FAMILY
*	*Atriplex semibaccata*	Australian saltbush

Attachment 4. Project Species List

	Latin Name	Common Name
	Chenopodium californicum	California goosefoot
*	*Salsola tragus*	Russian thistle
CLEOMACEAE		CAPER FAMILY
	Peritoma arborea	Bladderpod
CONVOLVULACEAE		MORNING-GLORY FAMILY
	Calystegia macrostegia	Morning-glory
*	*Convolvulus arvensis*	Field bindweed
	Cuscuta californica	Chaparral dodder, witch's hair
CRASSULACEAE		STONECROP FAMILY
	Dudleya lanceolata	Lance-leaved dudleya
	Dudleya pulverulenta	Chalk dudleya
CUCURBITACEAE		GOURD FAMILY, CUCUMBER FAMILY
	Marah macrocarpa	Chilicothe, wild cucumber
EUPHORBIACEAE		SPURGE FAMILY
	Euphorbia albomarginata	Rattlesnake spurge
*	*Euphorbia maculata*	Spotted spurge
*	*Euphorbia peplus*	Petty spurge
*	*Ricinus communis*	Castor bean
FABACEAE		LEGUME FAMILY, PEA FAMILY
*	*Acacia cyclops*	Coastal wattle
*	*Acacia redolens*	Bank catclaw
	Acmispon glaber	Deerweed
	Acmispon maritimus	Coastal lotus
	Lupinus succulentus	Arroyo lupine
*	*Medicago polymorpha*	California burclover
*	*Melilotus indicus*	Sourclover, India sweetclover
*	*Senna didymobotrya*	African wild cassia
FAGACEAE		OAK FAMILY
	Quercus agrifolia	Coast live oak
	Quercus berberidifolia	Inland scrub oak
GERANIACEAE		GERANIUM FAMILY
*	*Erodium brachycarpum*	White stemmed filaree
*	*Erodium cicutarium*	Redstem filaree
GROSSULARIACEAE		GOOSEBERRY FAMILY, CURRANT FAMILY
	Ribes speciosum	Fuchsia-flowered gooseberry
LAMIACEAE		MINT FAMILY
*	*Marrubium vulgare*	Horehound
	Salvia apiana	White sage
	Salvia leucophylla	Purple sage
	Salvia mellifera	Black sage
MALVACEAE		MALLOW FAMILY
	Malacothamnus fasciculatus	Chaparral bush-mallow
*	*Malva nicaeensis*	Bull mallow
*	*Malva parviflora*	Cheeseweed
MONTIACEAE		MINER'S LETTUCE FAMILY

Attachment 4. Project Species List

Latin Name	Common Name
Claytonia perfoliata	Miner's lettuce
MYOPORACEAE	MYOPORUM FAMILY
* *Myoporum laetum*	Myoporum
MYRINACEAE	MYRSINE FAMILY
* *Lysimachia arvensis*	Scarlet pimpernel
MYRTACEAE	MYRTLE FAMILY, EUCALYPTUS FAMILY
* *Eucalyptus* sp.	Ornamental eucalyptus
NYCTAGINACEAE	FOUR O'CLOCK FAMILY
Mirabilis laevis	Wishbone bush
OLEACEAE	OLIVE FAMILY
* *Fraxinus uhdei*	Shamel ash
OROBANCHACEAE	BROOMRAPE FAMILY
Castilleja foliolosa	Texas paintbrush
OXALIDACEAE	OXALIS FAMILY
* *Oxalis pes-caprae*	Bermuda buttercup
PAPAVERACEAE	POPPY FAMILY
** *Romneya coulteri*	Coulter's matilija poppy
PHRYMACEAE	MONKEYFLOWER FAMILY
Diplacus aurantiacus	Sticky monkeyflower
PITTOSPORACEAE	AUSTRALIAN LAUREL FAMILY
* *Pittosporum undulatum*	Victorian box
PLANTAGINACEAE	PLANTAIN FAMILY
Antirrhinum nuttallianum	Nuttall's snapdragon
Keckiella cordifolia	Heart leaved keckiella
PLATANACEAE	PLANE-TREE or SYCAMORE FAMILY
Platanus racemosa	Western sycamore
POLYGALACEAE	POLYGALA FAMILY
** *Polygala cornuta var. fishiae*	Fish's milkwort
POLYGONACEAE	BUCKWHEAT FAMILY
Eriogonum fasciculatum	California buckwheat
* *Rumex crispus*	Curly dock
RHAMNACEAE	BUCKTHORN FAMILY
Ceanothus megacarpus	Big pod ceanothus
Ceanothus spinosus	Greenbark ceanothus
Rhamnus crocea	Redberry
Rhamnus ilicifolia	Evergreen buckthorn
ROSACEAE	ROSE FAMILY
Heteromeles arbutifolia	Toyon, Christmas berry
* *Pyracantha* sp.	Ornamental pyracantha
RUBIACEAE	MADDER FAMILY, COFFEE FAMILY
Galium aparine	Goose grass, stickywilly
Galium nuttallii ssp. *nuttallii*	Climbing bedstraw
SCROPHULARIACEAE	BEE PLANT FAMILY
* *Myoporum laetum*	Ngaio tree
Scrophularia californica	California bee plant

Attachment 4. Project Species List

Latin Name	Common Name
SOLANACEAE	NIGHTSHADE FAMILY
Datura wrightii	Jimsonweed, tolguacha
* *Nicotiana glauca*	Tree tobacco
TROPAEOLACEAE	TROPAELOUM FAMILY
* *Tropaeolum majus*	Garden nasturtium
VALERIACEAE	VALERIAN FAMILY
* *Centranthus ruber*	Jupiter's beard
Monocotyledons	
AGAVACEAE	CENTURY PLANT FAMILY, AGAVE FAMILY
* *Hesperoyucca whipplei*	Chaparral yucca
* *Yucca* sp.	Unid. yucca
ARECACEAE	PALM FAMILY
* *Washingtonia robusta*	Mexican fan palm, ornamental fan palm
IRIDACEAE	IRIS FAMILY
Sisyrinchium bellum	California blue-eyed grass
LILIACEAE	LILY FAMILY
Calochortus splendens	Splendid mariposa
** *Calochortus weedii* var. *intermedius*	Intermediate mariposa lily
MELANTHIACEAE	BUNCHFLOWER FAMILY
Toxicoscordion fremontii	Fremont's star lily
POACEAE	GRASS FAMILY
* *Avena barbata*	Slender wild oat
* *Avena fatua*	Wild oat
* *Brachypodium distachyon*	Purple false brome
* *Bromus diandrus*	Ripgut brome
* *Bromus rubens*	Red brome
* *Cortaderia selloana*	Argentine pampas grass
* *Cynodon dactylon*	Bermuda grass
* *Ehrharta erecta*	Panic veldt grass
Elymus condensatus	Giant wild-rye
* *Festuca myuros*	Rattail sixweeks grass
* *Hordeum murinum*	Wall barley, hare barley
Melica imperfecta	California melic grass
Muhlenbergia microsperma	Littleseed muhly
* *Pennisetum setaceum*	Crimson fountain grass, African fountain grass
* *Pennisetum villosum*	Feathertop
* *Polypogon monspeliensis*	Annual beard grass
* *Schismus barbatus*	Mediterranean schismus
* *Stenotaphrum secundatum*	Saint augustine grass
* *Stipa miliacea*	Smilo grass
Stipa lepida	Foothill needle grass
THEMIDACEAE	BRODIAEAE FAMILY
Dichelostemma capitatum	Blue hyacinth
TYPHACEAE	CATTAIL FAMILY
Typha domingensis (?)	Cattail

Attachment 4. Project Species List

Latin Name	Common Name
INVERTEBRATE ANIMALS	
HYMENOPTERA	ANTS, BEES, AND WASPS
* *Apis mellifera*	European honey bee
Bombus melanopygus	Black-tailed bumblebee
VERTEBRATE ANIMALS	
REPTILIA	REPTILES
Sceloporus occidentalis	Western fence lizard
Uta stansburiana	Side-blotched lizard
AVES	BIRDS
CATHARTIDAE	VULTURES
Cathartes aura	Turkey vulture
ACCIPITRIDAE	HAWKS, EAGLES, HARRIERS
** *Accipiter cooperii*	Cooper's hawk
Buteo jamaicensis	Red-tailed hawk
Buteo lineatus	Red-shouldered hawk
FALCONIDAE	FALCONS
Falco sparverius	American kestrel
PHASIANIDAE	GROUSE AND QUAIL
Callipepla californica	California quail
COLUMBIDAE	PIGEONS AND DOVES
Zenaida macroura	Mourning dove
APODIDAE	SWIFTS
Aeronautes saxatalis	White-throated swift
TROCHILIDAE	HUMMINGBIRDS
Calypte anna	Anna's hummingbird
Selasphorus sasin	Allen's hummingbird
PICIDAE	WOODPECKERS
Melanerpes formicivorus	Acron woodpecker
Picoides nuttallii	Nuttall's woodpecker
TYRANNIDAE	TYRANT FLYCATCHERS
Empidonax difficilis	Pacific-slope flycatcher
Myiarchus cinerascens	Ash-throated flycatcher
Sayornis nigricans	Black phoebe
Sayornis saya	Say's phoebe
Tyrannus vociferans	Cassin's kingbird
Tyrannus verticalis	Western kingbird
HIRUNDINIDAE	SWALLOWS
Petrochelidon pyrrhonota	Cliff swallow
Stelgidopteryx serripennis	Northern rough-winged swallow
CORVIDAE	CROWS AND JAYS
Aphelocoma californica	California scrub-jay
Corvus brachyrhynchos	American crow
Corvus corax	Common raven

Attachment 4. Project Species List

Latin Name	Common Name
ODONTOPHORIDAE	NEW WORLD QUAILS
Callipepla californica	California quail
AEGITHALIDAE	BUSHTITS
Psaltriparus minimus	Bushtit
TROGLODYTIDAE	WRENS
Thryomanes bewickii	Bewick's wren
Troglodytes aedon	House wren
PARIDAE	TIT FAMILY
Baeolophus inornatus	Oak titmouse
MUSCICAPIDAE	THRUSHES AND ALLIES
Sialia mexicana	Western bluebird
Chamaea fasciata	Wrentit
MIMIDAE	MOCKINGBIRDS AND THRASHERS
Mimus polyglottos	Northern mockingbird
Toxostoma redivivum	California thrasher
PTILIOGNATIDAE	SILKY-FLYCATCHERS
Phainopepla nitens	Phainopepla
STURNIDAE	STARLINGS
* *Sturnus vulgaris*	European starling
EMBERIZIDAE	SPARROWS, WARBLERS, TANAGERS
Setophaga coronata	Yellow-rumped warbler
Pipilo maculatus	Spotted towhee
Melozone crissalis	California towhee
Melospiza melodia	Song sparrow
Zonotrichia leucophrys	White-crowned sparrow
Icterus bullockii	Bullock's oriole
FRINGILLIDAE	FINCHES
Haemorhous mexicanus	House finch
Spinus psaltria	Lesser goldfinch
PASSERIDAE	WEAVERS
* *Passer domesticus*	House sparrow
MAMMALIA	MAMMALS
FELIDAE	CAT FAMILY
Lynx rufus	Bobcat
GEOMYIDAE	POCKET GOPHERS AND ALLIES
Thomomys bottae	Botta's pocket gopher
LEPORIDAE	HARES AND RABBITS
Sylvilagus audubonii	Desert cottontail
SCIURIDAE	SQUIRRELS
Otospermophilus beecheyi	Beechey (California) ground squirrel
CRICETIDAE	RATS AND MICE
Neotoma fuscipes	Dusky-footed wood rat
CANIDAE	FOXES, WOLVES AND COYOTES
Canis latrans	Coyote
PROCYONIDAE	RACCOONS

Attachment 4. Project Species List

Latin Name	Common Name
Procyon lotor	Raccoon

Notes:
Species introduced to California are indicated by an asterisk. Special-status species are indicated by two asterisks. This list includes only species observed on the site. Invertebrate species observed throughout the site were not included in this list with the exception of Crustaceans. Other species may have been overlooked or unidentifiable due to season (amphibians are active during rains, reptiles during summer, some birds and bats migrate out of the area for summer or winter, some mammals hibernate, many plants are identifiable only in spring). Plants were identified using keys, descriptions, and illustrations in Baldwin et al (2012). Plant taxonomy and nomenclature generally follow Baldwin et al. (2012). Wildlife taxonomy and nomenclature generally follow Stebbins (2003) for amphibians and reptiles, AOU (1998) for birds, and Wilson and Ruff (1999) for mammals.

Attachment 5 – Project Photos

Photo 1: Typical view of bigpod ceanothus chaparral observed on north-facing slopes within FMZ 16.

Photo 2: Typical view of California sagebrush scrub – black sage scrub observed on an engineered slope within FMZ 19.

Photo 3: Typical view of California buckwheat scrub observed on south-facing slopes within portions of FMZ 16.

Photo 4: Close-up view of lemonade berry scrub observed in FMZ 19.

Photo 5: Close-up view of lemonade berry scrub observed in FMZ 19, note the decumbent goldenbush in the foreground.

Photo 6: Typical view of lemonade berry scrub observed in FMZ 19.

Photo 7: Typical view of fountain grass swards on south-facing slopes in FMZ 16.

Photo 8: Typical view of an area mapped as ornamental vegetation and development within FMZ 19.

Photo 9. Close-up view of big-leaved crownbeard growing among ornamental plants adjacent to residential development in FMZ 16.

Photo 10. Close-up view of big-leaved crownbeard growing along Nyes Place within FMZ 16.

Photo 11: Close-up view of intermediate mariposa lily observed within FMZ 19.

Photo 12: Seasonal stream in the bottom of Hobo Canyon within FMZ 16.

Appendix A – Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting

Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting

The intent of this protocol is to define City procedures for achieving compliance with regulation of the California Coastal Commission, California Environmental Quality Act (CEQA), California Department of Fish and Wildlife, and U.S. Fish and Wildlife Service, (et. al.) regarding fuel modification in zones requiring a Coastal Development Permit.

Fuel Modification Zones (FMZ's) are managed by the City of Laguna Beach under two different approaches;

a. Public Nuisance Abatement sites – Those legacy sites which have a history of long-term grazing disturbance. These sites and their associated management by goat grazing predates the adoption of the Coastal Act and has been judged by the State Attorney General as exempt from the act as a pre-existing condition. This generally refers to sites grazed by goats in FMZ's 1-10.

b. Coastal Development Permit sites- Those sites subject to the Coastal Act for which a Coastal Development Permit must be obtained for fuel modification. This treatment protocol guides fuel modification for these sites, which includes all zones currently maintained under Coastal Development Permits (FMZ's 10-15), and all program expansion sites planned for future development.

Reduction of Fire Behavior Potential

The objective of any fuel modification treatment shall be to achieve at least an average 75% reduction in potential wildfire fire line intensity (energy release), as measured by lame length and rate of spread. In general, a 50% reduction of fuel loading, accomplished by the parameters of this protocol will achieve such a reduction. (*Fuel Modification Impacts to Potential Fire Behavior- A Case Study for the City of Laguna Beach, Rohde, 2017*, and *Catastrophic Wildfire Assessment- City of Laguna Beach, Franklin, 2013*).

Treatment Area Determination:

Fuel Modification treatments will generally be limited to those areas that are within 100 feet of developed properties or structures. Treatments outside of these areas will be limited to removal of targeted invasives, general non-natives weeds control, or tree thinning and dead branch removal. Fuel modification outside of the 100 foot zone shall be conducted with intent to minimize impacts to adjacent intact habitats, serve as partial on-site mitigation for fuel modification impacts when required, or for prevention of fire branding over the fuel break.

The primary methods for vegetation management shall consist of grazing or hand crew modification. Other methods including mechanical mastication, prescribed burning, mass herbicide use, crushing, chaining, or other means of mechanical conversion have been generally eliminated from consideration for environmental, risk, or social/political concerns.

Geotechnical Findings:

Proposed FMZ's shall be evaluated by a qualified geologist for geologic stability and flood/debris movement potential. Treatment within areas determined to be geologically unstable in the geotechnical report may be modified or eliminated. Unstable sites may include historic landslide or debris flow areas, unstable soil or rock structure, or similar sites.

Archeological/Paleontological Findings:

Proposed FMZ's shall be evaluated for archeological and paleontological resources in accordance with CEQA requirements. Such evaluation requires solicitation of tribal interests, survey of data sources for known resources, and site survey. Areas determined to have a presence of identified archaeological and/or paleontological resources may require fuels treatment to be modified or eliminated.

Sensitive Species Protection:

For all Coastal Development Permit FMZ's, a qualified biologist shall inspect proposed fuel modification sites for the presence of sensitive species prior to the initiation of work. If the presence of sensitive species are identified, a trained biological monitor shall be present at all times while work is conducted in the immediate vicinity of identified habitat to ensure no accidental takings occur, and sensitive species are protected. Crews conducting fuel modification work shall receive instruction and training in sensitive species management and avoidance prior to initiation of work.

Sensitive species include those identified in the California Endangered Species Act (CESA), the Native Plant Protection Act (NPPA), the California Environmental Quality Act (CEQA), the Natural Community Conservation Planning Act (NCCPA), California Penal Code Section 384a, or by Federal designation in the Endangered Species Act (F-ESA). Sensitive species shall not be disturbed by fuel modification activities.

Sensitive plant species of principal concern in Laguna Beach include:

1. Big-leaved Crownbeard (*Verbesina dissita*)
2. Intermediate Mariposa Lilly (*Calochortus weedii* var. *intermedius)*
3. Many-Stemmed Dudleya (*Dudleya multicaulis*)
4. Fish's Milkwort (*Polygala cornuta* var. *fishae*)
5. Cliff Spurge (*Euphorbia misera*)
6. Catalina Mariposa Lily (*Calochortus catalinae*)
7. Coulter's Matillija Poppy (*Romneya coulteri*)
8. Western Dichondra (*Dichondra occidentalis*)
9. Laguna Beach Life-forever (*Dudleya stolonifera*)
10. Many-stemmed Dudleya (*Dudleya multicaulus*)

Whenever sensitive plant species are identified, they will be protected by establishing a flagged, 15-foot buffer around all specimens of the sensitive species, inside of which no material shall be initially removed. Such presence and limits shall be effectively communicated to project contractors. Based upon the species identified, its ecology and phenology, hand removal of non-native vegetation within the 15 foot buffer may be initiated at the direction of the biological monitor, if it is determined to be ecologically beneficial for the identified species. For Big-Leaved Crownbeard (*Verbesina dissita*), the potential shading/nurse plant benefit of non-native shrubs would be considered before removing non-native shrubs with such a determination to be made by the biological monitor.

To avoid impacts to nesting and migratory birds, including the Coastal California Gnatcatcher (*Polioptila californica*), removal of vegetation should occur outside of nesting season (February 1 to August 31 in upland habitats) as much as is practicable. If work is conducted during nesting season, a qualified biologist will conduct a Nesting Bird Survey in the work area within 48 hours of the commencement of work. If any are found, a buffer zone will be flagged around the nesting site(s) in compliance with the biologist's recommendations before work commences. Contractor personnel will be directed to check all vegetation for nests before cutting and to cease work in the area immediately if one is found, until a qualified biologist can assess it. If work ceases for more than two days, another nesting bird survey will be required before work can re-commence.

