Initial Study and Mitigated Negative Declaration

Public Review Draft

BLUEBIRD CANYON AND PARK AVENUE FUEL MODIFICATION PROJECTS

Prepared for:

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

Technical Support Provided by:

Aspen environmental group

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March 2022

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Initial Environmental Study / Checklist
City of Laguna Beach, California

1. Project Title

Bluebird Canyon and Park Avenue Fuel Modification Projects

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

Mike Rohde, Program Manager
Laguna Beach Fire Department
Wildland Fire Defense & Fuels Management
Office: (949) 464-6683

4. Project Location

Two fuel modification projects are proposed in the City of Laguna Beach and unincorporated County of Orange, California: Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. The Bluebird Canyon Fuel Modification Project includes fuel management zone (FMZ) 17 (Upper Bluebird Canyon) and FMZ 18 (South Bluebird Canyon). The Park Avenue Fuel Modification Project includes FMZ 22 (Park Avenue). The location of both projects in relation to one another is indicated in Figure 1 (Note: All figures are provided at the end of this section).

FMZ 17 begins on the south side of Temple Hills Drive east of San Remo Drive, generally follows along Temple Hills Drive to the east to Dorn Court, then south along Zell Drive and Bernard Court, and ends near Sommet Du Monde. FMZ 18 includes three areas along Bluebird Canyon Drive: (1) east of Summit Drive, (2) south of Bluebird Canyon Drive and north of Rancho Laguna Road, and (3) north of Summit Drive and La Mirada Street. FMZs 17 and 18 would reduce vegetation along approximately 1.6 linear miles covering 17.8 acres.

FMZ 22 extends along Park Avenue, west of Hidden Valley Canyon Road, ending east of Wendt Terrace and Temple Hills Drive. FMZ 22 would reduce vegetation along approximately 7.2 acres on either side of Park Avenue, a local evacuation roadway.

5. Project Sponsor's Name and Address

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

6. General Plan Designations

FMZs 17, 18, and 22 would all traverse the following General Plan Designations: POS (Permanent Open Space), RHP (Residential/Hillside Protection), and VLD (Village Low Density). A small portion of FMZ 17 would traverse unincorporated County of Orange-designated Open Space Reserve.

7. Zoning

FMZ 17 traverses the following Land Use Zones: AR (Agriculture-Recreation Zone), OSC (Open Space/Conservation Zone), OSP (Open Space/Passive Zone), R1 (Residential Low Density Zone), and RHP (Residential Hillside Protection). A small portion of FMZ 17 would traverse Open Space zoned within unincorporated County of Orange.

FMZ 18 traverses the following Land Use Zones: OSC (Open Space/Conservation Zone), OSP (Open Space/Passive Zone), R1 (Residential Low Density Zone), and RHP (Residential Hillside Protection).

FMZ 22 traverses the following Land Use Zones: OSC (Open Space/Conservation Zone), OSP (Open Space/Passive Zone), and RHP (Residential Hillside Protection).

8. Description of the Project

The City of Laguna Beach Fire Department (LBFD) proposes to apply fuel management practices in the Bluebird Canyon area and along Park Avenue primarily within the City of Laguna Beach California, with a small portion of FMZ 17 within unincorporated County of Orange (see Figure 1). The fuel management activities are separated into two projects, the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project (collectively referred to herein as proposed projects), as discussed below.

Background. The projects sites have experienced historic wildfires due to their relatively undeveloped surroundings. Since the 1950s, the City of Laguna Beach has maintained a system of fuel breaks for protection from wildfires. The City currently maintains 27 FMZs managed by goat-grazing and manual removal. Participating partners for the proposed projects include LBFD, the United States Department of Homeland Security's Federal Emergency Management Agency (FEMA), and California Office of Emergency Services (Cal OES). LBFD received a joint FEMA-Cal OES grant from the Hazard Mitigation Grant Program to fund fuel modification activities in FMZs 17, 18, and 22. The grant funds both projects for three years (first year for environmental studies and permitting, and last two years for construction). FEMA has determined that the Park Avenue Fuel Modification Project satisfies the requirements of the National Environmental Policy Act, as it is covered under the Region IX Programmatic Environmental Assessment Category Section 2.5.1, Mechanical or Hand Clearing of Vegetation (FEMA, 2020a).

The projects lie 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 the wildland-urban interface around approximately 400 homes and Park Avenue, a crucial evacuation route. LBFD would oversee the construction and maintenance of the fuel breaks in FMZs 17, 18, and 22. All fuel management activities within FMZs 17, 18, and 22 would be conducted to reduce available vegetation for potential wildfire ignition within 100 feet of homes in FMZ 17 and 18 and within 50 feet of either side of Park Avenue in FMZ 22.

In August 2020, FEMA submitted an Endangered Species Act Review Form to request coverage for the Park Avenue Fuel Modification Project (FMZ 22) under the U.S. Fish and Wildlife Service (USFWS) Programmatic Biological Opinion (PBO) issued by the Carlsbad Fish and Wildlife Office. USFWS indicated that the area of potential impact exceeded levels allowable under the PBO. Subsequent coordination

between USFWS and FEMA identified the development of a Biological Assessment requesting formal consultation on a "likely to adversely affect" determination as being the best path forward (FEMA, 2020b). A Biological Assessment was prepared which identifies suitable California gnatcatcher habitat and concludes that the species is reasonably likely to occur in FMZ 22. The Park Avenue Fuel Modification Project's noise, dust generation, and human presence may disturb and displace California gnatcatcher; however, the Biological Assessment determines that with implementation of best management practices (BMPs) and avoidance and minimization measures (AMMs) (see "BMPs, AMMs, and Conservation Measures" below), potential adverse effects to California gnatcatcher and nests would be avoided or reduced to the maximum extent practicable (FEMA, 2020b).

Bluebird Canyon Fuel Modification Project. The Bluebird Canyon Fuel Modification Project includes FMZ 17 (Upper Bluebird Canyon) and FMZ 18 (South Bluebird Canyon) and is funded by a grant from FEMA and Cal OES. The Bluebird Canyon Fuel Modification Project would create a 100-foot zone of cleared vegetation in FMZs 17 and 18 for a total of approximately 17.8 acres across about 1.6 linear miles to reduce the risk of wildfire for residences in the Bluebird Canyon area (see Figures 2 and 3).

Fuel management is expected to be achieved utilizing hand crews within FMZs 17 and 18; however, some areas may be treated through goat-grazing if determined to be suitable. 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 Bluebird Canyon Fuel Modification Project would reduce fire line intensity, reduce wildfire rates of spread, and improve occupant safety.

FMZ 17 consists of approximately 8.6 acres and is on the south side of Temple Hills Drive and west of Zell Drive and Bernard Court, behind residential properties (see Figure 2). A small portion of the southern end of FMZ 17 would be within Aliso and Wood Canyons Wilderness Park. Table 1 provides the recommended access points to reach FMZ 17 treatment areas.

FMZ 18 consists of three areas of approximately 9.2 acres and is on the south side of Bluebird Canyon Drive and north of Summit Drive (see Figure 3). Table 2 provides the recommended access points to reach FMZ 18 treatment areas.

Daily staging of vehicles and materials for the Bluebird Canyon Fuel Modification Project would occur along residential streets near access points for FMZs 17 and 18.

Table 1: FMZ 17 (Upper Bluebird Canyon) Access Points

1.	2095 Temple Hills Dr.
2.	2395 Temple Hills Dr.
3.	2475 Temple Hills Dr.
4.	End of Dorn Ct.
5.	2827 Alta Laguna Blvd.
6.	10 Top of the World Dr.
7.	End of Sommet du Monde

Table 2: FMZ 18 (South Bluebird Canyon) Access Points	
1.	Cress St. and Bluebird Canyon Dr.
2.	Rancho Laguna Rd. and Morningside Dr.
3.	Summit Way and Summit Pl.
4.	Summit Dr. and Baja St.
5.	End of Katella St.
6.	North end of La Mirada St.

Park Avenue Fuel Modification Project. The Park Avenue Fuel Modification Project includes FMZ 22 (Park Avenue) and is funded by FEMA's Hazard Mitigation Grant Program. This project would create a 50-foot zone of cleared vegetation on either side of Park Avenue, a local evacuation roadway, in FMZ 22 for a total of approximately 7.2 acres (see Figure 4). No goats would be used in FMZ 22 due to geological stability concerns. Fuel management would be achieved by hand crews on both sides of Park Avenue. Large shrubs would be trimmed, and six existing trees (five pines and one palm) would be pruned and left in place. Roots would remain in place to provide soil stabilization, and most of the fuel modification would be completed without ground disturbance. The highest degree of ground disturbance would occur with the removal of invasive species, requiring excavation to a depth of approximately 6 to 8 inches. Ground disturbance would occur in less than one percent of the FMZ 22 footprint. Vegetation removal would be conducted by hand clearing using chainsaws, loppers, and other hand tools. Vegetative waste would be removed from the site or reused for erosion control. The Park Avenue Fuel Modification Project would provide defensible space along this critical evacuation roadway, allowing for safer evacuation and emergency access during a wildfire.

FMZ 22 extends along Park Avenue, west of Hidden Valley Canyon Road and ends east of Wendt Terrace and Temple Hills Drive (see Figure 4). Daily construction staging for equipment and materials would be along Park Avenue and removed at the end of each workday. Vehicles would be parked in off-site staging areas including paved or graded areas with no vegetation along Park Avenue. Treatment areas within FMZ 22 would be accessed directly from Park Avenue.

Project work in FMZ 22 would avoid California gnatcatcher breeding season to the maximum extent feasible. However, should work be required during the California gnatcatcher breeding season, species-specific AMMs, as described below, would be implemented as part of the Park Avenue Project to reduce potential effects to the species.

Fuel Modification Implementation. The City's fuel modification zone 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 projects have been designed using the City's treatment protocols. Fuel modification activities in FMZs 17, 18, and 22 would reduce fuel loads up to 50 percent, prioritizing the removal of non-native species and dead or dying plants first; if 50 percent reduction in wildfire fuel 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 fuel modification treatment protocols (Appendix A and listed below under "Hand Crew Removal") 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 17 and 18 is expected to primarily consist of hand removal with the option of the cost-saving method of goat-grazing in select areas if determined to be suitable. Management within FMZ 22 would exclusively use 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 would include strategic placement of cut native vegetative material and the installation of straw waddles and bales as prescribed by a geotechnical study completed prior to vegetation removal (FEMA, 2020b). Prudent herbicide use may be used only in cases of spot 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.

Biological surveys conducted by Glenn Lukos Associates (GLA) provide treatment recommendations for FMZ 17 (see Figure 2) and FMZ 18 (see Figure 3) based on habitat type and existence of any sensitive species within the zones. Recommended acreage for each treatment type is provided in Table 3.

Table 3: Proposed Treatment in FMZs 17 and 18 by Acreage

Treatment Methods	FMZ 17	FMZ 18
Hand or Goat	8.1	8.5
Stream buffers (invasive control only)	0.5	0.7
Total	8.6	9.2

Source: GLA, 2021 (#7)

Reconnaissance-level biological surveys conducted by Glenn Lukos Associates provide treatment recommendations for FMZ 22 (see Figure 4) based on habitat type and existence of sensitive species within the zones. Recommended acreage for each treatment type is provided in Table 4.

Table 4: Proposed Treatment in FMZ 22 by Acreage

Treatment Methods	FMZ 22
Hand	6.5
Stream buffers (invasive control only)	0.7
Total	7.2

Source: GLA, 2021 (#7)
Note: Final determination of the fuels treatment areas within FMZ 22 will be based on the results of Spring 2021 field surveys, which have not yet been completed due to Grant timing considerations. Data presented herein is representative of the maximum potential extent of the area.

Fuel Management Zone Treatment Protocols

Goat-grazing. Hand treatment is the expected method for fuel treatment in FMZs 17 and 18, but goat-grazing may be utilized in select areas (to be determined). As described in the *Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting* (see Appendix A), goat-grazing within FMZs 17 and 18 would follow the below listed treatment protocols. This method of vegetation removal may only be used in areas of Low to Moderate Habitat Value in FMZs 17 and 18 as defined in the *Laguna Beach Biological Resources Inventory* (See "Habitat Classification" in Appendix A). If goat-grazing is used within FMZs 17 and 18, a estimated maximum of 64 goats would be transported in one trip via trailer from

Hemet, California and penned on site during the duration of the project. Upon project completion, the goats would be returned to Hemet in another single trip via trailer.

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. To ensure consistency with the CalVTP (see Appendix H), wild-life friendly fencing, approved by the project biologist, would be utilized. Fencing would have features that allow wildlife to pass over while minimizing entanglement and/or injury. Fencing would be able to flex as animals pass over it, and the top wire would be no higher than approximately 40 inches high above flat ground or as appropriate depending on slope. Fencing would be highly visible to birds and mammals by using high-visibility tape, wire, flagging, or other markers.

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 percent of the native and 100 percent 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 percent of the vegetative cover 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 Removal. As described in the *Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting* (see Appendix A), hand crew treatment would be used in areas of High or Very High Habitat Value as defined in the *Laguna Beach Biological Resources Inventory* (See "Habitat Classification" in Appendix A) in compliance with the California Coastal Act. Up to 30 hand crew workers (3 groups of 10 workers each in each of the FMZs [17, 18, and 22]) would be working in an FMZ at a given time. The average crew size would be 10 workers. 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 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 FMZs, 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 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 (*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.

As described in *Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting* (see Appendix A), ephemeral water drainages or stream courses would be treated if invasive plant species such as pampas grass is found. The primary invasive vegetation treatment would be

herbicide application within a flagged 25-foot buffer on either side of any "blue-line" drainage or stream that cross the treatment areas as defined by a USGS map or City Website. 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.

Small amounts of herbicides averaging approximately 2 to 5 gallons per 10 acres may be used for spot treatment of invasive species as identified and determined by a biologist. Herbicide treatment would be specific and limited to its intended use to not pose any risk to nearby sensitive species or water courses. Herbicides would never be used on a landscape scale to remove large expanses of vegetation. Herbicide applications contracted by the City would be completed by licensed applicators in compliance with applicable federal, state, and local regulations.

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 brush clippings, straw wattles, straw bales, and/or jute netting) would be installed as necessary for additional protection without being obtrusive, as recommended by the project geotechnical report (provided as Appendix E). 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 *Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting*, 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 projects, chipped native vegetation and mulch would be reused for erosion control within the project site. Chipped waste, excluding non-native and/or invasive waste, may also be deposited over bare earth to a maximum depth of 10 to 12 inches for dust control within the FMZs. 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, fuel break maintenance would be conducted by the City of Laguna Beach. The City would maintain fuel breaks by mowing, weeding, trimming, and controlling invasive vegetation, which may include spot treatment with herbicides.

BMPs, AMMs, and Conservation Measures. In consultation with FEMA and as part of FEMA's Biological Assessment and the USFWS's Biological Opinion for the Park Avenue Fuel Modification Project, the City would implement the following BMPs and standard conditions within FMZ 22 (FEMA, 2020a, 2020b; USFWS, 2021).

- Limit hours of operation to 8:00 a.m. to 5:00 p.m. Monday through Friday.
- Complete the project during the dry season.
- Use erosion control measures as prescribed by the geotechnical study.
- Adhere to Coastal Commission-required standards and to the City's Vegetation Management Treatment Protocol.
- Place native vegetation cuttings to reduce dust and erosion.
- Remove invasive weeds from the site.
- Park work vehicles in paved areas to the extent practicable.
- Limit fuels removal to only that percentage of vegetation necessary to achieve required fire behavior (50 percent reduction 50 feet from each side of Park Avenue).
- Monitor ground disturbance activities. If any potential archeological resources are discovered, construction shall immediately cease in that area, and the State and FEMA shall be notified.

Additionally, per FEMA's Biological Assessment and USFWS Carlsbad Fish and Wildlife Office, the following general AMMs and conservation measures (CMs) would be implemented within FMZ 22.

- AMM 1. Dust Control Measures
  - To reduce dust, all traffic navigating through or within the project area will be restricted to a speed of 15 miles per hour.
  - Stockpiles of material that are susceptible to wind-blown dispersal will be covered with plastic sheeting or other suitable material to prevent movement of the material.
  - During construction, water or other binding materials will be applied to disturbed ground that may become windborne. If binding agents are used, all manufacturers' recommendations for use will be followed.
- AMM 2. Spill Control Planning
  - The City will prepare a Spill Prevention and Pollution Control Plan to storage of hazardous materials and emergency cleanup of any hazardous material and will be available onsite, if applicable. The plan will incorporate hazardous waste, storm water, and other emergency planning requirements.
- AMM 3. Spill Prevention and Pollution Control Measures
  - The City will exercise every reasonable precaution to protect covered species and their habitats from pollution due to fuels, oils, lubricants, or other harmful materials. Project-related pollutants will be collected and transported to an authorized disposal area, as appropriate, per all Federal, State, and local laws and regulations.
  - No petroleum product chemicals, silt, fine soils, or any substance or material deleterious to covered species will be allowed to pass into or be placed where it can pass into a stream channel. There will be no side casting of material into any waterway.
  - No petroleum-based products (e.g., asphalt) will be used as a stabilizing material.
- AMM 4. Equipment Inspection and Maintenance
  - Well-maintained equipment will be used to perform the work and, except in the case of a failure or breakdown, equipment maintenance will be performed offsite. Equipment will be inspected daily by the operator for leaks or spills. If leaks or spills are encountered, the source of the leak will be identified, leaked material will be cleaned up, and the cleaning materials will be collected and properly disposed. Fueling of equipment will be conducted in accordance with procedures to be developed in the Spill Prevention and Pollution Control Plan.
  - Vehicles and equipment that are used during the course of a project will be fueled and serviced in a "safe" area (i.e., outside of sensitive habitats) in a manner that will not affect covered species or their

habitats. Spills, leaks, and other problems of a similar nature will be resolved immediately to prevent unnecessary effects on covered species and their habitats. A plan for the emergency cleanup of any spills of fuel or other material will be available onsite, and adequate materials for spill cleanup will be maintained onsite.

- AMM 5. Fueling Activities
  - AMMs will be applied to protect federally listed species and their habitats from pollution due to fuels, oils, lubricants, and other harmful materials. Vehicles and equipment that are used during project implementation will be fueled and serviced in a manner that will not affect federally listed species or their habitats. Machinery and equipment used during work will be serviced, fueled, and maintained on uplands to prevent contamination to surface waters. Fueling equipment and vehicles will be kept more than 200 feet away from waters of the State.
- AMM 6. Materials Storage and Disposal
  - Stockpiled soils will be adequately covered to prevent sedimentation from runoff and wind. All hazardous materials will be stored in upland areas in storage trailers and/or shipping containers designed to provide adequate containment. Short-term laydown of hazardous materials for immediate use will be permitted provided the same containment precautions are taken as described for hazardous materials storage. All project-related materials, wastes, debris, sediment, rubbish, trash, and fencing will be removed from the site once project construction is complete and transported to an authorized disposal area, as appropriate, in compliance with applicable Federal, State, and local laws and regulations. No disposal of construction materials or debris will occur in a floodplain. No storage of construction materials or debris will occur in a floodplain during flood season.
- AMM 7/CM 1. Fire Prevention
  - With the exception of vegetation-clearing equipment, no vehicles or construction equipment will be operated in areas of tall, dry vegetation.
  - The City will develop and implement a fire prevention and suppression plan for all maintenance and repair activities that require welding or otherwise have a risk of starting a wildfire. Also, fire extinguishers will be required for all vehicles used within or adjacent to undeveloped open spaces.
- AMM 8/CM 2. Waste Management
  - The work area will be kept free of loose trash, including small pieces of residual construction material, such as metal cuttings, broken glass, and hardware.
  - All food waste will be removed from the site on a daily basis.
  - All construction material, wastes, debris, sediment, rubbish, vegetation, trash, and fencing will be removed from the site once the project is completed and will be transported to an authorized disposal area, as appropriate, per all Federal, State, and local laws and regulations.
- AMM 9. Work Area Designation to Minimize Disturbance
  - The City will reduce, to the maximum extent practicable, the amount of disturbance at a site to the absolute minimum necessary to accomplish the project. Wherever possible, existing vegetation will be salvaged from the project area and stored for replanting. If topsoil is to be removed, then it will be stockpiled, covered, and encircled with silt fencing to prevent loss or movement of the soil into covered species habitats. All topsoil will be replaced in a manner to recreate pre-disturbance conditions as closely as possible.

- Project planning must consider not only the effects of the action itself, but also all ancillary activities associated with the actions, such as equipment staging and refueling areas, topsoil or spoils stockpiling areas, material storage areas, disposal sites, routes of ingress and egress to the project site, and all other related activities necessary to complete the project.

- AMM 10/CM 3. Environmental Awareness Training for Construction Personnel
  - All project personnel will be given environmental awareness training by the project's environmental inspector or biological monitor before the start of project. The training will familiarize all project personnel with the threatened and endangered species that may occur onsite, their habitats, general provisions and protections afforded by the Endangered Species Act, measures to be implemented to protect these species, and the project boundaries. This training will be provided within three days of the arrival of any new worker.
  - As part of the environmental awareness training, project personnel will be notified that no dogs or any other pets under control of project personnel will be allowed in the project area, and that no firearms will be permitted in the project area, unless carried by authorized security personnel or law enforcement.

- AMM 11/CM 4. Biological Monitor
  - A Carlsbad Fish and Wildlife Officer-approved biological monitor will be present throughout the 17-acre project area throughout the life of the project and monitor for all project activities that occur within presumed occupied habitats for federally listed species (i.e., California gnatcatcher). The City will submit the biological monitor's qualifications to the Carlsbad Fish and Wildlife Office for approval 30 days prior to project activities. The biological monitor will ensure that all applicable AMMs are implemented during project implementation. The biological monitor will also ensure that all vehicles entering the site are free of debris that may harbor organisms that could be introduced to the site, such as vegetation or mud from other aquatic areas. The biological release of materials such as dust or runoff are controlled and that spill control measures are enacted properly.
  - Approval requests from the City for Service-approved biologists shall include, at a minimum: Relevant education; relevant training concerning the listed species for which approval is requested; a summary of field experience conducting requested activities (to include project/research information); a summary of biological opinions under which they were authorized to work with the requested species and at what level (such as construction monitoring versus handling), this will also include the names and qualification of persons under which the work was supervised as well as the amount of work experience on the actual project; a list of Federal Recovery Permits [10(a)1(A)] held or under which they are authorized to work with the species requested (to include the permit number, authorized activities and name of permit holder); and any relevant professional references with contact information.

Species-specific AMMs to avoid or minimize adverse effects to California gnatcatcher would include the following.

- AMM 12/CM 5. Work Restrictions Near Active Nests (if work occurs during the breeding season)
  - If an active nest is detected during the biological monitoring, either work will be suspended until the young have fledged or the following will apply:
  - An exclusionary buffer will be established around the nest. The buffer distance will be determined by the Carlsbad Fish and Wildlife Office-approved biologist considering several factors: presence of natural buffers (vegetation/topography), nest height, location of foraging territory, nature of the

proposed activities, and baseline levels of noise and human activity. The buffer may range from 50 feet to over 300 feet in width;

- If an exclusion zone is established, a Carlsbad Fish and Wildlife Office-approved biologist will monitor the nest during construction for signs of adverse effects including distress/disturbance. If adverse effects are detected, then the Carlsbad Fish and Wildlife Office-approved biologist will have the authority to stop all construction activating in the vicinity of the nest and coordinate with the Carlsbad Fish and Wildlife Office to determine whether additional conservation measures can avoid or minimize effects on the nesting birds. Construction may resume only with approval from the Carlsbad Fish and Wildlife; or
- The biologist will continue to monitor the nest and will determine when young have fledged. Once young have left the nest the buffer and exclusion zone may be removed and construction activities within these areas may resume.

- AMM 13/CM 6. Habitat Avoidance
  - Project impacts will be avoided or minimized in coastal sage scrub, alluvial fan scrub, and other vegetation communities known or assumed to be occupied by the gnatcatcher. Staging and temporary construction areas will be located outside of suitable habitat and will use existing roads and developed areas to the maximum extent possible. If impacts to these habitats cannot be avoided, effects to gnatcatcher individuals will be avoided or minimized through implementation of the measures listed above.

Notification. As is standard practice, prior to implementation of initial fuel modification activities, as well as follow-up maintenance, the LBFD would notify the public through several means, including posting signs in a conspicuous location near the treatment area describing the activity (including any herbicide use) and timing, and requesting persons in the area to contact a designated project representative (contact information to be provided with the notice) if they have questions or concerns. Similar information would also be posted on the City's website and in the local newspaper.

Schedule. Fuel modification activities in FMZs 17, 18, and 22 are expected to occur simultaneously over the course of approximately two years. 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. The FEMA Hazard Mitigation Grant Program is a phased contract that denotes initial clearing of vegetation in July 2022 and ending in July 2024. The schedule would be influenced by two limiting factors: (1) the rainfall/winter season for geotechnical stability reasons, and (2) the California gnatcatcher breeding season (February 15 through August 31). 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 overall landscape of both projects is minimally developed and consists of heavy chaparral and coastal sage scrub, along with populations of non-native and invasive plant species in highly disturbed areas near residences. FMZ 17 and FMZ 18 are located at the lower elevations of relatively steep canyon slopes, which residences at the top. FMZ 22 is bounded on the east and west by residences, runs along both sides of Park Avenue at the bottom of a steep canyon, with predominantly open space to the north and south.

The land use surrounding FMZ 17 is low-density single-family residential. A small portion of the southern end of FMZ 17 would occur within Aliso and Wood Canyons Wilderness Park with access to the Top of the World trailhead from Sommet Du Monde. The land use surrounding FMZ 18 is low-density single-family residential and agricultural. The land surrounding FMZ 22 is open space and low-density single-family residential.

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, California Coastal Commission
- Consultation under Section 7(a)(2) of the Endangered Species Act, U.S. Fish and Wildlife Service,
- Consultation under Section 7(a)(2) of the Endangered Species Act, National Marine Fisheries Service

Attachments

Figure 1: Bluebird Canyon and Park Avenue Fuel Modification Projects Location Map

Figure 2: Fuel Modification Zone 17 (Upper Bluebird Canyon) Treatment Area

Figure 3: Fuel Modification Zone 18 (South Bluebird Canyon) Treatment Areas

Figure 4: Fuel Modification Zone 22 (Park Avenue) Treatment Areas

FOR HARD COPIES, APPENDICES ARE PROVIDED ON CD

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

Appendix B: Air Quality Calculations

Appendix C: Biological Resources Data

- Interim Memo Regarding Results of Ongoing Biological Surveys for Fuel Modification Zones 17, 18, and 22 in the City of Laguna Beach, Orange County, California
- Results of Protocol Coastal California Gnatcatcher Surveys for the Fuel Modification Zones 17 and 18 Project, Located in the City of Laguna Beach, Orange County, California

Appendix D: Cultural Resources Assessment Report for the Bluebird Canyon and Park Avenue Fuel Modification Projects

Appendix E: Geotechnical Reports

- Update Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program, Zone 17, Upper Rim Rock Canyon Area, Laguna Beach, California
- Update Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program Zone 18, Southern Bluebird Canyon Area, Laguna Beach, California
- Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program Zone 22, Lower Park Avenue Area, Laguna Beach, California

Appendix F: Paleontological Resources Memorandum for the Bluebird Canyon and Park Avenue Fuel Modification Projects

Appendix G: Policy Consistency Analysis Memo

Appendix H: CalVTP Consistency Analysis

Figure 1: Bluebird Canyon and Park Avenue Fuel Modification Projects Location Map