<u>Grazing Treatment Protocols:</u>

Goats will be used to implement grazed fuel modification treatment in areas of Low to Moderate Habitat Value as defined in the *Laguna Beach Biological Resources Inventory, (Marsh et. al 1983,* `see Appendix). To determine habitat value for this purpose, Laguna Beach City GIS maps based on the above-referenced document will be initially referenced, and modified as necessary based on site visits by a qualified biologist to reflect current conditions.

a. The fur and hooves of all goats will be cleaned of seeds and debris before arriving at the treatment area and when being moved between enclosures to prevent the spread of invasive plant species.
b. No more than 75 goats will be permitted per acre.
c. Goats shall remain in secure enclosures at all times.
d. Sensitive plant species shall be protected from trampling or consumption by establishing the secure enclosures a minimum distance of at least 15 feet between sensitive plants and the limits of grazing.
e. Grazing animals shall be moved periodically to ensure enough vegetative cover remains to promote erosion control, inhibit dust, and preserve view aesthetics.
f. Goat grazing shall be preferred for removal of nonnatives, or native herbaceous species. Up to 80% of the native and 100% of the non-native species in this cover type may be removed in such areas.

g. Goat grazing in woody (Coastal Marine Chaparral) or woody-herbaceous (Coastal Sage Scrub) chaparral species shall be limited to removal of 50% of the vegetative cover, and, and provide for a shaded fuel break outcome.
h. Goat grazed fuel breaks should generally be limited to 100 foot width. Penned areas may be extended to a maximum 150 feet when physical obstructions such as rock outcrops, cliffs, water courses etc. prevent reasonable establishment of pens at 100 foot width.
i. Goats shall be used for brush reduction only and shall be immediately removed when the brush clearance has been accomplished.
j. A targeted invasive control plan will be implemented in all future goat-grazed areas to prevent invasive species from propagating and impacting adjacent intact habitat.
k. Where practicable and environmentally appropriate, goat grazing may be used as the maintenance method for areas which required initial clearance by hand crews.

Hand Crew Treatment Protocols:

Hand crews will be used to implement fuel modification in areas of High or Very High Habitat Value as defined in the *Laguna Beach Biological Resources Inventory, (Marsh et. al 1983,* see Appendix). To determine habitat value for this purpose, Laguna Beach City GIS maps based on the above-referenced document will be initially referenced, and modified as necessary based on site visits by a qualified biologist to reflect current conditions.

The initial phase of vegetation removal shall include the following steps:

a. Fuel Modification will be conducted by hand crews with chainsaws, brush-cutters and other hand tools.
b. Hand crew fuel modification conducted in high or very high value habitat shall generally be limited to a width of 100 feet.
c. Crews will cut down all non-native vegetation (including unmaintained ornamental vegetation) and dead/dying native vegetation and carefully remove dead branches from trees and large shrubs. As noted above, an exception may be made where non-native shrubs are providing shading/nurse plant benefits for Big-Leaved Crownbeard, as determined by the biological monitor.
d. Special care will be exercised to distinguish dormant native vegetation from dead/dying native vegetation.
e. Tree-form shrubs (*e.g.* Laurel Sumac (*Malosma laurina*), Toyon (*Heteromeles arbutifolia*), Lemonade Berry (*Rhus integrifolia*)) that are over 6 feet tall will be carefully pruned of their lower branches to increase the Crown Base Height to 50% of the plant height. For example, a 10-foot-tall plant would have its lower branches removed to a height of 5 feet. Branches will be pruned to within 1 inch or less of the branch crown. Southern Maritime Chaparral shrub species shall be left fully intact except as noted below, and not pruned initially.
f. For large tree species within FMZ's, non-native trees (P*inus, Eucalyptus*, *Washingtonia*, et. al.) shall be considered for removal on a case-by-case basis, taking into consideration their potential ignitability, potential to spread fire from or across the FMZ, and property/tree ownership. Native

g. large trees (Quercus, *Platanus*, et. al.) shall be pruned of dead components, and lower small branches removed to a height of 8 feet or one half their height, whichever is less, so as to disrupt "fuel ladder" potential. Dead and down tree components on the ground below large trees shall be removed.

Where there is still over 50% vegetative cover after the above material has been removed, the contractor will remove healthy live vegetation in accordance with the hierarchical list below, beginning with the first species listed, then in descending order through the list until 50% vegetative cover has been attained:

1. Coastal Goldenbush (*Isocoma menziezii*)
2. California Buckwheat (*Erigonium fasciculatum*),
3. Black Sage (*Salivia mellifera*)
4. California Sagebrush (Artemisia californica)
5. Monkeyflower (*Mimulus aurantiacus*)
6. Laurel Sumac (*Malosma laurinus*)
7. Toyon (*Heteromeles arbutifolia*)
8. Lemonade Berry (*Rhus integrifolia*)

Stumps will be cut to within 4" or less of the ground. Thinning of healthy, live vegetation will be done in a dispersed manner to avoid creating new large openings. All healthy specimens of Southern Maritime

Chaparral species including Bush Rue (*Cneoridium dumosum*), Spiny Redberry (*Rhamnus crocea*) and Bigpod Lilac (*Ceanothus megacarpus*) will be retained.

Treatment of Water Courses

Pampas Grass and other invasive plant removal and herbicide treatment will be the primary vegetation management within a 25-foot buffer on either side of any "blue-line" ephemeral drainages or stream courses (as listed by USGCS map or City Website) that cross the treatment areas. For long drainages which may form a corridor through which fire may be ushered into residences at the head of drainages, additional site-specific steps may be implemented to establish breaks in fuel continuity within these corridors on a site-specific basis consistent with best environmental practice.

Herbicide Use

Herbicides may be used for spot treatment of invasive species when identified as appropriate by the site biologist. Herbicides shall be specific to the intended use and be used is such a manner as to not pose excessive risk to nearby sensitive species or water courses. Herbicides shall not be used on a landscape scale to defoliate large expanses of fuels.

Erosion Control

The preponderance of roots of perennial plants will be left in place to minimize erosion. Mulch and other erosion control measures (such as straw wattles and/or jute netting) will be installed as necessary for additional protection without being obtrusive, as recommended in site geotechnical reports. Haul paths will be minimized and rehabilitated with mulch or other methods as deemed appropriate by the project biologist. Areas of relatively low slope (i.e., below 33% or 1:3 grade) will be mulched to an adequate depth to minimize weed propagation and ongoing maintenance needs.

Disposal of Cut Materials

All dead and cut material will be disposed of properly. All non-native material will be removed from the site, placed in a truck or dumpster and hauled to a green waste recycler. City contractors will generally be conditioned within their contracts to pay all dump fees related to disposal. Native material will be chipped and used as mulch on-site in areas of moderate slope to reduce erosion and weed propagation. Native material unable to be reused on site will be hauled to a green waste recycler, though efforts will be made to reuse as much native material on site as possible.

Native vegetation under 3 inches in diameter, live or dead, may be processed with hand tools on site and spread in place as mulch as an alternative to hauling and chipping, if it is cut into pieces not exceeding 12 inches, lays flat on the ground, does not cover remaining native plant species and total mulch depth does not exceed 12 inches. All coarse non-native material (e.g., woody debris, Pampas Grass leaves), live or dead, must be removed from the site, including any material dumped in the Project

Area by residents or others. Fine material treated with herbicide (e.g., non-native grasses and annual weeds) may be left on site.

Additional Mitigations

Additional site mitigations may be considered when recommended or required by environmental permitting agencies on a case-by-case basis.

Trash and Litter Found On-site

Trash and litter found throughout the Project Area will be removed from the site and hauled to a landfill.

Site Monitoring and Documentation

An annual monitoring report shall be prepared by the City detailing the following:

1. Dates and locations of vegetation treatment or modification
2. Treatment methods utilized by site
3. Number of acres managed
4. Photos of treatment sites, pre- and post- treatment

5. Description of any violations or failure to meet conditions of the Coastal Development Permit

HABITAT CLASSIFICATION

The following definitions are utilized in the classification of habitat types within the City of Laguna Beach: (Excerpt from: *Laguna Beach Biological Resources Inventory*, *Marsh et. al 1983 pp. 35-36)*

Biological Value Mapping is based on the parameters of habitat integrity and extent, faunal use, and presence of endangered, rare, or locally unique biota. From these, a ranking system was developed of low, medium, high, and very high value habitat. These habitats are classified as follows:

LOW VALUE HABITAT:
Disturbed, impacted sites, often dominated by ruderals, annual plants, and escaped horticulturals. Such areas are usually highly fragmented by, or are contiguous to urban development. These sites are biologically simplified and are of low faunal carrying capacity. Low value habitats do not possess biological constraints to urban development, but may, if developed, be areas where spillover impact adversely affects contiguous higher value settings

MODERATE VALUE HABITAT:
These sites may contain either native vegetation of a specific community type, or ornamental species in a setting providing horizontal and vertical structural diversity. The sites are usually, however, limited in area extent, being contiguous to urban development. Thus their faunal carrying capacity, and often, the native floral species diversity, is lower than "high value" habitats described below.

HIGH VALUE HABITAT:
These are extensive areas dominated by indigenous plant communities which possess good species diversity. They are often, but not always, linked to extensive open space areas, within or outside of the city, by wild-fauna transversable open space corridors. Their faunal carrying capacity is good to excellent, many areas are utilized as bedding and foraging sites by mule deer or possess large resident populations of avifauna or native small animals.

VERY-HIGH VALUE HABITAT:
These include the habitats of endangered, rare, or locally unique native plant species (including disjunct and outpost populations). Also included are areas of southern oak Woodland and natural (not irrigation augmented) springs and seeps. Among the very-high value habitats inventoried are areas of significant rock outcrop exposures, because of the assemblages of sensitive plant species which often occupy such settings.

Appendix B – Coastal California Gnatcatcher Survey Report

COASTAL CALIFORNIA GNATCATCHER SURVEY REPORT
Proposed Fuel Modification Zones 16 and 19 Projects

Prepared for:

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Prepared by:

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Agoura Hills, CA 91301

June 2023

Contents

List of Tables

List of Attachments

1.0 Introduction

This report presents the results of focused breeding season surveys for coastal California gnatcatcher (*Polioptila californica californica*) completed by Aspen Environmental Group (Aspen) for the proposed Lower Hobo (Fuel Modification Zone [FMZ] 16) and Diamond Crestview (FMZ 19) Fuel Modification Project (Project). Surveys were conducted according to the established protocols for this species by the U.S. Fish and Wildlife Service (USFWS). This report was prepared under contract to the City of Laguna Beach Fire Department to document coastal California gnatcatcher within the Project sites to support the preparation of a Biological Resources Technical Report and project permits. This report summarizes the methods and results of the focused surveys conducted in 2023.

2.0 Survey Objectives and Methods

The objective of the focused breeding season surveys for coastal California gnatcatcher was to gather sufficient data to determine the presence or absence of coastal California gnatcatcher within the Project sites. The goals of this survey were to: (1) identify the location of any suitable habitat for coastal California gnatcatcher within the Project sites; (2) document the presence or absence of coastal California gnatcatcher in suitable habitat within the Project sites during their breeding season; and (3) document any incidental observations of other special-status species within the Project sites.

Protocol-level breeding season surveys for the coastal California gnatcatcher were performed in accordance with the 1997 U.S. Fish and Wildlife Service (USFWS) guidelines, which stipulate that during the breeding season, six surveys shall be conducted in all areas of suitable habitat (USFWS, 1997). Surveys were conducted by permitted biologist Jason Berkley (Federal Recovery Permit TE-009015-5). During the survey, a combination of gnatcatcher vocalization recordings and “pishing” sounds were used to elicit responses from gnatcatchers. Weather conditions during the surveys were conducive to a high level of bird activity. All surveys were conducted during the morning hours and were completed before 10:00 am. Surveys were not conducted during extreme weather conditions, and weather conditions documented during the surveys are reported in Table 1. All wildlife species observed during the surveys were recorded and are presented in Section 5.0.

3.0 Project Description

FMZs 16 and 19 are located within the City of Laguna Beach, Orange County, California (Figure 1; Attachment 1). Project activities in FMZs 16 and 19 would include vegetation thinning and removal to create a 100-foot zone of cleared vegetation across roughly 2.5 linear miles to reduce the risk of wildfire for adjacent residences in the area. Removal of heavy vegetation would reduce potential wildfire ignition of residential properties as well as reduce potential for wildfire to spread to high value habitat in wildlands. In addition, the Project would reduce fire line intensity, reduce wildfire rates of spread, and improve occupant safety.

FMZ 16 consists of approximately 13.5 acres located northeast of Pacific Coast Highway (Hwy 1) between Nyes Place to the west, and Laguna Terrace North and K Street to the east, behind residential and community properties (Figure 2a; Attachment 1). FMZ 19 consists of approximately 25.5 acres located northeast of Hwy 1, bounded by Diamond Street to the west, Summit Drive to the north, and La Mirada Street and Alta Vista Way to the east, adjacent to residential properties (Figure 2b; Attachment 1). Vehicle staging would be on existing paved roads, dirt roads, and other unvegetated areas.

Fuels management would be implemented per the City of Laguna Beach *Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting*. Fuels management is expected to primarily consist of hand removal with the option of goat-grazing in select areas if determined to be suitable. Vegetation removal by hand crews would be completed using hand clearing tools such as chainsaws, loppers, and other hand tools. If any special-status plants or animals are found, a trained biological monitor would flag such areas before treatment to ensure the species are protected and avoided.

Project work would avoid California gnatcatcher breeding season to the maximum extent feasible. However, should work be required during the California gnatcatcher breeding season, mitigation measures require that a pre-construction nesting bird survey be performed. If birds are nesting on the site, then Project activities would be postponed until nesting is completed, or the Project Biologist would designate appropriate avoidance buffers around nests to protect nesting birds. The width of the buffer is typically 500 feet for coastal California gnatcatcher. Implementation of mitigation measures would reduce potential effects to the species.

Additional information on the project description and proposed treatment methods are included in the Biological Resources Technical Report (Aspen, 2023).

3.1 Topography and Surrounding Land Uses

The Project location is shown on Figure 1 (Attachment 1). It is within the California United States Geological Survey (USGS) Laguna Beach 7.5-minute Quadrangle (Quad), near the border with the San Juan Capistrano USGS Quad to the east. The elevation of the survey area ranges from approximately 150 to 630 feet elevation above mean sea level. The land use surrounding FMZ 19 is single-family residential. FMZ 16 is adjacent to single-family residential, one commercial/community property, and open space in the Aliso and Wood Canyons Wilderness Park.

3.2 Vegetation

Vegetation within the survey area consists primarily of lemonade berry scrub, holly leaf cherry – toyon – greenbark ceanothus chaparral, and ornamental/developed areas. Other vegetation types include bigpod ceanothus chaparral, California buckwheat scrub, California sagebrush – black sage scrub, and fountain grass swards. Coastal sage scrub vegetation is located in FMZ 19 and is dominated by California sagebrush and black sage. Chaparral vegetation is located in both FMZs 16 and 19 and is dominated by lemonade berry and toyon. The vegetation and cover types within the Project sites are described in detail in the Biological Resources Technical Report (Aspen, 2023).

4.0 Species Background

4.1 Coastal California Gnatcatcher

Species Description, Distribution, and Status

Coastal California gnatcatcher was listed as threatened under the Federal Endangered Species Act in 1993 (USFWS, 1993). Its geographic range is primarily coastal southern California from Ventura County, inland to the Santa Clarita area, Banning area, and southward through northwestern Baja California. Its habitat is coastal sage scrub largely composed of California sagebrush, California buckwheat, and other low-growing, drought-deciduous shrubs. Coastal California gnatcatcher CNDDB occurrences overlap with the

Project in FMZ 16 and surround the project area in Aliso and Wood Canyons Wilderness Park to the north and east and in Crystal Cove State Park to the northwest (CDFW, 2023).

5.0 Results

No coastal California gnatcatcher were detected during any of the focused surveys. Survey results are provided in Table 1. Some habitat within the Project sites is suitable for coastal California gnatcatcher. The highest quality coastal sage scrub habitat is present in the central portion of FMZ 19. Habitat in other portions of FMZ 19 and in FMZ 16 is dominated by chaparral and is not suitable habitat for coastal California gnatcatcher.

Table 1. Coastal California Gnatcatcher Survey Results

Survey #	Date	Survey Time		Temp. (°F)	Cloud Cover (%)	Wind Speed (mph)	Species Detected?
		Start	End				
1	4/12/2023	7:00 a.m.	12:00 p.m.	55-58	100-100	0-1	0
2	4/26/2023	7:00 a.m.	12:00 p.m.	54-67	50-0	0-1	0
3	5/3/2023	7:00 a.m.	12:00 p.m.	52-58	100-100	0-1	0
4	5/10/2023	7:00 a.m.	12:00 p.m.	52-67	100-50	0-1	0
5	5/18/2023	7:00 a.m.	12:00 p.m.	53-63	100-50	0-1	0
6	5/25/2023	7:00 a.m.	12:00 p.m.	50-58	100-100	0-1	0

Other Sensitive Species Observed

The surveys focused on coastal California gnatcatcher; however, incidental observations of all special-status species were also documented, as detailed in Table 2. Cooper's hawk (*Accipiter cooperii*) was the only special-status species observed. The locations of this special-status species are shown on Figure 3 (Attachment 1).

Table 2. Special-status Species Observed

Common Name	Scientific Name	CDFW Status
Cooper's hawk	*Accipiter cooperii*	Watch List

Watch List: Species that were either previously listed as Species of Special Concern and have not been state listed under the California Endangered Species Act; or were previously state or federally listed and now are on neither list; or are on the list of "Fully Protected" species.

Cooper's hawk inhabits mature forests and open woodlands, in coniferous, deciduous, and mixed woods, typically nesting in tall trees with openings or edge habitat nearby.

Additional common species observed during the surveys include northern mockingbird (*Mimus polyglottos*), California thrasher (*Toxostoma redivivum*), house finch (*Carpodacus mexicanus*), wrentit (*Chamaea fasciata*), California towhee (*Melozone crissalis*), Anna's hummingbird (*Calypte anna*), lesser goldfinch (*Carduelis psaltria*), song sparrow (*Melospiza melodia*), mourning dove (*Zenaida macroura*), spotted towhee (*Pipilo maculatus*), bushtit (*Psaltriparus minimus*), common raven (*Corvus corax*), California scrub-jay (*Aphelocoma californica*), Allen's hummingbird (*Selasphorus sasin*), ash-throated flycatcher (*Myiarchus cinerascens*), red-tailed hawk (*Buteo jamaicensis*), white-crowned sparrow

(*Zonotrichia leucophrys*), black-throated grey warbler (*Setophaga nigrescens*), hooded oriole (*Icterus cucullatus*), and ring-billed gull (*Larus delawarensis*).

As required by Mr. Berkley's Federal Recovery Permit, no brown-headed cowbirds (*Molothrus ater*) were detected during the focused coastal California gnatcatcher surveys.

6.0 Summary

Coastal California gnatcatcher were not detected during the focused surveys. Minimal suitable habitat is present, and there is a moderate potential that this species could be present in the future. One additional sensitive species, Cooper's hawk, was incidentally observed during the surveys.

7.0 Certification

I hereby certify that the statements furnished above and in the attached Figures present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: 6/30/2023 **Signed:** Jason L Berkley

Jason Berkley

8.0 References

Aspen Environmental Group (Aspen). 2023. Biological Resources Technical Report, Proposed Fuel Modification Zones 16 & 19 Projects.

CDFW (California Department of Fish and Wildlife). 2023. California Natural Diversity Database (CNDDB Version 5). Rare Find. Wildlife & Habitat Data Analysis Branch, Department of Fish and Game.

USFWS (U.S. Fish and Wildlife Service). 1993. Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Coastal California Gnatcatcher. Federal Register 58:16742-16762 (March 30, 1993).

_____. 1997. Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Protocol. Unpublished report. USFWS Field Office, Carlsbad, CA.