Figure 2: Fuel Modification Zone 17 (Upper Bluebird Canyon) Treatment Area

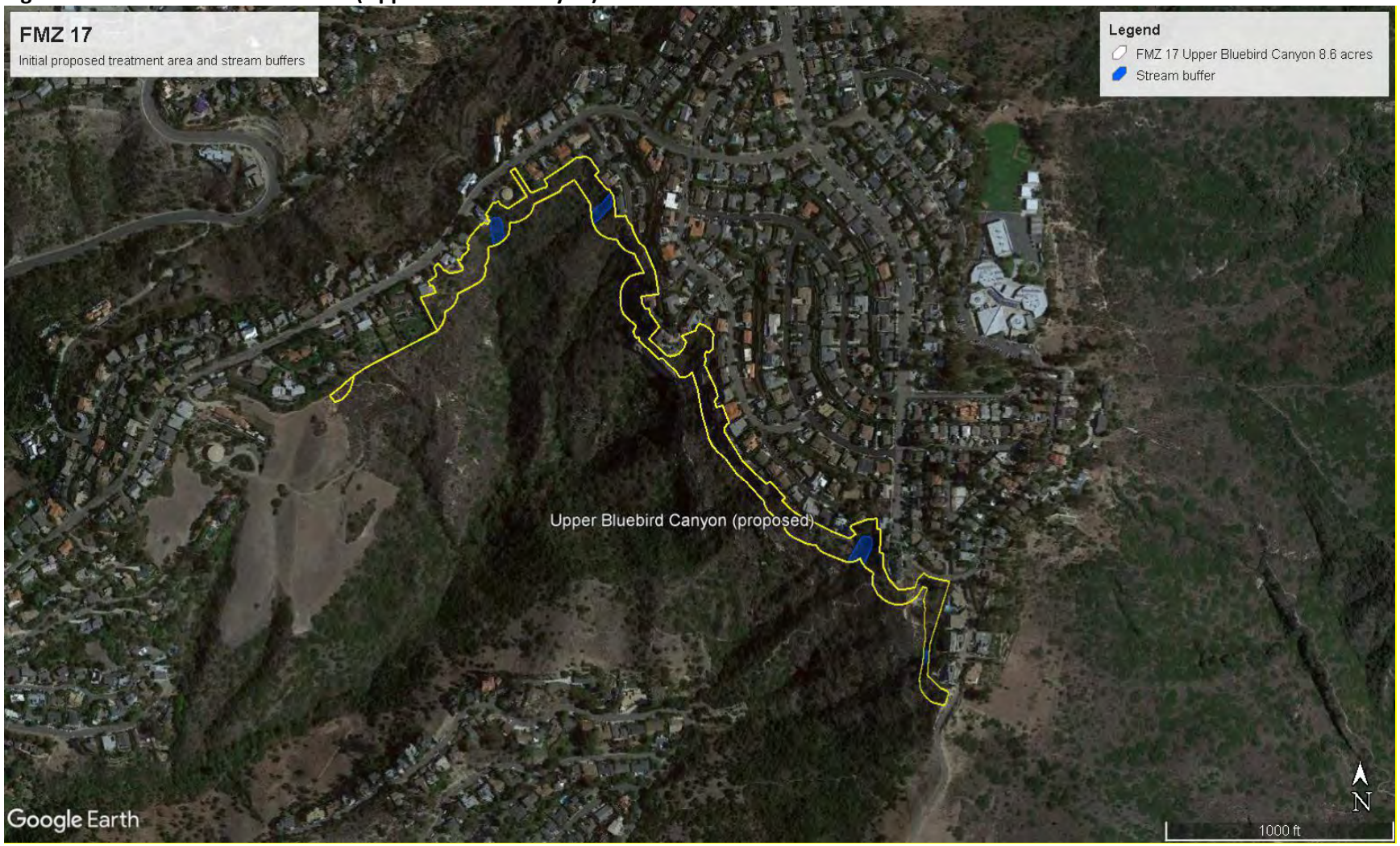


Figure 3: Fuel Modification Zone 18 (South Bluebird Canyon) Treatment Areas

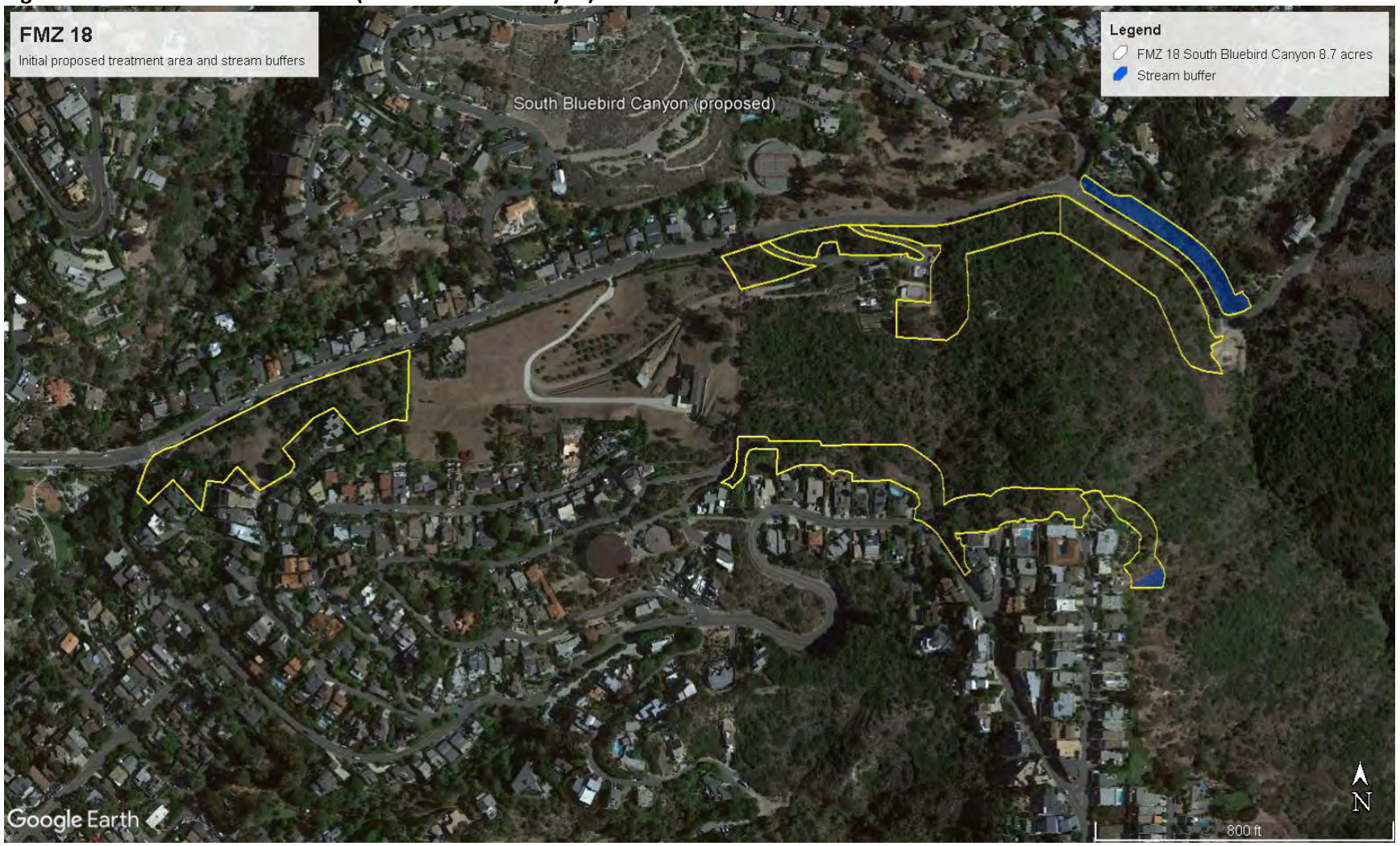
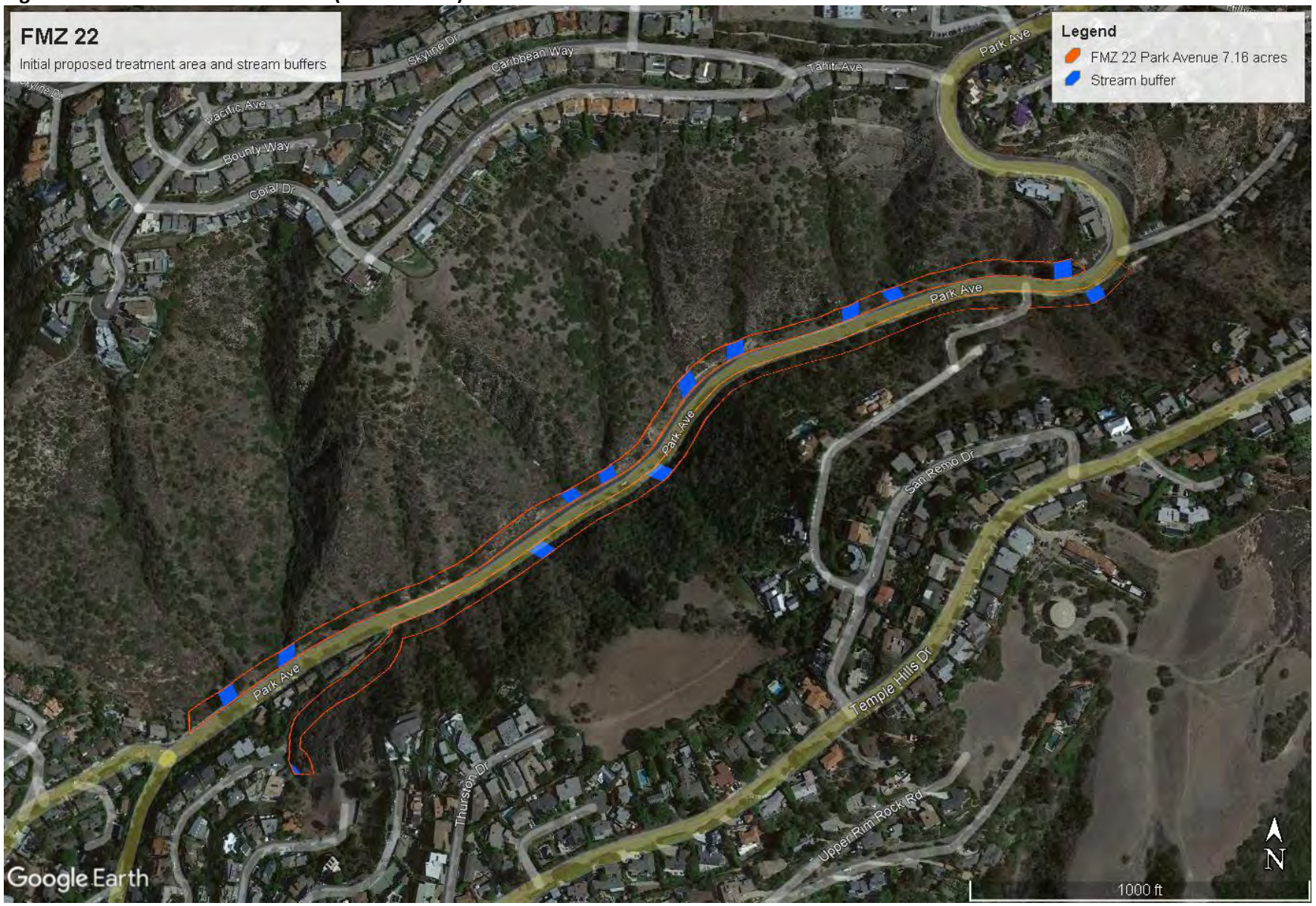


Figure 4. Fuel Modification Zone 22 (Park Avenue) Treatment Areas



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.

3-11-22

Mike Rohde, Program Manager
Laguna Beach Fire Department

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. FMZs 17, 18, and 22 would be in a predominantly non-urban area with low to medium development and on the wildland-urban interface of a scenic, heavily vegetated natural landscape. The City of Laguna Beach's Landscape and Scenic Highways Element of its General Plan indicates that the concept of a "scenic" vista 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 projects would be located primarily near residential areas and an evacuation road (Park Avenue) and would not be highly visible to travelers along Coast Highway, a County Viewscape Corridor and eligible State Scenic Highway. Limited portions of FMZs 17 and 18, particularly the westernmost portion of FMZ 18, may be visible along Coast Highway due to these areas being located on ridgetops. Fuel modification activities would not substantially affect the overall scenic quality from Coast Highway, as the distance from the highway (0.35 mile at the closest point) topography (steep hills), and intervening development and vegetation) would block most views such that FMZs 17 and 18 would be an extremely minor part of the overall scenic landscape. FMZ 22 would be adjacent to Park Avenue, a local road surrounded on both sides by canyon walls and vegetation. Travelers on Park Avenue within FMZ 22 would see vegetation removal activities. However, BMPs specified in the City's *Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting* (i.e., Treatment Protocols; see Appendix A) such as placing native vegetation cuttings in treated areas to reduce dust and erosion, removing invasive weeds, and limiting vegetation removal to a maximum of 50 percent would be applied within all FMZs to further protect biological resources and reduce the visual impact of fuel modification activities (refer to BMPs, AMMs, and Conservation Measures discussion in the Project Description). Implementing AMM 13/CM 6 (Habitat Avoidance) in FMZ 22 would also reduce visual impacts by avoiding disturbance in habitats occupied by coastal California gnatcatcher. All fuel management activities would be limited to a reduction of 50 percent of existing vegetation within the FMZs and follow requirements as outlined in the City's Treatment Protocols.

The proposed FMZs all contain blue-line streams (i.e., a waterbody such as a creek or stream). A 25-foot buffer would be established on either side of blue-line streams, and fuel modification activities within these buffered areas would be limited to only non-native plant removal (with certain case-by-case exceptions such as removal of excessive dead plant matter and rubbish). The proposed projects would not substantially impact the topography of the hillsides within the FMZs, and very minor ground disturbance would occur (the highest degree of ground disturbance would occur with the removal of invasive species, requiring excavation to a depth of approximately 6 to 8 inches). The projects would minimize impacts on special-status species (e.g., State or Federally listed as threatened or endangered or those with a California Rare Plant Rank of less than 3) by avoiding removal in certain areas determined by a biologist (refer to Section 4 (a) for the discussion of project impacts to special-status species). Risk of erosion would be minimized, as 50 percent or more of existing native vegetative cover would be kept and roots would remain in place (except for invasives which would be completely removed), and post-treatment erosion control measures would be implemented. Therefore, the proposed projects would not adversely impact the surrounding natural landscape or a scenic vista. 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, 3	☐	☐	☒	☐

Less Than Significant Impact. The nearest eligible highway, Coast Highway, is approximately 0.35 miles southwest of the projects at the closest point. 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 17 and 18 are generally located along the wildland-urban interface adjacent to residences and Park Avenue (FMZ 22) is a crucial evacuation route. The FMZs would most likely be obscured behind trees, buildings, and topography, and therefore would be generally hidden from major public views from Coast Highway. Given that the proposed projects would not be within the viewshed of a designated State scenic highway, and minimally visibility from Coast Highway, there would be a less-than-significant impact related to damaging scenic resources within a State scenic highway.

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
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 edge of residential properties and along Park Avenue. Public views of FMZ 17 would be accessed mainly from small portions of Temple Hills Drive east of San Remo Drive, Zell Drive, Bernard Court, Top of the World Drive, and Sommet Du Monde. Public views of FMZ 18 would be accessed from portions of Bluebird Canyon Drive, Rancho Laguna Road, and Summit Drive. Visibility from public viewing points along these roads would be limited due to the density of residences, residential landscaping, topography (e.g., some fuel modification would occur on slopes below the line of sight from these roads), and temporary construction period.

Travelers would be exposed to public views of FMZ 22 along Park Avenue. Fuel modification would occur on the sloped vegetated areas on both sides of the road. Fuel modification activities would prune dead and dying branches from native trees and limit vegetation removal to no more than 50 percent, such that public views would not be substantially degraded. Furthermore, fuel modification activities within FMZ 22 would be subject to BMPs, AMMs, and CMs including removing invasive vegetation, removing only the necessary amount of vegetation required (50 percent maximum), collecting and removing all trash, and minimizing soil and vegetation disturbance. Temporary construction vehicles would be parked in off-site staging areas or paved or graded areas with no vegetation along Park Avenue, and all construction materials would be removed at the end of each workday. Upon the completion of fuel modification activities in FMZ 22, no equipment or workers would remain in the project area. Therefore, fuel modification activities would not substantially degrade public views of the sites and surrounding areas, and the proposed projects 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 projects would not introduce any lighting elements or materials that would create a new source of substantial light or glare. Fuel modification activities would occur during the day, and no nighttime activities would occur. Therefore, the proposed projects 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?	4	☐	☐	☐	☒

No Impact. According to the California Resources Agency's Farmland Mapping and Monitoring Program, the proposed projects do 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 location of FMZs 17, 18, and 22 as "urban and built-up land" and "other land" (low density rural developments not suitable for agricultural activities). The proposed projects would have no impact on Farmland.

b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	5, 6	☐	☐	☐	☒

No Impact. A portion of FMZ 17 traverses through the City of Laguna Beach-designated Agriculture-Recreation Zone. However, agriculture is not an active use in this area, and the proposed projects would not preclude future agricultural use within this zone. Furthermore, the proposed fuel modification activities are not a prohibited use within the Agriculture-Recreation Zone according to the City of Laguna Beach Municipal Code. Per the City of Laguna Beach General Plan, this portion of FMZ 17 within the Agriculture-Recreation Zone currently has a land use of Residential/Hillside Protection. The proposed projects would not conflict with existing zoning for an agricultural use or a Williamson Act contract. Therefore, the proposed projects 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))?	5	☐	☐	☐	☒

No Impact. FMZ 17 traverses Agricultural-Recreation, Open Space/Conservation, Open Space/Passive, Residential Low Density, and Residential Hillside Protection Zones, as designated by the City of Laguna Beach. A small portion of FMZ 17 would traverse unincorporated County of Orange zoned Open Space. FMZ 18 and FMZ 22 traverse Open Space/Conservation, Open Space/Passive, and Residential Hillside Protection zones. None of the FMZs are zoned for forest land, timberland, or Timberland Projection. The proposed activities would have no impact on forest land or timberland or cause rezoning of such lands.

d. Result in the loss of forest land or conversion of forest land to non-forest use?	5	☐	☐	☐	☒

No Impact. Since the proposed projects would not occur within forest land, they would not result in the loss of forest land or convert forest land to non-forest use. The proposed projects 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?	5, 6	☐	☐	☐	☒

No Impact. Although a small portion of FMZ 17 traverses an Agricultural-Recreation Zone, the proposed projects would not preclude future agricultural uses within this zone, nor would they conflict with the zoning according to the City of Laguna Beach Municipal Code. Farmland is not an existing use within this zone and as such, the proposed project would not convert it to non-agricultural use. The proposed projects would not occur within forest land nor would they result in the conversion of forest land to non-forest use. The proposed projects 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?		☐	☐	☐	☒

No Impact. The emission sources for the proposed projects (on-road vehicles, chainsaws) would comply with State and local emissions regulations included in the currently approved South Coast Air Quality Management District (SCAQMD) Air Quality Management Plan (AQMP). Additionally, the proposed projects would not change any land use or growth assumptions as forecast by SCAQMD and Southern California Association of Governments (SCAG) that were used in the AQMP. Additionally, the proposed projects are 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 initial and ongoing fuel modification activities would be considered consistent with the AQMP emission source estimate assumptions and consistent with the AQMP and local planning land use/growth assumptions, so the proposed projects are considered 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?		☐	☐	☒	☐

Less Than Significant Impact. Applicable thresholds of significance are the SCAQMD regional air quality emissions thresholds. These are daily emissions thresholds, which for a "construction" project, like the proposed projects, range from a low of 55 pounds per day for fine particulate matter (PM2.5) to a high of 550 pounds per day for Carbon Monoxide (CO). The proposed projects include hand cutting with the option of goat-grazing if suitable areas are identified to clear vegetation in defined areas. The hand cutting and clearing would use gasoline fueled chainsaws, as many as nine operating per day, brush-cutters, and other hand tools. The proposed projects would also include employee commuting trips and small and large truck trips to haul waste, supplies, and goats. If goat-grazing is used, the goat herder(s) would be expected to stay on site near the goat pens in habitable vehicles, such as motor homes or modified pickup truck or in tents and could have small comfort emissions sources such as gasoline or diesel-powered generators and propane fueled cooking equipment. The scale of use for these small off-road equipment items and daily vehicle trips would not have the potential to produce emissions near the SCAQMD regional emissions thresholds. The worst-case daily emissions[1] during the initial fuel modification activities are estimated and compared to the SCAQMD thresholds as shown in Table 4.

The proposed projects would also be required to comply with applicable rules and regulations, such as SCAQMD Rule 403 – Fugitive Dust, which requires control of fugitive dust causing activities. However, grading or other major earth-moving activities would not occur. Furthermore, AMM 1 (Dust Control Measures) in FMZ 22 would reduce dust by requiring speed

[1] The maximum daily emissions are estimated with the following conservative assumptions: Six 5.5 horsepower (HP) California Air Resources Board (CARB) spark-engine emissions factor-compliant gasoline powered chainsaws operating 8 hours per day, 882 Vehicle Miles Traveled (VMT)/day of passenger vehicle use, 41 vehicle miles traveled (VMT)/day of medium sized truck use, 40 VMT/day of heavy truck use on average, with 4 days of 120 VMT/day when goats are being transported. Sulfur Oxide (SOx) emissions are not estimated as they are negligible given CARB fuel sulfur content regulations.

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

limits within the project areas, covering stockpiled materials, and applying water or other binding materials to disturbed ground. Fugitive dust would be limited to nuisance dust generated by infrequent and limited vehicle use on unpaved areas and dust kicked up by workers and goats, such that impacts from dust emissions would be minimal. Impacts during fuel modification activities would be less than significant. 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 impacts would be less than significant.

Table 4. Maximum Daily Emissions (lbs/day)

	VOC	CO	NO_X	PM10	PM2.5
Chainsaws	46.87	348.95	46.87	1.30	1.30
CalEEMod/On-Road Vehicles	0.24	2.25	0.79	0.75	0.21
Total	47.11	351.20	47.66	2.06	1.51
SCAQMD Regional Significance Thresholds	75	550	100	150	55
Significant?	NO	NO	NO	NO	NO

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.

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

Less Than Significant Impact. The project sites are adjacent to sensitive receptors, such as residential uses and near schools. 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 levels are not anticipated to exceed the SCAQMD's screening level localized significance thresholds (LST). The maximum daily emissions estimate, including the on-road emissions that are not localized emissions, would be below the SCAQMD LSTs when compared to the most conservative LST table assumptions for the proposed projects (1-acre site within 25 meters of a sensitive receptor) as shown in Table 5.

Table 5. Maximum Daily Emissions (lbs/day)

	CO	NO_X	PM10	PM2.5
Chainsaws	348.95	46.87	1.30	1.30
CalEEMod/On-Road Vehicles	2.25	0.79	0.75	0.21
Total	351.20	47.66	2.06	1.51
SCAQMD Localized Significance Thresholds	647	92	4	3
Significant?	NO	NO	NO	NO

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

The quantity of toxic air contaminant (TAC) emissions from the proposed projects, 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 projects, impacts would be less than significant.

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

Less Than Significant Impact. The proposed projects would not emit objectionable odors that would affect a substantial number of people. If goats are used in FMZs 17 and 18, odor emissions from the goats and their waste products would occur. However, these odors are natural, would not be concentrated and ongoing such as odors from dairies or cattle feed lots, odor intensity would not be substantial due to the limited number of goats and goat-grazing areas, and this odor source would not last long as the period of goat grazing would only occur for a very limited period of time in any given location. Additionally, emissions from construction equipment (e.g., chainsaws) may generate minor odors; however, these odors would not be highly objectionable near the source, would dissipate quickly, and would be temporary. Therefore, odor sources would not affect a substantial number of people. A small amount of nuisance dust emissions would be generated by the proposed projects, but these emissions would be minor; limited to infrequent and limited vehicle use of unpaved areas and dust kicked up by workers and goats. Additionally, the proposed projects 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, so impacts 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?	7, 8, 42	☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. A biological resources report is currently being prepared by Glenn Lukos Associates (GLA) for the proposed projects and will be based on focused biological surveys completed in 2021 and early 2022. An interim biological resources project memo regarding the habitat suitability for special-status species within the project sites was prepared by GLA and is included as Appendix C. A focused coastal California gnatcatcher (*Polioptila californica californica*) survey report for FMZs 17 and 18 (Bluebird Canyon Fuel Modification Project) was prepared in 2021 and is also included in Appendix C. A focused coastal California gnatcatcher survey report for FMZ 22 is currently being prepared; results were made available as of March 2022.

The interim biological resources project memo includes a literature review of biological resources known from the area and summarizes the habitat suitability for the species identified in the literature review. The project memo also summarizes the extent of High and Very High Value Habitat that is present within the project sites. In addition to the project memo, GLA also visited the project sites and mapped all streams and other potentially jurisdictional features.

One State and federally listed plant species, big-leaved crownbeard (*Verbesina dissita*) and one federally listed wildlife species, coastal California gnatcatcher have a moderate potential to be present within the project sites. Impacts to either of these species including the potential to harass, harm, pursue, wound, or kill would be significant and without mitigation, the proposed projects would have the potential to "take" these species.

Several additional special-status plants have a moderate to high potential to be present within the project sites, including California box-thorn (*Lycium californicum*), Catalina mariposa lily (*Calochortus catalinae*), intermediate mariposa-lily (*Calochortus weedii* var. *intermedius*), paniculate tarplant (*Deinandra paniculata*), Coulter's matilija poppy (*Romneya coulteri*), and Western dichondra (*Dichondra occidentalis*). Intermediate mariposa-lily has a California Rare Plant Rank (CRPR) of 1B which indicates this species is rare, threatened, or endangered in California and impacts to this species may be significant. All other special-status plants listed above 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 expected to be significant and no mitigation is required.

No special-status wildlife species are known from the project sites, but several have a moderate to high potential to be present, including red-diamond rattlesnake (*Crotalus ruber*), California glossy snake (*Arizona elegans occidentalis*), coast

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

patch-nosed snake (*Salvadora hexalepis virgultea*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), orange-throated whiptail (*Aspidoscelis hyperythrus*), and Cooper's hawk (*Accipiter cooperii*). 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 the potential to harass, harm, pursue, wound, or kill.

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).

With implementation of avoidance and minimization measures (AMMs) and conservation measures (CMs) for the Park Avenue Fuel Modification Project, including AMM 9 (Work Area Designation to Minimize Disturbance), AMM 10/CM 3 (Environmental Awareness Training for Construction Personnel), AMM 11/CM 4 (Biological Monitor), AMM 12/CM 5 (Work Restrictions Near Active Nests), and AMM 13/CM 6 (Habitat Avoidance), impacts to these listed, special-status, and other protected species, including "take" would be avoided and reduced to a less-than-significant level.

With implementation of the mitigation measures (MMs) provided below for the Bluebird Canyon Fuel Modification Project, including 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 listed, special-status, and other protected species, including "take" would be avoided and reduced to a less-than-significant level. Furthermore, habitat for coastal California gnatcatcher is abundant throughout the vicinity of the project sites and a loss of a limited amount of suitable habitat would not result in noticeable impacts. Furthermore, this species was absent from Bluebird Canyon Fuel Modification Project area (FMZs 17 and 18) based on 2021 protocol-level surveys and was also absent from the Park Avenue Fuel Modification Project (FMZ 22) based on 2022 protocol-level surveys. These negative survey results make it less likely that this species would be present but there is still a low to moderate potential for this species to be present when project activities occur.

In addition to MMs BIO-1 through BIO-5 below that apply to the Bluebird Canyon Fuel Modification Project only, MM BIO-6, which applies to both projects has also been added to ensure consistency with the CalVTP. MM BIO-6 would further reduce potential impacts to listed and non-listed special-status plants.

Mitigation Measures

BIO-1 This mitigation measure applies to the Bluebird Canyon Fuel Modification Project. The City of Laguna Beach (City) shall assign a qualified biologist to the projects (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 This mitigation measure applies to the Bluebird Canyon Fuel Modification Project. 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 and special-status species with a CRPR of 1B, including Intermediate mariposa-lily, shall be flagged, and a 15-foot buffer installed. No work shall be permitted within these buffers. If a buffer is within a goat-grazing treatment area, a secure enclosure shall be installed to ensure goats do not enter the special-status species buffer. The Project Biologist shall also flag coast live oak seedlings and western sycamore seedlings for avoidance, as feasible. Within goat-grazing treatment areas, a secure enclosure shall be installed around these seedlings to ensure goats do not remove these seedlings. 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 This mitigation measure applies to the Bluebird Canyon Fuel Modification Project. 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 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 will 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. If a buffer is

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

within a goat-grazing treatment area, a secure enclosure shall be installed to ensure goats do not enter the nesting bird buffer.

BIO-4 This mitigation measure applies to the Bluebird Canyon Fuel Modification Project. The Project Biologist shall be present on the project sites 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 monitor the goat-grazing treatment areas at least once per week to document compliance with the avoidance and minimization measures. 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 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 This mitigation measure applies to the Bluebird Canyon Fuel Modification Project. The Project Biologist shall conduct training to ensure that all workers (including goat herders) 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 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. 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 sites. 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?	9, 10, 11	☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. Approximately 13 streams have been identified within the Park Avenue Fuel Modification Project and an additional five identified in the Bluebird Canyon Fuel Modification Project. These streams may support riparian vegetation and be considered riparian habitat pursuant to Section 1602 of the California Fish and Game Code. Impacts to riparian habitat could be considered a significant impact pursuant to CEQA; however, the projects propose to avoid or reduced all impacts to riparian vegetation and habitat with the implementation of the City's Treatment Protocols (see Appendix A).

In addition to potential impacts to riparian vegetation, the projects would impact High Value Habitat within the Park Avenue Fuel Modification Project and both High and Very High Value Habitat within the Bluebird Canyon Fuel Modification Project, as identified by the City of Laguna Beach Local Coastal Program. Impacts would be reduced to less than significant with the avoidance of these habitats, per the proposed project's exclusion areas which are part of the project design, and measures set forth in the City's Treatment Protocols.

A detailed vegetation map has not yet been prepared for the projects; however, the Nature Reserve of Orange County did map most of the project sites in 2015 (AIS, 2015). Nine vegetation and other cover types were mapped within the project sites including approximately 0.9 acres of lemonade berry scrub (*Rhus integrifolia* Shrubland Alliance) that has a State Rank of 3 and is considered a sensitive natural community. Most of the lemonade berry scrub overlaps with the High and Very High Value Habitat discussed above and impacts would be reduced to less than significant with the avoidance of these

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

habitats, per the proposed project's exclusion areas which are part of the project design, and measures set forth in the City's Treatment Protocols.

To ensure consistency with CalVTP and reduce potential spread of plant pathogens, invasive plants, noxious weeds, and invasive wildlife, the following MMs have been added which apply to both projects.

Mitigation Measures

BIO-7 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. 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 and AMM 10/CM 3);
- 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 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. 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, manual or mechanical treatments, prescribed burning, and/or herbivory, 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;
- Treat invasive plant biomass onsite to eliminate seeds and propagules and prevent reestablishment or dispose of invasive plant biomass offsite at an appropriate waste collection facility (if not kept on site); transport invasive plant materials in a closed container or bag to prevent the spread of propagules during transport; and
- Implement Fire and Fuel Management BMPs outlined in the "Preventing the Spread of Invasive Plants: Best Management Practices for Land Mangers" (Cal-IPC 2012, or current version).

4. BIOLOGICAL RESOURCES. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	7	☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. An assessment of jurisdictional features within the project sites was conducted by GLA., whereby approximately 18 ephemeral drainages were identified. Alteration to these drainages would necessitate authorization from the United States Army Corps of Engineers in Section 404 of the Clean Water Act and 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 sites are regulated under Section 1600 of the California Fish and Game Code and alteration to these features would necessitate authorization from the CDFW. With the implementation of MM BIO-9 (Drainage Avoidance), the projects would avoid all potential impacts to jurisdictional streambeds and riparian vegetation, reducing impacts to a less-than-significant level.

Mitigation Measure

BIO-9 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. 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. If a buffer is within a goat-grazing treatment area, a secure enclosure shall be installed to ensure goats do not enter the buffer.

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?	7	☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. The project sites are in natural lands at the edge of residential development and existing paved roadways. They support limited wildlife movement as a result of the surrounding development and steep terrain. Movement through the project sites appears to be limited to low-lying canyon bottoms and is not likely to occur in areas immediately adjacent to residential development or along paved roadways where fuel modification activities are proposed. Additionally, the projects are not expected to erect any permanent barriers to wildlife movement or alter wildlife movement through the areas; therefore, the projects would have no significant impact on wildlife movement.

The project sites provide suitable nesting habitat for many birds and nursery sites for other wildlife species. For the Park Avenue Fuel Modification Project, impacts to nesting birds would be avoided with implementation AMM 12/CM 5 (Work Restrictions Near Active Nests), as discussed above for question (a). For the Bluebird Canyon Fuel Modification Project, impacts to nesting birds 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 the abundance of similar habitat throughout the vicinity of the project site.

e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	7, 12, 13	☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. 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. A portion of the project sites occur within an area designated as a 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 (see Appendix C). 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 Park Avenue Fuel Modification Project would impact approximately 2.3 acres of High Value Habitat consisting of coastal sage or chaparral habitats. The Bluebird Canyon Fuel Modification Project would impact approximately 3.1 acres of High and 1.1 acres of Very High Value Habitat also consisting of coastal sage or chaparral habitats. The projects propose to reduce the

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

cover within these areas by up to 50 percent with selective thinning which would be a significant impact for the Very High Value Habitat. To mitigate for this loss of Very High Value Habitat (1.1 acres), MM BIO-10 would require the City to complete either 0.55 acres of active restoration, 1.1 acres of partial restoration (20-50%), or 1.65 acres of passive restoration. Project impacts to 5.4 acres of High Value Habitat would be less than significant because habitat would not be entirely removed from the project sites, is abundant in the open space surrounding the project sites, and the total acreage of potential impacts to these habitats would be limited. Removal of non-native invasives would also benefit habitat. With implementation of MM BIO-10, impacts to Very High Value Habitat would be less than significant.

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), 18 segments of significant drainages cross or partially intersect the project sites. With implementation of Mitigation Measure BIO-9, which requires all drainages to be flagged and avoided, impacts to drainages 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 Treatment Protocol, 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 (Appendix A). With implementation of these practices as shown in Appendix A, impacts to the large trees would be less than significant.

Mitigation Measure

BIO-10 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. To mitigate for the loss of Very High Value Habitat, the City shall complete 0.55 acres of active restoration, 1.1 acres of partial restoration (20-50%), or 1.65 acres of passive restoration. Prior to the start of the project, the City shall develop and implement a Habitat Restoration Plan or similar document, subject to site and methods approval of the California Coastal Commission, that provides all the details of the restoration sites, species to be planted, schedule, maintenance plans, and other pertinent information. 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?		☐	☐	☒	☐

Less Than Significant Impact. The project sites are entirely within the Orange County Central Coastal Natural Community Conservation Plan (NCCP)/ Habitat Conservation Plan (HCP) area. The City is not a signatory to the Orange County Central Coastal NCCP/HCP and because of this the projects do not conflict with the NCCP/HCP. As such, the projects 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?		☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. A cultural resources study was prepared for the projects (see Appendix D – Confidential). The study included a cultural resources records search at the South Central Coastal Information Center (SCCIC), a Native American Heritage Commission (NAHC) Sacred Lands File search, Tribal outreach, and an attempted field survey. The record search indicated the presence of two known archaeological sites, P-30-000295 in FMZ 22, and P-30-000537, in FMZ 17. A pedestrian survey was conducted for the accessible areas of the FMZs. P-30-000537 was found to not be located within the FMZ 17 project area but instead located in a private backyard and would not be impacted by the proposed project. P-30-000295 was pinpointed within the FMZ 22 project area and the site was evaluated for the California Register of Historical Resources (CRHR) and is presumed eligible. Specifically, for FMZ 22, a BPM is incorporated into the project which addresses monitoring ground disturbance activities for unanticipated archaeological discoveries. MMs CUL-1, CUL-2, and CUL-3 are also recommended to reduce impacts to known and unknown resources 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

Mitigation Measures

CUL-1 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. A qualified professional archaeologist shall be retained to provide on-call monitoring services in the event that cultural resources are encountered during project activities. If any such resources are discovered, 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 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. 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), protection of all archaeological resources during construction, and any avoidance areas. 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.

CUL-3 This mitigation measure applies to the Park Avenue Fuel Modification Project. Prior to the initiation of construction, P-30-000295 shall be flagged by a qualified archaeologist and avoided during vegetation removal activities. Additionally, the vicinity of P-30-000295 shall be monitored by a qualified archaeologist, under the direction of a professional archaeologist meeting the Secretary of the Interior qualifications.

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

Less Than Significant Impact With Mitigation Incorporated. The Native American settlement in the area included use of rock shelters naturally formed in the sandstone formations that make up much of the area's geology. These shelters had a lifecycle of having been created by natural forces of rain and wind, were utilized by native people for shelter and ceremony, and then ultimately had been eroded to disuse with many eventually suffering collapse. There is a potential for encountering unknown archaeological resources. Specifically, for FMZ 22, a BMP is incorporated into the projects which addresses monitoring ground disturbance activities for unanticipated archaeological discoveries. MMs CUl-1 and CUL-2 are also recommended to reduce impacts to unknown resources to a less-than-significant level.

c. Disturb any human remains, including those interred outside of dedicated cemeteries?		☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. No human remains, including those interred outside of dedicated cemeteries, are known in the project areas. The project areas therefore have a low sensitivity for encountering human remains. MM CUL-4 is recommended to ensure this impact is less than significant.

Mitigation Measure

CUL-4 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. 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 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.

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

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 projects would consume energy in the form of diesel and gasoline fuels used for on-road vehicles and hand-held equipment (chainsaws and brush-cutters). The proposed projects are designed to efficiently remove areas of heavy vegetation that pose a wildfire threat. This efficient vegetation control approach may include the minor use of goats within FMZ 17 and FMZ 18 only, where feasible, to control vegetation rather than using fuel-consuming equipment. No off-road vehicles or equipment such as woodchippers would be used. Indirectly, the proposed projects are designed to reduce the potential for wildfires, which would reduce the potential for much greater future energy consumption events that would otherwise be required for firefighting and fire damage repair without the proposed projects. Therefore, the proposed projects 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 projects do not include renewable energy, restrict renewable energy projects, or restrict the use of renewable energy. The proposed projects do 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 projects 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.	14	☐	☐	☐	☒

No Impact. According to the California Geologic Survey's California Earthquake Hazards Zone Application, no known Alquist-Priolo earthquake fault zones exist within 10 miles of the proposed FMZs. Therefore, the fuel modification activities would have no potential to cause adverse effects related to the rupture of an Alquist-Priolo earthquake fault zone. No impact 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
ii) Strong seismic ground shaking?	15	☐	☐	☒	☐

Less Than Significant Impact. There are two major inactive fault systems in the City of Laguna Beach, which are the Laguna Canyon Fault and the Temple Hills Fault. There is no evidence within the last 11,000 years that suggests these faults would become active soon. Furthermore, none of the proposed 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?	14	☐	☐	☐	☒

No Impact. According to the California Department of Conservation (DOC) California Earthquake Hazards Zone Application, FMZs 17, 18, and 22 are not located within a liquefaction zone. The proposed projects would be located on moderately steep terrain adjacent to residences and Park Avenue. However, the proposed project's activities would not exacerbate seismic-related ground failure such as liquefaction, because measures such as hand removal and goat-grazing, where feasible, would avoid complete removal of vegetation. Additionally, the proposed projects would not exacerbate seismic-related ground failure such as liquefaction because no structures would be built on the hillsides, thus eliminating the probability of a seismic-related liquefaction event. Therefore, the proposed projects would have no impact on causing adverse effects relating to seismic-related ground failure such as liquefaction.

iv) Landslides?	ii, 1, 14, 16, 17, 18	☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. According to the DOC California Earthquake Hazards Zone Application, FMZs 17, 18, and 22 are located within a landslide zone. However, the proposed projects would not exacerbate the risk of landslides because they would follow the City's Treatment Protocols (see Appendix A) to limit vegetation removal to 50 percent while leaving native perennial roots to reduce erosion, reducing the probability of a landslide. Erosion control and prevention measures would be implemented concurrently with vegetation removal activities in steeper areas prone to instability. These measures would include strategic placement of cut native vegetative material and the installation of straw waddles and bales as prescribed by a geotechnical study completed prior to vegetation removal. As assessed in the projects-specific geotechnical evaluation reports (provided as Appendix E to this Initial Study), the overall likelihood of increased slope instability due to fuel modification in FMZ 17 is very low below Top of the World (easternmost end of FMZ 17), low within FMZ 18, and very low in FMZ 22. Fuel modification activities in all FMZs may have a limited adverse impact on soil stability in moderately sloping terrain where thicker soil materials are present. The potential for debris and/or mudflows from extensive 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. Both FMZ 17 and FMZ 18 generally consist of slopes between a 4:1 and 2:1 ratio to the west and slopes between a 2:1 to 1:1 ratio to the east. In FMZ 22, the northern portion consists of slopes between a 2:1 to 1:1 ratio, and the southern portion consists of slopes between a 4:1 to 2:1 ratio. Bedrock underlies the majority of FMZ 17 near the surface to relatively shallow depths. The bedrock is covered by isolated, thin residual soils and minor engineered fill from prior grading operations. Bedrock underlies the majority of FMZ 18 at relatively shallow to deep depths. This bedrock is covered by ancient landslides, residual soils, and local minor engineered fills from prior grading operations. Bedrock also underlies the majority of FMZ 22 at the surface to relatively shallow depths. The bedrock is mantled by isolated, thin residual soils. Bedrock materials have a low susceptibility to surficial failure. Residual soil deposits have a low to moderate susceptibility to surficial movement with the current vegetation. Sensitive surficial instability areas (slope ratio 2:1 to 1:1) are generally located to the west portions of FMZ 17 and FMZ 18, indicated in orange in Figure 1 in both reports and in red and yellow in Figure 2 in the report for FMZ 22 (see Appendix E). Landslides are present on the slopes flanking Park Avenue (see Appendix E – FMZ 22 geotechnical report, Figure 1). As recommended in the geotechnical evaluation reports for FMZs 17, 18, and 22, 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 to the canopy and seasonal grasses, minimizing damage to existing root systems, using spray adhesives, fiber rolls, or jute matting to maintain soil stability in landslide-prone areas, leaving the majority of perennial plant roots in place, installing erosion control measures, minimizing and rehabilitating haul paths, and mulching areas of relatively low slope in FMZs 17 and 18. The reports also provide guidelines outlining goat-grazing as an acceptable method of thinning vegetation in FMZs 17 and 18, as root systems are retained, seasonal grasses are cleared, and the goats can be moved judiciously. The option of goat-grazing within FMZs 17 and 18 where suitable would comply with this guideline and would be implemented according to the City's Treatment Protocols to further reduce the risk of landslides. Therefore, impacts would be less than significant with mitigation incorporated.

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

Mitigation Measure

GEO-1 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. The City of Laguna Beach shall adhere to the following fuel modification protocols in landslide-prone areas in FMZs 17, 18, and 22:

- Fuel modification activities shall be conducted in the spring and summer
- Spray adhesives, fiber rolls, or jute matting shall be used in areas with a thick accumulation of soil on terrain sloping between a 2:1 to 1:1 (horizontal:vertical) ratio prior to winter
- Fuel modification efforts shall be limited to the canopy and seasonal grasses, and should minimize damage to the existing root systems
- The majority of roots of perennial plants shall be left in place to minimize erosion
- Mulch, cut native vegetation material, and other erosion control measures (e.g., scattered cut brush clippings, straw wattles, straw bales, and/or jute netting) would be installed for additional protection, as recommended by the project geotechnical reports (see IS/MND Appendix E - *Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program, Zone 17, Laguna Canyon and Canyon Acres Area Laguna Beach, California*; *Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program, Zone 18, Laguna Canyon and Canyon Acres Area Laguna Beach, California*; and *Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program, Zone 22, Lower Park Avenue Area, Laguna Beach, California*)
- Minimize and rehabilitate haul paths with mulch or other methods as deemed appropriate by the project biologist
- Areas of relatively low slope (e.g., below 33 percent or 1:3 grade) shall be mulched to an adequate depth to minimize weed propagation and ongoing maintenance needs

b. Result in substantial soil erosion or the loss of topsoil?	1, 18	☐	☐	☒	☐

Less Than Significant Impact. Although there is potential for the proposed projects to increase soil erosion and topsoil loss, the use of hand crew treatment and goat-grazing where feasible would leave up to 50 percent or more of native perennial root systems in the soil to minimize potential for erosion. If goat-grazing is used within FMZs 17 and 18, goats would be rotated and moved periodically to ensure enough vegetation remains after each grazing period. Natural goat grazing behavior would ensure most root systems remain intact, further reducing erosion risk. Removed native vegetation may be chipped and spread on the ground for erosion protection. Other erosion control methods would include spray adhesives, fiber rolls, or jute matting where necessary. 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.

Fuel modification activities within FMZ 22 would follow additional BMPs and AMMs including implementing erosion control measures as prescribed by the geotechnical study, placing native vegetation cuttings to reduce erosion, and minimizing disturbance to the maximum extent practicable. The proposed projects 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?	16, 17, 18	☐	☒	☐	☐

Less Than Significant With Mitigation Incorporated. According to the geotechnical report for FMZ 17 (see Appendix E), the Rim Rock Canyon Landslide is located southeast of Temple Hills Drive in the southern portion of FMZ 17 (see Appendix E – FMZ 17 geotechnical report, Figure 1). According to the geotechnical report for FMZ 18 (see Appendix E), landslide deposits are present and adjacent to FMZ 18. A series of dormant landslides are located in the slope ascending south of Bluebird Canyon Road in the southern portion of FMZ 18 (see Appendix E – FMZ 18 geotechnical report, Figure 1). These failures have not been observed to be active. According to the geotechnical report for FMZ 22, landslide deposits are present in FMZ 22 largely due to the inclined layers of rock being exposed and unsupported in southeasterly facing slopes (see Appendix E – FMZ 22 geotechnical report, Figure 1). Additionally, slopes ranging from 4:1 to 1:1 ratios in FMZs 17, 18, and 22 have a moderate to high potential for debris and/or mudflows from major fuel modification activities. Erosion control and prevention measures would be implemented concurrently with vegetation removal activities in these steep areas prone to instability. These measures would include strategic placement of cut native vegetative material and the installation of straw waddles and bales

7. GEOLOGY AND SOILS. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
completed prior to vegetation removal. MM GEO-1 would reduce the risk of landslides and liquefaction 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. No new structures or buildings would be built as part of the proposed projects. No impact from expansive soil would occur.					
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?		☐	☐	☐	☒
No Impact. The proposed projects would not require the development or use of any septic systems. No impact from soils incapable of supporting wastewater would occur.					
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	19	☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. A paleontological resource report was completed covering the project area of FMZ 17, 18, and 22 (see Appendix F). As determined in this report, the proposed projects are not anticipated to impact significant paleontological resources and the area does not contain unique geologic features. Proposed project ground disturbance would be minimal and remain surficial, but vegetation removal could potentially create new exposures, revealing fossils, which could be unintentionally disturbed, damaged, or destroyed. Therefore, the following mitigation measure is recommended to ensure impacts to scientifically significant paleontological resources are reduced to a less-than-significant level.

Mitigation Measure

GEO-2 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. If paleontological resources are encountered during the course of ground disturbance, work in the immediate area of the find shall be redirected and a paleontologist contacted to assess the find for scientific significance. If determined to be significant, the fossil shall be collected from the field. The paleontologist may also make recommendations regarding additional mitigation measures, such as paleontological monitoring. Scientifically significant resources shall be prepared to the point of identification, identified to the lowest taxonomic level possible, cataloged, and curated into the permanent collections of a museum repository. If scientifically significant resources are collected, a report of findings shall be prepared to document the collection.

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?		☐	☐	☒	☐

Less Than Significant Impact. A project's significant greenhouse gas (GHG) emission levels can be determined via many methods depending on the type of project, such as by per capita emissions thresholds or total project annual emissions. For these types of projects, an annual GHG emissions threshold would be most appropriate, as there is not a clear per capita use that can be expressed. There are many such thresholds proposed for use by different agencies for different project types; however, the City of Laguna Beach has not approved the use of any CEQA GHG emissions significance thresholds. The SCAQMD has proposed, but not adopted, the use of a "bright line" numerical GHG emissions significance threshold of 3,000 metric tons (MT) of carbon dioxide equivalent (CO_2e) emissions per year for non-stationary source projects. Other local jurisdictions in Southern California have approved this significance threshold, which is considered reasonable and appropriate for the proposed projects. The proposed project's emissions would include temporary emissions from vehicles and chainsaws. Biogenic emissions from the use of goats are not considered to be a GHG emissions increase, as the projects would not increase the goat population or their biogenic GHG emissions. The total GHG emissions from the two proposed

8. GREENHOUSE GAS EMISSIONS. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
projects (combined emissions) of <20MT CO2e would be substantially below the significance threshold of 3,000 MT; therefore, GHG emissions impacts 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?		☐	☐	☒	☐

Less Than Significant Impact. Applicable plans adopted for the purpose of reducing GHG emissions include the most recent California Air Resources Board's (CARB) Scoping Plan Update, SCAG's 2016-2040 Regional Transportation Plan (RTP)/ Sustainable Communities Strategy (SCS), and the City of Laguna Beach Climate Protection Action Plan. The proposed projects 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 commute, contractor work trucks, and waste and goat haul trucks. The proposed projects would not change the project site area's use and would not result in any long-term emissions. The proposed projects would also appropriately dispose of green waste, native green waste would be applied on the project sites, 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 projects would not conflict with any applicable plan, policy, or regulations adopted for the purpose of reducing the GHG emissions. Impacts 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 projects would not involve the routine transport, use, or disposal of hazardous materials. Equipment would be limited to hand tools (e.g., chainsaws, brush-cutters) and trucks during temporary fuel modification activities. Many of these tools would be powered by gas and/or diesel fuel. As required by MM HAZ-1, and consistent with Standard Project Requirement HAZ-1 (see Appendix H, CalVTP Consistency Analysis Memo), these tools would be maintained and inspected for leaks. Any onsite refueling would need to occur in a containment system to prevent spills, as required by MM HAZ-1. Similarly, trucks and larger equipment would need to be fueled off site (see MM HAZ-1). Per the City's 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.

Fuel modification activities within FMZ 22 would also comply with AMMs, further reducing impacts related to hazard materials. These include AMM 2 (Spill Control Planning), AMM 3 (Spill Prevention and Pollution Control Measures), AMM 4 (Equipment Inspection and Maintenance), AMM 5 (Fueling Activities), and AMM 6 (Materials Storage and Disposal). Therefore, impacts would be less than significant with mitigation incorporated.

9. HAZARDS AND HAZARDOUS MATERIALS. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Mitigation Measure

HAZ-1 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. The City of Laguna Beach shall include the following provisions or similar in the contractor bid contract for hand clearing:

- All diesel- and gasoline-powered equipment shall be maintained per manufacturer's specifications and in compliance with all state and federal emissions requirements.
- Maintenance records shall be available for verification.
- All diesel- and gasoline-powered equipment shall be inspected for leaks prior to the start of treatment activities and daily thereafter until equipment is removed from the site. Any equipment found leaking shall be promptly removed.
- 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 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 materials used during temporary fuel modification activities would be limited to gas and/or diesel fuel for equipment and herbicides (if spot treatment for invasive species is required and determined necessary by a qualified biologist). Hazardous materials would not be used or stored onsite 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	☐	☐	☒	☐

Less Than Significant Impact. Schools within 0.25 mile of the proposed projects include Thurston Middle School (2100 Park Avenue, approximately 0.08 mile north of FMZ 22), Top of the World Elementary (21601 Treetop Lane, approximately 0.18 mile east of FMZ 17), Laguna Beach High School (625 Park Avenue, approximately 0.21 mile southwest of FMZ 22), and Anneliese Schools – Manzanita Campus (758 Manzanita Drive, approximately 0.25 mile west of FMZ 22). Vegetation removal activities would occur by hand crews and may include goat-grazing within FMZs 17 and 18. The amount of fuel onsite at any given time and the quantity of emissions from equipment, such as chainsaws and brush-cutters, would not create a hazardous condition for students or the public. See discussion under Air Quality (question c). Impacts would be less than significant.

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?	20, 21	☐	☐	☐	☒

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 (SWRCB) GeoTracker database, both of which track cleanup, permitting, enforcement, and investigation efforts at facilities with known hazardous waste or

9. HAZARDS AND HAZARDOUS MATERIALS. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

groundwater contamination or sites where there may be reasons to investigate further yielded no known hazardous materials site within the proposed projects footprints. 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?	22	☐	☐	☐	☒

No Impact. The proposed projects are not located within an airport land use plan or within two miles of an airport. John Wayne Airport is over 10 miles northwest of the projects. No impact would occur.

f.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	23	☐	☐	☒	☐

Less Than Significant Impact. The proposed projects would temporarily place vehicles and equipment at access points to allow hand crews and goats to complete fuel management activities. Access points, as identified in the Project Description (see Tables 1 and 2), would generally be along residential streets and public roads. Work would be conducted behind homes and adjacent to public roads. Access along roads, especially along Park Avenue, which is a critical evacuation route for residents in local neighborhoods, would be maintained. Access within Park Avenue would not be physically obstructed during fuel modification activities, as vehicles and equipment would be temporarily staged along the side of the road in paved or graded areas and could be moved off site at the end of each workday. As such, implementation of the proposed projects would not interfere with adopted emergency response plans or emergency evacuation plans. 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?	24	☐	☐	☐	☒

No Impact. The projects are located within a designated Very High Fire Hazard Severity Zone as identified by the California Department of Forestry and Fire Protection. The proposed projects would reduce the risk of wildland fires by removing vegetation cover within 100 feet of residences in FMZ 17 and FMZ 18 and within 50 feet of either side of Park Avenue in FMZ 22, thereby reducing fire threats to people and structures. Additional fire safety and prevention measures during fuel management activities, as described in the Project Description, 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.

FMZ 22 would implement additional BMPs such as parking work vehicles in paved areas to the extent practicable. It would also implement AMM 7/CM1 (Fire Prevention) which prohibits operation of vehicles in tall, dry vegetation and requires a fire prevention and suppression plan for maintenance or repair activities that have a fire risk. Fuel modification in FMZ 22 would reduce the risk of wildfire along Park Avenue, a crucial evacuation route. These projects aim to reduce wildland fires, and no impact 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, 25, 26, 27	☐	☐	☒	☐

Less Than Significant Impact. The proposed projects include several drainage areas that drain to Laguna Beach, which is approximately 0.76 to 1.5 miles downstream. Impacts to water quality could occur as a result of disturbing topsoil, reducing vegetation coverage, using herbicides, and introducing organic waste from goats.

Most of FMZ 17 and FMZ 18 and all of FMZ 22 would be treated with hand crews using chainsaws, brush-cutters, and other hand tools. This 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

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

from erosion and sedimentation. Within these buffers, only non-native, invasive plant species would be removed by hand crews in accordance with the City's Treatment Protocols, as well as certain case-by-case exceptions such as removal of excessive dead plant matter and rubbish. All other native plant species would be protected in place. As such, all watercourses recognized by the City and California Coastal Commission as blue-line would be protected with this buffer. Native vegetation may be chipped and spread on the ground (outside the blue-line buffers), 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 straw wattles and/or jute netting would be installed as necessary for erosion protection as recommended in site 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. Trash and litter found on the site would be removed.

Goat grazing may be applied to portions of FMZ 17 and FMZ 18, where feasible. Although grazing (not specifically by goats) has contributed to the impairment of waters in the past in California, nearly all of these have been in northern and central California. The proposed projects lie within the Laguna Coastal Streams Watershed, where the Pacific Ocean Shoreline – Laguna Beach Hydrologically Sensitive Area is listed by the SWRCB as an impaired water body by bacteria.

The Laguna Coastal Streams Watershed is approximately 11 square miles in area, meaning the worst-case grazing treatment area which assumes all goat grazing and no hand treatment amounts to about 16.6 acres, or 0.03 square mile. This represents 0.3 percent of the overall watershed area. Grazing treatment protocols as described in the City's Treatment Protocols, include protection of sensitive plant areas, allowing shaded areas to remain in woody habitat, moving the goats periodically to allow enough vegetated cover to promote erosion control and inhibit dust, and limits grazing to 100-foot widths. The proposed treatment protocols, together with the small area being grazed in comparison to the watershed, indicate that the goat grazing operation would not create a significant adverse effect to water quality. This conclusion is supported by Order No. R9-2014-0041 from the San Diego Regional Water Quality Control Board (under whose jurisdiction the projects lie) which includes a water quality waiver for discharges from grazing lands. The proposed projects would be subject to the conditions of this waiver which concludes that the operations are unlikely to affect the quality of Waters of the State.

Herbicide use would be limited to spot treatment of invasive species as identified by a biologist and used in a manner as to not pose an excessive risk to watercourses. Herbicide use would be subject to the conditions of the Municipal Separate Storm Sewer System (MS4) Permit for the San Diego Region of the SWRCB.

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 projects would not use any groundwater supplies, nor would they 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	☐	☐	☒	☐

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 treatments would be completed by hand crews and goat grazing where suitable, which would minimize disturbance of soil that could cause displacement of sediment to surface waters. The treatment areas have been evaluated by a geologist for stability and flood/debris movement potential (see Figure 1 in each of the reports provided in Appendix E). 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 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 straw wattles and/or jute netting, 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 adequate depth to minimize weed propagation and ongoing maintenance needs. The total area to

10. HYDROLOGY AND WATER QUALITY. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
be treated is approximately 16.6 acres, or 0.03 square mile, which represents only a small portion (0.3 percent) of the overall Laguna Coastal Streams Watershed area. 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 projects due to the 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 Coastal Streams 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 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, 25	☐	☐	☒	☐
Less Than Significant Impact. Runoff from the project sites would flow into the Pacific Ocean. A small to negligible increase in flood discharge could result from the proposed projects, but this increase would be less than significant as described under (ii) above. The area to be treated is a very small fraction of the watershed area and the reduction in vegetative cover would be offset by leaving ground cover in the form of mulch. No sources of pollution would be produced other than those described under (a) above. Impacts would be less than significant.					
(iv) impede or redirect flood flows?		☐	☐	☐	☒
No Impact. The proposed projects would remove vegetative cover, which 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?	28	☐	☐	☒	☐
No Impact. Based on the *California Emergency Management Agency Tsunami Inundation Map Laguna Beach Quadrangle* the proposed projects are not within a tsunami inundation zone. Seiches are wave inundation produced on large lakes. There are no lakes adjacent to the project sites and therefore no possibility of seiche. Except as described under item (a), the proposed projects 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 projects would have no effect on groundwater as all work would be completed by hand crews with the option of goat-grazing, where suitable, and the projects have no features that could conflict with or obstruct a water quality control plan.					

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 projects 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 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
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?	29, 30, 31, 32, 33, 34, 35	☐	☐	☒	☐

Less Than Significant Impact. The proposed projects would primarily occur within the planning boundary of the City of Laguna Beach, with a small portion of FMZ 17 extending into unincorporated Orange County. Project activities would be subject to the policies of the City's General Plan and Local Coastal Program (LCP), the County's General Plan, the Aliso and Woods Canyon Wilderness Park Resource Management Plan (RMP), and the California Coastal Act. Appendix G to this Initial Study identifies the relevant policies from these applicable plans and demonstrates the consistency of the projects with these policies. The proposed projects would have a less-than-significant impact because they do 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?	36	☐	☐	☐	☒

No Impact. According to the *California Department of Conservation's Generalized Aggregate Resource Classification Map*, FMZs 17, 18, and 22 are in mineral resources zones (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 would occur.

b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	30, 31	☐	☐	☐	☒

No Impact. No locally important mineral resource recovery sites are delineated in the City of Laguna Beach General Plan or Aliso and Wood Canyons Wilderness Park RMP. 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?	37, 38	☐	☐	☒	☐

Less Than Significant Impact. No new development or land uses are proposed that would generate noise levels in excess of established standards. The proposed projects, which are 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), as well as Orange County noise regulations (Title 4 – Health Sanitation and Animal Regulations, Division 6 – Noise Control, Section 4-6-7 – Special Provisions) which are applicable to those portions of FMZ 17 that lie within unincorporated Orange County. Under these regulations, construction noise is allowed between 7:30am and 6:00pm Monday-Friday within the City of Laguna Beach and between 7:00am-8:00pm Monday-Saturday within unincorporated areas of Orange County, with no construction activities allowed on federal holidays. Work would be completed mostly by hand crews (with the option of goat-grazing in suitable areas), which would involve the use of mechanical equipment, such as chainsaws. Work would be limited to Monday-Friday 8am-5pm and would not occur on federal holidays. Additionally, per Park Avenue AMM 4 (Equipment Inspection and Maintenance), equipment would be well-maintained. 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?	39	☐	☐	☐	☒

No Impact. Equipment used during vegetation clearing activities for both Bluebird Canyon and Park Avenue (FMZs 17/18/22) would be limited to chainsaws, loppers, and other hand tools. This equipment would not generate excessive groundborne vibration or noise levels. No vibration impacts would occur.

c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	22	☐	☐	☐	☒

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 10 miles to the northwest of the proposed projects. 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 projects 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 projects 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 projects would not involve any construction activities, nor would they require increased fire protection services. Instead, they 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 projects do not include development 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 projects do not include development and would not create demands for new or expanded school facilities. No impact would occur.

d. Parks?		☐	☐	☐	☒

No Impact. The proposed projects do not include development and would not increase the demand for parks. The proposed projects would not affect park service ratios and no new or expanded parks would be necessary. No impact would occur.

e. Other public facilities?		☐	☐	☐	☒

No Impact. The proposed projects do not include development that would affect other public facilities such as library services or hospitals. The proposed projects would not increase 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. A small portion of FMZ 17 would occur within Aliso and Wood Canyons Wilderness Park. None of the proposed fuel modification activities would increase use of this park. The proposed projects would neither cause a population increase nor create new developments that would increase the use of existing recreational facilities. Therefore, no substantial 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 projects do 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?	40, 41	☐	☐	☒	☐

Less Than Significant Impact. The proposed projects would include the use of several vehicles to transport up to an estimated maximum of 30 crew members and equipment, with the option of using a trailer to transport an estimated maximum of 64 goats. Because there are no major construction activities that would require a substantial number of workers or 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 38,500 vehicles travel on the segment of Coast Highway nearest to FMZs 17, 18, and 22 (Mountain Road in Laguna Beach to Route 133

17. TRANSPORTATION. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

North). The addition of a few vehicles for the proposed projects would not add a substantial amount of traffic to existing traffic volume. 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 would be a less than significant impact on the City's circulation policy.

b.	Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐

Less Than Significant Impact. Section 15064.3 of the CEQA Guidelines describes vehicle miles traveled (VMT) as an appropriate measure of transportation impacts. In this case, VMT is analyzed qualitatively as the projects are most similar to a construction project. The proposed projects would involve such a small quantity of vehicles, trips, and total VMT that they 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 projects would not introduce any new geometric design features to roads or include incompatible uses that would substantially increase road hazards. Transportation uses involved in the proposed projects would only include compatible uses such as trucks to transport hand crew personnel and trailers to transport goats. No impact would occur.

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

No Impact. FMZs 17, 18, and 22 would each have multiple access points that would also serve as potential staging areas and emergency access if needed. Vehicles used in FMZs 17 and 18 would be parked along residential and public roads. Vehicles used within FMZ 22 would be parked in off-site staging areas including several paved and graded areas with no vegetation along Park Avenue. 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 these projects as no Native American tribes have requested consultation for the project areas. On August 12, 2021, Aspen requested that the NAHC complete a search of its Sacred Lands Files to determine if resources significant to Native Americans have been recorded within the project sites. On September 8, 2021, 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 sites or surrounding vicinity (see Appendix D – Confidential). The NAHC also provided their contact list of interested Native Americans to contact for additional information regarding resources in the area. Aspen sent tribal outreach letters on September 20, 2021, to each of the listed representatives asking if any additional information could be provided regarding resources within the project sites. Follow up emails and/or phone calls were completed on October 4, 2021. One response has been received to date from the Gabrielino Tongva Indians of California Tribal Council, expressing concern about vegetation removal activities as the project area is considered sensitive for cultural resources. No specific Tribal Cultural Resources were identified. Based on the

18. TRIBAL CULTURAL RESOURCES. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

sensitivity and concern expressed by the Gabrielino Tongva Indians of California Tribal Council, MM TCR-1 was developed in coordination with the Gabrielino Tongva Indians of California Tribal Council and is recommended to reduce impacts to unknown Tribal Cultural Resources to a less-than-significant level.

Mitigation Measure

TCR-1 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. A qualified tribal member of the Gabrielino Tongva Indians of California Tribal Council shall spot-check all vegetation removal activities, up to three times per week, for the duration of the projects. If any such cultural resources are discovered, contractors shall stop work in the immediate area of the find and contact the archaeologist to assist in assessing the nature of the find and to determine if additional full-time monitoring is appropriate. Work in the area of the find can resume once an agreement on the treatment of the find is made between the City of Laguna Beach Fire Department and the Gabrielino Tongva Indians of California Tribal Council, in consultation with the qualified archaeologist.

(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 these projects as no Native American tribes have requested consultation for the project areas. No resources have been identified or determined by the lead agency to be a Tribal Cultural Resource. Therefore, the projects would not impact Tribal Cultural Resources as determined by the lead agency.

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 projects 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 projects would not include any development. No water supplies would be needed to serve the projects. 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 projects would not include any development nor require wastewater treatment. No impact would occur.

19. UTILITIES AND SERVICE SYSTEMS. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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. 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 some of the non-native green waste may be consumed by goats, reducing the amount of green waste hauling required. The remaining non-native green waste would be hauled to a green waste recycling facility or landfill. Per AMM 8/CM 2 (Waste Management) in FMZ 22, work areas would be kept free of loose trash and food waste, and all construction waste would be removed once the project is completed and would be transported to an authorized disposal area per all Federal, State, and local laws and regulations. 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.

e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?		☐	☐	☐	☒

No Impact. The proposed projects would not generate solid waste other than green waste, which would be converted to mulch and left in place or be taken to a green waste recycling facility or landfill. The proposed projects would not conflict with federal, state, or local statues and regulations related to solid waste.

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 projects would not substantially impair the City's adopted emergency response plan (see Section 9 (f) for the discussion on impacts to emergency access and evacuation) and would instead improve wildfire response. Fuel breaks would create defensible space between wildfires and urban development to reduce 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 flammability in developed areas. The proposed projects would reduce the risk of wildland fires by removing vegetation cover within 100 feet of residences in FMZ 17 and FMZ 18 and within 50 feet of either side of Park Avenue in FMZ 22, thereby reducing fire threats to people and structures and helping to maintain an emergency route. Additional fire safety and prevention measures during fuel management activities, as described in the Project Description, 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.