Attachment 1 – Figures

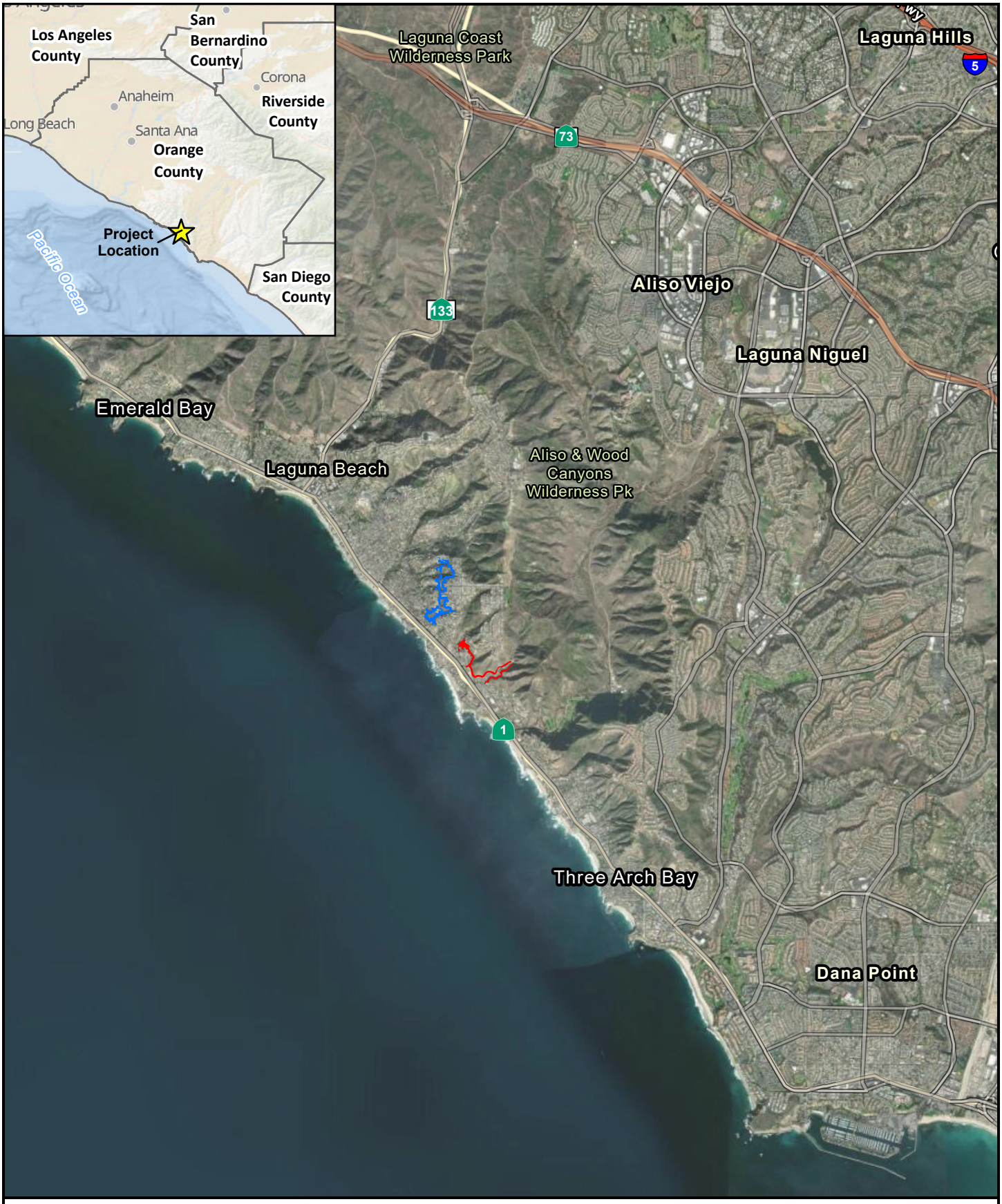

Figure 1
Regional Map

Figure 2a

Project Site

Sources: Aspen, 2023; ESRI, 2023.

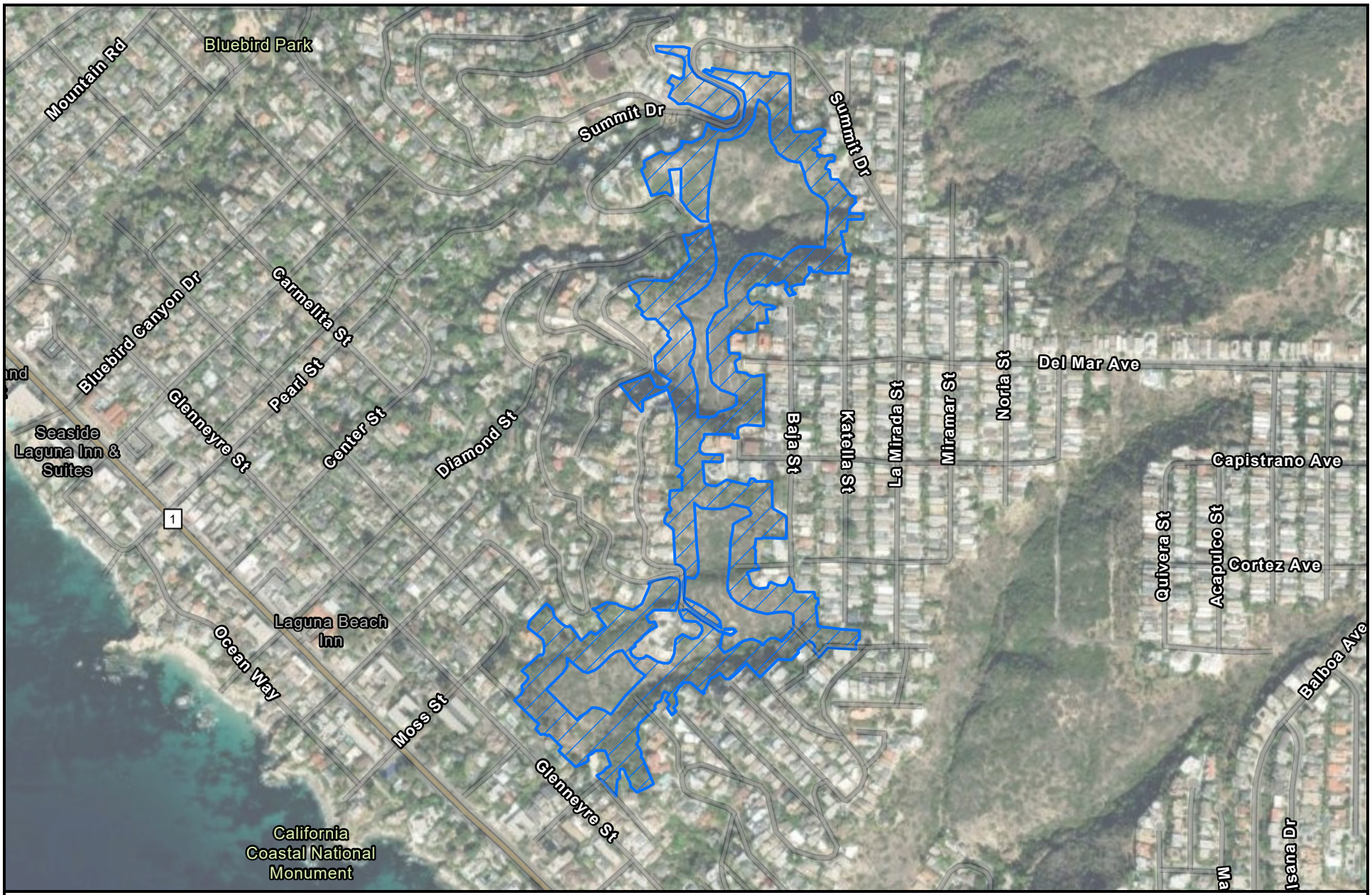

Figure 2b

Project Site

Sources: Aspen, 2023; ESRI, 2023.

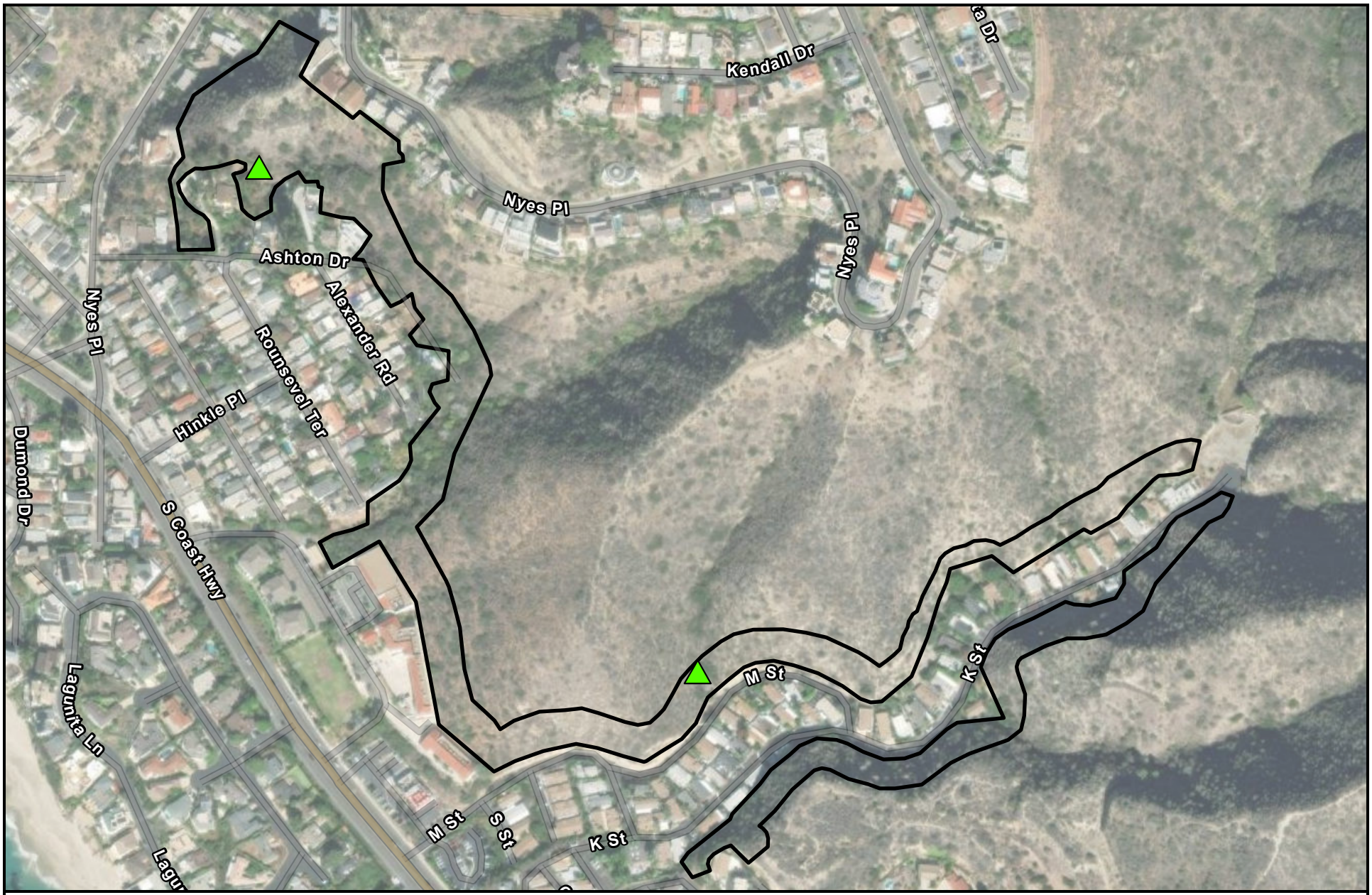

Figure 3a

Biological Resources

Sources: Aspen, 2023; ESRI, 2023.

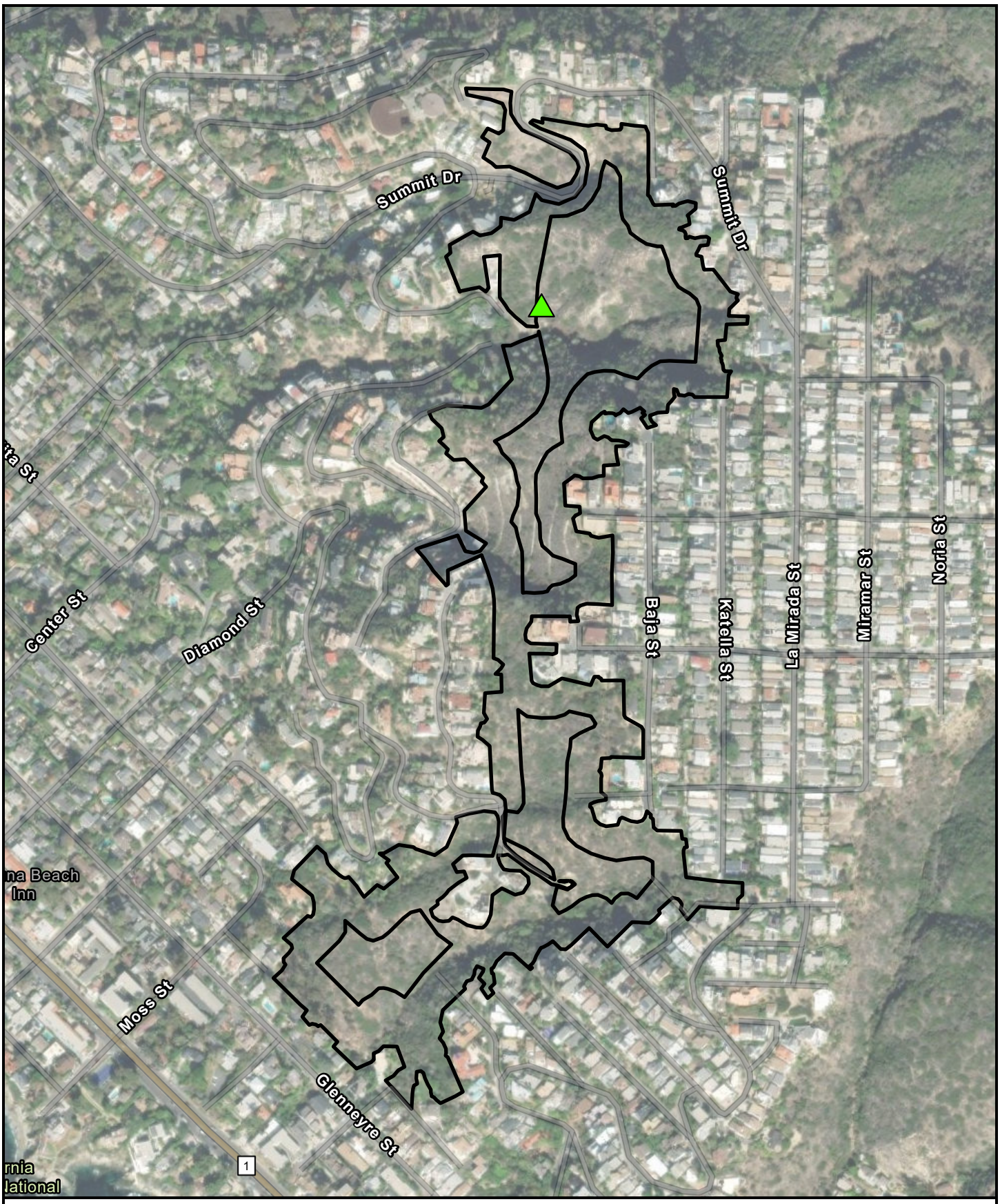

Figure 3b

Biological Resources

Sources: Aspen, 2023; ESRI, 2023.

Appendix D

Cultural Resources Assessment Report

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Appendix E

Paleontological Resources Summary

E-1: Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program Zone 16, Western Nyes Place and Hobo Canyon Area

E-2: Revised Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program Zone 19, Diamond Crestview to Arch Beach Heights Area

E-1: Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program Zone 16, Western Nyes Place and Hobo Canyon Area

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October 27, 2017

City of Laguna Beach Fire Department
505 Forest Avenue
Laguna Beach, CA 92651

Project No: 72287-16
Report No: 17-8180

Attention: Mr. Jeff LaTendresse
Former Fire Chief

Subject: **Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program Zone 16, Western Nyes Place and Hobo Canyon Area**
Laguna Beach, California

INTRODUCTION

This report presents the updated results of a geotechnical evaluation of the potential slope stability impacts related to proposed fuel modification on the slopes descending from residences along western Nyes Place and ascending from the Laguna Terrace community within Hobo Canyon in Laguna Beach. It is our understanding the proposed fuel modification involves an approximately 50 percent reduction in the density of the current vegetation canopy along a zone extending downslope approximately 100 feet from the adjacent residential properties. The goal of this modification is to provide a defensible space adjacent to homes in an effort to enhance the residents' ability to evacuate and survive a severe fire event. An example of this 100 foot buffer is currently in place below the properties in Arch Beach Heights along Oro and Nyes Canyon, in Zone 1. This area has been undergoing similar modification for the past several years, and is meeting performance expectations with respect to controlled vegetation reduction without increasing erosion.

From the geotechnical perspective, two components of vegetation enhance slope stability. The plant canopy system and leaf structure creates surface area that accumulates rainfall for evaporation, reduces soil wetting and rainfall impact erosion or softening, and shades the soil surface from extreme drying and wind loosening during summer. The height and density of the vegetation is proportional to the protection provided during severe storms. Also, from a subsurface perspective, the plant root systems play a very important role by reinforcing the overall soil structure to increase strength and reduce the potential for shallow slippage and mudflows.

The purpose of this study is to assist the Fire Department to provide a safe fire break within Zone 16 below western Nyes Place and within Laguna Terrace, to identify the slope stability issues within the fuel modification area, and to provide mitigating guidelines, where possible.

Scope of Investigation

The investigation included:

1. Review of the published geologic reports and maps pertaining to the site vicinity, and nearby site specific geotechnical investigations.
2. Geologic surface reconnaissance of the fuel modification area.
3. Geotechnical review and evaluation for the formulation of our guidelines.
4. Preparation of this geotechnical report and graphics containing our conclusions and guidelines.

Accompanying Illustrations and Appendix

Plate 1 – Slope Ratio, Zone 16 Map
Appendix A – References

Site Description

The area of Zone 16 can be characterized as the lower hillside flanks of Hobo Canyon, along the community of Laguna Terrace, and a portion of the west-facing fill slope supporting central Nyes Place. The area is located on a lower edge of natural slope with ascending natural terrain on the order of 100 to 300 feet in total height. Overall, the majority of the slopes in this area are moderate to severe, inclined near 2:1 (horizontal: vertical) ratios and steeper, with localized isolated areas at 1:1 ratio to vertical at outcrops.

The area is in a largely natural state, with the exception of the Hobo Canyon fill for the Laguna Terrace community and the western Nyes Place grading. Significant fill deposits are located descending from the western portion of Nyes Place as a result of the mid-1960's development of Tract 6029. Many areas of the ridge top and flanks expose a thin veneer of soil on bedrock. The ridge tops and flanks occupy the majority of the area within 100 feet of the adjacent properties.

Vegetation within the area is variable and similar to most of the hillsides in Laguna Beach. Near the canyon bottoms much of the vegetation is mature and in excess of five feet in height. On the flanks of the canyons the vegetation is a more open mix of sparse brush with few trees, and typically three feet or less in height. On the ridge tops and within trail areas the vegetation is limited to sparse grasses, cactus and brush commonly under three feet in height. Limited

accumulations of debris comprised of dead vegetation and dry woody materials is scattered throughout the area.

GEOTECHNICAL CONDITIONS

Geologic Setting

The area and vicinity are located on the seaward slope of the San Joaquin Hills. The San Joaquin Hills are composed of Tertiary marine sedimentary strata uplifted due to regional tectonic forces acting on this portion of southern California during the last million years. Throughout this uplift, numerous canyons have been deeply incised into the San Joaquin Hills by erosional processes. Zone 16 is located along western Nyes Place and the lower slope ascending from the westerly draining Hobo Canyon.

During this regional erosion-uplift process, decay and failure of the rock slopes occur naturally. Over time, the bedrock materials chemically and mechanically reduce to form a thin soil mantle that essentially blankets the area. In some cases, and in steep terrain, the residual soils and shallow failures are completely removed by erosion over time. Where not eroded, these surficial remain sporadically located throughout the modification area.

Earth Materials

The modification area is underlain at shallow to moderate depths by bedrock strata assigned on the basis of regional geologic mapping to the San Onofre Formation. The San Onofre bedrock typically consists of coarse-grained sandstones, pebble to cobble conglomerate, and cemented angular breccia. Siltstone and claystone beds occur very infrequently. Overall the bedrock underlying the area is resistant and strong, except where thin weakened claystone beds are unsupported. Bedrock is commonly exposed at the surface in slopes that are inclined at a 1:1 (horizontal:vertical) ratio or steeper.

Landslide deposits are not indicated as being present in Zone 16 based on a review of State maps and aerial photographs. The absence of the ancient landslides is largely due to the competent nature of the underlying rock. The moderate to shallow sloping terrain of the modification area is mantled at shallow depth with a veneer of residual soil deposits. The residual soil consists of a coalesced mix of slopewash, weathered rock, and vegetation detritus, and is composed of medium to coarse grained sands with clays. The deposits are loose to dense, locally cohesionless, and prone to instability where moderately sloping and if saturated.

Geologic Structure

In general, the regional bedding within the Zone 16 area strikes north-northwest and is inclined 17 to 41 degrees southwest. This structure results in a supported condition on most slopes, but

results in an obliquely unsupported condition underlying in southern sloping terrain, such as the northern flank of the Laguna Terrace community. Overall, the potential for deep gross failure of the bedrock is unlikely in these hillsides owing the lack of weak bedding and the hard and cemented character of the San Onofre Formation.

Fractures and joints are also present in the bedrock. These structures strike mostly northwest and dip to the east inclined at moderate to very high angles from horizontal. Over weeks to months after an application of water, these features provide a conduit for water to permeate into the hillside. The historic impact of increased groundwater in this area has not been and is not anticipated to be significant with regard to deep instability.

Surficial Runoff

Within Zone 16 the majority of the fuel modification area is unimproved with regard to drainage, except portions of the slopes southwesterly of Nyes Place where terrace drains systems were installed during the original rough grading. In other areas, the fill, residual soil, and rock slopes sheet flow to tributary drainages, which ultimately collect in the canyon bottom. Reductions in vegetation will likely somewhat increase the volume of runoff and surface sediment losses from the steeper hillsides, particularly in fill areas or where the reductions are made at the top of the slope.

Slope Stability

In Zone 16, the character of the rock and bedding in the San Onofre is not generally prone to gross instability. Accordingly, the California Geological Survey landslide map for Laguna Beach indicates no landslide deposits are known to be present in this area. Confirmation of the presence or absence of landslide features is not within the scope of this investigation.

However, the residual soils and weathered fill materials mantling the bedrock are considered subject to shallow instability in moderately steep terrain. Mudflows and debris flows may occur in exposed terrain inclined at a 2:1 (horizontal:vertical) ratio or steeper. The USGS has prepared maps depicting the risk of shallow soil instability within the 30 x 60 Santa Ana Quadrangle. This study indicates the risk for surficial instability on the upper slopes near the residential properties is low to moderate, and increases to moderate on the lower slopes. Some areas, which appear to be underlain with fill or residual soil, were observed with recent erosional scars and thin soil slips.

CONCLUSIONS

1. The primary geotechnical benefit of vegetation in hillside terrain is canopy protection of the soil from the elements, and root structure reinforcement within the upper soils to increase strength.

2. The majority of the fuel modification area is underlain at the surface to relatively shallow depths by hard bedrock. The bedrock is mantled by isolated, thin residual soils and minor engineered fills from prior grading operations.

3. The exposed bedrock materials have a very low susceptibility to surficial failure. The residual soil and fill deposits have a low to moderate susceptibility to surficial movement with the current vegetation. No mapped landslides are present on the slopes flanking Hobo Canyon within Zone 16.

4. Overall, the likelihood of increased gross slope instability as a result of fuel modification is very low. The proposed fuel modification may have a limited adverse impact on soil stability in moderately sloping terrain, and where thicker soil or fill materials are present.

5. The potential for debris and/or mudflows from significant fuel modification is very low for slopes shallower than a 4:1 (horizontal:vertical) ratio, moderate on terrain sloping from a 4:1 to a 2:1 ratio, and high on slopes between a 2:1 to 1:1 ratio. Slopes steeper than a 1:1 ratio do not typically support soil accumulation, and therefore pose a relatively low debris flow potential. Sensitive surficial stability areas are indicated in orange on Plate 1.

6. Fuel modification impacts can be mitigated if conducted in a manner that considers the potential impacts to gross and surficial slope instability. Dead, fallen and woody debris may be removed without significant consequence to stability.

GUIDELINES

Our guidelines are considered to be generally consistent with the standards of practice. They are based on both analytical and empirical methods derived from experience with similar geotechnical conditions. These guidelines are considered to be geotechnically appropriate for the likely soil conditions and are not intended to supersede the criteria for fuel modification required for safe fire prevention or the responsibilities of the governing fire agencies.

1. Fuel modification should be conducted in the spring and completed in the early summer, to allow for some re-establishment of the native canopy prior to the next rainfall season.

2. Fuel modification efforts should be limited to the canopy and seasonal grasses, and should minimize damage to the existing root systems. Based on our prior conversations with personnel at Indacochea Ranch, Inc., the use of the goats to thin the vegetation may be acceptable, as they preferentially eat grasses, do not disturb root systems, and impact on the canopy can be controlled by moving the herd judiciously. We recommend a test area be used for a period of six months to one year, to evaluate the potential impacts.

3. Fuel modification areas with a thick accumulation of soil on terrain sloping between a 2:1 to 1:1 (horizontal:vertical) ratio should consider surficial amendments, such as spray adhesives, fiber rolls, or jute matting, after the modification is complete and prior to the winter season.

LIMITATIONS

This investigation has been conducted in accordance with generally accepted practice in the engineering geologic and soils engineering field. No further warranty is offered or implied. Conclusions and guidelines presented are based on the conditions encountered and are not meant to imply a control of nature. As site geotechnical conditions may alter with time, the recommendations presented herein are considered valid for a time period of one year from the report date. Changes in proposed land use may require supplemental investigation. Also, independent use of this report in any form cannot be approved unless specific written verification of the applicability of the recommendations is obtained from this firm.

Thank you for this opportunity to be of service. If you have any questions, please contact this office.

Respectfully submitted,

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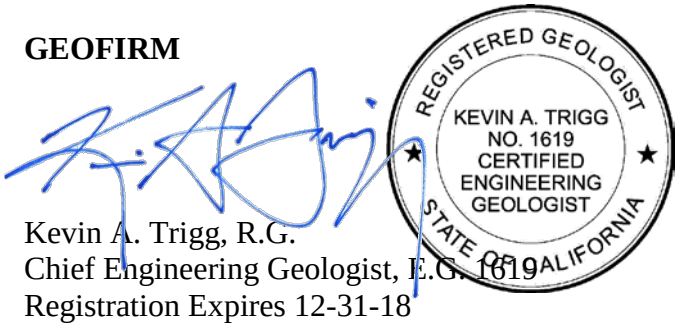

Kevin A. Trigg, R.G.
Chief Engineering Geologist, E.G. 1619
Registration Expires 12-31-18

KAT/HHR:fp

Distribution: (5) to Addressee

EXPLANATION

UNITS

Qopf	OLD PARALIC AND ALLUVIAL FAN DEPOSITS
Qop2-6	OLD PARALIC DEPOSITS
Qvop	VERY OLD PARALIC DEPOSITS
Qya	YOUNG AXIAL-CHANNEL DEPOSITS
Qyls	YOUNG LANDSLIDE DEPOSITS
Tsob	SAN ONOFRE BRECCIA
Tt	TOPANGA GROUP

SYMBOLS

APPROXIMATE LOCATION OF GEOLOGIC CONTACT

APPROXIMATE LOCATION OF FAULT, SOLID WHERE VISIBLE, DASHED WHERE INFERRED, DOTTED WHERE BURIED

HORIZONTAL AND VERTICAL SCALE:
1 INCH = 200 FEET

0 200 400
FEET

N

Tsob
Zone 16
Tsob
Qopf
Zone 10
Tsob
Tsob
Zone 16
Tsob
Qop2-6
Tsob
Zone 11

Slope Ratio Legend

- > 4:1
- 4:1 - 2:1
- 2:1 - 1:1
- <1:1

HORIZONTAL AND VERTICAL SCALE:
1 INCH = 200 FEET

0 200 400
FEET

N

SLOPE RATIO
ZONE 16
LAGUNA BEACH, CALIFORNIA

GeoFirm

JOB NO.:	DATE:	PLATE:
72287-16	OCTOBER 2017	1

APPENDIX A

REFERENCES

APPENDIX A

REFERENCES

1. California Geological Survey, 2006, "Draft-Preliminary Landslide Inventory, Laguna Beach Quadrangle", dated May 8.

2. Geofirm, 2009, "Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Arch Beach Heights Fuel Modification Areas 1 and 2, Laguna Beach, California", Project No. 71817-00, Report No. 09-6516, dated May 28.

3. Geofirm, 2012, "Evaluation for Slope Restoration and Erosion Control Plan, September 16, 2012 Fire Incident, Nyes Place Open Space, Laguna Beach, California", Project No. 72021-00, Report No. 12-7202, dated February 6.

4. Geofirm, 2017, "Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program, Zone 10, Hobo Canyon Area, Laguna Beach, California", Project No. 72287-10, Report No. 17-8025, dated February 6.

5. Hollingsworth, R., and Kovacs, G.S., 1981, "Soil Slumps and Debris Flows: Prediction and Protection", AEG Bulletin, Vol. 18, No. 1, pp 17-28.

6. Tan. S.I. and Edgington, W., 1976, "Geology and Engineering Geologic Aspects of the Laguna Beach Quadrangle, Orange County, California", Special Report 127, California Division of Mines and Geology.

7. Moore & Tabor, 1965, "Geologic Investigation, Tract 6029, Laguna Beach, California", Job No. 15-723GP, dated October 21.

8. Moore & Tabor, 1967, "Report of Compacted Fill, Tract No. 6029, Lots 1-202, inclusive and Lot A, Laguna Beach, California", Job No. 25-266T, dated February 9.

9. Morton, D.M., et. al., 2003, "Preliminary Soil-Slip Susceptibility Maps, Southwestern California" United States Geological Survey Open File report 03-17, Santa Ana Quadrangle, dated January 16 (modified 8-24-06)

10. USGS, 2003, " Soil-Slip Stability Map for the Santa Ana 30' x 60' Quadrangle, Southern California", Open-File Report 03-17, Plate 5.

E-2: Revised Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program Zone 19, Diamond Crestview to Arch Beach Heights Area

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November 28, 2023

City of Laguna Beach Fire Department
505 Forest Avenue
Laguna Beach, California 92651

Project No: 72757-00
Report No: 23-9493

Attention: Mr. Robert Montaghami, City of Laguna Beach Fire Marshal

Subject: **Revised Geotechnical Evaluation of Potential Slope Stability Impacts**
Proposed Fuel Modification Program
Zone 19, Diamond Crestview to Arch Beach Heights Area
Laguna Beach, California

Reference: Geofirm, 2018, "Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program, Zone 19, Diamond Crestview to Arch Beach Heights Area, Laguna Beach, California," Project No: 72422-19, Report No: 18-8427, dated October 26.

INTRODUCTION

This report presents the updated results of a geotechnical evaluation of the potential slope stability impacts related to proposed fuel modification on the slopes descending from residences in Arch Beach Heights and the Diamond Crestview community in Laguna Beach. Based on review of the new map of Fuel Modification Zone 19, it appears that the outline is generally the same 35.3 acres outline with the addition of proposed treatment area (0.9 acres) located to the north near Summit Drive. The three proposed untreated areas within the outline are identified as north (6.6 acres), middle (2.6 acres), and south (1.5 acres).

It is our understanding that the proposed fuel modification involves an approximately 50 percent reduction in the density of the current vegetation canopy along a zone extending downslope approximately 100 feet from the adjacent residential properties.

The goal of this modification is to provide a defensible space adjacent to homes in an effort to allow firefighters to fight fires more effectively in a severe fire event. An example of this 100 foot buffer is currently in place below the properties in Arch Beach Heights along Oro and Nyes Canyon, in Zone 1. This area has been undergoing similar modification for the past several years and is meeting performance expectations with respect to controlled vegetation reduction without increasing erosion.

From the geotechnical perspective, two components of vegetation enhance slope stability; due to the effects of soil moisture and reduced erosion. The plant canopy system and leaf structure accumulate rainfall for evaporation reducing runoff; and the soil surface from extreme drying and wind loosening during summer.

The height and density of the vegetation are proportional to the protection provided during severe storms. Also, from a soil retention perspective, the plant root systems play a very important role by increasing the overall soil strength due to densification and reducing the potential for shallow slippage and mudflows.

The purpose of this study is to assist the Fire Department with the identification of geotechnical slope stability issues within the fuel modification area, and to provide mitigating guidelines, where possible.

Scope of Investigation

The investigation included:

1. Review of the published geologic reports and maps pertaining to the site vicinity, and nearby site specific geotechnical investigations.
2. Geologic surface reconnaissance of the fuel modification area.
3. Geotechnical review and evaluation for the formulation of our guidelines.
4. Preparation of this geotechnical report and graphics containing our conclusions and guidelines.

Accompanying Illustrations and Appendix

Figure 1 – Geotechnical Plan
Appendix A – References

Site Description

The area of Fuel Modification Zone 19 can be characterized as the west-southwest-facing hillside below Arch Beach Heights residential neighborhood and includes the Diamond Crestview residential neighborhood. The area consists of natural slopes with terrain on the order of 100 to 250 feet high with the overall topographic relief of approximately 450 feet; the lower elevation (150 feet) along Glenneyre St. and the upper elevation at the northern limit (600 feet) along Summit Drive. Overall, the majority of the slopes in this area are moderate, inclined near 2:1 (horizontal: vertical) ratios and steeper, with few localized areas at 1:1 ratio to near vertical at outcrops and roadcuts.

The area is exclusively wildland conditions. Many areas of the ridge top and flanks expose a thin veneer of soil on bedrock with the exception of the significant fill deposits located descending from the western terminus of Del Mar Avenue as a result of the mid-1980's landslide repair and buttress. The new areas include the canyon areas with larger trees and shrubs. The ridge tops and flanks occupy the majority of the area within 100 feet of the adjacent properties.
Vegetation within the area is variable and similar to most of the hillsides in Laguna Beach. On the slope areas and the flanks of the intervening canyons the vegetation is a more open mix of sparse brush with few trees, and typically three to five feet or less in height. Limited accumulations of debris comprised of dead vegetation and dry woody materials is scattered

throughout the area. Near the residence areas the vegetation appears to be thicker and greener with moderately tall specimen trees, likely supported and maintained by the property owners.

GEOTECHNICAL CONDITIONS

Geologic Setting

The area and vicinity are located on the seaward slope of the San Joaquin Hills. The San Joaquin Hills are composed of Tertiary marine sedimentary strata uplifted due to regional tectonic forces acting on this portion of southern California during the last several million years. Throughout this uplift, numerous canyons have been deeply incised into the San Joaquin Hills by erosional processes. Zone 19 can be topographically characterized as a generally western-facing slopes transected with several minor intervening drainages flowing to the west.

During this regional erosion-uplift process, decay and failure of the rock slopes occur naturally. Over time, the bedrock materials chemically and mechanically reduce to form a thin soil mantle that essentially blankets the area. In some cases, and in steep terrain, the residual soils and shallow failures are completely removed by erosion over time. Where not eroded, these surficial instabilities remain sporadically located throughout the modification area.

A total of five existing landslides are located within the area of Fuel Modification Zone 19 (CGS, 2016). The geomorphic expression of the landslides generally consists of lobate shapes around the descending ridgelines and flanked by canyons with a western direction of movement.

Earth Materials

The modification area is underlain at shallow to moderate depths by bedrock strata assigned on the basis of regional geologic mapping to the Topanga Formation (Map Symbol Tt) to the north and San Onofre Breccia Formation (Map Symbol Tso) to the south of Fuel Modification Zone 19. See the attached Geotechnical Plan, Figure 1. The Topanga Formation bedrock typically consists of very thick fine to coarse-grained sandstones, with thin siltstone and claystone layering. The San Onofre Breccia Formation bedrock largely consists of coarse-grained sandstones, pebble to cobble conglomerate, and cemented angular breccia. Siltstone and claystone beds occur very infrequently. Overall, the bedrock underlying the area varies from moderately hard to resistant and strong, except where thin weakened claystone beds are unsupported. San Onofre Formation bedrock can be exposed at the surface on slopes that are inclined at a 1:1 (horizontal:vertical) ratio or steeper.

A total of five landslide deposits (Map Symbol Qls) are located in Zone 19 based on a review of available geologic maps and aerial photographs as depicted on the attached Geotechnical Plan, Figure 1. The available literature indicates that the age of these landslides are mature.

The moderate to shallow sloping terrain of the lower elevations within the modification area has a thin veneer of residual soil deposits. The residual soil consists of a coalesced mix of slopewash, weathered rock, and vegetation detritus, and is composed of medium to coarse grained sands

with clays. The deposits are loose to dense, locally cohesionless, and prone to instability where moderately sloping and if saturated.

Geologic Structure

In general, the regional bedding within the Zone 19 area strikes east-west and is inclined 30 degrees south. This structure results in an obliquely supported bedding condition on most south-westerly facing hillsides but can result in a localized unsupported condition underlying southerly sloping terrain. Despite the history, the potential for deep gross failure of the bedrock is low in these hillsides, owing to the generally supported structure of the Topanga Formation and the lack of weak bedding and the hard and cemented character of the San Onofre Breccia Formation.

Fractures and joints are also present in the bedrock. These structures strike mostly northwest and dip to the east inclined at moderate to very high angles from horizontal. Over weeks to months after an application of water, these features provide a conduit for water to permeate into the hillside. The historic impact of increased groundwater in this area has not been and is not anticipated to be significant with regard to deep instability.

Surficial Runoff

Within Fuel Modification Zone 19 the hillsides are devoid of drainage improvements; however, the majority of the canyon areas are improved with storm drains inlets at the bottom. Additionally, the western terminus of Del Mar and the Del Mar Landslide buttress fill has constructed drainage improvements. In other areas, the fill, residual soil, and rock slopes sheet flow to tributary drainages, which ultimately are directed toward the canyon bottom. Reductions in vegetation will likely somewhat increase the volume of runoff and surface sediment losses from the steeper hillsides, particularly in fill areas or where the reductions are made at the top of the slope.

Slope Stability

In Zone 19, the structure of bedding and character of the rock in the Topanga Formation and San Onofre Breccia Formations is not generally prone to gross instability. However, the California Geological Survey Landslide Inventory map indicates five minor landslide deposits are interpreted to be present in this area. One of the identified failures is the 1980 Del Mar Landslide, which was largely removed during remedial grading and replaced with a buttress fill. Confirmation of the presence or absence of the other landslide features is not within the scope of this investigation.

However, the residual soils and weathered fill materials mantling the bedrock are considered subject to shallow instability in moderately steep terrain. Mudflows and debris flows may occur in exposed terrain inclined at a 2:1 (horizontal:vertical) ratio or steeper. The USGS has prepared maps depicting the risk of shallow soil instability within the Santa Ana 30-minute x 60-minute Quadrangle. This study indicates the risk for surficial instability on the upper slopes near the

residential properties varies from low to high, with high-risk areas appearing to be focused near the interpreted minor failures.

CONCLUSIONS

1. The primary geotechnical benefit of vegetation in hillside terrain is canopy protection of the soil from the elements, and root structure reinforcement within the upper soils to increase strength.

2. The majority of the fuel modification area is underlain at the surface to relatively shallow soil depths and moderately hard to very hard bedrock. In the north, several mature landslide deposits exist on the ridgelines and are mantled by thin residual soils. Below Del Mar Avenue, engineered fills from prior grading operations conducted to remediate the landslide deposits.

3. The existing bedrock materials have a very low susceptibility to erosion due to surficial failure. The residual soil and fill deposits have a low to moderate susceptibility to surficial movement with the current vegetation. Relatively minor landslide deposits are present on the ridges within Fuel Modification Zone 19. It is anticipated fuel modification efforts will have no significant impact on these features.

4. Overall, the likelihood of increased gross slope instability as a result of fuel modification is low. The proposed fuel modification may have a limited adverse impact on soil stability in moderately sloping terrain, and where thicker soil or loose fill materials are present.

5. The potential for debris and/or mudflows from significant fuel modification is very low for slopes shallower than a 4:1 (horizontal:vertical) ratio, moderate on terrain sloping from a 4:1 to a 2:1 ratio, and high on slopes between a 2:1 to 1:1 ratio. Slopes steeper than a 1:1 ratio do not typically support significant soil accumulation, and therefore pose a relatively low debris flow potential. Sensitive surficial stability areas are indicated in orange on the attached Geotechnical Plan, Figure 1.