FMZ 22 would additionally implement additional BMPs such as parking work vehicles in paved areas to the extent practicable. It would also implement AMM 7/CM1 (Fire Prevention) which prohibits operation of vehicles in tall, dry vegetation and requires a fire prevention and suppression plan for maintenance or repair activities that have a fire risk. Fuel modification in FMZ 22 would reduce the risk of wildfire along Park Avenue, a crucial evacuation route. Therefore, residents near the proposed projects 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?		☐	☐	☐	☒

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

No Impact. The proposed projects aim to create and maintain fuel breaks with the intention of reducing fire risk to nearby urban structures and a crucial evacuation route. They 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, 14, 15, 18	☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. Fuel modification activities would reduce vegetation cover in landslide-prone areas in FMZs 17, 18, and 22. However, the proposed projects would implement the City's Treatment Protocols and comply with the geotechnical reports' suggested erosion control methods such as installing spray adhesives, fiber rolls, and/or jute netting as necessary for additional protection, thus maintaining stable topsoil and reducing runoff. The projects would also be consistent with the geotechnical reports' guidelines indicating goat-grazing as an acceptable fuel removal method for seasonal grasses to minimize root disturbance in FMZs 17 and 18. Although some slopes in FMZs 17, 18, and 22 may have a moderate to high potential for debris and/or mudflows from major fuel modification activities, spring or early summer fuel modification would not exacerbate the future mudflow potential, as some of the native canopy would re-establish by the rainy season, typically during winter months, which would maintain soil stability. Mitigation measures for unstable geologic units within FMZs 17, 18, and 22 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, BMPs, AMMs, and CMs. See MMs BIO-1 through BIO-10, AMM 9 (Work Area Designation to Minimize Disturbance), AMM 10/CM 3 (Environmental Awareness Training for Construction Personnel), AMM 11/CM 4 (Biological Monitor), AMM 12/CM 5 (Work Restrictions Near Active Nests), and AMM 13/CM 6 (Habitat Avoidance). 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, CUL-3, and CUL-4, as well as a BMP for monitoring ground disturbance activities for unanticipated archaeological discoveries in FMZ 22. Additionally, impacts to paleontological resources would be minimized with implementation of MM GEO-2. 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.)		☐	☐	☒	☐

21. MANDATORY FINDINGS OF SIGNIFICANCE	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

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 projects would utilize a minimal number of vehicles and motorized hand equipment that would not significantly contribute to the impacts of other projects. Due to the highly localized, temporary, and brief nature of the proposed projects, these impacts are expected to remain less than significant and not be cumulatively considerable.

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. Fuel modification activities within FMZ 22 would also comply with AMM 2 (Spill Control Planning), AMM 3 (Spill Prevention and Pollution Control Measures), AMM 4 (Equipment Inspection and Maintenance), and AMM 5 (Fueling Activities). Section 7, Geology and Soils, refers to the geotechnical report (Appendix E) findings of areas of potential soil unit instability within FMZs 17, 18, and 22. Section 20(d) of Wildfire also discusses the potential for post-fire downslope landslides. MM GEO-1 would mitigate landslide, mudflow, and general soil instability risks mentioned in these two sections. Implementing these mitigation measures would lessen impacts and potential effects on human beings to a less-than-significant level.

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22. SOURCE REFERENCES

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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 projects. 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 Tables 6 and 7.

4. BIOLOGICAL RESOURCES

4(a). BIO-1 This mitigation measure applies to the Bluebird Canyon Fuel Modification Project. The City of Laguna Beach (City) shall assign a qualified biologist to the projects (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.

4(a). BIO-2 This mitigation measure applies to the Bluebird Canyon Fuel Modification Project. 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 and special-status species with a CRPR of 1B, including Intermediate mariposa-lily, shall be flagged, and a 15-foot buffer installed. No work shall be permitted within these buffers. If a buffer is within a goat-grazing treatment area, a secure enclosure shall be installed to ensure goats do not enter the special-status species buffer. The Project Biologist shall also flag coast live oak seedlings and western sycamore seedlings for avoidance, as feasible. Within goat-grazing treatment areas, a secure enclosure shall be installed around these seedlings to ensure goats do not remove these seedlings. 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.

4(a, d). BIO-3 This mitigation measure applies to the Bluebird Canyon Fuel Modification Project. 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 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 will 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. If a buffer is within a goat-grazing treatment area, a secure enclosure shall be installed to ensure goats do not enter the nesting bird buffer.

4(a). BIO-4 This mitigation measure applies to the Bluebird Canyon Fuel Modification Project. The Project Biologist shall be present on the project sites 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 monitor the goat-grazing treatment areas at least once per week to document compliance with the avoidance and minimization measures. 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 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.

4(a). BIO-5 This mitigation measure applies to the Bluebird Canyon Fuel Modification Project. The Project Biologist shall conduct training to ensure that all workers (including goat herders) 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.

4(a). BIO-6 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. 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 sites. 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.

4(b). BIO-7 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. 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 and AMM 10/CM 3);
- 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).

4(b). BIO-8 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. 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, manual or mechanical treatments, prescribed burning, and/or herbivory, 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;
- Treat invasive plant biomass onsite to eliminate seeds and propagules and prevent reestablishment or dispose of invasive plant biomass offsite at an appropriate waste collection facility (if not kept on site); transport invasive plant materials in a closed container or bag to prevent the spread of propagules during transport; and

  Implement Fire and Fuel Management BMPs outlined in the "Preventing the Spread of Invasive Plants: Best Management Practices for Land Mangers" (Cal-IPC 2012, or current version).

4(c). BIO-9 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. 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. If a buffer is within a goat-grazing treatment area, a secure enclosure shall be installed to ensure goats do not enter the buffer.

4(e). BIO-10 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. To mitigate for the loss of Very High Value Habitat, the City shall create complete 0.55 acres of active restoration, 1.1 acres of partial restoration (20-50%), or 1.65 acres of passive restoration. Prior to the start of the project, the City shall develop and implement a Habitat Restoration Plan or similar document, subject to site and methods approval of the California Coastal Commission, that provides all the details of the restoration sites, species to be planted, schedule, maintenance plans, and other pertinent information. The Habitat Restoration Plan shall be implemented no more than 12 months after the start of project activities.

5. CULTURAL RESOURCES

5(a, b). CUL-1 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. A qualified professional archaeologist shall be retained to provide on-call monitoring services in the event that cultural resources are encountered during project activities. If any such resources are discovered, 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 grading and excavation is 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). CUL-2 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. 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), protection of all archaeological resources during construction, and any avoidance areas. 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(a). CUL-3 This mitigation measure applies to the Park Avenue Fuel Modification Project. Prior to the initiation of construction, P-30-000295 will by conspicuously flagged by a qualified archaeologist and avoided during vegetation removal activities. Additionally, the vicinity of P-30-000295 will be monitored by a qualified archaeologist, under the direction of a professional archaeologist meeting the Secretary of the Interior qualifications.

5(c). CUL-4 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. 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 & 20. WILDFIRE

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

GEO-1 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. The City of Laguna Beach shall adhere to the following fuel modification protocols in landslide-prone areas in FMZs 17, 18, and 22:

- Fuel modification activities shall be conducted in the spring and summer
- Spray adhesives, fiber rolls, or jute matting shall be used in areas with a thick accumulation of soil on terrain sloping between a 2:1 to 1:1 (horizontal:vertical) ratio prior to winter
- Fuel modification efforts shall be limited to the canopy and seasonal grasses, and should minimize damage to the existing root systems
- The majority of roots of perennial plants shall be left in place to minimize erosion
- Mulch, cut native vegetation material, and other erosion control measures (e.g., scattered cut brush clippings, straw wattles, straw bales, and/or jute netting) would be installed for additional protection, as recommended by the project geotechnical reports (see IS/MND Appendix E - *Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program, Zone 17, Laguna Canyon and Canyon Acres Area Laguna Beach, California*; *Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program, Zone 18, Laguna Canyon and Canyon Acres Area Laguna Beach, California*; and *Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program, Zone 22, Lower Park Avenue Area, Laguna Beach, California*)
- Minimize and rehabilitate haul paths with mulch or other methods as deemed appropriate by the project biologist

- Areas of relatively low slope (e.g., below 33 percent or 1:3 grade) shall be mulched to an adequate depth to minimize weed propagation and ongoing maintenance needs

7(f). GEO-2 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. If paleontological resources are encountered during the course of ground disturbance, work in the immediate area of the find shall be redirected and a paleontologist contacted to assess the find for scientific significance. If determined to be significant, the fossil shall be collected from the field. The paleontologist may also make recommendations regarding additional mitigation measures, such as paleontological monitoring. Scientifically significant resources shall be prepared to the point of identification, identified to the lowest taxonomic level possible, cataloged, and curated into the permanent collections of a museum repository. If scientifically significant resources are collected, a report of findings shall be prepared to document the collection

9. HAZARDS AND HAZARDOUS MATERIALS

9(a). HAZ-1 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. 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 shall be fueled off site.
- Engine fuel shall not be used as a cleaning solvent.

18. TRIBAL CULTURAL RESOURCES

18(a). TCR-1 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. A qualified tribal member of the Gabrielino Tongva Indians of California Tribal Council shall spot-check all vegetation removal activities, up to three times per week, for the duration of the projects. If any such cultural resources are discovered, contractors shall stop work in the immediate area of the find and contact the archaeologist to assist in assessing the nature of the find and to determine if additional full-time monitoring is appropriate. Work in the area of the find can resume once an agreement on the treatment of the find is made between the City of Laguna Beach Fire Department and the Gabrielino Tongva Indians of California Tribal Council, in consultation with the qualified archaeologist.

Table 6. Mitigation Monitoring Program – Mitigation Measures for the Bluebird Canyon and Park Avenue Fuel Modification Projects

Environmental Factor	Reference Number	Mitigation Measures	Responsible Party	Timing
4. BIOLOGICAL RESOURCES	4(a)	BIO-1 This mitigation measure applies to the Bluebird Canyon Fuel Modification Project. The City of Laguna Beach (City) shall assign a qualified biologist to the projects (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.	City of Laguna Beach Fire Chief	Prior to and during fuel modification activities
	4(a)	BIO-2 This mitigation measure applies to the Bluebird Canyon Fuel Modification Project. 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 and special-status species with a CRPR of 1B, including Intermediate mariposa-lily, shall be flagged, and a 15-foot buffer installed. No work shall be permitted within these buffers. If a buffer is within a goat-grazing treatment area, a secure enclosure shall be installed to ensure goats do not enter the special-status species buffer. The Project Biologist shall also flag coast live oak seedlings and western sycamore seedlings for avoidance, as feasible. Within goat-grazing treatment areas, a secure enclosure shall be installed around these seedlings to ensure goats do not remove these seedlings. 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.	City of Laguna Beach Fire Chief	Prior to and during fuel modification activities
	4(a, d)	BIO-3 This mitigation measure applies to the Bluebird Canyon Fuel Modification Project. 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 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 will be postponed until nesting is completed or the Project Biologist shall designate appropriate avoidance buffers	City of Laguna Beach Fire Chief	Prior to fuel modification activities outside of bird breeding season

Table 6. Mitigation Monitoring Program – Mitigation Measures for the Bluebird Canyon and Park Avenue Fuel Modification Projects

Environmental Factor	Reference Number	Mitigation Measures	Responsible Party	Timing
		around nests to protect nesting birds. No project related disturbance shall be allowed within these buffers. If a buffer is within a goat-grazing treatment area, a secure enclosure shall be installed to ensure goats do not enter the nesting bird buffer.		
	4(a)	BIO-4 This mitigation measure applies to the Bluebird Canyon Fuel Modification Project. The Project Biologist shall be present on the project sites 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 monitor the goat-grazing treatment areas at least once per week to document compliance with the avoidance and minimization measures. 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 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.	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 This mitigation measure applies to the Bluebird Canyon Fuel Modification Project. The Project Biologist shall conduct training to ensure that all workers (including goat herders) 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.	City of Laguna Beach Fire Chief	Prior to fuel modification activities
	4(a)	BIO-6 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. 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 sites. The survey shall follow the methods in the current version of CDFW's Protocols for Surveying and Evaluating Impacts to Special Status	City of Laguna Beach Fire Chief	Prior to fuel modification activities

Table 6. Mitigation Monitoring Program – Mitigation Measures for the Bluebird Canyon and Park Avenue Fuel Modification Projects

Environmental Factor	Reference Number	Mitigation Measures	Responsible Party	Timing
		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.		
	4(b)	BIO-7 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. 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 and AMM 10/CM 3); • 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).	City of Laguna Beach Fire Chief	During or after fuel modification activities
	4(b)	BIO-8 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. 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;	City of Laguna Beach Fire Chief	Prior to, during, or after fuel modification activities

Table 6. Mitigation Monitoring Program – Mitigation Measures for the Bluebird Canyon and Park Avenue Fuel Modification Projects

Environmental Factor	Reference Number	Mitigation Measures	Responsible Party	Timing
		• 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, manual or mechanical treatments, prescribed burning, and/or herbivory, 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; • Treat invasive plant biomass onsite to eliminate seeds and propagules and prevent reestablishment or dispose of invasive plant biomass offsite at an appropriate waste collection facility (if not kept on site); transport invasive plant materials in a closed container or bag to prevent the spread of propagules during transport; and • Implement Fire and Fuel Management BMPs outlined in the "Preventing the Spread of Invasive Plants: Best Management Practices for Land Mangers" (Cal-IPC 2012, or current version).		
	4(c)	BIO-9 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. 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,	City of Laguna Beach Fire Chief	Prior to fuel modification activities

Table 6. Mitigation Monitoring Program – Mitigation Measures for the Bluebird Canyon and Park Avenue Fuel Modification Projects

Environmental Factor	Reference Number	Mitigation Measures	Responsible Party	Timing
		whichever is a greater distance. No project related disturbance shall be allowed within these buffers. If a buffer is within a goat-grazing treatment area, a secure enclosure shall be installed to ensure goats do not enter the buffer.		
	4(e)	BIO-10 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. To mitigate for the loss of Very High Value Habitat, the City shall create complete 0.55 acres of active restoration, 1.1 acres of partial restoration (20-50%), or 1.65 acres of passive restoration. Prior to the start of the project, the City shall develop and implement a Habitat Restoration Plan or similar document, subject to site and methods approval of the California Coastal Commission, that provides all the details of the restoration sites, species to be planted, schedule, maintenance plans, and other pertinent information. The Habitat Restoration Plan shall be implemented no more than 12 months after the start of project activities.	City of Laguna Beach Fire Chief and California Coastal Commission	Prior to fuel modification activities and within one year after the start of project activities
5. CULTURAL RESOURCES	5(a, b)	CUL-1 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. A qualified professional archaeologist shall be retained to provide on-call monitoring services in the event that cultural resources are encountered during project activities. If any such resources are discovered, 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 grading and excavation is 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.	City of Laguna Beach Fire Chief	During fuel modification activities
	5(a, b)	CUL-2 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. 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), protection of all archaeological resources during construction, and any avoidance areas. 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	City of Laguna Beach Fire Chief	Prior to fuel modification activities

Table 6. Mitigation Monitoring Program – Mitigation Measures for the Bluebird Canyon and Park Avenue Fuel Modification Projects

Environmental Factor	Reference Number	Mitigation Measures	Responsible Party	Timing
		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(a)	CUL-3 This mitigation measure applies to the Park Avenue Fuel Modification Project. Prior to the initiation of construction, P-30-000295 will by conspicuously flagged by a qualified archaeologist and avoided during vegetation removal activities. Additionally, the vicinity of P-30-000295 will be monitored by a qualified archaeologist, under the direction of a professional archaeologist meeting the Secretary of the Interior qualifications.	City of Laguna Beach Fire Chief	Prior to fuel modification activities
	5(c)	CUL-4 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. 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).	City of Laguna Beach Fire Chief	During fuel modification activities

Table 6. Mitigation Monitoring Program – Mitigation Measures for the Bluebird Canyon and Park Avenue Fuel Modification Projects

Environmental Factor	Reference Number	Mitigation Measures	Responsible Party	Timing
7. GEOLOGY AND SOILS 20. WILDFIRE	7(a, c) 20(d)	GEO-1 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. The City of Laguna Beach shall adhere to the following fuel modification protocols in landslide-prone areas in FMZs 17, 18, and 22: • Fuel modification activities shall be conducted in the spring and summer • Spray adhesives, fiber rolls, or jute matting shall be used in areas with a thick accumulation of soil on terrain sloping between a 2:1 to 1:1 (horizontal:vertical) ratio prior to winter • Fuel modification efforts shall be limited to the canopy and seasonal grasses, and should minimize damage to the existing root systems • The majority of roots of perennial plants shall be left in place to minimize erosion • Mulch, cut native vegetation material, and other erosion control measures (e.g., scattered cut brush clippings, straw wattles, straw bales, and/or jute netting) would be installed for additional protection, as recommended by the project geotechnical reports (see IS/MND Appendix E - *Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program, Zone 17, Laguna Canyon and Canyon Acres Area Laguna Beach, California*; *Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program, Zone 18, Laguna Canyon and Canyon Acres Area Laguna Beach, California*; and *Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program, Zone 22, Lower Park Avenue Area, Laguna Beach, California*) • Minimize and rehabilitate haul paths with mulch or other methods as deemed appropriate by the project biologist • Areas of relatively low slope (e.g., below 33 percent or 1:3 grade) shall be mulched to an adequate depth to minimize weed propagation and ongoing maintenance needs	City of Laguna Beach Fire Chief	During fuel modification activities
	7(f)	GEO-2 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. If paleontological resources are encountered during the course of ground disturbance, work in the immediate area of the find shall be redirected and a paleontologist contacted to assess the find for scientific significance. If determined to be significant, the fossil shall be collected from the field. The paleontologist may also make recommendations regarding additional mitigation measures, such as paleontological monitoring. Scientifically significant resources shall be prepared to	City of Laguna Beach Fire Chief	During fuel modification activities

Table 6. Mitigation Monitoring Program – Mitigation Measures for the Bluebird Canyon and Park Avenue Fuel Modification Projects

Environmental Factor	Reference Number	Mitigation Measures	Responsible Party	Timing
		the point of identification, identified to the lowest taxonomic level possible, cataloged, and curated into the permanent collections of a museum repository. If scientifically significant resources are collected, a report of findings shall be prepared to document the collection.		
9. HAZARDS AND HAZARDOUS MATERIALS	9(a)	HAZ-1 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. 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 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
18. TRIBAL CULTURAL RESOURCES	18(a)	TCR-1 This mitigation measure applies to both the Bluebird Canyon Fuel Modification Project and Park Avenue Fuel Modification Project. A qualified tribal member of the Gabrielino Tongva Indians of California Tribal Council shall spot-check all vegetation removal activities, up to three times per week, for the duration of the projects. If any such cultural resources are discovered, contractors shall stop work in the immediate area of the find and contact the archaeologist to assist in assessing the nature of the find and to determine if additional full-time monitoring is appropriate. Work in the area of the find can resume once an agreement on the treatment of the find is made between the City of Laguna Beach Fire Department and the Gabrielino Tongva Indians of California Tribal Council, in consultation with the qualified archaeologist.	City of Laguna Beach Fire Chief	During fuel modification activities.

In consultation with FEMA and as part of FEMA's Biological Assessment and the USFWS's Biological Opinion for the Park Avenue Fuel Modification Project, the City would implement the following Best Management Practices (BMPs), Avoidance and Minimization Measures (AMMs), and Conservation Measures (CMs) within FMZ 22.

Table 7. Mitigation Monitoring Program – BMPs, AMMs, and CMs for the **Park Avenue Fuel Modification Project**

Measure Name	Reference Number	Measure Description	Responsible Party	Timing
BMPs	N/A	Limit hours of operation to 8:00 a.m. to 5:00 p.m. Monday through Friday. Complete the project during the dry season. Use erosion control measures as prescribed by the geotechnical study. Adhere to Coastal Commission-required standards and to the City's Vegetation Management Treatment Protocol. Place native vegetation cuttings to reduce dust and erosion. Remove invasive weeds from the site. Park work vehicles in paved areas to the extent practicable. Limit fuels removal to only that percentage of vegetation necessary to achieve required fire behavior (50 percent reduction 50 feet from each side of Park Avenue). Monitor ground disturbance activities. If any potential archeological resources are discovered, construction shall immediately cease in that area, and the State and FEMA shall be notified.	City of Laguna Beach Fire Chief	During fuel modification activities
AMM 1. Dust Control Measures	3(b)	–To reduce dust, all traffic navigating through or within the project area will be restricted to a speed of 15 miles per hour. –Stockpiles of material that are susceptible to wind-blown dispersal will be covered with plastic sheeting or other suitable material to prevent movement of the material. –During construction, water or other binding materials will be applied to disturbed ground that may become windborne. If binding agents are used, all manufacturers' recommendations for use will be followed.	City of Laguna Beach Fire Chief	During fuel modification activities
AMM 3. Spill Prevention and Pollution Control Measures	9(a)	–The City will exercise every reasonable precaution to protect covered species and their habitats from pollution due to fuels, oils, lubricants, or other harmful materials. Project-related pollutants will be collected and transported to an authorized disposal area, as appropriate, per all Federal, State, and local laws and regulations. –No petroleum product chemicals, silt, fine soils, or any substance or material deleterious to covered species will be allowed to pass into or be placed where it can pass into a stream channel. There will be no side casting of material into any waterway. –No petroleum-based products (e.g., asphalt) will be used as a stabilizing material.	City of Laguna Beach Fire Chief	During fuel modification activities

Table 7. Mitigation Monitoring Program – BMPs, AMMs, and CMs for the **Park Avenue Fuel Modification Project**

Measure Name	Reference Number	Measure Description	Responsible Party	Timing
AMM 4. Equipment Inspection and Maintenance	9(a), 13(a)	–Well-maintained equipment will be used to perform the work and, except in the case of a failure or breakdown, equipment maintenance will be performed offsite. Equipment will be inspected daily by the operator for leaks or spills. If leaks or spills are encountered, the source of the leak will be identified, leaked material will be cleaned up, and the cleaning materials will be collected and properly disposed. Fueling of equipment will be conducted in accordance with procedures to be developed in the Spill Prevention and Pollution Control Plan. –Vehicles and equipment that are used during the course of a project will be fueled and serviced in a "safe" area (i.e., outside of sensitive habitats) in a manner that will not affect covered species or their habitats. Spills, leaks, and other problems of a similar nature will be resolved immediately to prevent unnecessary effects on covered species and their habitats. A plan for the emergency cleanup of any spills of fuel or other material will be available onsite, and adequate materials for spill cleanup will be maintained onsite.	City of Laguna Beach Fire Chief	During fuel modification activities
AMM 5. Fueling Activities	9(a)	AMMs will be applied to protect federally listed species and their habitats from pollution due to fuels, oils, lubricants, and other harmful materials. Vehicles and equipment that are used during project implementation will be fueled and serviced in a manner that will not affect federally listed species or their habitats. Machinery and equipment used during work will be serviced, fueled, and maintained on uplands to prevent contamination to surface waters. Fueling equipment and vehicles will be kept more than 200 feet away from waters of the State.	City of Laguna Beach Fire Chief	During fuel modification activities
AMM 6. Materials Storage and Disposal	9(a)	Stockpiled soils will be adequately covered to prevent sedimentation from runoff and wind. All hazardous materials will be stored in upland areas in storage trailers and/or shipping containers designed to provide adequate containment. Short-term laydown of hazardous materials for immediate use will be permitted provided the same containment precautions are taken as described for hazardous materials storage. All project-related materials, wastes, debris, sediment, rubbish, trash, and fencing will be removed from the site once project construction is complete and transported to an authorized disposal area, as appropriate, in compliance with applicable Federal, State, and local laws and regulations. No disposal of construction materials or debris will occur in a floodplain. No storage of construction materials or debris will occur in a floodplain during flood season.	City of Laguna Beach Fire Chief	During fuel modification activities

Table 7. Mitigation Monitoring Program – BMPs, AMMs, and CMs for the **Park Avenue Fuel Modification Project**

Measure Name	Reference Number	Measure Description	Responsible Party	Timing
AMM 7/CM 1. Fire Prevention	9(g), 20(b)	With the exception of vegetation-clearing equipment, no vehicles or construction equipment will be operated in areas of tall, dry vegetation. The City will develop and implement a fire prevention and suppression plan for all maintenance and repair activities that require welding or otherwise have a risk of starting a wildfire. Also, fire extinguishers will be required for all vehicles used within or adjacent to undeveloped open spaces.	City of Laguna Beach Fire Chief	Prior to fuel modification activities
AMM 8/CM 2. Waste Management	19(d)	–The work area will be kept free of loose trash, including small pieces of residual construction material, such as metal cuttings, broken glass, and hardware. –All food waste will be removed from the site on a daily basis. –All construction material, wastes, debris, sediment, rubbish, vegetation, trash, and fencing will be removed from the site once the project is completed and will be transported to an authorized disposal area, as appropriate, per all Federal, State, and local laws and regulations.	City of Laguna Beach Fire Chief	During fuel modification activities
AMM 9. Work Area Designated to Minimize Disturbance	4(a)	–The City will reduce, to the maximum extent practicable, the amount of disturbance at a site to the absolute minimum necessary to accomplish the project. Wherever possible, existing vegetation will be salvaged from the project area and stored for replanting. If topsoil is to be removed, then it will be stockpiled, covered, and encircled with silt fencing to prevent loss or movement of the soil into covered species habitats. All topsoil will be replaced in a manner to recreate pre-disturbance conditions as closely as possible. –Project planning must consider not only the effects of the action itself, but also all ancillary activities associated with the actions, such as equipment staging and refueling areas, topsoil or spoils stockpiling areas, material storage areas, disposal sites, routes of ingress and egress to the project site, and all other related activities necessary to complete the project.	City of Laguna Beach Fire Chief	During fuel modification activities
AMM 10/CM 3. Environmental Awareness Training for Construction Personnel	4(a, b)	–All project personnel will be given environmental awareness training by the project's environmental inspector or biological monitor before the start of project. The training will familiarize all project personnel with the threatened and endangered species that may occur onsite, their habitats, general provisions and protections afforded by the Endangered Species Act, measures to be implemented to protect these species, and the	City of Laguna Beach Fire Chief	Prior to fuel modification activities

Table 7. Mitigation Monitoring Program – BMPs, AMMs, and CMs for the **Park Avenue Fuel Modification Project**

Measure Name	Reference Number	Measure Description	Responsible Party	Timing
		project boundaries. This training will be provided within three days of the arrival of any new worker. –As part of the environmental awareness training, project personnel will be notified that no dogs or any other pets under control of project personnel will be allowed in the project area, and that no firearms will be permitted in the project area, unless carried by authorized security personnel or law enforcement.		
AMM 11/CM 4. Biological Monitor	4(a)	–A Carlsbad Fish and Wildlife Officer-approved biological monitor will be present throughout the 17-acre project area throughout the life of the project and monitor for all project activities that occur within presumed occupied habitats for federally listed species (i.e., California gnatcatcher). The City will submit the biological monitor's qualifications to the Carlsbad Fish and Wildlife Office for approval 30 days prior to project activities. The biological monitor will ensure that all applicable AMMs are implemented during project implementation. The biological monitor will also ensure that all vehicles entering the site are free of debris that may harbor organisms that could be introduced to the site, such as vegetation or mud from other aquatic areas. The biological release of materials such as dust or runoff are controlled and that spill control measures are enacted properly. –Approval requests from the City for Service-approved biologists shall include, at a minimum: Relevant education; relevant training concerning the listed species for which approval is requested; a summary of field experience conducting requested activities (to include project/research information); a summary of biological opinions under which they were authorized to work with the requested species and at what level (such as construction monitoring versus handling), this will also include the names and qualification of persons under which the work was supervised as well as the amount of work experience on the actual project; a list of Federal Recovery Permits [10(a)1(A)] held or under which they are authorized to work with the species requested (to include the permit number, authorized activities and name of permit holder); and any relevant professional references with contact information.	City of Laguna Beach Fire Chief	During fuel modification activities
AMM 12/CM 5. Work Restrictions Near Active Nests (if work occurs during the breeding season)	4(a, d)	–If an active nest is detected during the biological monitoring, either work will be suspended until the young have fledged or the following will apply: –An exclusionary buffer will be established around the nest. The buffer distance will be determined by the Carlsbad Fish and Wildlife Office-approved biologist considering several factors: presence of natural buffers (vegetation/topography), nest height, location	City of Laguna Beach Fire Chief	During fuel modification activities

Table 7. Mitigation Monitoring Program – BMPs, AMMs, and CMs for the **Park Avenue Fuel Modification Project**

Measure Name	Reference Number	Measure Description	Responsible Party	Timing
		of foraging territory, nature of the proposed activities, and baseline levels of noise and human activity. The buffer may range from 50 feet to over 300 feet in width; –If an exclusion zone is established, a Carlsbad Fish and Wildlife Office-approved biologist will monitor the nest during construction for signs of adverse effects including distress/disturbance. If adverse effects are detected, then the Carlsbad Fish and Wildlife Office-approved biologist will have the authority to stop all construction activating in the vicinity of the nest and coordinate with the Carlsbad Fish and Wildlife Office to determine whether additional conservation measures can avoid or minimize effects on the nesting birds. Construction may resume only with approval from the Carlsbad Fish and Wildlife; or –The biologist will continue to monitor the nest and will determine when young have fledged. Once young have left the nest the buffer and exclusion zone may be removed and construction activities within these areas may resume.		
AMM 13/CM 6. Habitat Avoidance	1(a), 4(a)	–Project impacts will be avoided or minimized in coastal sage scrub, alluvial fan scrub, and other vegetation communities known or assumed to be occupied by the gnatcatcher. Staging and temporary construction areas will be located outside of suitable habitat and will use existing roads and developed areas to the maximum extent possible. If impacts to these habitats cannot be avoided, effects to gnatcatcher individuals will be avoided or minimized through implementation of the measures listed above.	City of Laguna Beach Fire Chief	During fuel modification activities

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.

Grazing Treatment Protocols:

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 Calculations

Bluebird and Park Ave Fuel Modification Project

Emissions Estimate

Chainsaw EFs (g/bhp)					
Number	Hours/day	VOC	NOx	CO	PM
9	8	53.6912752	53.6912752	399.701715	1.49142431

Emissions					
Chainsaws	VOC	NOx	CO	PM	
lbs/day	46.87	46.87	348.95	1.30	
Vehicles/ CalEEMod	VOC	NOx	CO	PM10	PM2.5
lbs/day	0.24	0.79	2.25	0.75	0.21
Total lbs/day	**47.11**	**47.66**	**351.20**	**2.06**	**1.51**

Assumptions:

1) Project's initial vegetation removal activities will occur in 2022.
2) On-road vehicle emissions are estimated using CalEEMod fleet average factors.
3) Gasoline fueled chainsaw emissions are estimated separately using CARB emission standard compliance.
4) Chainsaws are assumed to be 70 cc, 5.5 hp models.
5) A total of nine chainsaws, three per crew, with three crews are assumed to operate 8 hours per day.
6) For chainsaws PM=PM10=PM2.5.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Bluebird Park Ave Brush Removal Project

South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Recreational	27.30	User Defined Unit	27.30	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construction emissions estimate only.

Land Use - user defined

Construction Phase - goat drop off and return

Off-road Equipment - user defined

Off-road Equipment -

Trips and VMT - edited per crew assumption and project needs, distance from Hemet to LagBeach for goats

On-road Fugitive Dust - project estimate, workers will park in paved areas.

Demolition -

Grading - user value

Consumer Products - construction phase only

Area Coating -

Construction Off-road Equipment Mitigation -

Bluebird Park Ave Brush Removal Project - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblConstructionPhase	NumDays	20.00	4.00
tblConsumerProducts	ROG_EF	1.98E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblLandUse	LotAcreage	0.00	27.30
tblOffRoadEquipment	HorsePower	85.00	81.00
tblOffRoadEquipment	LoadFactor	0.78	0.42
tblProjectCharacteristics	CH4IntensityFactor	0.033	0.029
tblProjectCharacteristics	CO2IntensityFactor	390.98	702.44
tblProjectCharacteristics	N2OIntensityFactor	0.004	0.006
tblTripsAndVMT	HaulingTripNumber	0.00	60.00
tblTripsAndVMT	VendorTripLength	6.90	82.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	WorkerTripNumber	0.00	60.00

2.0 Emissions Summary

Bluebird Park Ave Brush Removal Project - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	0.0238	0.5651	0.1273	2.1800e-003	0.0758	0.0103	0.0861	0.0218	9.8300e-003	0.0316	0.0000	234.7414	234.7414	8.7700e-003	0.0339	245.0477
2022	0.2366	0.7883	2.2458	8.0900e-003	0.7440	9.4800e-003	0.7535	0.1985	8.9200e-003	0.2074	0.0000	836.7958	836.7958	0.0287	0.0549	853.8807
Maximum	**0.2366**	**0.7883**	**2.2458**	**8.0900e-003**	**0.7440**	**0.0103**	**0.7535**	**0.1985**	**9.8300e-003**	**0.2074**	**0.0000**	**836.7958**	**836.7958**	**0.0287**	**0.0549**	**853.8807**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	0.0238	0.5651	0.1273	2.1800e-003	0.0758	0.0103	0.0861	0.0218	9.8300e-003	0.0316	0.0000	234.7414	234.7414	8.7700e-003	0.0339	245.0477
2022	0.2366	0.7883	2.2458	8.0900e-003	0.7440	9.4800e-003	0.7535	0.1985	8.9200e-003	0.2074	0.0000	836.7958	836.7958	0.0287	0.0549	853.8807
Maximum	**0.2366**	**0.7883**	**2.2458**	**8.0900e-003**	**0.7440**	**0.0103**	**0.7535**	**0.1985**	**9.8300e-003**	**0.2074**	**0.0000**	**836.7958**	**836.7958**	**0.0287**	**0.0549**	**853.8807**

Bluebird Park Ave Brush Removal Project - South Coast Air Basin, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Bluebird Park Ave Brush Removal Project

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Recreational	27.30	User Defined Unit	27.30	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construction emissions estimate only.