6. Fuel modification impacts can be mitigated if conducted in a manner that considers the potential impacts to gross and surficial slope instability. Dead, fallen and wood debris may be removed without significant consequence to stability.

GUIDELINES

Our guidelines are considered to be generally consistent with the standards of practice. They are based on both analytical and empirical methods derived from experience with similar geotechnical conditions. These guidelines are considered to be geotechnically appropriate for the likely soil conditions and are not intended to supersede the criteria for fuel modification required for safe fire prevention or the responsibilities of the governing fire agencies.

1. Fuel modification should be conducted in the spring and completed in the early summer, to allow for some re-establishment of the native canopy prior to the next rainfall season.

2. Fuel modification efforts should be limited to the canopy and seasonal grasses and should minimize damage to the existing root systems. Based on our prior conversations with personnel at Indacochea Ranch, Inc., the use of the goats to thin the vegetation may be acceptable, as they preferentially eat grasses, do not disturb root systems, and impact on the canopy can be controlled by moving the herd judiciously. We recommend a test area be used for a period of six months to one year, to evaluate the potential impacts.

3. Fuel modification areas with a thick accumulation of soil on terrain sloping between a 2:1 to 1:1 (horizontal:vertical) ratio should consider surficial amendments, such as spray adhesives, fiber rolls, or jute matting, after the modification is complete and prior to the winter season.

LIMITATIONS

This investigation has been conducted in accordance with generally accepted practice in the engineering geologic and soils engineering field. No further warranty is offered or implied. Conclusions and guidelines presented are based on the conditions encountered and are not meant to imply a control of nature. As site geotechnical conditions may alter with time, the recommendations presented herein are considered valid for a time period of one year from the report date. Changes in proposed land use may require supplemental investigation. Also, independent use of this report in any form cannot be approved unless specific written verification of the applicability of the recommendations is obtained from this firm.

Thank you for this opportunity to be of service. If you have any questions, please contact this office.

Respectfully submitted,

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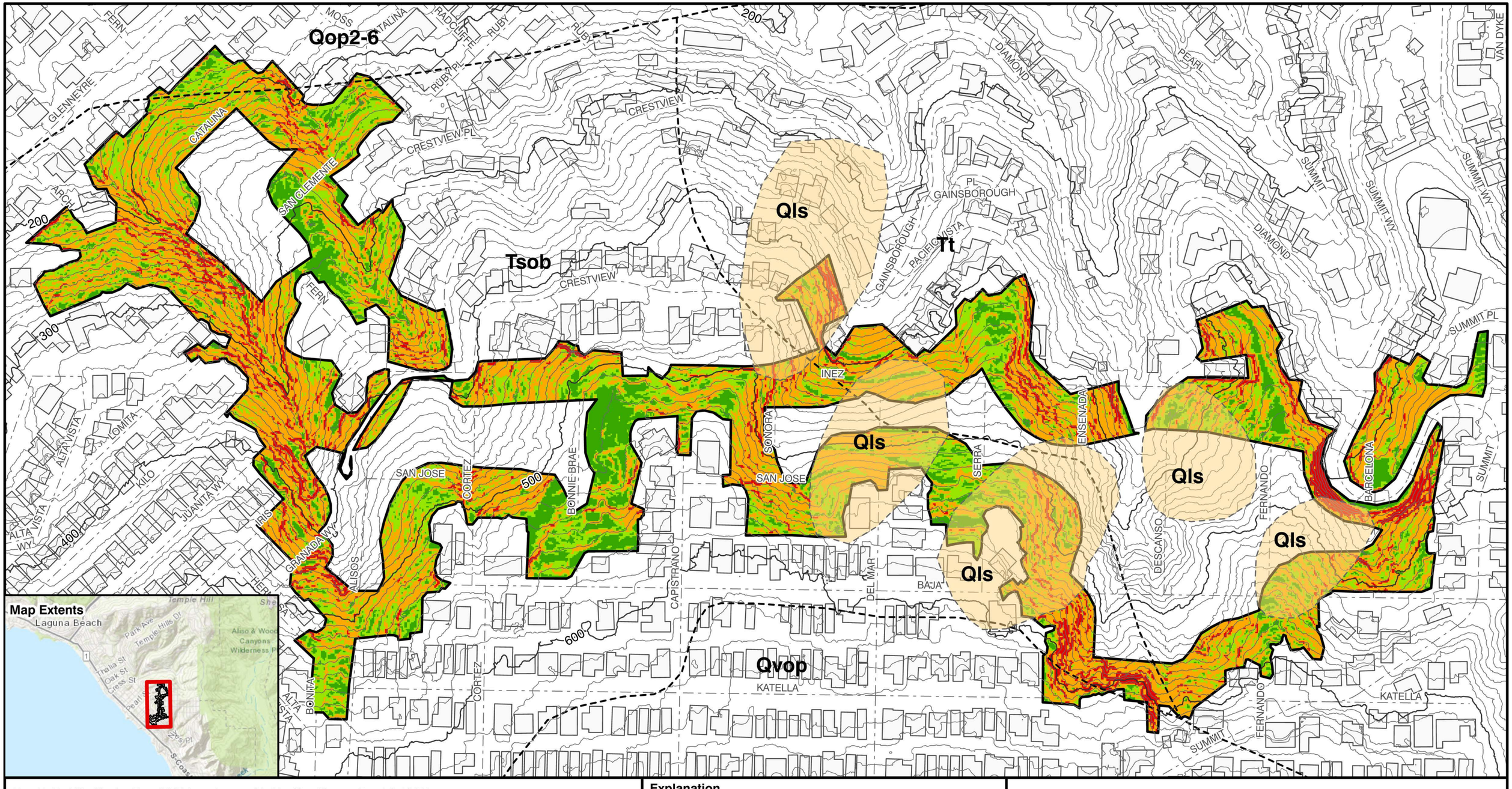

Note(s): Fuel Modification Zone (FMZ) boundary provided by City of Laguna Beach in KMZ format.

Data Source(s):
1. Morton, D.M., 2004, "Preliminary Digital Geologic Map of the Santa Ana 30' X 60' Quadrangle, California," USGS Open File Report 99-172, Version 2.0, scale 1:100,000.
2. California Geological Survey, 2015, "Landslide Inventory (Beta)," web GIS service, https://maps.conservation.ca.gov/cgs/lsi/app/.
3. County of Orange, 2021, "Orange County Building Footprints 2021," OC Public Works, vector digital data, updated June 28, 2023.
4. County of Orange, 2023, "Parcel Polygons," OC Survey, Land Information System, vector digital data.
5. United States Geological Survey, 2019, "2018 USGS Lidar: Southern CA Wildfires," NOAA Office for Coastal Management, raster digital data, published May 31, 2019.

Scale 1 IN = 200 FT
Coordinate System: NAD 1983 (NSRS 2007)
California State Plane, Zone 6
Vertical Datum: NAVD88

Explanation

Landslides (modified from CGS, 2015)
Landslides (modified from CGS, 2015)
100 FT Lidar Elevation Contour
10 FT Lidar Elevation Contour
Geologic Contact (modified from Morton, 2004)
Fuel Modification Zone 19 (City of Laguna Beach, 2023)
Lidar-derived Slope (USGS, 2019)
Slope Ratio (H:V)
< 4:1
4:1 - 1:1
2:1 - 1:1
> 1:1
Street Centerlines (Orange County, 2023)

Qls	Landslide deposits
Qop	Old paralic deposits
Qvop	Very old paralic deposits
Tsob	San Onofre Breccia
Tt	Topanga Formation

Geotechnical Plan
Slope Ratio, Regional Geology, Landslides

Fuel Modification Zone 19
City of Laguna Beach
California

STONEY-MILLER CONSULTANTS, INC. | GEOFIRM
33 JOURNEY, SUITE 200 · ALISO VIEJO, CA 92656 · 949-380-4886

November 2023	Project No. 72757-00	Figure 1

APPENDIX A

REFERENCES

APPENDIX A

REFERENCES

1. California Geological Survey, 2016, “California Landslide Inventory,” available at https://maps.conservation.ca.gov/cgs/lsi/app.

2. Geofirm, 2009, “Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Arch Beach Heights Fuel Modification Areas 1 and 2, Laguna Beach, California”, Project No. 71817-00, Report No. 09-6516, dated May 28.

3. Geofirm, 2012, “Evaluation for Slope Restoration and Erosion Control Plan, September 16, 2012 Fire Incident, Nyes Place Open Space, Laguna Beach, California”, Project No. 72021-00, Report No. 12-7202, dated February 6.

4. Geofirm, 2017, “Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program, Zone 10, Hobo Canyon Area, Laguna Beach, California”, Project No. 72287-10, Report No. 17-8025, dated February 6.

5. Geofirm, 2018, “Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program, Zone 19, Hobo Diamond Crestview to Arch Beach Heights Area, Laguna Beach, California”, Project No. 72442-19, Report No. 18-8427, dated October 26.

6. Leighton and Associates, 1976, "Seismic Safety and Safety Element, City of Laguna Beach".

7. Leighton and Associates, 1980, "Geotechnical Investigation of the Del Mar Landslide (Phase 1), City of Laguna Beach, California".

8. Leighton and Associates, 1980, "Geotechnical Investigation of the Del Mar Landslide (Phase II), City of Laguna Beach", California.

9. Leighton and Associates, 1980, "Geotechnical Review of Plans and Specifications for Del Mar Landslide Area, City of Laguna Beach, California".

10. Leighton and Associates, 1981, "Final Geotechnical Report of Emergency Grading Operations for Stabilization and Repair of the Del Mar Landslide", Project No: 1800121-05, dated June 26.

11. Hollingsworth, R., and Kovacs, G.S., 1981, “Soil Slumps and Debris Flows: Prediction and Protection”, AEG Bulletin, Vol. 18, No. 1, pp 17-28.

12. Tan. S.I. and Edgington, W., 1976, "Geology and Engineering Geologic Aspects of the Laguna Beach Quadrangle, Orange County, California", Special Report 127, California Division of Mines and Geology.

13. Moore & Tabor, 1965, “Geologic Investigation, Tract 6029, Laguna Beach, California”, Job No. 15-723GP, dated October 21.

14. Moore & Tabor, 1967, “Report of Compacted Fill, Tract No. 6029, Lots 1-202, inclusive and Lot A, Laguna Beach, California”, Job No. 25-266T, dated February 9.

15. Morton, D.M., et. al., 2003, “Preliminary Soil-Slip Susceptibility Maps, Southwestern California” United States Geological Survey Open File report 03-17, Santa Ana Quadrangle, dated January 16 (modified 8-24-06)

16. USGS, 2003, “ Soil-Slip Stability Map for the Santa Ana 30’ x 60’ Quadrangle, Southern California”, Open-File Report 03-17, Plate 5.

Appendix F

Paleontological Resources Summary

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PROJECT MEMORANDUM
LOWER HOBO AND DIAMOND CRESTVIEW FUEL MODIFICATION PROJECT

Date: November 29, 2023
To: Robert Montaghami, Fire Marshal, Laguna Beach Fire Department
From: Joe Stewart, PhD
Subject: Paleontological Resources Summary for the Lower Hobo and Diamond Crestview Fuel Modification Project

Purpose and Intent of the Memorandum

This memorandum summarizes the paleontological resources that are present or could be present within the combined 39.1-acre area of Fuel Modification Zone (FMZ) 16 (Hobo Canyon) and FMZ 19 (Diamond Crestview) (Figure 1). It also discusses potential impacts to these paleontological resources. This report was compiled by Aspen's principal paleontologist, Joe Stewart, whose resume is included as Attachment B. Dr. Stewart meets the criteria for a qualified professional paleontologist as defined by the Society of Vertebrate Paleontology (2010) and has published 40 peer-reviewed articles in scientific books and journals. He also has 35 years of experience studying the paleontology of southern California.

Site Description and Location

Both projects lie within the Laguna Beach 7.5' quadrangle (Figure 2). FMZ 16 (Lower Hobo) lies generally in the northwest ¼ of section 31, Township 7 South, Range 8 West. FMZ 19 lies along the eastern edge of section 25 and in the NE ¼ of section 35, Township 7 South, Range 9 West, the remainder lies along the west border of section 30, Township 7 South, Range 8 West.

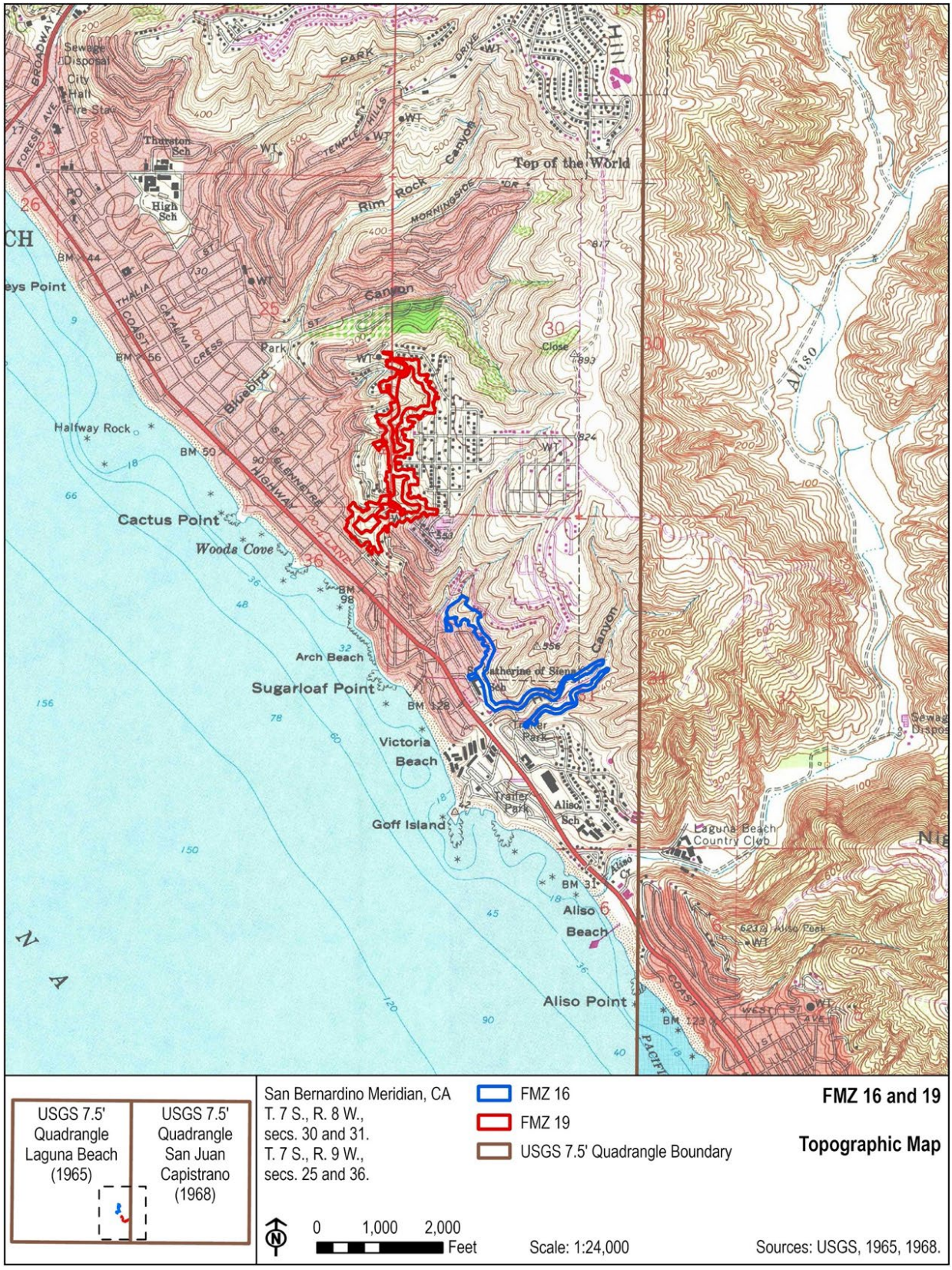
The City of Laguna Beach Fire Department (LBFD) proposes to apply fuel management practices within the City of Laguna Beach, California (see Figure 1). FMZ 16 (Lower Hobo) and FMZ 19 (Diamond Crestview) would consist of approximately 100-foot-wide zones of reduced vegetation. Removal of heavy vegetation would reduce potential wildfire ignition of primarily residential properties, increase the evacuation time for residents, and provide better access for firefighters to protect structures. In addition, the proposed project would reduce fire line intensity, reduce wildfire rates of spread, and improve occupant safety. Lastly, it would protect High and Very High Value Habitat containing special-status plant species.

Since the 1950s, the City of Laguna Beach has maintained a system of fuel breaks for protection from wildfires. After the 1993 wildfires, the program was expanded, and now the city currently maintains 27 FMZs managed by goat-grazing and manual removal. According to the City of Laguna Beach, the project lies in a Very High Fire Hazard Severity Zone, and any wildfire would be an immediate threat to structures. The proposed projects would establish fuel breaks directly around wildland-urban interface to protect residential and public properties. The LBFD would oversee the construction and maintenance of the fuel breaks in FMZs 16 and 19.

Figure 1. Project Location Map

FMZ 16 (Lower Hobo). FMZ 16, an approximately 13.7-acre zone, predominantly borders residential single-family and mobile home communities along the western part of Nyes Place, then curves above Ashton Drive and Alexander Road, behind the Laguna Beach Community and Recreation Center and future location of the Laguna Beach Fire Department administrative offices, and along the north and south sides of Laguna Terrace North, M Street, and K Street (see Figure 1). The single-family homes in this neighborhood are adjacent to large portions of densely vegetated steep hillsides and are susceptible to wildfire hazards. FMZ 16 contains a variety of native and disturbed habitat and contains an intact population of big-leaved crownbeard, a State- and federally-listed threatened species and intermediate mariposa-lily, a State-listed threatened species.

Figure 2. Project Location Topographic Map



Other plant species within FMZ 16 include bigpod ceanothus, laurel sumac, California buckwheat, California brittlebush, California sagebrush, black sage, toyon, holly leaf redberry, coast live oak, scrub oak, heart leaved keckiella, blue elderberry, sticky monkeyflower, Victorian box, ngaio tree, garden nasturtium, lemonade berry, redberry, deerweed, fountain grass, coastal wattle, bank catclaw, athel, American century plant, glossy privet, and pride of madeira. Big-leaved crownbeard, a federal and state threatened species, occurs along Nyes Place and K Street. Additionally, several patches of Coulter's Matilija Poppy (included in the California Native Plant Society Inventory of Rare and Endangered Plants as limited distribution) were observed in FMZ 16 adjacent to residential development. Special-status species would be flagged, and a 15-foot buffer installed during fuel management activities.

FMZ 19 (Diamond Crestview). Similar to FMZ 16, FMZ 19 is located on steep, densely vegetated slopes that pose the risk of wildfire hazards to nearby structures. FMZ 19 consists of approximately 25.4 acres bounded by Diamond Street to the west, Summit Drive to the north, and La Mirada Street and Alta Vista Way to the east and is surrounded by residential single-family homes (see Figure 3). According to the City of Laguna Beach's GIS Constraints layers, large portions of FMZ 16 are designated as High/Very High Value Habitat and Seismic Hazard Landslide Areas (City of Laguna Beach, 2023). The heavily vegetated steep slopes within and around FMZ 19 pose a risk of wildfire damage to adjacent homes and valuable habitat. FMZ 19, like FMZ 16, is also moderately impacted by non-native ornamental plants, such as Victorian box, ngaio tree, garden nasturtium, coastal wattle, bank catclaw, athel, American century plant, glossy privet, and pride of madeira, likely established by homeowners. The areas with relatively intact native habitat contain laurel sumac, California buckwheat, California brittlebush, California sagebrush, black sage, sweetclover, Italian thistle, coyote brush, toyon, holly leaf redberry, coast live oak, scrub oak, heat leaved keckiella, blue elderberry, sticky monkeyflower, Spiny redberry, and deerweed. Big-leaved crownbeard, intermediate mariposa lily, and decumbent goldenbush, all special-status species, occur in FMZ 19. Additionally, Fish's milkwort (included in the California Native Plant Society Inventory of Rare and Endangered Plants as limited distribution) occurs in the southern portion of FMZ 19. Portions of FMZ 19 that have been categorized as High/Very High Value Habitat or have had rare plant sightings were surveyed by a qualified biologist in June and September 2023 and the project design refined to avoid rare plants and minimize vegetation clearance in these areas.