Land Use - user defined

Construction Phase - goat drop off and return

Off-road Equipment - user defined

Off-road Equipment -

Trips and VMT - edited per crew assumption and project needs, distance from Hemet to LagBeach for goats

On-road Fugitive Dust - project estimate, workers will park in paved areas.

Demolition -

Grading - user value

Consumer Products - construction phase only

Area Coating -

Construction Off-road Equipment Mitigation -

Bluebird Park Ave Brush Removal Project - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblConstructionPhase	NumDays	20.00	4.00
tblConsumerProducts	ROG_EF	1.98E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblLandUse	LotAcreage	0.00	27.30
tblOffRoadEquipment	HorsePower	85.00	81.00
tblOffRoadEquipment	LoadFactor	0.78	0.42
tblProjectCharacteristics	CH4IntensityFactor	0.033	0.029
tblProjectCharacteristics	CO2IntensityFactor	390.98	702.44
tblProjectCharacteristics	N2OIntensityFactor	0.004	0.006
tblTripsAndVMT	HaulingTripNumber	0.00	60.00
tblTripsAndVMT	VendorTripLength	6.90	82.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	WorkerTripNumber	0.00	60.00

2.0 Emissions Summary

Bluebird Park Ave Brush Removal Project - South Coast Air Basin, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	5.0000e-005	1.1500e-003	2.5000e-004	0.0000	1.5000e-004	2.0000e-005	1.7000e-004	4.0000e-005	2.0000e-005	6.0000e-005	0.0000	0.4259	0.4259	2.0000e-005	6.0000e-005	0.4446
2022	3.3000e-003	0.0120	0.0344	1.2000e-004	0.0110	1.4000e-004	0.0111	2.9300e-003	1.3000e-004	3.0600e-003	0.0000	11.4979	11.4979	3.9000e-004	7.5000e-004	11.7314
Maximum	**3.3000e-003**	**0.0120**	**0.0344**	**1.2000e-004**	**0.0110**	**1.4000e-004**	**0.0111**	**2.9300e-003**	**1.3000e-004**	**3.0600e-003**	**0.0000**	**11.4979**	**11.4979**	**3.9000e-004**	**7.5000e-004**	**11.7314**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	5.0000e-005	1.1500e-003	2.5000e-004	0.0000	1.5000e-004	2.0000e-005	1.7000e-004	4.0000e-005	2.0000e-005	6.0000e-005	0.0000	0.4259	0.4259	2.0000e-005	6.0000e-005	0.4446
2022	3.3000e-003	0.0120	0.0344	1.2000e-004	0.0110	1.4000e-004	0.0111	2.9300e-003	1.3000e-004	3.0600e-003	0.0000	11.4979	11.4979	3.9000e-004	7.5000e-004	11.7314
Maximum	**3.3000e-003**	**0.0120**	**0.0344**	**1.2000e-004**	**0.0110**	**1.4000e-004**	**0.0111**	**2.9300e-003**	**1.3000e-004**	**3.0600e-003**	**0.0000**	**11.4979**	**11.4979**	**3.9000e-004**	**7.5000e-004**	**11.7314**

Appendix C

Biological Resources Data

Interim Memo Regarding Results of Ongoing Biological Surveys for Fuel Modification Zones 17, 18, and 22 in the City of Laguna Beach, Orange County, California

Results of Protocol Coastal California Gnatcatcher Surveys for the Fuel Modification Zones 17 and 18 Project, Located in the City of Laguna Beach, Orange County, California

MEMORANDUM

GLENN LUKOS ASSOCIATES
Regulatory Services

PROJECT NUMBER: 0185-61BLUE

TO: Lisa Blewitt

FROM: Jason Fitzgibbon

DATE: November 4, 2021

SUBJECT: Interim memo regarding the results of ongoing biological surveys for Fuel Modification Zones 17, 18 and 22 in the City of Laguna Beach, Orange County, California

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Currently, biological survey work is ongoing for Fuel Modification Zones (FMZs) 17, 18 and 22 (collectively, "Project site") in the City of Laguna Beach, Orange County, California. Reference the attached Exhibits 1, 2 and 3 for the general location and boundary of FMZs 17, 18 and 22, respectively. The limits of High Value and Very High Value Habitat – as determined by the City's General Plan – are also depicted in the attached exhibits.

Surveys that have already been completed include initial general biological surveys and habitat assessments for FMZs 17, 18 and 22, as well as focused, protocol breeding surveys for coastal California gnatcatcher (*Polioptila californica californica*) within FMZs 17 and 18. Focused, protocol non-breeding surveys for coastal California gnatcatcher are currently being conducted for FMZ 22 and will be completed by February 2022. Additional fieldwork still requiring completion includes detailed vegetation mapping and focused plant surveys.

Special-Status Plants Evaluated for the Project Site

Table 1 provides a list of special-status plants evaluated for the Project site through general biological surveys and habitat assessments. Species were evaluated based on the following factors: 1) species identified by the California Natural Diversity Database (CNDDB) and California Native Plant Society (CNPS) as occurring (either currently or historically) on or in the vicinity of the Project site, 2) any other special-status plants that are known to occur within the vicinity of the Project site, or for which potentially suitable habitat occurs within the site.

Being that the Project was not contracted early enough in 2021 to conduct focused plant surveys during the blooming period of many species, focused plant surveys will be conducted in 2022. Specifically, focused plant surveys will be conducted during the blooming periods (spanning from February through June) of sensitive species with the potential to occur within FMZs 17, 18 and 22.

In general, special-status plant species that typically require complete avoidance are those that are either State or Federally listed as threatened or endangered, or those with a California Rare Plant Rank (CRPR) of less than 3. As highlighted in red in Table 1 below, special-status species with the potential to occur on site that would require complete avoidance include the federally and state listed as threatened big-leaved crownbeard (*Verbesina dissita*), a CRPR 1B.1; cliff spurge (*Euphorbia misera*), a CRPR 2.2; Intermediate mariposa lily (*Calochortus weedii* var. *intermedius*), a CRPR 1B.2; many-stemmed dudleya (*Dudleya multicaulis*), a CRPR 1B.2; Nuttal's scrub oak (*Quercus dumosa*), a CRPR 1B.1; and Summer holly (*Comarostaphylis diversifolia ssp. diversifolia*), a CRPR 1B.2.

In general, special-status plant species with a CRPR of 3 or higher may not require complete avoidance but typically require detailed mapping to determine local abundance and to quantify proposed project impacts, with at least either seasonal or partial avoidance if proposed impacts are deemed to be significant. As highlighted in yellow in Table 1 below, such special-status species with the potential to occur on site include California box-thorn (*Lycium californicum*), a CRPR 4.2; Catalina mariposa lily (*Calochortus catalinae*), a CRPR 4.2; Coulter's matilija poppy (*Romneya coulteri*), a CRPR 4.2; Fish's Milkwort (*Polygala cornuta* var. *fishae*), a CRPR 4.2; Palmer's grapplinghook (*Harpagonella palmeri*), a CRPR 4.2; paniculate tarplant (*Deinandra paniculata*), a CRPR 4.2; Robinson's pepper grass (*Lepidium virginicum* var. *robinsonii*), a CRPR 4.3; San Diego County viguiera (*Viguiera laciniata*), a CRPR 4.3; Southern California black walnut (*Juglans californica*), a CRPR 4.2; and Western dichondra (*Dichondra occidentalis*), a CRPR 4.2.

Table 1. Special-Status Plants Evaluated for the Project Site for the Project Site

Species Name	Status	Habitat Requirements	Occurrence
Allen's Pentachaeta *Pentachaeta aurea* ssp. *allenii*	Federal: None State: None CRPR: 1B.1	Heavy clay soils in valley and foothill grasslands, coastal scrub.	Does not occur on site due to lack of suitable habitat.
Aphanisma *Aphanisma blitoides*	Federal: None State: None CRPR: 1B.2	Coastal bluff scrub, coastal dunes, coastal dune scrub.	Not expected to occur on site due to lack of suitable habitat.
Big-leaved crownbeard *Verbesina dissita*	Federal: FT State: ST CRPR: Rank 1B.1	Southern maritime chaparral, coastal sage scrub	High potential to occur within the Project site. Species is known to occur in the vicinity.
Blochman's dudleya *Dudleya blochmaniae* ssp. *blochmaniae*	Federal: None State: None CRPR: Rank 1B.1	Coastal bluff scrub, chaparral, coastal sage scrub, valley and foothill grassland. Rocky soils, often of clay or serpentinite.	Not expected to occur on site due to lack of suitable habitat.

Species Name	Status	Habitat Requirements	Occurrence
Braunton's milk-vetch *Astragalus brauntonii*	Federal: FE State: None CRPR: Rank 1B.1 NCCP:	Closed-cone coniferous forest, chaparral, coastal sage scrub, valley and foothill grassland. Usually carbonate soils. Recent burn or disturbed areas.	Does not occur on site due to lack of suitable habitat.
California box-thorn *Lycium californicum*	Federal: None State: None CRPR: Rank 4.2	Coastal bluff scrub, coastal scrub.	Suitable habitat occurs on site. Moderate potential to occur.
California Orcutt grass *Orcuttia californica*	Federal: FE State: SE CRPR: Rank 1B.1	Vernal pools.	Does not occur on site due to lack of suitable habitat.
Catalina mariposa lily *Calochortus catalinae*	Federal: None State: None CRPR: Rank 4.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland.	Suitable habitat occurs in portions of the Project Site. Moderate potential to occur.
Chaparral nolina *Nolina cismontana*	Federal: None State: None CRPR: Rank 1B.2	Chaparral, coastal sage scrub. Occurring on sandstone or gabbro substrates.	Does not occur on site due to lack of suitable habitat.
Chaparral ragwort *Senecio aphanactis*	Federal: None State: None CRPR: Rank 2B.2	Chaparral, cismontane woodland, coastal scrub. Sometimes associated with alkaline soils.	Does not occur on site due to lack of suitable habitat.
Chaparral sand-verbena *Abronia villosa* var. *aurita*	Federal: None State: None CRPR: Rank 1B.1	Sandy soils in chaparral, coastal sage scrub.	Does not occur on site due to lack of suitable habitat.
Cleveland's bush monkeyflower *Diplacus (Mimulus) clevelandii*	Federal: None State: None CRPR: Rank 4.2	Gabbroic soils, often in disturbed areas, openings, rocky. Chaparral, cismontane woodland, lower montane coniferous forest.	Does not occur on site due to lack of suitable habitat.
Cliff spurge *Euphorbia misera*	Federal: None State: None CRPR: 2B.2	Coastal bluff scrub and coastal sage scrub. Occurring on rocky soils.	Suitable habitat occurs in portions of the Project Site. Low potential to occur.
Coast woolly-heads *Nemacaulis denudata* var. *denudata*	Federal: None State: None CRPR: Rank 1B.2	Coastal dunes.	Does not occur on site due to lack of suitable habitat.
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	Federal: None State: None CRPR: 1B.1	Playas, vernal pools, marshes and swamps (coastal salt).	Does not occur on site due to lack of suitable habitat.
Coulter's matilija poppy *Romneya coulteri*	Federal: None State: None CRPR: Rank 4.2	Coastal bluff scrub, coastal dunes, coastal sage scrub, valley and foothill grassland. Planted on margins of Study Area as ornamental shrub	Suitable habitat occurs in portions of the Project Site. Moderate potential to occur.

Species Name	Status	Habitat Requirements	Occurrence
Coulter's saltbush *Atriplex coulteri*	Federal: None State: None CRPR: 1B.2	Coastal bluff scrub, coastal dunes, coastal sage scrub, valley and foothill grassland. Occurring on alkaline or clay soils.	Not expected to occur on site due to lack of suitable habitat.
Davidson's saltscale *Atriplex serenana* var. *davidsonii*	Federal: None State: None CRPR: 1B.2	Alkaline soils in coastal sage scrub, coastal bluff scrub.	Not expected to occur on site due to lack of suitable habitat.
Decumbent goldenbush *Isocoma menziesii* var. *decumbens*	Federal: None State: None CRPR: 1B.2	Utilizes coastal sage scrub habitat intermixed with grassland, and is more partial to clay soils than other closely related varieties.	Not expected to occur on site due to lack of suitable habitat.
Estuary seablite *Suaeda esteroa*	Federal: None State: None CRPR: 1B.2	Coastal salt marsh and swamps. Occurs in sandy soils.	Does not occur on site due to lack of suitable habitat.
Fish's Milkwort *Polygala cornuta* var. *fishae*	Federal: None State: None CRPR: Rank 4.2	Mesic chaparral and coastal sage scrub, dry drainage courses	Suitable habitat occurs in portions of the Project Site. Low potential to occur.
Gambel's water cress *Nasturtium gambelii*	Federal: FE State: ST CRPR: Rank 1B.1	Marshes and swamps (freshwater or brackish).	Does not occur on site due to lack of suitable habitat.
Golden-rayed pentachaeta *Pentachaeta aurea* ssp. *aurea*	Federal: None State: None CRPR: Rank 4.2	Cismontane woodland, lower montane coniferous forest, valley and foothill grassland.	Does not occur on site due to lack of suitable habitat.
Horn's milk-vetch *Astragalus hornii* var. *hornii*	Federal: None State: None CRPR: Rank 1B.1	Lake margins with alkaline soils, meadows and seeps, and playas.	Does not occur on site due to lack of suitable habitat.
Hubby's phacelia *Phacelia hubbyi*	Federal: None State: None CRPR: Rank 4.2	Gravelly, rocky, and talus soils in chaparral, coastal scrub, and valley and foothill grassland.	Not expected to occur on site due to lack of suitable habitat.
Intermediate mariposa lily *Calochortus weedii* var. *intermedius*	Federal: None State: None CRPR: 1B.2	Rocky soils in chaparral, coastal sage scrub, valley and foothill grassland.	Suitable habitat occurs in portions of the Project Site. High potential to occur.
Intermediate monardella *Monardella hypoleuca ssp.intermedia*	Federal: None State: None CRPR: Rank 1B.3	Usually in the understory of chaparral, cismontane woodland, and lower montane coniferous forest (sometimes)	Does not occur on site due to lack of suitable habitat.
Laguna Beach dudleya *Dudleya stolonifera*	Federal: FT State: ST CRPR: 1B.1	Rock faces within chaparral, cismontane woodland, coastal sage scrub, valley and foothill grassland. Occurring on rocky outcrops.	Not expected to occur on site due to lack of suitable mesic rock outcrop habitat.
Lewis' evening-primrose *Camissoniopsis lewisii*	Federal: None State: None CRPR: Rank 3	Sandy or clay soils in coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland.	Not expected to occur on site due to lack of suitable habitat.

Species Name	Status	Habitat Requirements	Occurrence
Los Angeles sunflower *Helianthus nuttallii* ssp. *parishii*	Federal: None State: None CRPR: Rank 1A	Marshes and swamps (coastal salt and freshwater).	Does not occur on site due to lack of suitable habitat.
Many-stemmed dudleya *Dudleya multicaulis*	Federal: None State: None CRPR: 1B.2	Chaparral, coastal sage scrub, valley and foothill grassland. Often occurring in clay soils.	Suitable habitat occurs in portions of the Project Site. Low potential to occur.
Mesa horkelia *Horkelia cuneata* var. *puberula*	Federal: None State: None CRPR: 1B.1	Chaparral, cismontane woodland, and coastal scrub. Occuring on sandy or gravelly soils.	Not expected to occur on site due to lack of suitable habitat.
Mud nama *Nama stenocarpum*	Federal: None State: None CRPR: 2B.2	Marshes and swamps.	Does not occur on site due to lack of suitable habitat.
Nuttall's scrub oak *Quercus dumosa*	Federal: None State: None CRPR: 1B.1	Closed-cone coniferous forest, chaparral, and coastal sage scrub. Occurring on sandy, clay loam soils.	Suitable habitat occurs in portions of the Project Site. Low potential to occur.
Orcutt's pincushion *Chaenactis glabriuscula* var. *orcuttiana*	Federal: None State: None CRPR: 1B.1	Coastal bluff scrub (sandy soils) and coastal dunes.	Does not occur on site due to lack of suitable habitat.
Palmer's grapplinghook *Harpagonella palmeri*	Federal: None State: None CRPR: Rank 4.2	Chaparral, coastal sage scrub, valley and foothill grassland. Occurring in clay soils.	Suitable habitat occurs in portions of the Project Site. Low potential to occur.
Paniculate tarplant *Deinandra paniculata*	Federal: None State: None CRPR: Rank 4.2	Usually in vernally mesic, sometimes sandy soils in coastal scrub, valley and foothill grassland, and vernal pools.	Suitable habitat occurs in portions of the Project Site. High potential to occur.
Parish's brittlescale *Atriplex parishii*	Federal: None State: None CRPR: 1B.1	Alkali meadows, vernal pools, chenopod scrub, playas.	Does not occur on site due to lack of suitable habitat.
Plummer's mariposa lily *Calochortus plummerae*	Federal: None State: None CRPR: Rank 4.2	Granitic, rock soils within chaparral, cismontane woodland, coastal sage scrub, lower montane coniferous forest, valley and foothill grassland.	Not expected to occur on site due to lack of suitable habitat.
Prostrate vernal pool navarretia *Navarretia prostrata*	Federal: None State: None CRPR: Rank 1B.1	Coastal sage scrub, valley and foothill grassland (alkaline), vernal pools. Occurring in mesic soils.	Does not occur on site due to lack of suitable habitat.
Red sand-verbena *Abronia maritima*	Federal: None State: None CRPR: Rank 4.2	Coastal dunes.	Does not occur on site due to lack of suitable habitat.

Species Name	Status	Habitat Requirements	Occurrence
Robinson's pepper grass *Lepidium virginicum* var. *robinsonii*	Federal: None State: None CRPR: Rank 4.3	Chaparral, coastal sage scrub	Suitable habitat occurs in portions of the Project Site. Low potential to occur.
Salt marsh bird's-beak *Chloropyron maritimum* ssp. *maritimum*	Federal: FE State: SE CRPR: Rank 1B.2	Coastal dune, coastal salt marshes and swamps.	Does not occur on site due to lack of suitable habitat.
Salt Spring checkerbloom *Sidalcea neomexicana*	Federal: None State: None CRPR: Rank 2B.2	Mesic, alkaline soils in chaparral, coastal sage scrub, lower montane coniferous forest, Mojavean desert scrub, and playas.	Does not occur on site due to lack of suitable habitat.
San Bernardino aster *Symphyotrichum defoliatum*	Federal: None State: None CRPR: Rank 1B.2	Cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, valley and foothill grassland (vernally mesic).	Does not occur on site due to lack of suitable habitat.
San Diego button-celery *Eryngium aristulatum* var. *parishii*	Federal: FE State: SE CRPR: Rank 1B.1	Mesic soils in vernal pools, valley and foothill grasslands, sage scrub.	Does not occur on site due to lack of suitable habitat.
San Diego County viguiera *Viguiera laciniata*	Federal: None State: None CRPR: Rank 4.3	Chaparral, coastal sage scrub.	Suitable habitat occurs in portions of the Project Site. Low potential to occur.
Seaside cistanthe *Cistanthe maritima*	Federal: None State: None CRPR: Rank 4.2	Sandy soils in coastal bluff scrub, coastal scrub, and valley and foothill grassland.	Not expected to occur on site due to lack of suitable habitat.
Small spikerush *Eleocharis parvula*	Federal: None State: None CRPR: Rank 4.3	Marshes and swamps.	Does not occur on site due to lack of suitable habitat.
Small-flowered microseris *Microseris douglasii* ssp. *platycarpha*	Federal: None State: None CRPR: Rank 4.2	Cismontane woodland, coastal sage scrub, valley and foothill grassland, vernal pools. Occurring on clay soils.	Does not occur on site due to lack of suitable habitat.
Small-flowered morning-glory *Convolvulus simulans*	Federal: None State: None CRPR: Rank 4.2	Chaparral (openings), coastal sage scrub, valley and foothill grassland. Occurring on clay soils and serpentinite seeps.	Does not occur on site due to lack of suitable habitat.
South coast branching phacelia *Phacelia ramosissima* var. *austrolitoralis*	Federal: None State: None CRPR: Rank 3.2	Sandy, sometimes rocky soils in chaparral, coastal dunes, coastal scrub, and marshes and swamps (coastal salt)	Not expected to occur on site due to lack of suitable habitat.
South coast saltscale *Atriplex pacifica*	Federal: None State: None CRPR: 1B.2	Coastal bluff scrub, coastal dunes, coastal sage scrub, playas.	Not expected to occur on site due to lack of suitable habitat.

Species Name	Status	Habitat Requirements	Occurrence
Southern California black walnut *Juglans californica*	Federal: None State: None CRPR: Rank 4.2	Chaparral, cismontane woodland, coastal sage scrub, alluvial surfaces.	Suitable habitat occurs in portions of the Project Site. Very low potential to occur.
Southern tarplant *Centromadia parryi* ssp. *australis*	Federal: None State: None CRPR: Rank 1B.1	Disturbed habitats, margins of marshes and swamps, vernally mesic valley and foothill grassland, vernal pools.	Not expected to occur on site due to lack of suitable habitat.
Southwestern spiny rush *Juncus acutus* ssp. *leopoldii*	Federal: None State: None CRPR: Rank 4.2	Coastal dunes (mesic), meadows and seeps (alkaline seeps), and marshes and swamps (coastal salt).	Does not occur on site due to lack of suitable habitat.
Summer holly *Comarostaphylis diversifolia* ssp. *diversifolia*	Federal: None State: None CRPR: Rank 1B.2	Chaparral.	Suitable habitat occurs in portions of the Project Site. Low potential to occur.
Thread-leaved brodiaea *Brodiaea filifolia*	Federal: FT State: SE CRPR: Rank 1B.1	Clay soils in chaparral (openings), cismontane woodland, coastal sage scrub, playas, valley and foothill grassland, vernal pools.	Does not occur on site due to lack of suitable habitat.
Vernal barley *Hordeum intercedens*	Federal: None State: None CRPR: Rank 3.2	Coastal dunes, coastal sage scrub, valley and foothill grassland (saline flats and depressions), vernal pools.	Does not occur on site due to lack of suitable habitat.
Western dichondra *Dichondra occidentalis*	Federal: None State: None CRPR: 4.2	Coastal sage scrub, chaparral, oak woodland. Often in dry sandy banks in scrub or under trees.	Suitable habitat occurs in portions of the Project Site. Moderate potential to occur.
White rabbit-tobacco *Pseudognaphalium leucocephalum*	Federal: None State: None CRPR: Rank 2B.2	Sandy or gravelly soils in chaparral, cismontane woodland, coastal scrub, and riparian woodland.	Does not occur on site due to lack of suitable habitat.
Woolly seablite *Suaeda taxifolia*	Federal: None State: None CRPR: Rank 4.2	Coastal bluff scrub, coastal dunes, marshes and swamps (margins of coastal salt).	Does not occur on site due to lack of suitable habitat.

Species Name	Status	Habitat Requirements	Occurrence

Status

Federal
FE – Federally Endangered
FT – Federally Threatened
FC – Federal Candidate

State
SE – State Endangered
ST – State Threatened

CRPR

Rank 1A – Plants presumed extirpated in California and either rare or extinct elsewhere.
Rank 1B – Plants rare, threatened, or endangered in California and elsewhere.
Rank 2A – Plants presumed extirpated in California, but common elsewhere.
Rank 2B – Plants rare, threatened, or endangered in California, but more common elsewhere.
Rank 3 – Plants about which more information is needed (a review list).
Rank 4 – Plants of limited distribution (a watch list).

CRPR Threat Code extension

.1 – Seriously endangered in California (over 80% occurrences threatened)
.2 – Fairly endangered in California (20-80% occurrences threatened)
.3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

Occurrence

- Does not occur – The site does not contain habitat for the species and/or the site does not occur within the geographic range of the species.
- Absent – The site contains suitable habitat for the species, but the species has been confirmed absent through focused surveys.
- Not expected to occur – The species is not expected to occur onsite due to low habitat quality, however absence cannot be ruled out.
- Potential to occur – The species has a potential to occur onsite based on suitable habitat, however its presence/absence could not be confirmed.
- Present – The species was detected onsite incidentally or through focused surveys.

Special-Status Animals Evaluated for the Project Site

Table 2 provides a list of special-status animals evaluated for the Project site through a general biological survey and habitat assessment. Species were evaluated based on the following factors, including: 1) species identified by the CNDDB as occurring (either currently or historically) on or in the vicinity of the Project site, and 2) any other special-status animals that are known to occur within the vicinity of the Project site, for which potentially suitable habitat occurs on the site.

Focused, protocol breeding surveys for coastal California gnatcatcher (*Polioptila californica californica*) have been completed for FMZs 17 and 18 and did not result in detection of coastal California gnatcatchers. Focused, protocol non-breeding surveys for coastal California

gnatcatcher are currently being conducted for FMZ 22 and will be completed by February 2022. No coastal California gnatcatchers have been detected within FMZ 22 during any of the initial surveys completed to date.

Federally or state listed as endangered or threatened species with the potential to occur on site are highlighted below in Table 2 in red, and include the federally listed as threatened coastal California gnatcatcher (*Polioptila californica californica*).

Other special-status species with the potential to occur on site are highlighted in yellow and include California glossy snake (*Arizona elegans occidentalis*), a California Department of Fish and Wildlife (CDFW) designated species of special concern; coast patch-nosed snake (*Salvadora hexalepis virgultea*), a CDFW designated species of special concern; coastal whiptail (*Aspidoscelis tigris stejnegeri*), a CDFW designated species of special concern; orange-throated whiptail (*Aspidoscelis hyperythrus*), a CDFW designated species of special concern; red-diamond rattlesnake (*Crotalus ruber*), a CDFW designated species of special concern; coastal cactus wren (*Campylorhychus brunneicapillus sandiegensis*), a CDFW designated species of special concern; Cooper's hawk (nesting) (*Accipiter cooperii*), a CDFW designated Watch List species; and Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), a CDFW designated Watch List species.

Table 2. Special-Status Animals Evaluated for the Project Site for the Project Site

Species Name	Status	Habitat Requirements	Occurrence
Invertebrates			
Monarch butterfly *Danaus plexippus pop. 1*	Federal: FC State: None	Roosts in winter in wind-protected tree groves along the California coast from northern Mendocino to Baja California, Mexico.	No suitable roosting habitat. Does not roost on site.
Riverside fairy shrimp *Streptocephalus woottoni*	Federal: FE State: None CDFW: None	Restricted to deep seasonal vernal pools, vernal pool-like ephemeral ponds, and stock ponds.	Does not occur due to lack of suitable vernal pool habitat.
San Diego fairy shrimp *Branchinecta sandiegonensi*	Federal: FE State: None CDFW: None	Seasonal vernal pools	Does not occur due to lack of suitable vernal pool habitat.
Fish			
Arroyo chub *Gila orcutti*	Federal: None State: None CDFW: SSC	Slow-moving or backwater sections of warm to cool streams with substrates of sand or mud.	Does not occur due to lack of suitable habitat.
Santa Ana speckled dace *Rhinichthys osculus* ssp. *3*	Federal: None State: None CDFW: SSC	Occurs in the headwaters of the Santa Ana and San Gabriel Rivers. May be extirpated from the Los Angeles River system. Requires permanent flowing	Does not occur due to lack of suitable habitat.

Species Name	Status	Habitat Requirements	Occurrence
		streams with summer water temperatures of 17-20 C. Usually inhabits shallow cobble and gravel riffles.	
Southern steelhead - southern California DPS *Oncorhynchus mykiss irideus*	Federal: FE State: None CDFW: None	Clear, swift moving streams with gravel for spawning. Federal listing refers to populations from Santa Maria river south to southern extent of range (San Mateo Creek in San Diego county.)	Does not occur due to lack of suitable habitat.
Tidewater goby *Eucyclobobius newberryi*	Federal: FE State: None CDFW: SSC	Occurs in shallow lagoons and lower stream reaches along the California coast from Agua Hedionda Lagoon, San Diego Co. to the mouth of the Smith River.	Does not occur due to lack of suitable habitat.
Amphibians			
Arroyo toad *Anaxyrus californicus*	Federal: FE State: None CDFW: SSC	Breed, forage, and/or aestivate in aquatic habitats, riparian, coastal sage scrub, oak, and chaparral habitats. Breeding pools must be open and shallow with minimal current, and with a sand or pea gravel substrate overlain with sand or flocculent silt. Adjacent banks with sandy or gravely terraces and very little herbaceous cover for adult and juvenile foraging areas, within a moderate riparian canopy of cottonwood, willow, or oak.	Does not occur due to lack of suitable habitat.
Western spadefoot Spea hammondii	Federal: FSC State: None CDFW: SSC	Seasonal pools in coastal sage scrub, chaparral, and grassland habitats.	Does not occur due to lack of suitable habitat.
Reptiles			
California glossy snake *Arizona elegans occidentalis*	Federal: None State: None CDFW: SSC	Inhabits arid scrub, rocky washes, grasslands, chaparral. Prefers open areas with friable soils for burrowing.	Moderate potential to occur within portions of Project site.
Coast patch-nosed snake *Salvadora hexalepis virgultea*	Federal: None State: None CDFW: SSC	Occurs in coastal chaparral, desert scrub, washes, sandy flats, and rocky areas.	Moderate potential to occur within portions of Project site.
Coastal whiptail *Aspidoscelis tigris stejnegeri (multiscutatus)*	Federal: None State: None CDFW: SSC	Open, often rocky areas with little vegetation, or sunny microhabitats within shrub or grassland associations.	Moderate potential to occur within portions of Project site.