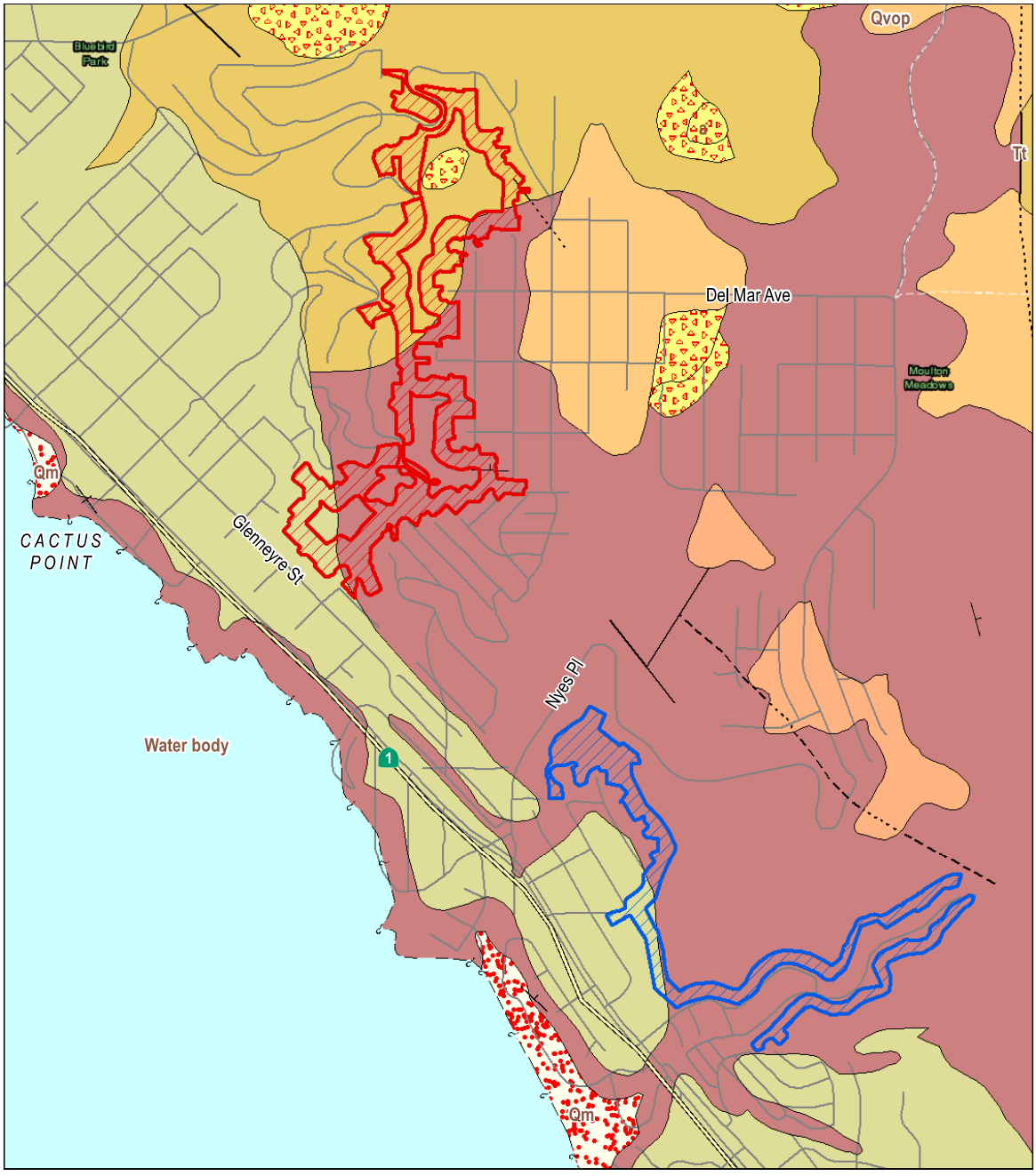
Methods

Investigation methods included geologic mapping, a paleontological record search through the Natural History Museum of Los Angeles County, a site visit, and a paleontological literature search.

Results

Geologic mapping of the area shows FMZ 16 to be underlain primarily by the San Onofre Breccia with a small area in its midsection underlain by Old Quaternary paralic deposits, units 2-6, undifferentiated (Qop 2-6) (Morton and Miller, 1981). The same mapping shows the northern part of FMZ 19 to be within the Topanga Group, with the southern part in the San Onofre Breccia and the southwestern part in Qop 2-6 (Figure 3). The San Onofre Breccia is a middle Miocene marine deposit containing abundant broken pieces of metamorphic and sedimentary rocks. The Topanga Group is a middle Miocene marine sandstone. It has historically been regarded as a formation but is recognized as a group by Morton and Miller. The Old Quaternary paralic deposits, units 2-6, undifferentiated are intertongued marine and continental coastal deposits of late to middle Pleistocene age. They have been uplifted since they were deposited at or near sea level.

Figure 3. Geologic Setting



The paleontological resources records search done by the Natural History Museum of Los Angeles County for the Lower Hobo and Diamond Crestview Fuel Modification Project (see Attachment A) covers the area. The records search yielded four known nearby Topanga Formation localities (middle Miocene) and two nearby San Onofre Breccia localities (Early-Middle Miocene). Two Topanga Formation localities produced specimen of an extinct aquatic mammal known as *Desmostylus*. Another produced a dugong fossil. The other one produced mollusk and brachiopod fossils. Both of the San Onofre Breccia localities produced unspecified invertebrate fossils.

A search of paleontological literature, both published and unpublished, did not yield any localities pertinent to this study.

Aspen paleontologist Joe Stewart attempted to survey the project area on October 12, 2023. Much of the project area was inaccessible because of steep slopes and dense vegetation. In the few areas that were accessible, no paleontological resources were located. In all the areas accessed, the Topanga Formation was a moderately indurated sandstone. The San Onofre Breccia is an indurated breccia. No exposures of the Old Quaternary paralic deposits were accessed. No fossils were detected at any of the sites.

Impacts

The Lower Hobo and Diamond Crestview Fuel Modification Project would involve minor ground disturbances to remove and reduce vegetation exclusively using hand crews. All cuttings would be removed and hauled off site with the exception of the majority of roots of perennial plants to be left in place to minimize erosion. The sediments that would be impacted are fairly or very loose. In some areas, they are mixed with humus and dead vegetation. There is no clear evidence that paleontological resources of the Topanga Formation would be impacted and would at most be impacted only by pedestrian traffic. The likelihood of impacting significant paleontological resources that are not already disturbed by vegetation is negligible.

Conclusion

Impacts to paleontological resources within FMZ 16 and FMZ 19 would be negligible. No mitigation is required.

Attachments

Attachment A – Paleontological Resources Records Search

Attachment B – Joe Stewart Resume

References

City of Laguna Beach. 2023. Public GIS Map Viewer. [Online]: https://gis.lagunabeachcity.net/Html5Viewer/index.html?viewer=LagunaBeachPublicGIS. Accessed August 13, 2023.

Morton, P.K., and R.V. Miller. 1981. Geologic Map of Orange County California, Showing Mines and Mineral Deposits. California Division of Mines and Geology Bulletin 204, plate 1. Scale 1:48,000.

Morton, P.K., and R.V. Miller. 2006. Geologic map of the San Bernardino and Santa Ana 30'60'quadrangles, southern California. U.S. Geological Survey Open File Report OF-99-172. Scale 1:100,00.md

Vedder, J. G., R. F. Yerkes, and J. E. Schoellhamer. 1957. Geologic map of the San Joaquin Hills – San Juan Capistrano area, Orange County, California. U.S. Geological Survey Oil and Gas Investigations Map OM-193. Scale: 1:24,000.

Society of Vertebrate Paleontology (SVP). 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. 11 p. [Online]: http://vertpaleo.org/The-Society/Governance-documents/SVP_Impact_Mitigation_Guidelines.aspx

Attachment A – Record Search Results

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Research & Collections

e-mail: paleorecords@nhm.org

October 1, 2023

Aspen Environmental Group
Attn: Lauren DeOliveira

re: Paleontological resources for the FMZ 16/19 Project

Dear Lauren:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for proposed development at the FMZ 16/19 project area as outlined on the portion of the Laguna Beach USGS topographic quadrangle map that you sent to me via e-mail on September 21, 2023. We do not have any fossil localities that lie directly within the proposed project area, but we do have fossil localities nearby from the same sedimentary deposits that occur in the proposed project area, either at the surface or at depth.

The following table shows the closest known localities in the collection of the Natural History Museum of Los Angeles County (NHMLA).

Locality Number	Location	Formation	Taxa	Depth
LACM IP 5835	East side of Aliso Creek bank; approximately 1 mile inland from Pacific Coast Highway; on west side of prominent spur trending northwest from Niguel Hill	Topanga Formation (shale)	abundant mollusks and brachiopods (*Glotidia albida*)	Surface
LACM VP 3222	Two miles north of South Laguna; west of the drainage of Aliso Creek; southeast of Temple Hill	Topanga Formation (brecciated conglomeratic sandstone)	marine mammal (Desmostylia)	surface
LACM VP 4007	In the head of Rim Rock Canyon south of Temple Hill Drive & west of Top of the World on Temple Hill	Topanga Formation	Marine mammal (*Desmostylus*)	Unknown
LACM VP 7249	Ridge between Temple Hill and Wood Canyon, south side of wash on cliff face	Topanga Formation	Marine mammals (Dugongidae)	Unknown
LACMIP 24377	Dana Point	San Onofre Breccia (Red and gray; sandy and earthy schist breccia)	Invertebrates (unspecified)	Unknown

LACMIP 6997	S slope of ridge adjacent to Laguna RidgeTrail, near end of Seaway Dr; Laguna Hills	San Onofre Breccia	Invertebrates (unspecified)	Unknown

VP, Vertebrate Paleontology; IP, Invertebrate Paleontology; bgs, below ground surface

This records search covers only the records of the NHMLA. It is not intended as a paleontological assessment of the project area for the purposes of CEQA or NEPA. Potentially fossil-bearing units are present in the project area, either at the surface or in the subsurface. As such, NHMLA recommends that a full paleontological assessment of the project area be conducted by a paleontologist meeting Bureau of Land Management or Society of Vertebrate Paleontology standards.

Sincerely,

Alyssa Bell, Ph.D.
Natural History Museum of Los Angeles County

enclosure: invoice

Attachment B – Joe Stewart Resume

Joe Stewart, Ph.D.

PALEONTOLOGIST

PROFILE: Dr. Stewart is a vertebrate paleontologist with over 40 years of experience in paleontology and 33 years with the geology and paleontology of California. His main experience is with the paleontological resources of California, but also has experience with projects in Wyoming, Utah, Colorado, Arizona, Nevada, Idaho, and Nebraska, and a substantial research history in Kansas. Dr. Stewart has extensive experience with permitting projects subject to CEQA and NEPA and is on the list of approved paleontologist for Orange County. His expertise includes the identification of fish fossils and Pleistocene microvertebrate faunal remains. He recently completed the paleontological mitigation work for a project for the County of Orange on Newport Bay. He directed the paleontological monitoring and mitigation program for Path 15, a major transmission line project, and the paleontological aspects of permitting for the Gateway West transmission line project in Wyoming and Idaho. Joe has multiple BLM permits. He has published over 40 peer reviewed paleontology articles in scientific books and journals. He is also a Research Associate at the Natural History Museum of Los Angeles County.

EDUCATION:

- PhD, Systematics and Ecology, University of Kansas, 1984
- MA, Systematics and Ecology, University of Kansas, 1979

PROFESSIONAL EXPERIENCE

REVIEW OF IVANPAH-CONTROL PROJECT

California Public Utilities Commission,

Reviewed paleontological resource aspects of Southern California Edison's Ivanpah-Control Project environmental assessment filing for California Public Utilities Corporation.

TECHNICAL REVIEW OF ALAMITOS BAY PUMP STATION INITIAL STUDY

Los Angeles County Flood Control District,

Reviewed paleontological documents for the Initial Study for the Los Angeles County Flood Control District.

STRAUSS WIND ENERGY PROJECT

Santa Barbara County Planning Dept,

Reworking paleontological resource sections of an earlier EIR for Santa Barbara County Planning Department.

PUERCO CANYON CAMP AND TRAILHEAD PROJECT

Mountains Recreation and Conservation Authority,

Surveyed the project footprint and wrote the Paleontological Resources Mitigation and Monitoring Plan.

PREVIOUS EXPERIENCE

- ISEC West Solar Project (2013-2016). Dr. Stewart supervised paleontological monitoring on private lands.
- BrightSource Sonoran West Solar Project (2012-2013). Dr. Stewart supervised paleontological survey on BLM and private lands. Worked on AFC and wrote final report when project was terminated.
- TerraGen Project (2012). Dr. Stewart Performed pedestrian paleontological survey of project site and wrote the Paleontological Resources section for the AFC.
- BrightSource Rio Mesa Solar Project (2011-2013). Dr. Stewart supervised paleontological survey on BLM and private lands. Wrote the Paleontological Resources section for the AFC.

- Pio Pico Energy Center (2010-2011). Dr. Stewart supervised paleontological survey and wrote the Paleontological Resources section for the AFC.
- Mesquite Nevada Replacement General Aviation Airport (2009). Dr. Stewart wrote the paleontological Resource Assessment for the Federal Aviation Administration.
- Marsh Landing Generating Station Application for Certification (2008- 2013). Dr. Stewart performed paleontological pedestrian survey of project area in Contra Costa County and wrote the paleontological resource section of the AFC. Served as Paleontological Resource Specialist for construction. Wrote final report.
- Imperial Valley Solar Application for Certification (2008-2010). Dr. Stewart directed paleontological pedestrian survey of project area in San Bernardino County and wrote the paleontological resource section of the AFC.
- Calico Solar Application for Certification (2008-2010). Dr. Stewart participated in paleontological pedestrian survey of project area, edited the paleontology section of the AFC, and am served as Paleontological Resource Specialist.
- Starwood Power-Midway, LLC Peaking Project Construction (2008-2009). Dr. Stewart wrote mitigation plan for paleontological resources, oversaw monitoring for paleontological resources, and wrote final report.
- Calnev Pipeline Project (2008-2009). Dr. Stewart directed paleontological survey of 234-mile-long project area in San Bernardino County, California and Clark County, Nevada and wrote the paleontological assessment.
- Willow Pass Generating Station Application for Certification (2008-2009). Dr. Stewart participated in paleontological pedestrian survey of project area in Contra Costa County and wrote the paleontological resource section of the AFC.
- San Joaquin One and Two Application for Certification (2008). Dr. Stewart directed paleontological pedestrian survey of project area in Fresno County and wrote the paleontological resource section of the AFC.
- Carrizo Energy Solar Farm (Ausra) Application for Certification (2007). Dr. Stewart participated in paleontological pedestrian survey of project area and edited the paleontology section of the AFC.
- Starwood Power-Midway, LLC Peaking Project Application for Certification (2007). Dr. Stewart participated in the responses to the CEC Provisional Staff Assessments.
- Path 15 500-kV Power Transmission Line between Los Banos and Gates substations (2003-2005). Dr. Stewart supervised paleontological resource monitoring, excavations, specimen preparation, specimen identification, and report writing for 80-mile power line.

PREVIOUS EMPLOYMENT

- URS Corporation, Principal Paleontologist, San Diego, California, 2007-2015
- PCR Services Corporation, Principal Paleontologist, Irvine, California, 2005-2007
- Jones and Stokes, Project Paleontologist, Sacramento, California, 2003-2005
- Brian F. Smith & Associates, Project Paleontologist, Poway, CA, 2003-2005
- Natural History Museum of Los Angeles County, California, Assistant Curator of Vertebrate Paleontology, 1985-2003

PROFESSIONAL SOCIETIES AND AFFILIATIONS

- Society of Vertebrate Paleontology

SPECIAL CERTIFICATIONS

- Hazardous Waste Operations and Emergency Response 40 Hr.
- General Site Worker
- Certified paleontologist in Orange County
- Certified paleontologist in Riverside County

PUBLICATIONS

- Stewart, J. D., and M. E. Hakel. 2017. First record of vertebrate fossils in the Searles Basin: in another desert paleosol. California State University Desert Symposium Proceedings 2017:341.
- Stewart, J. D., and M. E. Hakel. 2016. Pleistocene paleosol developed on ancestral Mojave River sediments near Hinkley, California. Paleobios 33 Supplement: 15.
- Stewart, J. D., and M. E. Hakel. 2015. Remanié Desmostylus fossils in the Tulare Formation. PaleoBios 32: 15-16.
- Stewart, J. D., and Marjorie E. Hakel. 2013. New observations on Pachyrhizodus species of North America. Abstracts, 6th International Meeting on Mesozoic Fishes, Diversification and Diversity Patterns, Vienna, Austria, August 4–10, 2013, p. 62.
- Smith, G. R., J. D. Stewart, and N. E. Carpenter. 2013. Fossil and Recent mountain suckers, Pantosteus, and significance of introgression in catostomine fishes of western United States. Occasional Papers of the Museum of Zoology, University of Michigan 743:1-39.
- Smith, G. R., R. E. Reynolds, and J. D. Stewart. 2013. Hydrographic significance of fishes from the Early Pliocene White Narrows Beds, Clark County, Nevada. California State University Desert Symposium Proceedings 2013:171-180.
- Friedman, M., K. Shimada, M. J. Everhart, K. J. Irwin, B. S. Grandstaff, and J. D. Stewart. 2013. Geographic and stratigraphic distribution of the late Cretaceous suspension feeding bony fish Bonnerichthys gladius (Teleostei, Pachycormiformes). Journal of Vertebrate Paleontology 33:35-47.
- Stewart, J. D., M. Williams, M. Hakel, and S. Musick. 2012. Was it washed in? New evidence for the genesis of Pleistocene fossil vertebrate remains in the Mojave Desert of southern California. California State University Desert Symposium Proceedings 2012:140-143.
- Bell, M. A., J. D. Stewart, and J. Park. 2009. The world's oldest fossil threespine stickleback. Copeia 2009:256-265.
- Tseng, J.Z., X. Wang, and J.D. Stewart. 2009. A new otter-like immigrant mustelid (Carnivora, Mammamlia) from the middle Miocene Temblor Formation of Central California. PaleoBios 29:13-23.
- Kelly, T. S., and J. D. Stewart. 2008. New records of Middle and Late Miocene Perissodactyla and Artiodactyla from the western border of the San Joaquin Valley, Diablo Range, Fresno County, California. Los Angeles County Museum of Natural History Contributions in Science 516:1-29.
- Tseng, Z., X. Wang, and J. D. Stewart. 2007. Tough New World. Discovery of an unusual immigrant mustelid with crushing dentition from the middle Miocene of coastal California. Journal of Vertebrate Paleontology 27:160A.
- Stewart, J. D. and M. Hakel. 2006. Ichthyofauna of the Mowry Shale (Early Cenomanian) of Wyoming. New Mexico Museum of Natural History & Science Bulletin 35:161- 163.
- Stewart, J. D., E. Zaborsky, and M. Hakel. 2006. A new Middle Miocene terrestrial fauna from the Temblor Formation of Central California. New Mexico Museum of Natural History & Science Bulletin 34:40.
- Stewart, J. D. 2003. Quantifiable change in the Isurus hastalis populations in Middle and Late Miocene rocks of California. Journal of Vertebrate Paleontology 23:101A.
- Stewart, J. D., and F. Perry. 2002. The first paleomagnetic framework for the Isurus hastalis–Carcharodon transition in the Pacific Basin: the Purisima Formation, Central California. Journal of Vertebrate Paleontology 22:111A.
- Hakel, M., and J. D. Stewart. 2002. First fossil Molidae (Actinopterygii: Tetraodontiformes) in western North America. Journal of Vertebrate Paleontology 22:62A.
- Geist, N. R., S. Carpenter, and J. D. Stewart. 2002. Chemical and morphological analysis of soft tissue preservation in a mosasaur. Journal of Vertebrate Paleontology 22:75A.
- Stewart, J. D., and V. Friedman. 2001, Oldest American records of Saurodontidae (Teleostei: Ichthyodectiformes). Journal of Vertebrate Paleontology 21:104A.

- Stewart, J. D. 2000. Late Miocene ontogenetic series of true Carcharodon teeth. Journal of Vertebrate Paleontology 20:71A.
- Martin, L. D., and J. D. Stewart. 1999. Implantation and replacement of bird teeth. Smithsonian Contributions to Paleobiology 89:295-300.
- Stewart, J. D., and R. Raschke. 1999. Correlation of stratigraphic position with Isurus-Carcharodon tooth serration size in the Capistrano Formation and its implication for the ancestry of Carcharodon carcharias. Journal of Vertebrate Paleontology 19:78A.
- Stewart, J. D. 1999. A new genus of Saurodontidae (Teleostei: Ichthyodectiformes) from the Upper Cretaceous rocks of the Western Interior of North America. P. 335-360 in: G. Arratia (ed.) Mesozoic Fishes – Systematics and the Fossil Record. Verlag Dr. Friedrich Pfeil, Munich. 576 p.
- Fielitz, C., J. D. Stewart, and J. Wiffern. 1999. Aethocephalichthys hyrainarhinos n. gen. and n. sp., a new and enigmatic Late Cretaceous actinopterygian from North America and New Zealand. P. 95-106 in: G. Arratia (ed.) Mesozoic Fishes – Systematics and the Fossil Record.
- Barnes, L. G., M. Berkhoff, D. P. Domning, S. K. Jarvis, S. A. McLeod, E. D. Mitchell, R. E. Raschke, J. D. Stewart, C. C. Swift, and H. W. Thomas. 1999. The Middle Miocene Sharktooth Hill local fauna and paleoecology of the Sharktooth Hill Bonebed, Kern County, California. Paleobios 19:2A.
- Stewart, J. D., and F. Govean. 1998. The first Cenozoic record of Symphurus (Pleuronectiformes: Cynoglossidae) and the first North American Cenozoic cynoglossid fosils. Journal of Vertebrate Paleontology 18:79A-80A.
- Stewart, J. D., and S. B. Hunter. 1997. Deprandus lestes Jordan is a synonym of Thyrsocles velox (Jordan) (Teleostei: Perciformes) and is not an eel. Journal of Vertebrate Paleontology 17:79A.
- Cumbaa, S. L., T. T. Tokaryk, C. Collom, J. D. Stewart, T. S. Ercit, and R. G. Day. 1997. A Cenomanian age bond bed of marine origin, Saskatchewan, Canada. Journal of Vertebrate Paleontology 17:40A.
- Schwimmer, D. R., J. D. Stewart, and G. D. Williams. 1997. Xiphactinus vetus and the distribution of Xiphactinus species in the eastern United States. Journal of Vertebrate Paleontology 17:610-615.
- Stewart, J. D. 1997. Nuevos peces del Miocene Tario de la Formación Almejas de Isla Cedros, Baja California, México. [New late Miocene fishes from the Almejas Formation of Cedros Island, Baja California, Mexico.] Abstract, Memorias de la IV Réunion Intermational sobre Geologia de la Peninsula de Baja California, Ensenada, Baja California, México, 6-9 April, 1997.
- Schwimmer, D. R., J. D. Stewart, and G. D. Williams. 1997. Scavenging by sharks of the genus Squalicorax in the late Cretaceous of North America. Palaios 12:71-83.
- Stewart, J. D. 1996. Cretaceous acanthomorphs of North America. P. 383-394 in: Arratia, G., and G. Viohl (eds,), Mesozoic Fishes – Systematics and Palaeoecology, Verlag Dr. Friedrich Pfeil, Munich. 576 p. 382-294
- Stewart, J. D. 1996. The validity of Saurodon pygmaeus Loomis 1900 (Teleostei: Ichthyodectiformes) and its relationship to other Ichthyodectiformes. Journal of Vertebrate Paleontology 16(3):67A.
- Feige, S. F., and J. D. Stewart. 1996. Preliminary findings concerning increase in size through time of the clupeiform teleost, Xyne grex. San Bernardino County Museum Association Quarterly 43:149.
- Stewart, J. D., and J. E. Martin. 1996. Osteichthyes of the Turonian deposits in the Ortonville-Milbank Granite Quarries, Grant County, South Dakota. Geological Society of America Abstracts With Programs 28(4):39.
- Schwimmer, D. R., J. D. Stewart, and G. D. Williams. 1995. Evidences of scavenging by selachian genus Squalicorax in the Late Cretaceous of North America. Geological Society of America Abstracts with Programs 2:A368.
- Stewart, J. D. 1995. Confirmation of pomatomid affinities of Pseudoseriola David (Teleostei: Percifrormes). Journal of Vertebrate Paleontology 15:54A-55A.
- Everhart, M. J., P. A. Everhart, and J. D. Stewart. 1995. Notes on the biostratigraphy of a small coelacanth from the Smoky Hill Member of the Niobrara Chalk (Upper Cretaceous) of western Kansas. Abstracts, Kansas Academy of Science 14:18.

- Alexander, C. K., S. Feige, D. Foley, E. Topping, D. K. Valdez, and J. D. Stewart. 1995. Temporal trends in fossil guitarfish Rhinobatos teeth from Upper Cretaceous rocks of the U. S. Western Interior. Journal of Student Research 1:99.
- Stewart, J. D, S. A. Bilbey, D. J. Chure, and S. K. Madsen. 1994. Vertebrate fauna of the Mowry Shale (Cenomanian) in northeastern Utah. Journal of Vertebrate Paleontology 14:47A.
- Schwimmer, D. R., J. D. Stewart, and D. Williams. 1994. Giant fossil coelacanths from the Late Cretaceous in the Eastern United States. Geology 22:503-506. Stewart, J. D., and G. L. Bell, Jr. 1994. North America's oldest mosasaurs are teleosts. Los Angeles County Museum of Natural History Contributions in Science 441:1-9.
- Hunter, S. B., and J. D. Stewart. 1994. Resurrection of Sarda stocki David, 1943. Paleobios 16:9.
- Stewart, J. D., and J. E. Martin. 1993. Late Cretaceous selachians and associated marine vertebrates from the Dakota Rose Granite Quarry, Grant County, South Dakota. Proceedings of the South Dakota Academy of Sciences 72:241-248.
- Stewart, J. D., and J. E. Martin. 1993. A snowshoe hare, Lepus americanus, from the Lange Ferguson Clovis Kill Site, Shannon County, South Dakota. Current Research in the Pleistocene 10:110-112.
- Stewart, J. D. 1993. A skeleton of Platecarpus sp. (Lacertilia: Mosasauridae) with stomach contents and extensive integument. Journal of Vertebrate Paleontology 13:58A-59A.
- Stewart, J. D. 1993. The case of the sword-swallowing shark. Terra 31:42-43.
- Stewart, J. D., and M. Roeder. 1993. Razorback sucker (Xyrauchen) fossils from the Anza Borrego Desert and the Ancestral Colorado River. Special Publication of the San Bernardino County Museum Association 93:94-96.
- Stewart, J. D., and F. J. Aranda-Manteca. 1993. Nuevos teleosteos del Miembro Los Indios de la Formacion Rosarito Beach, Baja California (new teleosts from the Los Indios member of the Rosarito Beach Formation, Baja California). II Reunion Internacional de Geologia de la Peninsula de Baja California, p. 79.
- Barradas, H., and J. D. Stewart. 1993. Posible contenido estomacal de un pinipedo del Mioceno Medio de la Mision, Baja California, México (Possible Middle Miocene pinniped gut contents from La Mision, Baja California, Mexico). II Reunion Internacional de Geologia de la Peninsula de Baja California, p. 24-25.
- Stewart, J. D. 1992. First Mississippi records of Holocentrites ovalis (Beryciformes: Holocentridae), and confirmation of its myripristin affinities. Journal of Vertebrate Paleontology 12:53A.
- Schwimmer, D. R., J. D. Stewart, and D. Williams. 1992. Late Cretaceous Xiphactinus fossils in eastern United States are not necessarily X. audax. Journal of Vertebrate Paleontology 12:51A.
- Stewart, J. D., and J. M. Harris. 1992. Acquisitions. Terra 30:44-45.
- Schwimmer, D. R., J. D. Stewart, and D. Williams. 1991. Upper Cretaceous coelacanths in eastern Alabama: suggestion of a Gondwanan-Eastern Gulf lineage. Abstract, Geological Society of America Abstracts with Programs 23:A169.
- Stewart, J. D., P. A. Everhart, and M. J. Everhart. 1991. Small coelacanths from Upper Cretaceous rocks of Kansas. Abstract, Journal of Vertebrate Paleontology 11:56A.
- Stewart, J. D. 1991. Fossil teeth tell part of the story. Terra 30:34-35.
- Espinosa-Arrubarena, L. G. Barnes, S. P. Applegate, S. A. McLeod, F. J. Aranda-Manteca, and J. D. Stewart. 1991. Depredadores y mamiferos marinos: la evidencia del registro fosil. Programa y Resumenes, Abstracts, XVI Reunion Internacional para el Estudio de los Mamiferos Marinos, Nuevo Vallarta, Nayarit, México, p. 5
- Stewart, J. D. 1990. Niobrara Formation symbiotic fish in inoceramid bivalves, p. 31-41 in: S. C. Bennett (ed.), Niobrara Chalk Excursion Guidebook. Kansas Geological Survey, Lawrence.
- Stewart, J. D. 1990. Niobrara Formation vertebrate stratigraphy. P. 19-30 in: S. C. Bennett (ed.), Niobrara Chalk Excursion Guidebook. Kansas Geological Survey, Lawrence.
- Stewart, J. D., C. Bennett, and R. J. Zakrzewski. 1990. Road log from Lawrence to the type area of the Niobrara Chalk, October 9-10, 1990. p. 3-12 in: S. C. Bennt (ed), Niobrara Chalk Excursion Guidebook. Kansas Geological Survey, Lawrence.

- Stewart, J. D. 1990. Niobrara Formation vertebrate biostratigraphy. Journal of Vertebrate Paleontology 10:44A.
- Stewart, J. D. 1990. Niobrara Formation symbiotic fish in inoceramid bivalves. Journal of Vertebrate Paleontology 10:44-44A.
- Stearley, R. F., and J. D. Stewart. 1990. Phylogenetic significance of Onchorhynchus rastrosus. Journal of Vertebrate Paleontology 10:43A.
- Schwimmer, D., J. D. Stewart, and G. D. Williams. 1990. A giant Upper Cretaceous coelacanth form eastern Alabama. Journal of Vertebrate Paleontology 10:41A.
- Stewart, J. D., and K. Carpenter. 1990. Examples of vertebrate predation on cephalopods in the Late Cretaceous of the Western Interior. p. 203-207 in: A. J. Boucot (ed.), Evolutionary paleobiology of behavior and evolution. Elsevier.
- Stewart, J. D. 1990. Examples of Late Cretaceous commensalism from Kansas. p. 51-57 in: A. J. Boucot (ed.), Evolutionary paleobiology of behavior and evolution. Elsevier.
- Stewart, J. D. 1989. Paleontology and paleoecology of the 1987 excavation of the North Cove Site, 25HN164. p. 63-106 in: M. J. Adair (ed.), Archaeological investigations at the North Cove Site, Harlan County Lake, Harlan County Nebraska. Report submitted to U. S. Army Corps of Engineers, Kansas City District, CACW41-86-0167, Modification P00003.
- Stewart, J. D., and G. Bell, Jr. 1989. The earliest North American mosasaur records are not mosasaurs. Journal of Vertebrate Paleontology 9:39A.Coney, C. C., and J. D. Stewart. 1989. Comparative shell morphometrics in some related species of fossil and Recent Gastrocopta (Pulmonata: Pupillidae). The Western Society of Malacologists Annual Report 22:10.
- Anonymous. 1989. The fossil fish that almost got away. Terra 27(5-6):48.
- Whistler. D. W., and J. D. Stewart. 1989. A Late Pleistocene (Rancholabrean) assemblage from the northwestern Mojave Desert. San Bernardino County Museum Quarterly 36:67-68.
- Stewart, J. D. 1988. Paleoecology and the first North American West Coast record of the shark genus Ptychodus. Journal of Vertebrate Paleontology 8:27.
- Stewart, J. D. 1988. Stratigraphic distribution of Cretaceous Protosphyraena in Kansas and Alabama. Fort Hays Studies, third series, Science series, no 10:80-94.
- Stewart, J. D. 1987. Paleontology and paleoecology of the North Cove Site, 25HN164. p. 298-335 in: M. J. Adair and K. L. Brown (eds.), Prehistoric and Historic Cultural Resources of Selected Sites at Harlan County Lake, Harlan County, Nebraska. Report submitted to U. S. Army Corps of Engineers, Kansas City District.
- Stewart, J. D. 1987. Late Cretaceous fish-pelecypod symbiosis. Ningxia Geology 1:14-17.
- Stewart, J. D. 1987. Late Wisconsinan biota and artifacts from the Kansas-Nebraska border. Journal of Vertebrate Paleontology 7:27A.
- Wells, P. V., and J. D. Stewart. 1987. Cordilleran-boreal taiga and fauna on the Central Great Plains of North America, 14,000-18,000 years ago. American Midland Naturalist 118:94-106.
- Stewart, J. D. 1987. Latitudinal effects in Wisconsinan mammalian faunas of the Plains. p. 153-158 in: W. C. Johnson (ed.), Quaternary environments of Kansas. Kansas Geological Guidebook Series 5.
- Wells, P. V., and J. D. Stewart. 1987. Spruce charcoal, conifer macrofossils, and landsnail and small-vertebrate faunas in Wisconsinan sediments on the High Plains of Kansas. p. 129-140 in: W. C. Johnson (ed.), Quaternary environments of Kansas. Kansas Geological Guidebook Series 5.
- Martin, L. D., W. V. Koenigswald, and J. D. Stewart. 1986. Pleistocene Phenacomys from Kansas and the fossil history of the genus. Transactions of the Nebraska Academy of Science 14:35-39.
- Johnson, W. C., G. G. Fredlund, P. V. Wells, J. D. Stewart, and W. Dort Jr. 1986. Late Wiconsinan biogeography of south central Nebraska: the North Cove site. American Quaternary Association – Program and Abstract of the ninth biennial meeting, p. 89.

- Cross, F. B., R. L. Mayden, and J. D. Stewart. 1986. Fishes in the western Mississippi drainage. P. 363-412 in: C.H. Hocutt and E. O. Wiley, (eds.), Zoogeography of North American Freshwater Fishes. Wiley and Sons, New York.
- Dort, W. Jr., W. C. Johnson, G. G. Fredlund, R. A. Rogers, L. D. Martin, J. D. Stewart, and P. V. Wells. 1985. Evidence for an open conifer woodland in the Central Great Plains during the Late Wisconsin glacial maximum. Abstract, Canadian Quaternary Association Abstracts, p. 23. Lethbridge.
- Johnson, W. C., L. D. Martin, W. Dort, Jr., C. J. Sorensen, R. A. Rogers, and J. D. Stewart. Evidence for a pine parkland in Central and Western Kansas and adjacent Nebraska during Mid- and Late-Wisconsinan time. TER-QUA Symposium Series 1:197.
- Martin, L. D., and J. D. Stewart. 1985. Homologies in the avian tarsus. Nature 315:159.
- Stewart, J. D. 1984. The montane vole in the Late Pleistocene of the Plains. Annual Plains Conference, Programs and Abstracts p.41-42.
- Stewart, J. D. 1984. Taxonomy, paleoecology, and stratigraphy of the halecostsome-inoceramid associations of the North American Upper Cretaceous epicontinental seaways. Ph.D. dissertation, University of Kansas, Lawrence, 201 p.
- Stewart, J. D., and L. D. Martin. 1984. Bird teeth and avian origins. One hundred second stated meeting of the American Ornithologists' Union: Abstracts no. 95.
- Martin, L. D., and J. D. Stewart. 1984. The avian pretibial bone and the relationship between ratites and carinates. One hundred second stated meeting of the American Ornithologists' Union: Abstracts no. 13.
- Stewart, J. D. 1984. Snowshoe hare, Lepus americanus, from the Peoria Loess of Kansas. Abstracts, Kansas Academy of Science 3:39.
- Stewart, J. D., and R. A. Rogers. 1984. Analysis of pollen from the Trapshoot local fauna quarry (Rancholabrean) of Kansas. American Midland Naturalis 112:198-200.
- Schultze, H.-P., J. D. Stewart, A. M. Neuner, and P. M. Coldiron. 1982. Type and figured specimens of fossil vertebrates in the collection of the University of Kansas Museum of Natural History. Part I. Fossil Fishes. Miscellaneous Publications of the University of Kansas Museum of Natural History No. 73, 53 p.
- Martin, L. D., and J. D. Stewart. 1982. An ichthyornithiform bird from the Campanian of Canada. Canadian Journal of Earth Sciences 19:324-327.
- Stewart, J. D. 1982. Actinopterygian – pelecypod commensalism in Kansas Cretaceous deposits. Abstracts, Kansas Academy of Science 1:52-53.
- Wiley, E. O., and J. D. Stewart. 1981. Urenchelys abditus, the first undoubted eel from the Cretaceous of North America (Teleostei: Anguilliformes). Journal of Vertebrate Paleontology 1:43-47.
- Stewart, J. D. 1980. Reevaluation of the phylogenetic position of the Ptychodontidae. Transactions of the Kansas Academy of Science 83:154.
- Martin, L. D., J. D. Stewart, and K. N. Whetstone. 1980. The origin of birds: structure of the tarsus and teeth. The Auk 97:86-93.
- Stewart. J. D. 1979. Paleontology and paleoecology of the Trapshoot local fauna, Rooks County, Kansas. M.A. thesis, University of Kansas, Lawrence. 146 p.
- Stewart, J. D. 1979. A new Late Blancan local fauna from Rooks County, Kansas. Transactions of the Kansas Academy of Science 82:100.
- Stewart, J. D. 1979. Biostratigraphic distribution of species of Protosphyraena (Osteichthyes: Actinopterygii) in the Niobrara and Pierre formations of Kansas. Proceedings of the Nebraska Academy of Sciences and Affiliated Societies 1979:51-52.
- Stewart, J. D. 1978. Mammals of the Trapshoot local fauna, Late Pleistocene of Rooks County, Kansas. Proceedings of the Nebraska Academy of Sciences and Affiliated Societies 1978:45-46.
- Stewart, J. D. 1978. Earliest record of the Toxochelyidae. Transactions of the Kansas Academy of Sciences 81:9-16.

- Stewart, J. D. 1978. Enterospirae (fossil intestines) from the Upper Cretaceous Niobrara Fromation of western Kansas. Kansas University, Paleontological Contributions paper 89:9-16.
- Wiley, E. O., and J. D. Stewart. 1977. A gar (Lepisosteus sp.) from the marine Cretaceous Niobrara Formation of western Kansas. Copeia 1977:761-762.
- Martin, L. D., and J. D. Stewart. 1977. Oldest (Turonian) mosasaurs from Kansas Journal of Paleontology 51:973-975.
- Martin, L. D., and J. D. Stewart. 1977. Teeth in Ichthyornis (Class: Aves). Science 195:1331-1332.
- Stewart, J. D. 1976. Teuthids of the North American Late Cretaceous. Transactions of the Kansas Academy of Science 79:94.

Appendix G

Policy Consistency Memorandum

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PROJECT MEMORANDUM

Date: January 15, 2024
To: Robert Montaghami, Fire Marshal, Laguna Beach Fire Department
From: Avery Robinson, Environmental Scientist
Subject: Lower Hobo and Diamond Crestview Fuel Modification Project

The City of Laguna Beach Fire Department (LBFD) proposes to apply fuel management practices within the City of Laguna Beach, California. The project would include two fuel management zones (FMZs) within the City of Laguna Beach. FMZ 16 (Lower Hobo) measures approximately 13.7 acres and predominantly borders residential single-family and mobile home communities along Nyes Place, Ashton Drive, Alexander Road, Terry Road, Laguna Terrace North, M Street, and K Street as well as the Laguna Beach Community and Recreation Center and Laguna Beach Fire Department administrative offices. FMZ 19 (Diamond Crestview) consists of approximately 25.4 acres bounded by Diamond Street to the west, Summit Drive to the north, and La Mirada Street and Alta Vista Way to the east and is surrounded by residential single-family homes. Both FMZs would be within the jurisdiction of the City of Laguna Beach and planning boundary for the City of Laguna Beach General Plan, except for the southwestern section of FMZ 19 which is within the City of Laguna Beach's specific planning area for the Diamond/Crestview subdivisions and the southeastern section of FMZ 19 which is within the City's specific planning area for the Arch Beach Heights subdivision.