Species Name	Status	Habitat Requirements	Occurrence
Orange-throated whiptail *Aspidoscelis hyperythrus*	Federal: None State: None CDFW: SSC	Coastal sage scrub, chaparral, non-native grassland, oak woodland, and juniper woodland.	Moderate potential to occur within portions of Project site.
Red-diamond rattlesnake *Crotalus ruber*	Federal: None State: None CDFW: SSC	Habitats with heavy brush and rock outcrops, including coastal sage scrub and chaparral.	High potential to occur within portions of Project site.
Southern California legless lizard *Anniella stebbinsi*	Federal: None State: None CDFW: SSC	Common in the Coast Ranges from the vicinity of Antioch, Contra Costa Co. south to the Mexican border. Range includes the floor of the San Joaquin Valley from San Joaquin Co. south, the west slope of the southern Sierra, the Tehachapi Mountains west of the desert, and the mountains of southern California. Common in several habitats but especially in coastal dune, valley-foothill, chaparral, and coastal scrub types.	Not expected to occur due to lack of suitable habitat.
Two-striped garter snake *Thamnophis hammondii*	Federal: None State: None CDFW: SSC	Aquatic snake typically associated with wetland habitats such as streams, creeks, and pools.	Does not occur due to lack of suitable habitat.
Western pond turtle *Emys marmorata*	Federal: None State: None CDFW: SSC	Slow-moving permanent or intermittent streams, small ponds and lakes, reservoirs, abandoned gravel pits, permanent and ephemeral shallow wetlands, stock ponds, and treatment lagoons. Abundant basking sites and cover necessary, including logs, rocks, submerged vegetation, and undercut banks.	Does not occur due to lack of suitable habitat.
Birds			
Bank swallow (nesting) *Riparia riparia*	Federal: None State: ST CDFW: None	Low areas along rivers, streams, ocean coasts or reservoirs. Often use human-made sites.	Does not occur due to lack of suitable habitat. Not observed during surveys.
Belding's savannah sparrow *Passerculus sandwichensis beldingi*	Federal: None State: SE CDFW: None	Coastal Marshes.	Does not occur due to lack of suitable salt marsh habitat.
Burrowing owl *Athene cunicularia*	Federal: FSC State: None CDFW: SSC	Shortgrass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), coastal dunes, desert floors, and some artificial, open areas as a year-long resident. Occupies abandoned ground squirrel	Not expected to occur due to lack of suitable habitat.

Species Name	Status	Habitat Requirements	Occurrence
		burrows as well as artificial structures such as culverts and underpasses.	
California black rail *Laterallus jamaicensis coturniculus*	Federal: BCC State: ST, FP CDFW: None	Nests in high portions of salt marshes, shallow freshwater marshes, wet meadows, and flooded grassy vegetation.	Does not occur due to lack of suitable salt marsh and emergent marsh habitat.
California horned lark *Eremophila alpestris actia*	Federal: None State: None CDFW: WL	Occupies a variety of open habitats, usually where trees and large shrubs are absent.	Not expected to occur due to lack of suitable habitat.
California least tern (nesting colony) *Sterna antillarum browni*	Federal: FE State: SE, FP CDFW: None	Flat, vegetated substrates near the coast. Occurs near estuaries, bays, or harbors where fish is abundant.	Does not occur due to lack of suitable habitat.
Coastal cactus wren *Campylorhychus brunneicapillus sandiegensis*	Federal: None State: None CDFW: SSC	Occurs almost exclusively in cactus (cholla and prickly pear) dominated coastal sage scrub.	Low potential to occur within portions of Project site.
Coastal California gnatcatcher *Polioptila californica californica*	Federal: FT State: None CDFW: SSC	Low elevation coastal sage scrub and coastal bluff scrub.	Moderate potential to occur within portions of Project site.
Cooper's hawk (nesting) *Accipiter cooperii*	Federal: None State: None CDFW: WL	Primarily occurs in riparian areas and oak woodlands, most commonly in montane canyons. Known to use urban areas, occupying trees among residential and commercial.	Moderate potential to nest within portions of Project site. Observed during general biological surveys.
Ferruginous hawk (wintering) *Buteo regalis*	Federal: FSC State: None CDFW: SSC	Open, dry country, perching on trees, posts, and mounds. In California, wintering habitat consists of open terrain and grasslands of the plains and foothills.	Not expected to occur due to lack of suitable habitat.
Grasshopper sparrow (nesting) *Ammodramus savannarum*	Federal: None State: None CDFW: SSC	Open grassland and prairies with patches of bare ground.	Does not occur due to lack of suitable riparian habitat.
Least Bell's vireo *Vireo bellii pusillus*	Federal: FE State: SE CDFW: None	Dense riparian habitats with a stratified canopy, including southern willow scrub, mule fat scrub, and riparian forest.	Does not occur due to lack of suitable riparian habitat.
Light-footed clapper rail *Rallus longirostris levipes*	Federal: FE State: SE, FP CDFW: None	Marsh vegetation of coastal wetlands.	Does not occur due to lack of suitable salt marsh habitat.
Osprey (nesting) *Pandion haliaetus*	Federal: None State: None	Ocean shore, bays, fresh-water lakes, and larger streams. Builds	Does not nest on site due to lack of suitable habitat.

Species Name	Status	Habitat Requirements	Occurrence
	CDFW: WL	large nests in tree-tops within 15 miles of good fish-producing body of water.	
Southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	Federal: None State: None CDFW: WL	Grass covered hillsides, coastal sage scrub, and chaparral.	Low potential to occur within portions of Project site.
Southwestern willow flycatcher (nesting) *Empidonax traillii extimus*	Federal: FE State: SE	Riparian woodlands along streams and rivers with mature dense thickets of trees and shrubs.	Does not occur due to lack of suitable habitat.
Tricolored blackbird (nesting colony) *Agelaius tricolor*	Federal: BCC State: CE, SSC CDFW: None	Breeding colonies require nearby water, a suitable nesting substrate, and open-range foraging habitat of natural grassland, woodland, or agricultural cropland.	Does not occur due to lack of suitable habitat.
Western snowy plover (nesting) *Charadrius alexandrinus nivosus*	Federal: FT, BCC State: None CDFW: SSC	Sandy or gravelly beaches along the coast, estuarine salt ponds, alkali lakes, and at the Salton Sea.	Does not occur due to lack of suitable habitat.
Western yellow-billed cuckoo (nesting) *Coccyzus americanus occidentalis*	Federal: FT, BCC State: SE CDFW: None	Dense, wide riparian woodlands with well-developed understories.	Does not occur due to lack of suitable habitat.
White-tailed kite (nesting) *Elanus leucurus*	Federal: FSC State: None CDFW: CFP	Low elevation open grasslands, savannah-like habitats, agricultural areas, wetlands, and oak woodlands. Dense canopies used for nesting and cover.	Does not occur due to lack of suitable habitat.
Yellow rail *Coturnicops noveboracensis*	Federal: BCC State: None CDFW: SSC	Shallow marshes, and wet meadows; in winter, drier freshwater and brackish marshes, as well as dense, deep grass, and rice fields.	Does not occur due to lack of suitable habitat.
Yellow warbler (nesting) *Setophaga petechia*	Federal: BCC State: None CDFW: SSC	Breed in lowland and foothill riparian woodlands dominated by cottonwoods, alders, or willows and other small trees and shrubs typical of low, open-canopy riparian woodland. During migration, forages in woodland, forest, and shrub habitats.	Does not nest on site due to lack of suitable habitat.
Yellow-breasted chat *Icteria virens*	Federal: None State: None CDFW: SSC	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush with well-developed understories.	Does not occur due to lack of suitable habitat.

Species Name	Status	Habitat Requirements	Occurrence
Mammals			
American badger *Taxidea taxus*	Federal: None State: None CDFW: SSC	Most abundant in drier open stages of most scrub, forest, and herbaceous habitats, with friable soils.	Does not occur due to lack of suitable habitat.
Big free-tailed bat *Nyctinomops macrotis*	Federal: None State: None CDFW: SSC	Occurs in low-lying arid areas in Southern California. Roosts in high cliffs or rocky outcrops.	Not expected to occur due to lack of suitable habitat.
Dulzura pocket mouse *Chaetodipus californicus femoralis*	Federal: None State: None CDFW: SSC	Coastal scrub, grassland, and chaparral, especially at grass-chaparral edges	Not expected to occur due to lack of suitable habitat.
Hoary bat *Lasiurus cinereus*	Federal: None State: None WBWG: M	Prefers trees at the edge of clearings, but have been found in trees in heavy forests, open wooded glades, and shade trees along urban streets and in city parks.	Not expected to occur due to lack of suitable habitat.
Mexican long-tongued bat *Choeronycteris mexicana*	Federal: None State: None State: None WBWG: H	Variety of habitats ranging from desert, montane, riparian, to pinyon-juniper habitats. Found roosting in desert canyons, deep caves, mines, or rock crevices. Can use abandoned buildings.	Does not occur due to lack of suitable habitat.
Northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	Federal: None State: None CDFW: SSC	Coastal sage scrub, sage scrub/grassland ecotones, and chaparral.	Does not occur, Project site is outside the current known range of the species.
Pacific pocket mouse *Perognathus longimembris pacificus*	Federal: FE State: None CDFW: SSC	Fine, alluvial soils along the coastal plain. Scarcely in rocky soils of scrub habitats.	Not expected to occur due to lack of suitable habitat.
San Diego desert woodrat *Neotoma lepida intermedia*	Federal: None State: None CDFW: SSC	Occurs in a variety of shrub and desert habitats, primarily associated with rock outcrops, boulders, cacti, or areas of dense undergrowth.	Not expected to occur due to lack of suitable habitat.
Southern California saltmarsh shrew *Sorex ornatus salicoricus*	Federal: None State: None CDFW: SSC	Coastal marshes. Requires dense vegetation and woody debris for cover.	Does not occur due to lack of suitable habitat.
Southern grasshopper mouse *Onychomys torridus ramona*	Federal: None State: None CDFW: SSC	Desert areas, especially scrub habitats with friable soils for digging. Prefers low to moderate shrub cover.	Does not occur due to lack of suitable habitat.
Western mastiff bat *Eumops perotis californicus*	Federal: None State: None CDFW: SSC WBWG: H	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in	Does not occur due to lack of suitable habitat.

Species Name	Status	Habitat Requirements	Occurrence
		cliff faces, high buildings, trees, and tunnels.	
Yuma myotis *Myotis yumanensis*	Federal: None State: None CDFW: None WBWG: LM	Optimal habitats are open forests and woodlands with sources of water over which to feed. Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices.	Does not occur due to lack of suitable habitat.

Status

Federal
FE – Federally Endangered
FT – Federally Threatened
FPT – Federally Proposed Threatened
FC – Federal Candidate
BGEPA– Bald and Golden Eagle Protection Act

State
SE – State Endangered
ST – State Threatened
SC– State Candidate
CFP – California Fully-Protected Species
SSC – Species of Special Concern

Western Bat Working Group (WBWG)
H – High Priority
LM – Low-Medium Priority
M – Medium Priority
MH – Medium-High Priority

Occurrence

- Absent – The species is absent from the site, either because the site lacks suitable habitat for the species, the site is located outside of the known range of the species, or focused surveys has confirmed the absence of the species.
- Not expected to occur – The species is not expected to occur onsite due to low habitat quality, however absence cannot be ruled out.
- Potential to occur – The species has a potential to occur onsite based on suitable habitat, however its presence/absence could not be confirmed.
- Present – The species was detected onsite incidentally or through focused surveys.

City of Laguna Beach High Value and Very High Value Habitats

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.[1] As depicted in the attached Exhibits 1, 2 and 3, FMZs 17 and 18 occur partially within areas designated as very high value habitat, and FMZs 17, 18 and 22 occur partially within areas designated as high value habitat. High value and very high value habitats are described by the City as:

[1] City of Laguna Beach. 1993. Laguna Beach General Plan; Open Space/Conservation Element (updated February 2006)

> *" . . . 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 traversable 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 birds or native small mammals."*

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 as a means to conduct an updated, and smaller-scale assessment of the resources actually present on site.

In regard to proposed fuel modification activities within areas designated as high value or very high value habitat, the City's General Plan specifically,

> *" Prohibit[s] intrusion of fuel modification programs into environmentally sensitive areas, including chaparral and coastal sage scrub."*

Please let me know if you have any questions.

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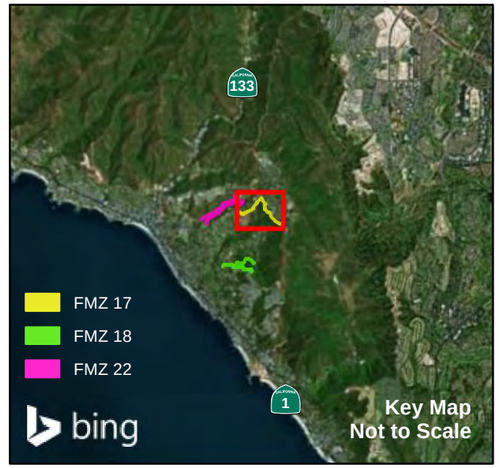

Fuel Modification Zone 17

Laguna Beach
High Value Habitat

Laguna Beach
Very High Value Habitat

N

0 125 250 500
Feet

1 inch = 250 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: November 3, 2021

CITY OF LAGUNA BEACH
FUEL MODIFICATION ZONE 17

High & Very High Value Habitat Map

GLENN LUKOS ASSOCIATES

Exhibit 1

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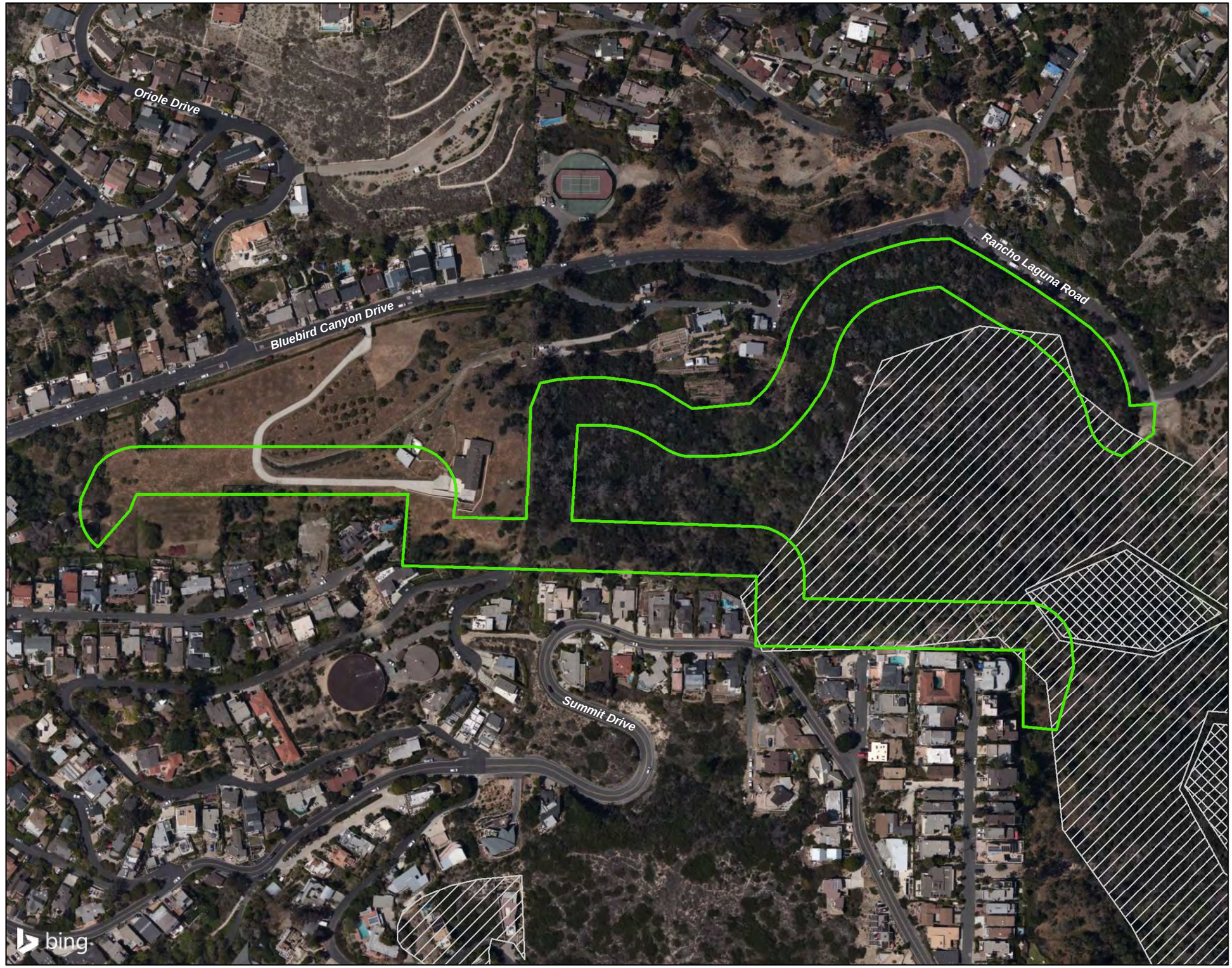

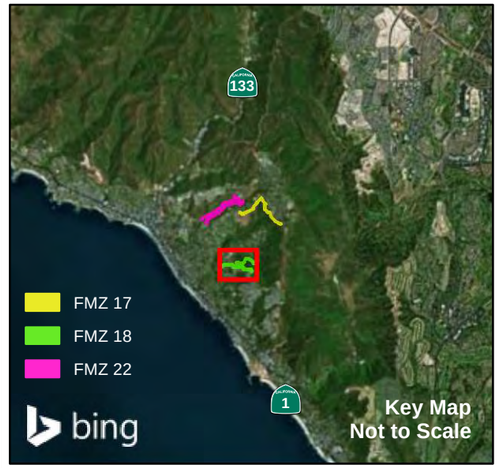

Fuel Modification Zone 18

Laguna Beach
High Value Habitat

Laguna Beach
Very High Value Habitat

N

0 100 200 400
Feet

1 inch = 200 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: November 3, 2021

CITY OF LAGUNA BEACH
FUEL MODIFICATION ZONE 18

High & Very High Value Habitat Map

GLENN LUKOS ASSOCIATES

Exhibit 2

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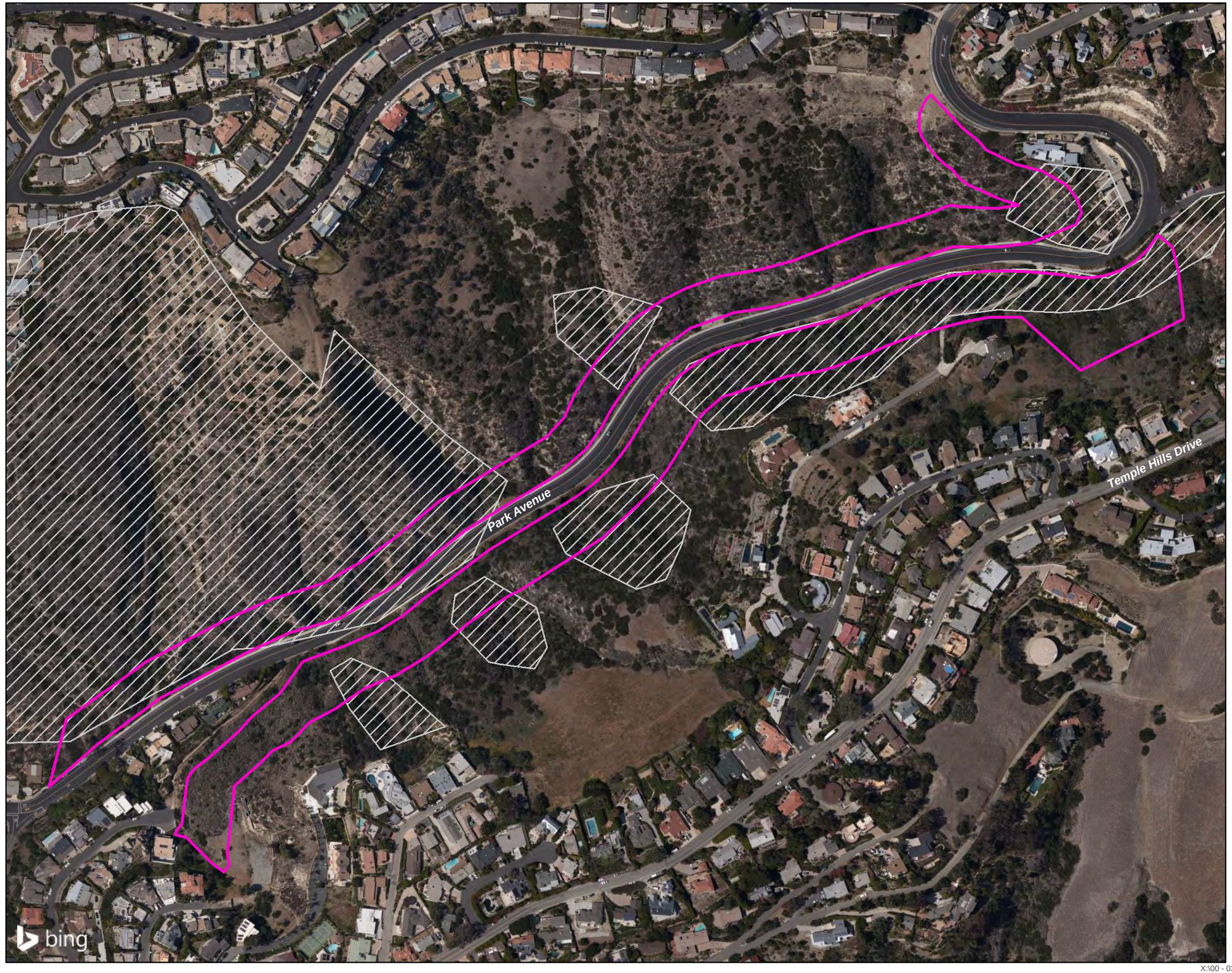

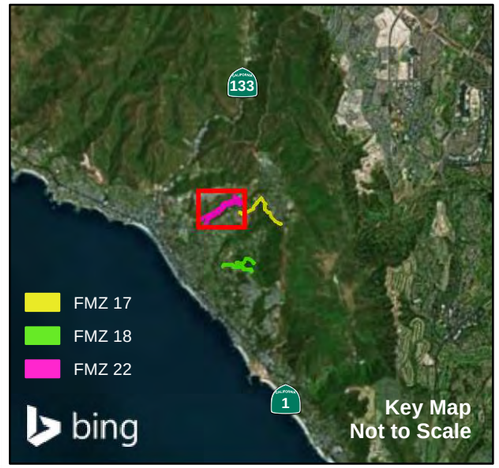

Fuel Modification Zone 22

Laguna Beach
High Value Habitat

N

0 125 250 500
Feet

1 inch = 250 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: November 3, 2021

CITY OF LAGUNA BEACH
FUEL MODIFICATION ZONE 22

High Value Habitat Map

GLENN LUKOS ASSOCIATES

Exhibit 3

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GLENN LUKOS ASSOCIATES

Regulatory Services

July 27, 2021

Ms. Stacey Love
U.S. Fish and Wildlife Service
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

SUBJECT: Results of Protocol Coastal California Gnatcatcher Surveys for the Fuel Modification Zones 17 and 18 Project, Located in the City of Laguna Beach, Orange County, California

Dear Ms. Love:

This letter report documents the results of protocol presence/absence surveys conducted by Glenn Lukos Associates, Inc. (GLA) for the federally listed threatened coastal California gnatcatcher (*Polioptila californica californica*) at the above-mentioned property. Surveys were conducted from May 19, 2021 through June 23, 2021 in all areas of potentially suitable habitat in accordance with U.S. Fish and Wildlife Service (USFWS) guidelines. The coastal California gnatcatcher was not detected during the 2021 focused surveys for the project.

1.0 SITE LOCATION AND DESCRIPTION

The Fuel Modification Zones 17 and 18 (the Project) is located within the City of Laguna Beach, Orange County, California [Exhibit 1 – Regional Map]. The Project sites are located in Section 19 and 30, Township 7 South, Range 8 West, of the Laguna Beach, California USGS 7.5 minute topographical map (dated 2018) [Exhibit 2 – Vicinity Map]. Approximate Universal Transverse Mercator (UTM) coordinates for the sites are 429574.13 mE and 3712271.23 mN (Zone 11S) and 429244.87 mE and 3711014.72 mN (Zone 11S). The Project site is divided into two fuel modification zones (Zones 17 and 18). Zone 17 is generally located adjacent to Temple Hills Drive and the Zone 18 is generally located adjacent to Bluebird Canyon Road, in the City of Laguna Beach [Exhibit 3 – Site Map]. Both fuel modification zones are located at the residential development and open space land interface. There are two suitable vegetation communities where the coastal California gnatcatcher has potential to occur within the Project. The vegetation communities are described below.

1.1 Coastal Sage Scrub

Coastal sage scrub occurs primarily within Fuel Modification Zones 17. Vegetation in this community is dominated by coastal sage scrub species such as California sagebrush (*Artemesia californica*), California buckwheat (*Eriogonum fasciculatum*), coast prickly pear cactus (*Opuntia littoralis*), and black sage (*Salvia mellifera*). Other associated species include deerweed (*Acmipson glaber*), giant wild rye (*Elymus condensatus*), deer grass (*Muhlenbergia rigens*), white sage (*Salvia apiana*), chalk dudleya (*Dudleya pulverulenta*), and bush monkeyflower (*Mimulus aurantiacus*).

1.2 Southern Mixed Chaparral

Southern Mixed Chaparral occurs primarily within Fuel Modification Zones 17. Vegetation in this community is comprised of species such as toyon (*Heteromeles arbutifolia*), laurel sumac (*Malosma laurina*), and lemonade berry (*Rhus integrifolia*).

2.0 METHODOLOGY

Protocol surveys for the coastal California gnatcatcher were performed in accordance with the 1997 USFWS guidelines, which stipulate that during the breeding season, six surveys shall be conducted in all areas of suitable habitat with at least seven days between site visits. The USFWS survey guidelines also stipulate that no more than 80 acres of suitable habitat shall be surveyed per biologist per day. The survey areas contained approximately 10 acres of coastal sage scrub, and approximately eight acres of southern mixed chaparral and therefore less than 80 acres of suitable habitat for the gnatcatcher. As such, the fuel modification zones consisted of two survey polygons requiring one "survey-day" per week.

GLA biologist Joseph Vu (TE-14862C-1) conducted the presence/absence surveys. Surveys were conducted between May 19, 2021 and June 23, 2021. Areas of suitable habitat were surveyed by walking slowly and methodically along pre-determined transect routes. The location of each transect was based on vegetation and topographic conditions. The presence/absence of coastal California gnatcatchers was determined through vocalization and visual identification. A combination of gnatcatcher vocalization recordings and "pishing" sounds were used (as needed depending on the vegetation density and topography) 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 12:00 P.M. No surveys were conducted during extreme weather conditions (i.e., winds exceeding 15 miles per hour, rain, or temperatures in excess of 35ºC). Table 1 summarizes the survey dates/times and weather conditions.

Table 1. Summary of Survey Dates and Weather Data.

Date	Survey Time (Start/End)	Temperature (ºF) (Start/End)	Cloud Cover (%) (Start/End)	Wind Speed (Mph) (Start/End)	Surveying Biologists
5/19/2021	0700/1145	56/63	100/100	6/8	Joseph Vu
5/26/2021	0645/1150	61/66	100/10	9/10	Joseph Vu
6/2/2021	0645/1145	63/66	100/Clear	1/9	Joseph Vu
6/9/2021	0640/1125	64/66	30/Clear	1/7	Joseph Vu
6/16/2021	0635/1115	64/71	Clear/Clear	6/10	Joseph Vu
6/23/2021	0700/1120	63/66	100/Clear	5/9	Joseph Vu

3.0. RESULTS

The coastal California gnatcatcher was not detected during the 2021 focused surveys for the project.

Additional birds observed during the protocol surveys included the following: red-breasted nuthatch (*Sitta canadensis*), northern mockingbird (*Mimus polyglottos*), common raven (*Corvus corax*), house finch (*Carpodacus mexicanus*), red-tailed hawk (*Buteo jamaicensis*), Anna's hummingbird (*Calypte anna*), lesser goldfinch (*Carduelis psaltria*), common yellowthroat (*Geothlypis trichas*), mourning dove (*Zenaida macroura*), Bewick's wren (*Thryomanes bewickii*), black phoebe (*Sayornis nigricans*), Say's phoebe (*Sayornis saya*), wrentit (*Chamaea fasciata*), California towhee (*Melozone crissalis*), spotted towhee (*Pipilo maculatus*), bushtit (*Psaltriparus minimus*), American crow (*Corvus brachyrhynchos*), California quail (*Callipepla californica*), Cassin's kingbird (*Tyrannus vociferans*), Bullock's oriole (*Icterus bullockii*), and California scrub jay (*Aphelocoma californica*).

No brown-headed cowbirds (*Molothrus ater*) were detected during the focused California gnatcatcher surveys.

If you have any questions regarding the findings of this report, please contact me at (949) 837-0404 or by my email JVu@wetlandpermitting.com.

I certify that the information in this survey report and attached exhibits fully and accurately represents our work.

GLENN LUKOS ASSOCIATES, INC.

	TE-14862C-1	07/27/2021
Joseph Vu	Permit #	Date
Biologist		

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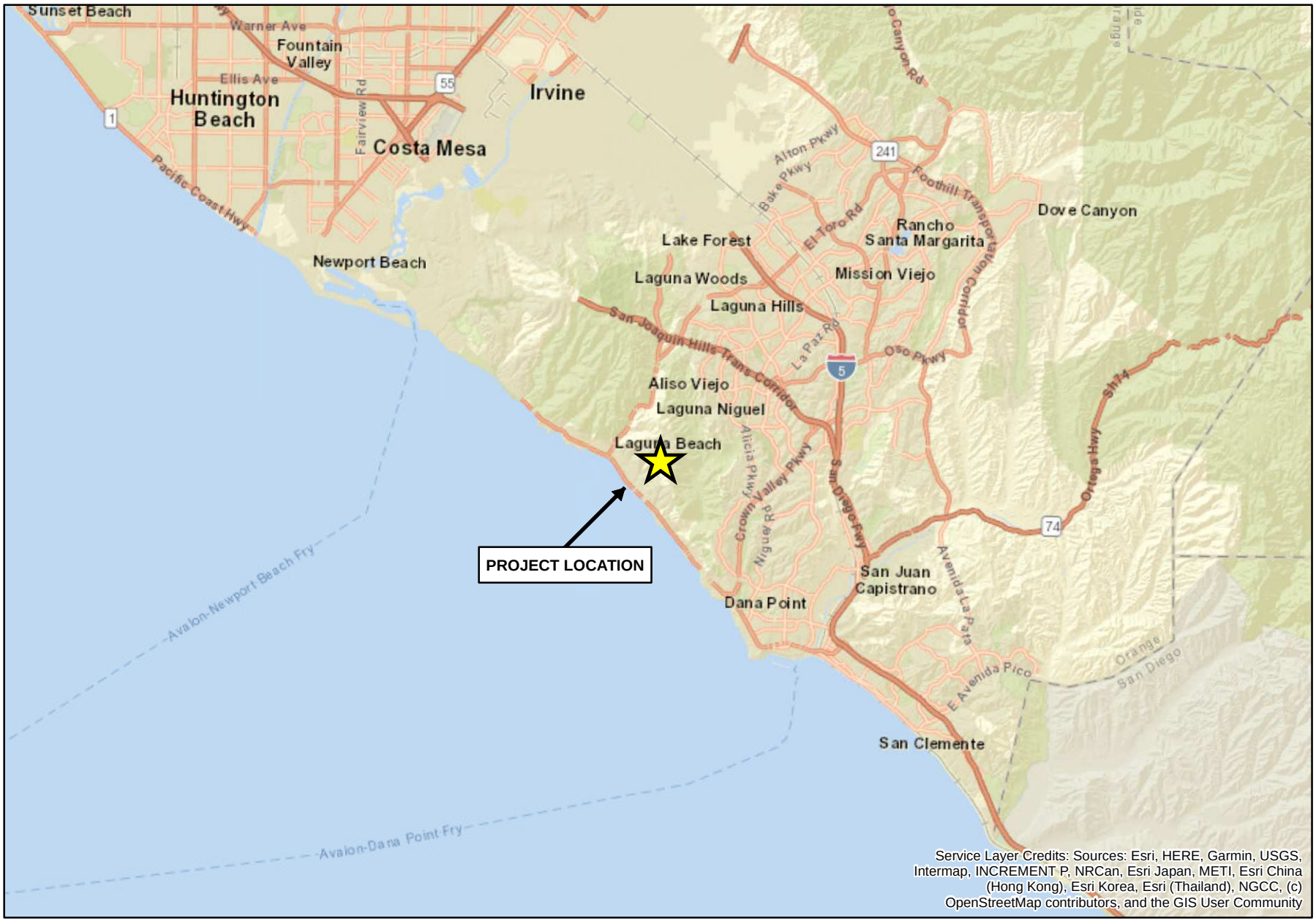


Source: ESRI World Street Map

N

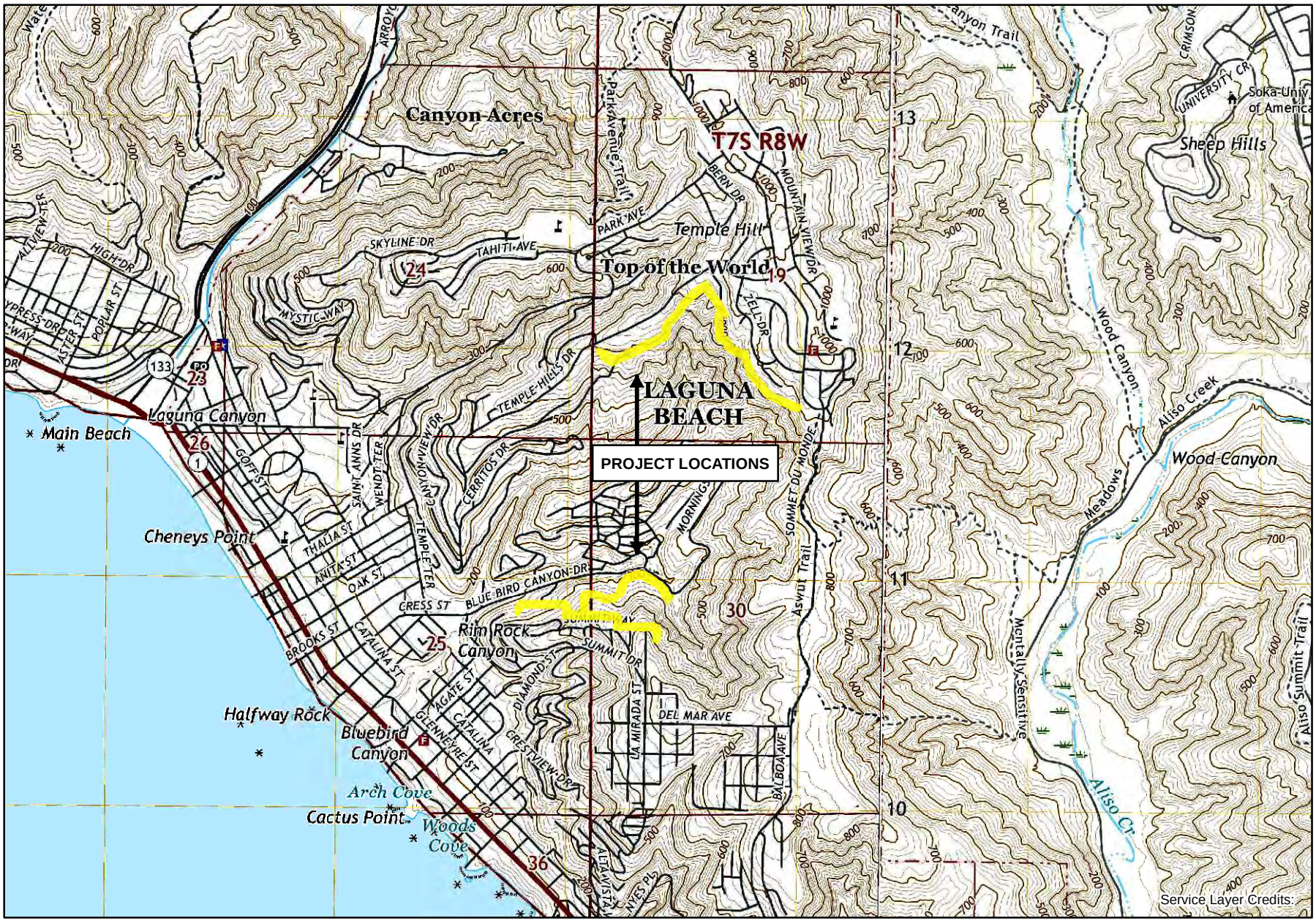
0 2 4 8 Miles

CITY OF LAGUNA BEACH
FUEL MODIFICATION ZONES 17 & 18

Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1



Adapted from USGS Laguna Beach, CA quadrangle

N

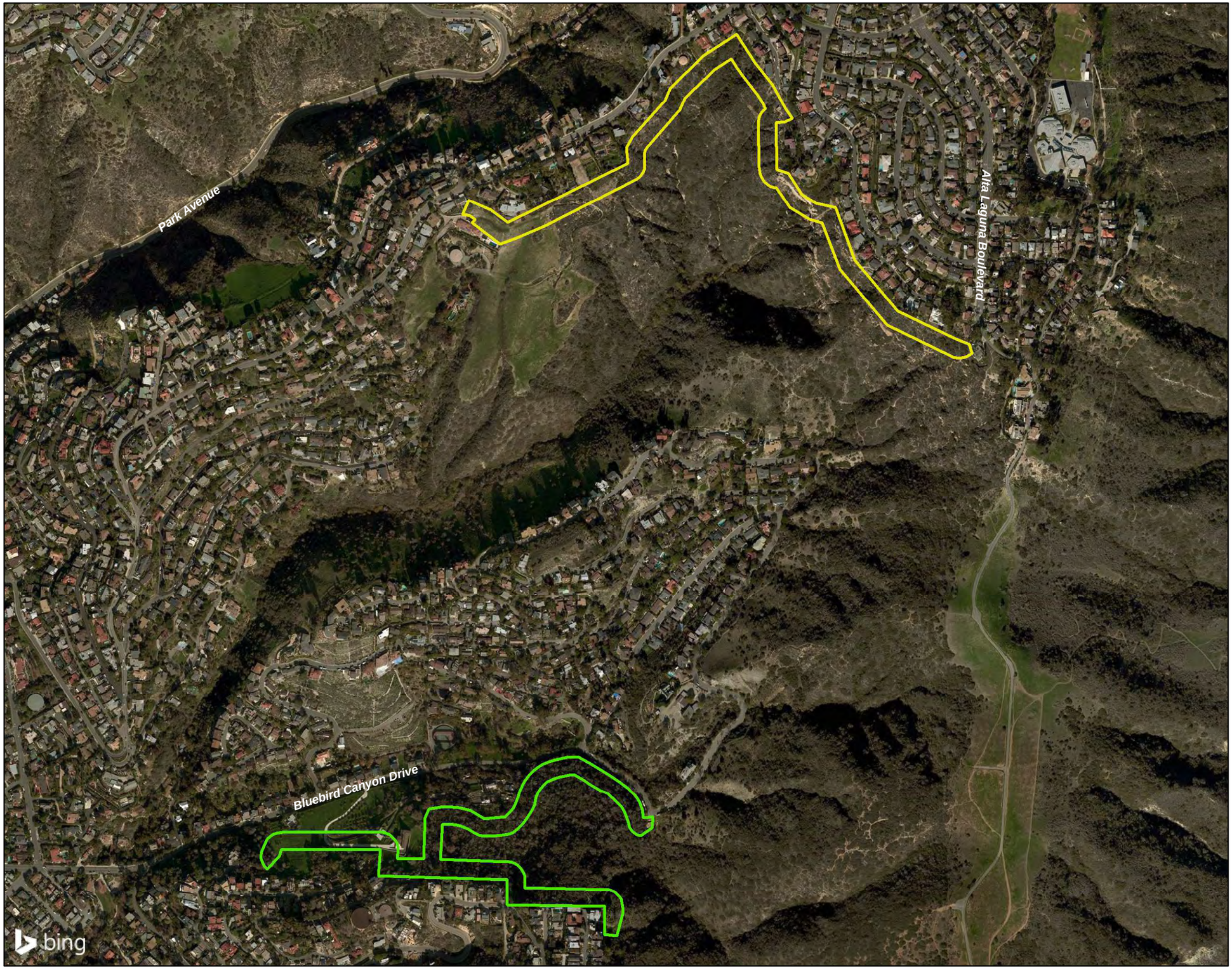
0 1,000 2,000 4,000 Feet

CITY OF LAGUNA BEACH
FUEL MODIFICATION ZONES 17 & 18

Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2



Fuel Modification Zone 17

Fuel Modification Zone 18

N

0 275 550 1,100

Feet

1 inch = 550 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: April 28, 2021

CITY OF LAGUNA BEACH
FUEL MODIFICATION ZONES 17 & 18

Project Site Map

GLENN LUKOS ASSOCIATES

Exhibit 3

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Appendix D

Cultural Resources Assessment Report for the Bluebird Canyon and Park Avenue Fuel Modification Projects

CONFIDENTIAL

Appendix E

Geotechnical Reports

Update Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program, Zone 17, Upper Rim Rock Canyon Area, Laguna Beach, California

Update Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program Zone 18, Southern Bluebird Canyon Area, Laguna Beach, California

Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program, Zone 22, Lower Park Avenue Area, Laguna Beach, California

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

January 17, 2022

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

Project No: 72422-17
Report No: 22-9072

Attention: Mr. Michael Rohde

Subject: **Update Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program**
Zone 17, Upper Rim Rock Canyon Area
Laguna Beach, California

INTRODUCTION

This report presents the results of an updated geotechnical evaluation of the potential slope stability impacts related to proposed fuel modification on the slopes descending from residences along eastern Temple Hills Drive and the Top of the World community, within Rim Rock 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 throughout many areas of the City. 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 provides 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 17 below Temple Hills Drive, Dorn Court, Zurich Court, Zell Drive and Bernard Court, 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 and photo-documentation 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 – Slope Ratio, Zone 17 Map
Appendix A – References
Appendix B – Photo-Documentation

Site Description

The area of Zone 17 can be characterized as the upper hillside flanks of Rim Rock Canyon, along the southern edge of the community of Top of the World, and a portion of the east-facing slope flanking Temple Hills Drive. The area is located on an upper edge of natural slope with descending natural terrain on the order of 200 to 400 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.

While the residences are located on typically cut or modified ground, the fuel modification area is in a largely natural state. 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, refer to Appendix B. Below the Top of the World community and eastern Temple Hills Drive area into the Rim Rock Canyon bottom much of the vegetation is well established, mature and in excess of three feet in height. On the slopes to the ridgetop the vegetation is a more open mix of brush with few trees, and typically five to ten feet in height. Limited accumulations of debris comprised of dead vegetation and dry woody materials is scattered throughout this area. In the western area below Temple Hills Drive most of the vegetation on the Rim Rock Canyon Landslide has been removed to largely expose soil. It is presumed further fuel modification is envisioned over the landslide.

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 17 is located above such a canyon.

During this regional erosion-uplift process, decay and failure of the rock slopes occur naturally. Landslides have formed where stream erosion has undercut planes of weakness within the bedrock strata. Many of these ancient landslides formed during the Pleistocene when the climate was wetter, the sea level was lower, and erosional processes were more active. Erosional processes remain episodically active to the present day, as observed during recent wet winters, in the form of flooding, mudflows and landslides throughout the region. 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 soils 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 Topanga Formation. The Topanga bedrock typically consists of fine to coarse-grained sandstones, with siltstone and claystone layering. Overall the bedrock underlying the area is 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 indicated as being present in and adjacent to Zone 17 based on a review of State maps and aerial photographs. The Rim Rock Canyon Landslide is located southeast of Temple Hills Drive in the southern portion of Zone 17. This landslide as depicted on the CDMG map extends upslope from the base of the canyon and to the east of several residences along Temple Hills Drive. This failure has been observed to be intermittently active on the eastern margin.

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 17 area strikes north-northeast and is inclined 17 to 41 degrees southeast. This structure results in a supported condition adjacent to the Top of the World community, but results in an obliquely unsupported condition underlying in southern sloping terrain, such as the southern flank of the Temple Hills community. Overall, the potential for deep gross failure of the bedrock is possible in this specific area, owing to the weak bedding and orientation of the Topanga 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 is anticipated and is reflected in the periodic re-activation of the Rim Rock Landslides deep instability.

Surficial Runoff

Within Zone 17 the majority of the fuel modification area is unimproved with regard to drainage, but is immediate flanked by improved homesites. In most areas, the residual soil and rock slopes sheet flow to tributary drainages, which ultimately collect in the canyon. Reductions in vegetation will likely somewhat increase the volume of runoff and surface sediment losses from the steeper hillsides, particularly in these areas at the top of the slope.

Slope Stability

In Zone 17, the character of the rock and bedding south of Top of the World community in the Topanga Formation is not generally prone to gross instability. However, the California Geological Survey landslide map for Laguna Beach indicates landslide deposits are known to be present southeast of the Temple Hills Drive area. While this area has been studied, confirmation of the presence or current limits 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 vegetation and geologic conditions in Zone 17 remain essentially unchanged from the original report. The findings and guidelines remain applicable and are restated herein.

2. 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.

3. The majority of the fuel modification area is underlain near 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.

4. The exposed bedrock materials have a low susceptibility to surficial failure. The residual soil deposits have a low to moderate susceptibility to surficial movement with the current vegetation. The Rim Rock Canyon landslide is present on the slopes flanking Temple Hills Drive within Zone 17.

5. Given a lack of existing vegetation, Fuel Modification within or above the Rim Rock Canyon Landslide area may not be required. If fuel modification is required in this area, additional stability evaluation and study may be required given the intermittent active of the failure. The impact on infiltration and the potential for additional movement of the Rim Rock Landslide resulting from fuel modification is unknown.

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

7. 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 Figure 1.

8. 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.

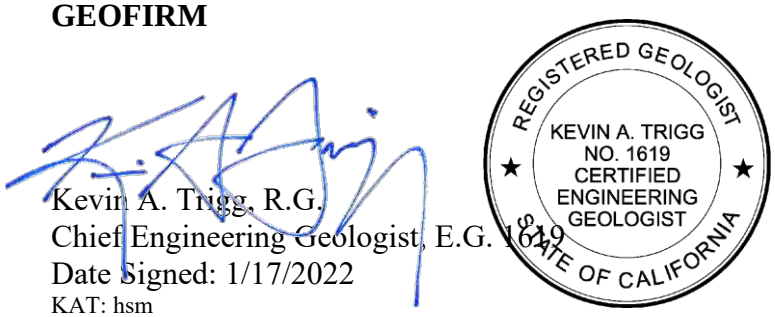
LIMITATIONS

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,

GEOFIRM



Kevin A. Trigg, R.G.
Chief Engineering Geologist, E.G. 1619
Date Signed: 1/17/2022
KAT: hsm

Distribution: (5) to Addressee

Slope Ratio
Fuel Modification Zone 17

GeoFirm

Project no.:	Date:	Figure:
72422 - 17	January 2022	1

Slope Ratio Legend

FMZ 17

- > 4:1
- 4:1 - 2:1
- 2:1 - 1:1
- < 1:1
- Lanslide Unit

Scale - 1' = 200'

APPENDIX A

REFERENCES

APPENDIX A

REFERENCES

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

2. Geofirm, Inc. 1989, "Preliminary Geotechnical Investigation for Foundation Design for Single Family Residential Construction, 1400 Mar Vista Way, Laguna Beach, California", Project No. 89-906-3, dated August 2.

3. Geofirm, 1995, "Geotechnical Investigation of Landsliding Below Dunning Drive, Vicinity of 1299, 1315, 1323, 1339, and 1345 Dunning Drive, Laguna Beach, California", Project No. 70565-01, Report No. 5-2000, dated August 9.

4. Geofirm, 1998, "Geotechnical Investigation of Landsliding Below Cerritos Drive and Recommendations for Slope Stabilization, Vicinity of 1413 Cerritos Drive, Laguna Beach, California", Project No. 70886-00, Report No. 8-2772, dated March 31.

5. Geofirm, 2005, "Preliminary Geotechnical Investigation for New Single-Family Residence, 2095 Temple Hills Drive, Laguna Beach, California", Project No. 71532-00, Report No. 05-5541, dated May 31.

6. 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.

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8. Geofirm, 2018, "Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program, Zone 17, Upper Rim Rock Canyon Area, Laguna Beach, California", Project No. 72422-17, Report No. 18-8425, dated October 26.

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

APPENDIX B

PHOTO-DOCUMENTATION

Photo 1: Overview west from Morningside Drive toward lower Zone 17.

Photo 2: Overview northwest from Morningside Drive of Rim Rock Canyon Landslide in middle Zone 17.

Photo 3: Overview north from Morningside Drive of upper Zone 17.

Photo 4: Overview north from Lavender Lane of upper Rim Rock Canyon in upper Zone 17

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January 18, 2022

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

Project No: 72422-18
Report No: 22-9074

Attention: Mr. Michael Rohde

Subject: **Update Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program**
Zone 18, Southern Bluebird Canyon Area
Laguna Beach, California

INTRODUCTION

This report presents the results of an updated geotechnical evaluation of the potential slope stability impacts related to proposed fuel modification on the slopes descending from residences northern Arch Beach Heights, Summit Way, Summit Place, Van Dyke Drive descending to Bluebird Canyon Road and Rancho Laguna Road within the southern flank of Bluebird 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 approximately 100 feet from the adjacent residential properties and major roadways.

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 throughout many areas of the City. 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 provide 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 18 below northern Arch Beach Heights and adjacent areas 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

Figure 1 – Slope Ratio, Zone 18 Map
Appendix A – References
Appendix B – Photo-Documentation

Site Description

The area of Zone 18 can be characterized as the north-facing hillside flanks of Bluebird Canyon, along the northern edge of the community of Top of the World, and a portion of the east-facing slope flanking Temple Hills Drive. The area is located on an upper edge of natural slope with descending natural terrain on the order of 200 to 350 feet in total height. Overall, the majority of the slopes in this area are moderate, inclined near 2.5:1 (horizontal: vertical) ratios and steeper, with localized isolated areas at 1.5:1 ratio to near vertical at roadcuts and outcrops.

While the residences are located on typically cut or modified ground, the fuel modification area is in a largely natural state. Many areas of the ridge top and flanks expose a thin veneer of soil on bedrock. The ridge tops and toes occupy the majority of the area within 100 feet of the adjacent properties or access roads.

Vegetation within the area above Rancho Laguna Road and eastern Bluebird Canyon is much heavier and denser than most of the hillsides in Laguna Beach, refer to Appendix B. Much of the vegetation is thick, mature and in excess of five feet to well over ten feet in height with numerous tall eucalyptus trees throughout the slope. Significant accumulations of debris comprised of dead vegetation and dry woody materials is scattered throughout the area. Throughout the western Zone 18 and Van Dyke Drive area the vegetation consists of large grass

areas with specimen trees, apparently maintained by the local residences. It is unknown if much or any fuel modification will be required within this portion of Zone.

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 18 is located flanking such a canyon.

During this regional erosion-uplift process, decay and failure of the rock slopes occur naturally. Landslides have formed where stream erosion has undercut planes of weakness within the bedrock strata. Many of these ancient landslides formed during the Pleistocene when the climate was wetter, the sea level was lower, and erosional processes were more active. Erosional processes remain episodically active to the present day, as observed during recent wet winters, in the form of flooding, mudflows and landslides throughout the region. Over time, the bedrock and landslide materials chemically and mechanically reduce to form a 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 soils remain sporadically located throughout the modification area and may become thick, over 10 feet, in landslide terrain.

Earth Materials

The modification area is underlain at shallow to significant depths by bedrock strata assigned on the basis of regional geologic mapping to the Topanga Formation. The Topanga bedrock typically consists of fine to coarse-grained sandstones, with siltstone and claystone layering. Overall the bedrock underlying the area is strong, except where thin weakened claystone beds are unsupported. Bedrock can be exposed at the surface in slopes that are inclined at a 1:1 (horizontal:vertical) ratio or steeper.

Landslide deposits are indicated as being present in and adjacent to Zone 18 based on a review of State maps and aerial photographs. A series of definite dormant landslides are located in the slope ascending south of Bluebird Canyon Road in the southern portion of Zone 18. This landslide as depicted on the CDMG map extends upslope from the base of the canyon to above mid-slope, north of several residences within Arch Beach Heights. These failures have not been observed to be active.

The moderate to shallow sloping terrain of the modification area is mantled at shallow to moderate 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 18 area strikes approximately east-west and is inclined 15 to 30 degrees south-southeast. This structure results in a supported condition along the north-facing slope terrain. Overall, the potential for deep gross failure of the bedrock is low in this specific area owing to the presence of this into-slope supported structure. However, shallower reactivation of existing landslides along weak basal shear surfaces that are oriented downslope may have a limited possibility for movement. The presence, limits, and current stability of these failures is undetermined. Therefore, any potential adverse impacts of the fuel modification efforts cannot be quantified.

Fractures and joints are also present in the landslides and bedrock. These structures can exhibit random orientations and dips inclined at high 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 was a factor across the canyon in the 2005 Bluebird Canyon Landslide.

Surficial Runoff

Within Zone 18 the majority of the fuel modification area is unimproved with regard to drainage, but is immediately flanked by improved homesites and streets. In most areas, the residual soil and rock slopes sheet flow to tributary drainages, which ultimately collect in the canyon. Reductions in vegetation will likely somewhat increase the volume of runoff and surface sediment losses from the steeper hillsides, particularly in these areas at the top of the slope.

Slope Stability

In Zone 18, the character of the rock and bedding supporting northern Arch Beach Heights community in the Topanga Formation is not generally prone to gross instability. However, the California Geological Survey landslide map for Laguna Beach indicates landslide deposits are known to be present ascending from Rancho Laguna and Bluebird Canyon Road, and westerly below Van Dyke Drive. Confirmation of the presence, limits, or current stability of these 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.

CONCLUSIONS

1. The vegetation and geologic conditions in Zone 18 remain essentially unchanged from the original report. The findings and guidelines remain applicable and are restated herein.
2. 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.
3. The majority of the fuel modification area is underlain at relatively shallow to deep depths by hard bedrock. The bedrock is mantled by ancient landslides, residual soils and local minor engineered fills from prior grading operations.
4. The bedrock materials have a low susceptibility to surficial failure. The residual soil deposits have a low to moderate susceptibility to surficial movement with the current vegetation. Ancient landslides are present on the slopes ascending from Bluebird Canyon Road and Rancho Laguna Road and descending from Van Dyke Drive, Summit Way and Summit Drive within Zone 18.
5. Overall, the likelihood of increased gross slope instability as a result of fuel modification is believed to be low as the identified landslides in the area are not documented to have been active in recent times. The impact on infiltration and the potential for additional movement of the mapped landslides resulting from fuel modification is unknown. Therefore this presumption is not quantified and remains undetermined.
6. The proposed fuel modification may have a limited adverse impact on surficial soil stability in moderately sloping terrain, where thick residual soils over landslide materials are present, particularly including the steep road cuts along Rancho Laguna and eastern Bluebird Canyon Roads.
7. 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 Figure 1.
8. 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.

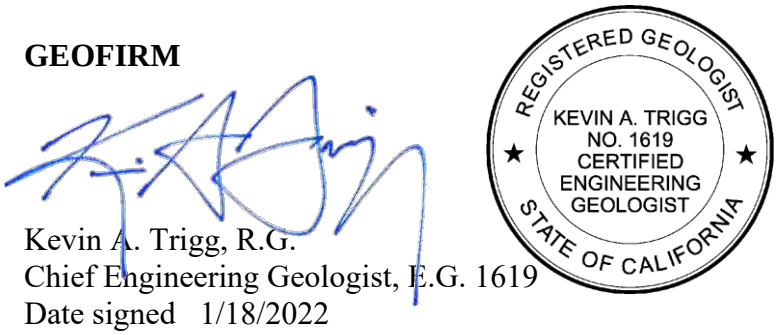
LIMITATIONS

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,

GEOFIRM



Kevin A. Trigg, R.G.
Chief Engineering Geologist, E.G. 1619
Date signed 1/18/2022

KAT: hsm

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Slope Ratio
Fuel Modification Zone 18

GeoFirm

Project no.:	Date:	Figure:
72422 - 18	January 2022	1

Slope Ratio Legend

FMZ 18

- > 4:1
- 4:1 - 2:1
- 2:1 - 1:1
- < 1:1
- Lanslide Unit

Scale - 1" = 200'

APPENDIX A

REFERENCES

APPENDIX A

REFERENCES

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

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

9. 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.

10. 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 17 (modified 8-24-06)

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

APPENDIX B

PHOTO-DOCUMENTATION

Photo 1: Overview east from Flamingo Drive toward upper Zone 18.

Photo 2: Overview southeast from Flamingo Drive of Arch Beach and middle Zone 18.

Photo 3: Overview south from Flamingo Drive of lower Zone 18.

Photo 4: Overview south from Morningside Drive of upper Arch Beach and upper Zone 18.

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January 7, 2022

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

Project No: 72422-22
Report No: 22-9064

Attention: Mr. Michael Rohde

Subject: **Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program Zone 22, Lower Park Avenue Area**
Laguna Beach, California

INTRODUCTION

This report presents the results of a geotechnical evaluation of the potential slope stability impacts related to proposed fuel modification on the base of the slopes ascending from lower Park Avenue from Wendt Terrace to Hidden Valley Canyon Road 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 upslope approximately 100 feet from the adjacent street or adjoining residential properties.

The goal of this modification is to provide a defensible space around homes and streets in an effort to enhance the residents' ability to evacuate and survive a severe fire event. Examples of this 100-foot buffer are currently in place throughout the City, with areas undergoing similar modification for the past several years, and 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 create 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 an initial safe fire break within Zone 22 below the Temple Hills and Mystic Hills communities, and maintain a safe evacuation corridor down Park Avenue, by identifying 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 and documentation 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	–	Landslide Map, Zone 22
Figure 2	–	Soil-Slip Zone Map, Zone 22
Appendix A	–	References
Appendix B	–	Photo-Documentation

Site Description

The area of Zone 22 can be characterized as the 13-acres along the flanks of west side of Temple Hill and the east side of Mystic Hills. The area is located on a lower edges of the natural slopes and road cuts with ascending natural terrain on the order of 300 to 400 feet in total height. Overall, the majority of the slopes in this area are moderate, inclined near a 2 to 2.5:1 (horizontal: vertical) ratio and steeper, with localized isolated areas at roadcuts and outcrops vertical to 1:1 (horizontal:vertical) ratio.

Zone 22 is in a largely natural state. While several roadcuts flank Park Avenue, no significant fill deposits are believed to be present within Zone 22. Vegetation within the area is variable and similar to most of the hillsides in Laguna Beach. Near the base of the slope the vegetation is an open mix of sparse brush with some trees, typically ten to twenty feet or less in height, with areas limited to sparse grasses and brush. Some portions are improved with inset parks and landscaped areas along the right of way, with roadcuts of exposed bare rock. Limited accumulations of debris comprised of dead vegetation and dry woody materials is scattered throughout the natural areas.

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. This zone is topographically characterized as the base of a deep southwesterly draining ravine with drainages.

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 deposits 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 Topanga Formation. The Topanga bedrock typically consists of medium to coarse-grained sandstones with siltstone and claystone beds occurring 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 isolated outcrop slopes and roadcuts that are inclined at a 1:1 (horizontal:vertical) ratio or steeper.

Landslide deposits are indicated as being present in Zone 22, refer to Figure 1, based on a review of State maps and aerial photographs. The ancient landslides are largely due to the inclined southeasterly dipping strata being exposed and unsupported in southeasterly facing slopes. 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 22 area strikes north-northwest and is inclined 18 to 45 degrees east and southeast. This structure results in an obliquely supported condition on most on the south and northwest-facing slopes throughout the area. Unsupported conditions would occur on east-facing tributary slopes. Overall, the potential for deep gross failure of the

bedrock is relatively unlikely in these hillsides owing the bedding structure and the hard and coarse-grained character of the Topanga 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 22 the majority of the fuel modification area is unimproved with regard to drainage, except in areas where isolated drains systems were installed to collect runoff onto the street. In other areas, the residual soil, and rock slopes sheet flow to minor tributary drainages, which ultimately collect onto the Park Avenue street. Reductions in vegetation will not significantly increase the volume of runoff and surface sediment losses from the lower hillsides.

Slope Stability

In Zone 22, the character of the rock and bedding in the Topanga is not generally prone to gross instability. Accordingly, the California Geological Survey landslide map for Laguna Beach indicates one landslide deposit are known to be present in this area. Our previous work determined one other area is underlain by failed material. 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 slopes is low to moderate on the lower slopes.

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.

3. The exposed bedrock materials have a very low susceptibility to surficial failure. The residual soil deposits have a low to moderate susceptibility to surficial movement with the current vegetation. Landslides are present on the slopes flanking Park Avenue within Zone 22.

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 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 and red on Figure 2.

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.

4. Fuel modification areas with landslide deposits should evaluated on a case-by-case basis and, depending on slope gradients, may consider surficial amendments, such as spray adhesives, fiber rolls, or jute matting, after the modification is complete and prior to the winter season.

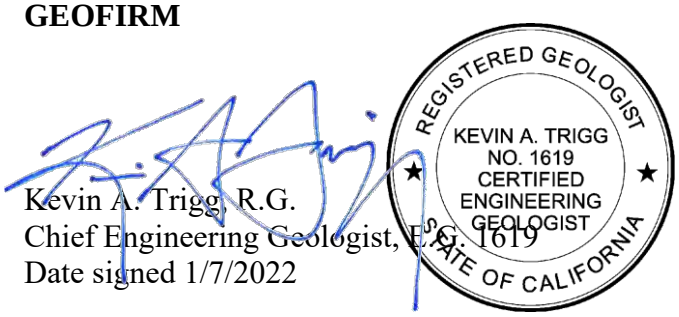
LIMITATIONS

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,

GEOFIRM



Kevin A. Trigg, R.G.
Chief Engineering Geologist, C.E.G. 1619
Date signed 1/7/2022

KAT:hsm

Distribution: (5) to Addressee

Attachments: Figure 1, Landslide Map, Zone 22
Figure 2, Soil-Slip Zone Map, Zone 22
Appendix A, References
Appendix B, Photo-Documentation

LANDSLIDE MAP LOCATION
FUEL MANAGEMENT ZONE - 22
LAGUNA BEACH, CA

Geofirm

JOB NO.:	REPORT NO.:	DATE:	FIGURE:
72422-22	22-9064	JANUARY 2022	1

LEGEND

APPROXIMATE FUEL MANAGEMENT ZONE 22 - UPPER PARK AVENUE

HIGH POSSIBILITY SOIL SLIP

MODERATE POSSIBILITY SOIL SLIP

LOW POSSIBILITY SOIL SLIP

NOT TO SCALE

SOIL SLIP MAP LOCATION
FUEL MANAGEMENT ZONE - 22
LAGUNA BEACH, CA

Geofirm

JOB NO.:	REPORT NO.:	DATE:	FIGURE:
72422-22	22-9064	JANUARY 2022	2

APPENDIX A

REFERENCES

APPENDIX A

REFERENCES

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

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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.

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

APPENDIX B

PHOTO-DOCUMENTATION

Photo 1, Lower Zone 22, view north

Photo 2, Middle Zone 22, view north

Photo 3, Upper Zone 22, view north

Photo 4, Upper Zone 22, view south

Photo 5, Middle Zone 22, view south

Photo 6, Middle Zone 22, view south

Photo 7, Lower Zone 22, view south

Appendix F

Paleontological Resources Memorandum for the Bluebird Canyon and Park Avenue Fuel Modification Projects

Aspen environmental group

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PROJECT MEMORANDUM

BLUEBIRD CANYON AND PARK AVENUE FUEL MODIFICATION PROJECTS

Date: September 27, 2021
To: Mike Rohde, Project Manager
From: Joe Stewart, PhD
Subject: Paleontological Resources Summary for the Bluebird Canyon and Park Avenue Fuel Modification Projects

Purpose and Intent of the Memorandum

This memorandum summarizes the paleontological resources that are present or could be present within the combined 17.8-acre area of Fuel Modification Zone (FMZ) 17 (North Bluebird) and FMZ 18 (South Bluebird). Also covered is the Park Avenue Project (FMZ 22), consisting of 9.5 acres (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 17 lies in the south ½ of section 19, Township 7 South, Range 8 West. The southern terminus extends slightly into the northwest ¼ of section 30. FMZ 18 lies in the west ½ of section 30, Township 7 South, Range 8 West and the east ½ of section 25, Township 7 South, Range 9 West. FMZ 22 lies in the west ½ of section 190, Township 7 South, Range 8 West, and in the southwest ¼ of section 24, Township 7 South, Range 9 West.