This technical memorandum demonstrates the proposed project's consistency with the California Coastal Act, City of Laguna Beach Local Coastal Program (City of Laguna Beach, 2023), Diamond/Crestview Specific Plan (City of Laguna Beach, 2010), and Arch Beach Heights Specific Plan (City of Laguna Beach, 2023b) that provide policies for managing and monitoring the lands associated with the proposed project.

California Coastal Act

The California Coastal Act establishes a comprehensive approach to govern land use planning along the entire California coast. The coastal zone is defined in Section 30103 of the Coastal Act as the following:

> (a) "Coastal zone" means that land and water area of the State of California from the Oregon border to the border of the Republic of Mexico . . . extending seaward to the state's outer limit of jurisdiction, including all offshore islands, and extending inland generally 1,000 yards from the mean high tide line of the sea. In significant coastal estuarine, habitat, and recreational areas it extends inland to the first major ridgeline paralleling the sea or five miles from the mean high tide line of the sea, whichever is less, and in developed urban areas the zone generally extends inland less than 1,000 yards (California Coastal Commission, 2023).

The Coastal Act sets forth general policies (Public Resources Code Section 30200 et seq.) that are used by the California Coastal Commission (Coastal Commission) to review permit applications and local plans. Development activities within the coastal zone generally require a coastal permit. In the case of recreational facilities, Section 30600 of the Coastal Act states:

> (a) Except as provided in subdivision (e), and in addition to obtaining any other permit required by law from any local government or from any state, regional, or local agency, any person, as defined in Section 21066, wishing to perform or undertake any development in the coastal zone, other than a facility subject to Section 25500, shall obtain a coastal development permit (CDP) (California Coastal Commission, 2021).

In addition to the regulatory oversight of the Coastal Commission, Coastal Act policies are implemented through the preparation of Local Coastal Programs (LCPs) by the cities and counties located in whole or in part within the coastal zone. LCPs include a land use plan and a local implementation program that specify the relevant planning policies and zoning ordinances specific to the coastal zone within that jurisdiction. Once an LCP is certified, coastal development permit authority is delegated to the appropriate local government, except for certain specific lands for which the Coastal Commission retains original permit jurisdiction (City of Laguna Beach, 2020).

The proposed fuel modification activities would primarily occur within the planning boundary of the City of Laguna Beach LCP. Figures 2 and 3 in the Initial Study illustrate the location of specific fuel modification activities within FMZ 16 and FMZ 19.

The entire City of Laguna Beach is encompassed within the coastal zone, except for the Sycamore Hills area (City of Laguna Beach, 2012). The City's LCP constitutes the following planning and policy documents, and any amendments to these documents require Coastal Commission approval as LCP Amendments (City of Laguna Beach, 2012; City of Laguna Beach, 2023):

- Coastal Land Use Plan Technical Appendix
- Laguna Beach General Plan Land Use Map (excluding Blue Lagoon and Three Arch Bay)
- Laguna Beach Zoning Map
- General Plan Land Use and Zoning Map Amendments
- Laguna Beach General Plan Land Use and Open Space-Conservation Elements
- Post-LCP Certification Permit and Appeal Jurisdiction
- Downtown Specific Plan
- Laguna Canyon Annexation Specific Plan
- Treasure Island Specific Plan
- Title 12.08 (Preservation of Heritage Trees Ordinance)
- Title 14.78 (Geology Reports - Preparation and Requirements Ordinance)
- Title 16 (Water Quality Control)
- Title 21 (Plats and Subdivision)
- Title 22 (Excavation and Grading)
- Title 25 (Laguna Beach Zoning Code, including the Coastal Development Permit Ordinance)
- Shoreline Protection Guidelines (as adopted by Resolution 88.43)
- Design Guidelines- A Guide to Residential Development
- Design Guidelines for Hillside Development (as adopted by Resolution 89.104)
- South Laguna Community Design and Landscape Guidelines (as adopted by Resolution 89.104)
- Fuel Modification Guidelines of the Laguna Beach Safety General Plan Element (as adopted by Resolution 89.104)
- Summer Festival Parking Agreements.

The City of Laguna Beach LCP was certified in 1993, and an amendment to the LCP was certified in 2004. The certified LCP provides permitting authority to the City of Laguna Beach within its respective coastal zone.

California Coastal Act Consistency Determination

The proposed fuel modification activities would be consistent with the California Coastal Act based on the following review of this project with respect to the Coastal Act and the City of Laguna Beach LCP. This discussion identifies the applicable requirements from the Coastal Act along with the relevant policies from the City's LCP, Diamond/Crestview Specific Plan, and Arch Beach Heights Specific Plan and provides a justification for project consistency with each.

Article 3: Recreation Policies

Coastal Act Section 30223

"Upland areas necessary to support coastal recreational uses shall be reserved for such uses, where feasible."

Laguna Beach General Plan: Land Use Element

- Policy 7.1: Protect dedicated and accepted open space.

Justification for Fuel Break Activities. The fuel modification activities in FMZ 16 and FMZ 19 would increase protection, reduce fire intensity and flame length, and reduce potential for wildfire to spread to residential, institutional, public, and valuable recreational areas. These activities are consistent with the Coastal Act Section 30223 regarding protection and support of coastal recreational uses. They are also consistent with the Laguna Beach General Plan (Policy 7.1) regarding protection of open space.

Article 5: Land Resource Policies

Coastal Act Section 30240

"a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas."

Laguna Beach General Plan: Land Use Element

- Policy 2.6: Require the preservation of significant trees in conjunction with development proposals. The Design Review Board may grant exceptions to this provision when its strict enforcement would deny a property owner reasonable use of his/her property.
- Policy 7.6: Implement individualized fuel modification programs for existing legal building sites whenever environmentally sensitive resources are present.

Laguna Beach General Plan: Open Space/Conservation Element

- Policy 8C: Identify and maintain wildlife habitat areas in their natural state as necessary for the preservation of species.
- Policy 8G: Detailed biological assessments shall be required for all new development proposals, including all subdivisions and fuel modification proposals, located within or adjacent to areas

designated high or very high value on the Biological Values Map. Such biological assessments shall utilize the biological value criteria specified in the Biological Resources Inventories (1983, 1992 and 1993).

- Policy 8N: Prohibit intrusion of fuel modification programs into environmentally sensitive areas, including chaparral and coastal sage scrub.

Diamond/Crestview Specific Plan

Vegetation and Wildlife Resources Policies

- 1. Protect, preserve and restore streams, watercourses and riparian habitats in their natural state.
- 2. Protect mule deer watershed, cross-ridge dispersion corridors, and major bedding, fawning and foraging areas to the greatest extent feasible.
- 3. Promote the preservation of corridor connections north and south to link preserved lands onsite with the large off-site open spaces of Upper Bluebird/Rancho Laguna and Arch-Porta-Fina Canyons for maintenance of animal migration opportunities.
- 6. Protect endangered and candidate species of plants and animals.
- 7. Protect significant mature vegetation.
- 8. Protect high and very high value habitats.

Justification: Appendix A to the Initial Study includes a comprehensive list of the treatment protocols for fuel modification zones within the coastal zone. The fuel modification actions would follow strict vegetation removal protocols based on the sensitivity of species found in the FMZs, utilizing careful hand crew treatment to avoid and preserve sensitive species in a Moderate or High Value Habitat area. This procedure would ensure consistency with Coastal Act Section 30240, the Laguna Beach General Plan (Policies 7.6, 8C, 8G, and 8N), and Diamond/Crestview Specific Plan (Vegetation and Wildlife Policies 1, 2, 3, 6, 7, and 8).

Some areas within FMZ 16 and FMZ 19 are moderately disturbed by non-native and invasive annual species, rendering removal necessary for both fire protection and invasive management. In these areas, hand crews would remove the majority of non-native plants (non-native roots may remain in erosion-prone areas to minimize erosion), and in some instances, herbicide may be applied as spot treatments for non-native and/or invasive plants when necessary. Surveys by professional biologists have been completed to determine prescribed treatments for areas within each FMZ based on the species surveyed. Healthy native trees within the FMZs would not be removed, but simply pruned to clear dead branches and any other flammable material. Targeted removal of non-native and/or invasive species would be conducted within and surrounding the zones, consistent with Laguna Beach General Plan Policy 2.6 and Diamond Crestview Specific Plan Vegetation and Wildfire Resources Policies 6 and 8. These individualized treatments ensure that the project would be consistent with the aforementioned policies. Furthermore, continuing existing fire control methods, encouraging cooperation among residents, and annually monitoring FMZs would be consistent with Laguna Beach General Plan Policy 2.6 and Diamond Crestview Specific Plan Vegetation and Wildfire Resources Policies.

Coastal Act Section 30244

“Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.”

Laguna Beach General Plan: Open Space/Conservation Element

- Policy 12D: Preserve cultural/scientific sites, including geologically unique formations having archaeological significance.

Diamond/Crestview Specific Plan
Historic Preservation Policies

- 1. Encourage the preservation of historic structures through the City's Historic Preservation Ordinance
- 2. Inventory the neighborhood for significant historic structures.

Justification: The project would utilize the treatment protocols listed in Appendix A to the Initial Study, which require that FMZ 16 and FMZ 19 be evaluated for archaeological and paleontological resources in accordance with CEQA requirements. Per these treatment protocols, areas determined to have a presence of identified archaeological and/or paleontological resources may require modification or elimination of fuels treatment. Site-specific evaluations have been documented in Appendix D and Appendix F to the Initial Study, and no cultural and paleontological resources were found in FMZ 16 or FMZ 19 where surveys were feasible. Additionally, a Worker Environmental Awareness Training would be completed for cultural resources prior to project implementation, and a qualified archaeological monitor would be present when vegetation removal occurs on slopes less than 30 degrees to avoid impacts to unidentified potential cultural resources. A professional archaeologist would also be available on-call to identify and evaluate any previously unidentified cultural resources discovered during construction activities, and avoidance measures would be implemented. If human remains, or potential human remains are discovered, construction activities within 100 feet of the find would be immediately halted and the appropriate responsible public agency and the County Coroner would be immediately notified. These measures would ensure project consistency with Coastal Act Section 30244, the Laguna Beach General Plan (Policy 12D), and the Diamond Crestview Specific Plan Historic Preservation policies.

Article 6: Development Policies

Coastal Act Section 30251

"The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural landforms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting."

Laguna Beach General Plan: Land Use Element

- Policy 3.9: Maintain the landscape guidelines set forth in the City's Landscape and Scenic Highways Resource Document.

Laguna Beach General Plan: Open Space/Conservation Element

- Policy 7G: The Design Review process for an individual project shall include criteria for treatment of the urban edge between existing development and open space in areas designated

"Residential/Hillside Protection" on the Land Use Plan Map. The criteria shall be developed to reflect topographic constraints and shall include at a minimum:

a. Treatments to screen development, including the use of vegetation, variable setbacks and modified ridgelines or berms;

b. Fuel modification techniques for new development which provide the following: result in graduated fuel modification zones in which the minimum amount of native vegetation is selectively thinned; prohibit grading or discing for fuel modification; confine fuel modification to the development side of the urban open space edge to the maximum extent; avoid fuel modification encroachment into environmentally sensitive areas; locate structures with respect to topographic conditions to incorporate setbacks, minimize fuel modification requirements and maximize hazards; and provide requirements for ongoing maintenance.

c. Treatments for fuel modification and maintenance techniques for existing development consistent with standards in (b) above to the maximum extent feasible.

Justification: The fuel modification project is consistent with Coastal Act Section 30251 and the Laguna Beach General Plan (Policies 3.9 and 7G). FMZ 16 and FMZ 19 are located directly along the wildland-urban interface along residential and institutional development. Urban structures adjacent to undeveloped land are considered at high risk during fire season due to their proximity to heavily vegetated hillsides and steep slopes. The fuel breaks would provide defensible space for structures in the City of Laguna Beach from heavy-load chaparral fuels, reduce potential wildfire intensity and flame length, and reduce the risk of wildfire from spreading to high value habitat. Fuel modification activities would only occur within their respective zones and be limited to 100-foot widths. Once fuel breaks are established, annual maintenance of approved methods (mowing and hand crew removal in appropriate locations) would occur. Furthermore, consistent with Policy 7G, the proposed project would target full removal of non-native species, with selective thinning of native vegetation and avoidance of sensitive and rare species such as Coulter's Matilija poppy and big-leaved crownbeard.

Coastal Act Section 30253

"New development shall do all of the following:

(a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.

(b) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

(c) Be consistent with requirements imposed by an air pollution control district or the State Air Resources Board as to each particular development.

(d) Minimize energy consumption and vehicle miles traveled.

(e) Where appropriate, protect special communities and neighborhoods that, because of their unique characteristics, are popular visitor destination points for recreational uses."

Laguna Beach General Plan: Land Use Element

- Policy 9.3: Ensure that the City is adequately prepared for potential hazards and natural disasters.

- Policy 10.6: Require all fuel modification to be located within the site being developed. Exceptions may be granted for existing legal building sites when findings can be made by the approval authority that other alternatives are not available, and a strict application of this provision would endanger environmentally sensitive resources or deny a property owner reasonable use of an already existing legal building site. Fuel modification performed by private property owners cannot go beyond property lines without agreement by the adjacent property owners. Fuel modification on public land to protect existing development should be avoided whenever feasible; if avoidance isn't feasible, measures must be employed to minimize the amount of fuel modification necessary on public land.

Laguna Beach General Plan: Open Space/Conservation Element

- Policy 10G: Fuel modification plans, where appropriate shall be included within the boundary of the developed land use zone.

Laguna Beach General Plan: Safety Element

- Policy 4B: Review and continually maintain each year the City's fuel modification program.
- Policy 4C: Work with adjacent local jurisdictions and agencies on the ongoing implementation of the City's fuel modification program.
- Policy 4G: Educate and inform the public on fire safety, especially regarding landscaping installation and maintenance in urban areas, to further protect the community and the environment from unnecessary fire hazards.
- Policy 4H: Require that new development located within wildland interface areas reduce the threat of wildfires through fuel modification, fire resistive construction and defensible space management consistent with the following Fuel Modification Guidelines and in compliance with the Fuel Modification Exhibit (Figure IV-1):

  (a) Prohibit combustible structures, including but not limited to wood decks, sheds, gazebos and wood fences, within the 20-foot minimum width of Zone A.

  (b) Require irrigation systems to be installed and operated within Zone A to ensure a reasonable moisture content in planted areas.

  (c) Discourage the planting of trees and vegetation which produce excessive fuel or litter within Zone A.
- Policy 4N: As a condition of new development, require private responsibility for development and maintenance of fuel modification zones and programs, including a recorded deed restriction acknowledging the fire hazard potential and maintenance responsibility by the developer or his successors and assigns.
- Policy 4O: Encourage property owners to create defensible space surrounding their homes, including providing access for firefighters, maintenance of plantings and outdoor areas and minimizing combustible structures.
- Policy 4P: Encourage property owners to consider "fire-wise" planting, especially in landscapes in areas adjacent to the wildlands interface.

Diamond/Crestview Specific Plan
Natural Hazards Policies

- 1. Development in potential geologic hazard areas shall be permitted, only if a comprehensive geological and soils report is prepared pursuant to Title 22 of the City's Municipal Code, and adequate mitigation measures, which have been approved by the City, are implemented. Building in geologically unstable areas, flood-prone lands, and slopes subject to erosion and slippage should be avoided if at all possible.
- 2. Require site-specific geotechnical investigation for all future development. These site investigations should include subsurface investigation, characterization of geological site conditions, analysis of slope stability, and recommendations for appropriate foundation and grading design.
- 4. Evaluate possible increased erosion along canyon bottoms and resultant destabilization of adjacent properties by undercutting of canyon side slopes on a site-specific basis.
- 5. Before development occurs, establish the capacity of downstream drainage systems and where necessary, construct off-site improvements so that downstream capacity is not adversely impacted.
- 6. Promote the use of fire protection techniques such as appropriate building materials, protective devices, interior and exterior sprinkler systems and fuel modification.
- 7. Assure emergency access at all times.
- 8. Restrict pedestrian access to slopes steeper than 1 to 1 in order to safeguard health and safety by reducing slope erosion and falling hazards.
- 9. Encourage the use of fire retardant and drought resistant landscaping that requires less water.

Justification: The project would utilize the treatment protocols listed in Appendix A to the Initial Study, which require that FMZ 16 and FMZ 19 be evaluated by a qualified geologist for geological stability and flood/debris movement potential. Per these treatment protocols, areas determined to be geologically unstable may require modification or elimination of fuels treatment. Site-specific evaluation has been documented in Appendix B to the Initial Study, and subsequent modifications to fuels treatment have been incorporated into the project as mitigation to avoid impacts resulting from geological instability or erosion and ensure project consistency with Coastal Act Section 30253.

The proposed project is consistent with the requirements of the Laguna Beach General Plan (Policies 4B and 4C) regarding annual maintenance of the City's fuel modification program and coordinating with local jurisdictions and agencies. FMZ 16 and FMZ 19 would be annually maintained into perpetuity using approved methods to control invasive vegetation. Furthermore, the proposed fuel modification satisfies the requirements of the Laguna Beach General Plan (Policies 9.3, 10.6, 10G, 4G, 4H, 4N, 4O, and 4P) and Diamond/Crestview Specific Plan Natural Hazards Policies 6 and 9 regarding increasing safety from fire hazards and creating defensible space around development. FMZ 16 and FMZ 19 would be located around development that is vulnerable to wildfire hazards, as the surrounding environment consists of heavily vegetated steep topography. FMZ 16 and FMZ 19 would provide defensible space between manmade structures and wildfires, reducing thermal outputs and flame lengths. Additionally, the proposed fuel modification is consistent with the Diamond/Crestview Specific Plan (Natural Hazards Policies 1, 2, 4, 5, 7, and 8) regarding identifying geologic hazards and establishing precautions and maintaining drainage system capacity and emergency access.

References

California Coastal Commission. 2023. Public Resources Code Division 20, California Coastal Act. [online]: https://www.coastal.ca.gov/coastact.pdf. Accessed October 12, 2023.

City of Laguna Beach. 1992. Resolution No. 92.014: A Resolution of the City Council of the City of Laguna Beach Approving and Adopting its Local Coastal Program Pursuant to the California Coastal Act of 1976. Adopted February 18. [online]: http://www.lagunabeachcity.net/civicax/filebank/blobdload.aspx?t=41949.64&BlobID=23490. Accessed December 12, 2023.

_____. City of Laguna Beach. 2010. Diamond/Crestview Specific Plan. Accessed November 11, 2023. [Online]: https://www.lagunabeachcity.net/home/showpublisheddocument/260/637360447937670000.

_____. 2012. City of Laguna Beach General Plan, Land Use Element. Adopted by the City Council on February 7, 2012. [online]: https://www.lagunabeachcity.net/home/showpublisheddocument/8146/638001338428230000. Accessed October 12, 2023.

_____. 2020. Informational Guide for a Coastal Development Permit. Revised December 30. [online]: http://www.lagunabeachcity.net/civicax/filebank/blobdload.aspx?blobid=8761. Accessed October 15, 2023.

_____. 2023a. City of Laguna Beach Local Coastal Program. [online]: https://www.lagunabeachcity.net/government/departments/community-development/planning-zoning/land-use-plans/local-coastal-program. Accessed October 16.

_____. 2023b. Arch Beach Heights Specific Plan. Accessed November 7, 2023. [Online]: https://ecode360.com/42900648?highlight=&searchId=8385970954419183#42900650.