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 projects 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 properties and Park Avenue, a crucial evacuation route. The LBFD would oversee the construction and maintenance of the fuel breaks in FMZs 17, 18, and 22.

Bluebird Canyon Fuel Modification Project. FMZ 17 begins on the south side of Temple Hills Drive east of San Remo Drive, generally follows along Temple Hills Drive to the east to Dorn Court, then south along Zell Drive and Bernard Court, and ends near Sommet Du Monde. FMZ 18 includes three areas along Bluebird Canyon Drive: (1) east of Summit Drive, (2) south of Bluebird Canyon Drive and north of Rancho Laguna Road, and (3) north of Summit Drive and La Mirada Street. FMZs 17 and 18 would create a 100-foot zone of cleared vegetation along approximately 1.6 linear miles covering 17.8 acres. Fuel management would be achieved exclusively by hand crews within FMZs 17 and 18.


Los Angeles County
San Bernardino County
Riverside County
Orange County
Project Location
San Diego County
FMZ 22
FMZ 17
FMZ 18
Laguna Beach
Aliso Viejo
Skyline Dr
Park Ave
Dyer Pl
Bluebird Canyon Dr
Aliso Canyon Rd
Laguna Canyon Rd
Alta Laguna Blvd
Bluebird Canyon (FMZ 17 and FMZ 18)
Park Ave (FMZ 22)
0 2,000 4,000 Feet
Figure 1
Laguna Beach FMZ
Project Location

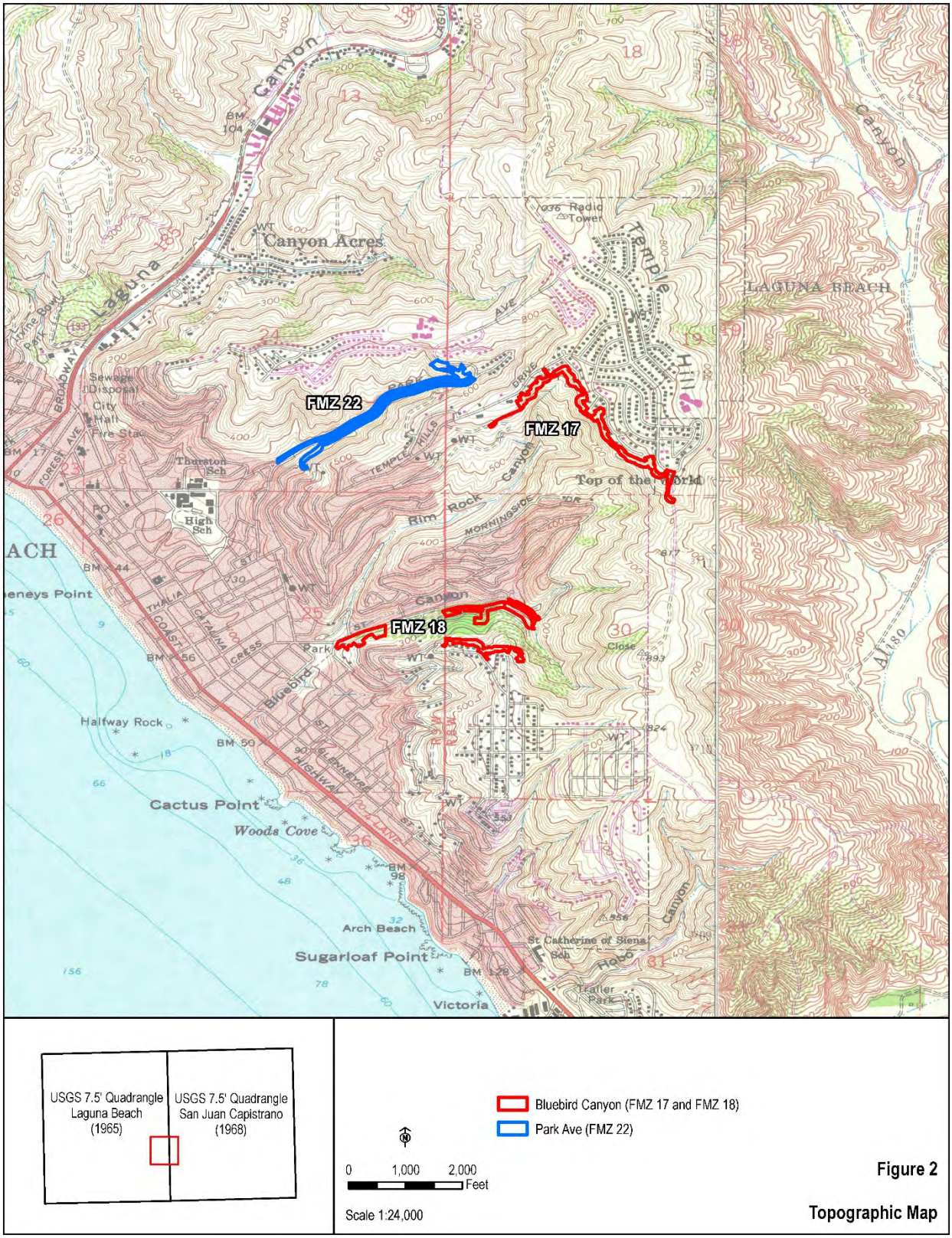


Figure 2

Topographic Map

Park Avenue Fuel Modification Project. FMZ 22 extends along Park Avenue, west of Hidden Valley Canyon Road, ending east of Wendt Terrace and Temple Hills Drive. This project would create a 50-foot zone of cleared vegetation on either side of Park Avenue, a local evacuation roadway, in FMZ 22 for a total of approximately 9.5 acres. Fuel management would be achieved primarily by hand crews on both sides of Park Avenue with a small section on the eastern end being treated through goat-grazing.

To complete vegetation clearance, large shrubs would be trimmed, and existing trees pruned and left in place. Roots would remain in place to provide soil stabilization, and most of the fuel modification would be completed without ground disturbance. The highest degree of ground disturbance would occur with the removal of invasive species, requiring excavation to a depth of approximately 6 to 8 inches.

Results

Geologic mapping of the area (Morton and Miller, 1981) shows the three zones to be entirely within the Topanga Formation (Figure 3). The paleontological resources records search done by the Natural History Museum of Los Angeles County for the combined North Bluebird, South Bluebird, and Park Avenue projects (see Attachment A) covers the area. The records search yielded six known nearby Topanga Formation localities (middle Miocene). Two Topanga Formation localities produced specimen of an extinct aquatic mammal known as *Desmostylus*. Another produced a dugong fossil. The other three produced mollusk and brachiopod 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 September 15, 2021. Much of the project area is inaccessible because of steep slopes and dense vegetation. Other areas were accessible. No paleontological resources were located. In some areas, the Topanga Formation was silty with some clay. In other areas, it was loose sand.

Impacts

The Bluebird Canyon and Park Avenue Fuel Modification Projects would involve minor ground disturbances to remove and reduce vegetation with a combination of brush-cutting, hand-pulling, and use of goats to remove vegetation. All cuttings would be removed and hauled off site. 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 and/or animal traffic. The likelihood of impacting significant paleontological resources that are not already disturbed by vegetation is negligible.

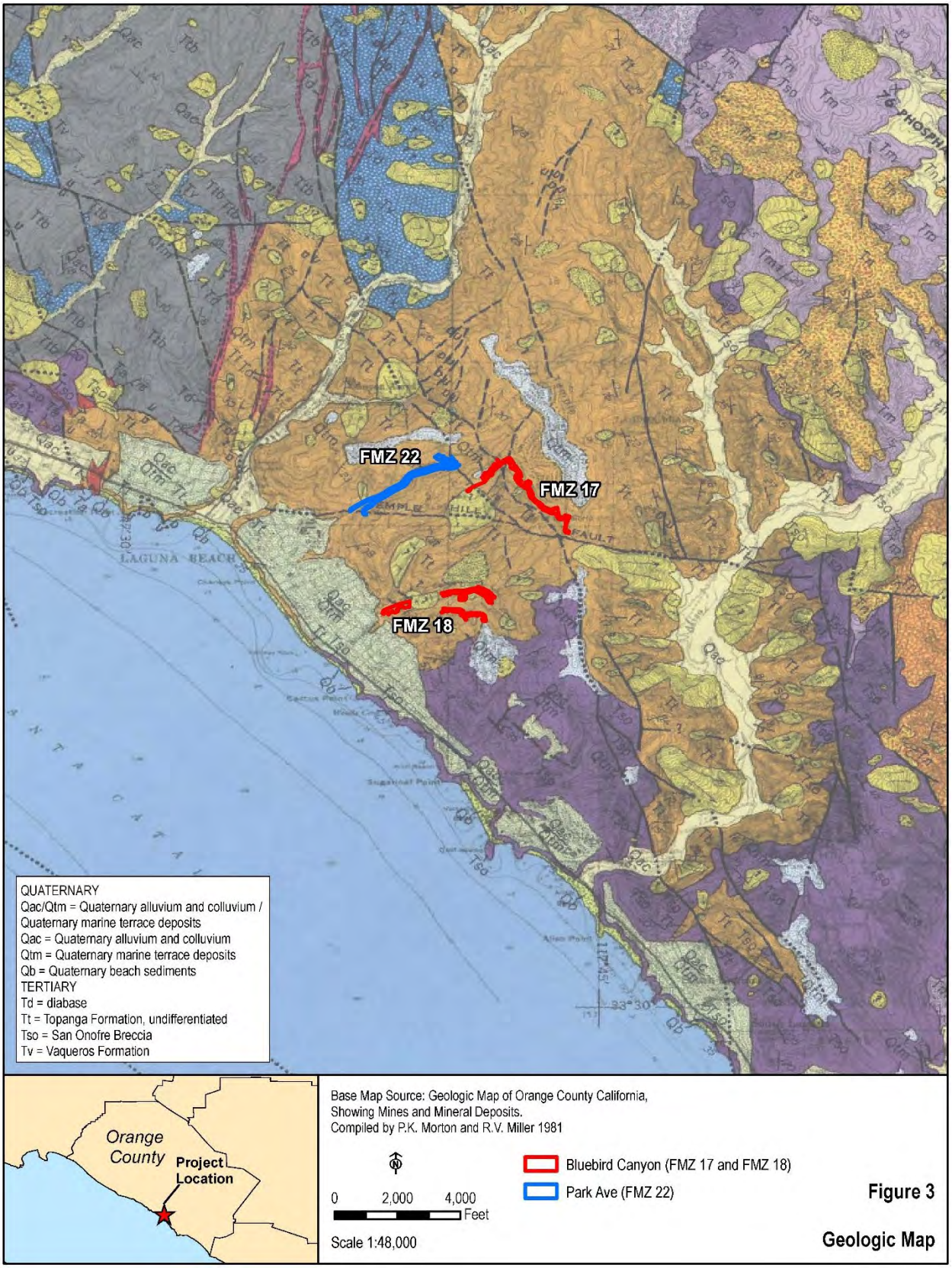
Conclusion

Impacts to paleontological resources within FMZ 17, 18, and 22 would be negligible. No mitigation is required.

Attachments

Attachment A – Paleontological Resources Records Search

Attachment B – Joe Stewart Resume


FMZ 22
FMZ 17
FMZ 18
LAGUNA BEACH
QUATERNARY
Qac/Qtm = Quaternary alluvium and colluvium / Quaternary marine terrace deposits
Qac = Quaternary alluvium and colluvium
Qtm = Quaternary marine terrace deposits
Qb = Quaternary beach sediments
TERTIARY
Td = diabase
Tt = Topanga Formation, undifferentiated
Tso = San Onofre Breccia
Tv = Vaqueros Formation
Orange County
Project Location
Base Map Source: Geologic Map of Orange County California, Showing Mines and Mineral Deposits. Compiled by P.K. Morton and R.V. Miller 1981
0 2,000 4,000 Feet
Scale 1:48,000
Bluebird Canyon (FMZ 17 and FMZ 18)
Park Ave (FMZ 22)
Figure 3
Geologic Map

References

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.

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

Paleontological Records Search

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007
tel 213.763.DINO
www.nhm.org

NATURAL HISTORY MUSEUM
LOS ANGELES COUNTY

Research & Collections

e-mail: paleorecords@nhm.org

August 28, 2021

Aspen Environmental Group

Attn: Lisa Blewitt

re: Paleontological resources for the Bluebird Canyon project (#2000.1111)

Dear Lisa:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for proposed development at the Bluebird Canyon project area as outlined on the portion of the Laguna Beach USGS topographic quadrangle map that you sent to me via e-mail on August 20, 2021. 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.

Locality Number	Location	Formation	Taxa	Depth
LACM IP 24374	In sea cliffs near Cheney's Point	Topanga Formation (Gray to brown sandstone)	Invertebrates (unspecified)	Unknown
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 3222	Two miles north of South Laguna; in the side west of the drainage of Aliso Creek; southeast of Temple Hill	Topanga Formation (brecciated conglomeratic sandstone)	Marine mammal (*Desmostylia*)	Surface
LACM IP 24375	Ridge between Wood Canyon and Top of the World, upcanyon from the terminus of Nestal Rd	Topanga Formation (Buff sandstone)	Invertebrates (unspecified)	Unknown
LACM VP 7249	Ridge between Temple Hill and Wood Canyon, south side of wash on cliff face	Topanga Formation	Marine mammals (Dugongidae)	Unknown

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

VP, Vertebrate Paleontology; IP, Invertebrate Paleontology; bgs, below ground surface

This records search covers only the records of the Natural History Museum of Los Angeles County ("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

EDUCATION

PhD, Systematics and Ecology, University of Kansas, 1984

MA, Systematics and Ecology, University of Kansas, 1979

SUMMARY OF QUALIFICATIONS

Dr. Stewart is a vertebrate paleontologist with over 45 years of experience in paleontology and 35 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 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.

PROFESSIONAL EXPERIENCE

REVIEW OF IVANPAH-CONTROL PROJECT

California Public Utilities Commission

Supervised paleontological resource survey of 2,450 acres of BLM lands for Arica and Victory Pass solar projects and wrote final report.

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.

Aspen environmental group

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.
- 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.

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/AFFILIATIONS

- Society of Vertebrate Paleontology
- Research Associate, Natural History Museum of Los Angeles County

SPECIAL CERTIFICATIONS

- Hazardous Waste Operations and Emergency Response 40 Hr.
- General Site Worker
- Certified paleontologist in Orange County
- Certified paleontologist in Riverside County

SELECT PUBLICATIONS

- Stewart, J. D., and M. E. Hakel. 2019. The first Pleistocene paleosol vertebrate fossils in Ridgecrest, Kern County, CA. Desert Symposium Proceedings 2019:204-205.
- Stewart, J. D., and M. E. Hakel. 2018. Surgeon Fish Fossils as Paleoclimatic Indicators in California Neogene Sediments. Paleobios 35 Supplement: 15-16.
- 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.
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- 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. 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.
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- 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.
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- 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.
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Appendix G

Policy Consistency Analysis Memo

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PROJECT MEMORANDUM

Date: December 16, 2021
To: Mike Rohde, City of Laguna Beach Fire Department Wildland Fire Defense Coordinator
From: Stephanie Tang, Environmental Scientist
Subject: Policy Consistency Analysis for Bluebird Canyon and Park Avenue Fuel Modification Projects

The City of Laguna Beach Fire Department (LBFD) proposes to implement the proposed Bluebird Canyon and Park Avenue Fuel Modification Projects, located in the City of Laguna Beach, California. The two projects consist of the Bluebird Canyon Fuel Modification Project and the Park Avenue Fuel Modification Project. The Bluebird Canyon Fuel Modification Project includes fuel management zone (FMZ) 17 (Upper Bluebird Canyon) and FMZ 18 (South Bluebird Canyon) and is funded by a grant from the Federal Emergency Management Agency (FEMA) and California Office of Emergency Services. The Park Avenue Fuel Modification Project includes FMZ 22 (Park Avenue) and is funded by the FEMA Hazard Mitigation Grant Program.

FMZ 17 begins on the south side of Temple Hills Drive east of San Remo Drive, generally follows along Temple Hills Drive to the east to Dorn Court, then south along Zell Drive and Bernard Court, and ends near Sommet Du Monde. A small portion of the southern end of FMZ 17 is within the County of Orange's planning area for Aliso and Wood Canyons Wilderness Park. FMZ 18 includes three areas along Bluebird Canyon Drive: (1) east of Summit Drive, (2) south of Bluebird Canyon Drive and north of Rancho Laguna Road, and (3) north of Summit Drive and La Mirada Street. FMZs 17 and 18 would reduce vegetation along approximately 1.6 linear miles covering 17.8 acres.

FMZ 22 extends along Park Avenue, west of Hidden Valley Canyon Road, ending east of Wendt Terrace and Temple Hills Drive. FMZ 22 would reduce vegetation along approximately 7.2 acres on either side of Park Avenue, a local evacuation roadway.

The majority of all three FMZs would be within the jurisdictions of City of Laguna Beach. The proposed fuel modification activities in FMZ 18 and 22 would be entirely located within the planning boundary for the City of Laguna Beach General Plan. The majority of FMZ 17 lies within the planning boundary of the City of Laguna Beach General Plan, with the exception of a small southern section which is within the County's planning area for Aliso and Wood Canyons Wilderness Park.

This technical memorandum demonstrates the proposed projects' consistency with the California Coastal Act, City of Laguna Beach General Plan (City of Laguna Beach, 2012), and Aliso and Wood Canyons Wilderness Park Resource Management Plan (RMP) (County of Orange, 2009) that provide policies for managing and monitoring the lands associated with the projects.

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.

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 that are 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, with the exception of 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, 3, and 4 in the Initial Study illustrate the location of specific fuel modification activities within FMZs 17, 18, and 22.

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, 2021):

- 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 the projects 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 polices from the City's LCP and the Aliso and Wood Canyons Wilderness Park RMP 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 FMZs 17, 18, and 22 would increase protection, reduce fire intensity and flame length, and reduce potential for wildfire to spread to open space 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.

Aliso and Wood Canyons Wilderness Park RMP

- BIO-1: Protect and maintain existing population of native plants and wildlife using active and passive techniques. Develop a park-wide, long-term invasive management plan to control exotic plant species that includes both natural and disturbed areas in the park for both the Reserve and non-Reserve lands.
- BIO-2: Control pest plants particularly within the known 293 mapped polygons (approximately 1,000 acres), fuel modification zones, and other disturbed priority areas. Follow the management plan (NREP) for NCCP/HCP Reserve lands and any other approved long-term management plan to locate, monitor, and eradicate exotic plant species. Removal methods may include flail mowing, discing, soil solarization, control burning, chemical application, cut and paint and/or wicking chemical application. Eradicate according to an established (maybe species specific) schedule.
  - Restore native habitat actively using approved site-specific seeding and planting techniques. Fencing and signage, weed management, and erosion control may be necessary to protect areas during plant establishment. Exotic species prevention measures (e.g., weeds, Argentine ants) should be implemented.
  - Control pest plants particularly within the known 293 mapped polygons (approximately 1,000 acres), fuel modification zones, and other disturbed priority areas. Follow the management plan (NREP) for NCCP/HCP Reserve lands and other approved long-term management plan to locate, monitor, and eradicate exotic plant species. Update the NROC database once every five years, at a minimum.
- BIO-3/STEW-5: Monitor key ecological processes, such as perturbation events either actively or passively, whichever is more appropriate, as determined by the Resource Specialist and other concerned parties to interpret biological change and responses to management measures.

- Record monitoring data for all resource management activities, as described in the NROC Monitoring and Adaptive Management Program. Data from species inventories will be compiled in files and a GIS database. Monitoring frequency may vary and should be evaluated by the supervising park ranger, the Resource Specialist or Resource Coordinator, NROC, and resource agencies (e.g., CDFG, USFWS). Produce report and photographic documentation for each site.
- Conduct annual inspections of the fuel modification zones and park boundaries to monitor fuel modification zone limits, erosion, exotic plant and animal species, including, feral domestic animals.
- Actively monitor noxious weed eradication using semipermanent line or point-intercept transects or plots, depending on the area characteristics, to collect quantitative data both before eradication, to collect baseline data, and after eradication in years one, three, and five.
- Actively monitor accidental burns and prescribed vegetation clearing areas for floral and faunal characteristics. Methods shall include plot and transect techniques and other suitable techniques.
- Actively monitor the populations of the "targeted and identified species," general bird species, plant community composition, and other sensitive resources, including CSS vegetation and their responses to management actions. Methods shall include plot and transect sampling techniques.
- Actively monitor fuel modification areas collecting qualitative and quantitative data every two years.
- Monitor locally uncommon, sensitive, federally-threatened or endangered species and other sensitive resources to track the populations, identify threats, develop management recommendations, and determine the effectiveness of management actions. Monitoring frequency should be evaluated by the supervising park ranger, the Resource Specialist or Resource Coordinator, NROC, and resource agencies (e.g., CDFG, USFWS). Once every five years, recommended.
- To assess coastal sage scrub and riparian habitat quality, survey for the following species: the threatened coastal California gnatcatcher and endangered southwestern willow flycatcher and least Bell's vireo, and the sensitive yellow-breasted chat and yellow warbler.
- Suitable sensitive plant habitat surveys shall be conducted in areas not known to have sensitive plant habitat. Survey every five years during the spring.

■ BIO-4: Incorporate applicable provisions of the NCCP/NROC Fire Management Plan, when completed, into the RMP. That plan, through the NROC, is currently in preparation.

- Continue existing fire control methods required by the City of Laguna Beach and OCFA within the designated zones at the urban-wildland interface. Areas that have been disturbed outside of the fuel modification zone within the park boundaries will be revegetated with plants that are compatible with adjacent native vegetation. Adopt fire control methods that cause the least damage to natural resources while still providing effective fire control.
- Develop one fuel modification plan for the park in cooperation with the applicable agencies. Encourage the HOAs to adopt a section of the park in a "good neighbor" program.
- Develop and implement a program to educate local jurisdictions, park neighbors, and the public about wildfire management. Include the natural role of fire in native vegetation communities, fire safe practices in designing and building structures in interfaces areas and in landscaping.

- Collaborate with the OCFA, local fire agencies, fire safety councils, neighborhood groups, and others in the implementation of the Fire Management Plan.

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 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, 8G, and 8N), and Aliso and Wood Canyons Wilderness Park RMP (Policy BIO-2).

Some areas within FMZs 17, 18, and 22 are disturbed by non-native and invasive annual species, rendering removal necessary for both fire protection and invasive management. In these areas within FMZ 17 and FMZ 18, goat-grazing may be suitable to remove vegetation in Low or Medium Value Habitat, and in some instances within blue-line stream buffers, herbicide may be applied as spot treatments for non-native and/or invasive plants when necessary. Professional biological surveys have been made to determine prescribed treatments for areas within each FMZ based on the species surveyed. Healthy trees outside of 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 the zones, consistent with Laguna Beach General Plan Policy 2.6 and Aliso and Wood Canyons Wilderness Park RMP Policy BIO-1. These individualized treatments ensure that the project would comply with the aforementioned policies. Furthermore, continuing existing fire control methods, encouraging cooperation among residents, and annual monitoring FMZs would be consistent with Laguna Beach General Plan Policy 2.6 and Aliso and Wood Canyons Wilderness Park RMP Policy BIO-4. Annual monitoring and maintenance of FMZs would involve pruning, weeding, and controlling invasive species, consistent with Aliso and Wood Canyons Wilderness Park RMP Policy BIO-3.

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.

Aliso and Wood Canyons Wilderness Park RMP

- CULT-1: Establish a cultural resources records management system. 1) Create a relational database system to record pertinent site information using the Model Curation Program, California State University, Fullerton (CSUF), as a template. 2) Digitize known park resources into a controlled-access GIS format to produce a base map of Aliso and Wood Canyons Wilderness Park (AWCWP).
  - Implement a formal procedure for care of existing collections with AWCWP through the OC Parks Historical and Cultural Programs office. Use standards provided in Part IV of the CSUF Proposed Policy and Procedural Guidelines and relevant County policies and procedures.
  - Create a site inventory checklist for inventorying all archaeological sites within AWCWP. A major feature of the checklist should be a section that details threats to the site. Digital photographs of the site conditions, and GPS location data should be incorporated.

- Conduct a search of the Native American Heritage Commission Sacred Lands Files in order to identify Traditional Cultural Areas within the park. Native American groups should be appropriately consulted by park management personnel in identifying sacred sites and natural resources procurement areas; and to help develop management programs for these resources.
- When site-specific plans are created that detail future park improvements, they can be compared with the AWCWP resource constraints map to identify known significant cultural resource sites in the vicinity of disturbance. In addition, focused pedestrian surveys consistent with the County Standard Conditions of Approval (SCA) A01 should be conducted for all future park improvements.
- For any cultural resource work conducted within the Park, an Orange County certified archaeologist should prepare a Research Design that identifies research strategies to be implemented during the research program. A review team of cultural resource professionals should establish research priorities for the park, and cultural resource work within the park should be designed to address these priorities.
- Routinely patrol culturally sensitive areas in order to help evaluate ongoing impacts to known archaeological sites. Sites should be evaluated in terms of the potential effects on the resources by natural weathering and erosion of site and the impacts of park visitors.
- When sites and/or isolates are located, they should be recorded on California Department of Parks and Recreation (DPR) 523 series forms. Location data should be recorded using a handheld GPS unit. Site updates, including photos and maps, should be completed for previously documented sites that are reevaluated. Surface collection is recommended for any materials encountered if the site appears to be threatened by natural or human factors. Forms should comply with both the CSUF Model Curation Program format, and the California Historical Resources Information System (CHRIS) Format. Updates and new forms should be submitted to the South Central Coastal Information Center of the CHRIS.
- If a known significant site will undergo direct impacts, an Orange County certified archaeologist should be consulted to both recommend and implement appropriate mitigation measures. Mitigation Measures should follow the County SCA A01 – A04.
- When the significance of a site is unknown, an Orange County certified archaeologist should conduct test excavations at those sites to determine if they are eligible for listing on the National Register of Historic Places and/or the California Register of Historical Resources. The archaeologist shall provide recommendations for further action based on the findings of test level excavations.
- Monitoring of any project that involves earth disturbing activities in culturally rich soils should be conducted by a trained archaeologist under the supervision of an Orange County Certified Archaeologist. Artifacts that are unearthed during this construction should be collected with provenience information when available. Monitoring should comply with County SCA A04.
- Implement an emergency response plan for sites that have been exposed by erosion. When cultural resources, including artifacts or features, are encountered, either during a planned patrol or in another unexpected manner, an Orange County certified archaeologist should be consulted. The certified archaeologist will both recommend and, with OC Parks' approval, implement mitigation measures that are appropriate for the impacts to the sites.
- Presence/Absence archaeological surveys are considered to have a limited lifetime. The park has not been surveyed for cultural resources in over 5 years. A park-wide systematic reconnaissance

survey should be conducted every 10 years under the direction of an Orange County certified archaeologist. To help staff with this endeavor, qualified volunteer groups could be utilized to assist in the survey of the AWCWP. Update the park-wide survey every ten years, particularly in high visitation, and high erosion areas.

- In association with a qualified archaeologist, establish a volunteer program to help complete necessary artifact analysis and inventory. Create a training manual for working with archaeological collections. Volunteers should be organized through the County's Adopt-a-Park program.

- CULT-2: Establish a paleontological resources records management system. 1) Create a relational database system to record pertinent site information using the Modal Curation Program, CSUF as a template. Once in place, this database should be continually updated to include new information about previously recorded localities, as well as document newly discovered localities. 2) Digitize known park fossil resources into an access-controlled GIS format to produce a base map of AWCWP.
- CULT-3: Implement a formal procedure for care of existing collections with AWCWP. Collections are managed through the OC Parks Historical and Cultural Programs office using standards provided in Part IV of the CSUF Proposed Policy and Procedural Guidelines and relevant County policies and procedures.
  - Place paleontological resource collections from AWCWP in a suitable repository within Orange County.
  - Conduct a park-wide systematic reconnaissance survey under the direction of an Orange County certified paleontologist. Survey work should be completed to a level that will satisfy Orange County Standard Condition of Approval A05.
  - Create a site inventory checklist for inventorying all paleontological sites within AWCWP. A major feature of the checklist should be a section that details threats to the locality.
  - Schedule routine patrols in paleontologically sensitive areas to help evaluate known and as yet undiscovered paleontological localities. Localities should be evaluated in terms of the potential effects on the resources by the natural weathering and erosion of the locality and the impacts of park visitors.
  - When fossil localities are identified, they should be recorded on fossil locality sheets that will document important information about the find such as a temporary field number, tentative identification of the find(s), description of the sediments, formation name, location of the find within the AWCWP, elevation and GPS locational information. Every effort should be made to preserve the site in situ for future generations. Collection is recommended for any materials encountered if the fossil appears to be threatened by natural or human factors.
  - Prior to any proposed ground disturbing activities within AWCWP, conduct a paleontological assessment survey under the direction of a County-certified paleontologist to identify both the rock types present in the area and the potential for significant fossil resources to be discovered. The survey should comply with County SCA A05.
  - If significant fossils are identified, they should be scientifically salvaged prior to initiation of construction activities. A County certified paleontologist should develop a paleontological resources impact mitigation program (PRIMP) consistent with guidelines developed by the Society of Vertebrate Paleontologists (SVP 1995) to direct resource monitoring of excavations in order to

collect and properly curate any fossils that may be discovered during the ground-disturbing activities. Salvage activities should comply with County SCA A06.

- Implement an emergency response plan for sites that have been exposed by erosion or planned AWCWP maintenance. When paleontological resources are encountered, an Orange County certified paleontologist should be consulted. The certified paleontologist will recommend mitigation measures that are appropriate for the impacts to the locality.
- In association with a qualified paleontologist, establish a volunteer program to help complete necessary fossil analysis and inventory. Create a training manual for working with paleontological collections.

- CULT-5: If human remains are encountered during survey and/or ground disturbing activities, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code §5097.98.

Justification: The projects would utilize the treatment protocols listed in Appendix A to the Initial Study, which require that FMZs 17, 18, and 22 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 evaluation has been documented in Appendix C to the Initial Study, and subsequent modifications to fuels treatment have been incorporated into the projects as mitigation to avoid impacts to cultural resources and ensure project consistency with Coastal Act Section 30244, the Laguna Beach General Plan (Policy 12D), and the Aliso and Wood Canyons Wilderness Park RMP (Policies CULT-1 through CULT-3 and CULT-5).

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 land forms, 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 projects are consistent with Coastal Act Section 30251 and the Laguna Beach General Plan (Policies 3.9 and 7G) regarding compliance with the City's landscape guidelines and establishment of a proper buffer between existing development and open space. FMZ 17 and FMZ 18 are located directly along the wildland-urban interface along residential, institutional, and public development, and FMZ 22 is adjacent to an important evacuation road. 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. Roads like Park Avenue that serve as the only ingress/egress for residents in high fire risk areas are crucial to allowing timely evacuation during a wildfire. The fuel breaks would provide defensible space for structures in the Upper and Lower Bluebird Canyon areas and Park Avenue 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 in FMZ 17 and FMZ 18 and 50-foot widths on either side of Park Avenue. Goat grazing may be utilized in small sections within FMZ 17 and FMZ 18 where feasible and would follow treatment protocols as described in Initial Study Appendix A. No goat-grazing would occur in FMZ 22 due to geological stability concerns. 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 projects would target full removal of non-native species, with selective thinning of native vegetation and avoidance of sensitive and rare species such as big-leaved crownbeard, cliff spurge, Intermediate mariposa lily, many-stemmed Dudleya, Nuttal's scrub oak, and Summer holly (Glenn Lukos Associates, 2021).

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.

Justification: The projects would utilize the treatment protocols listed in Appendix A to the Initial Study, which require that FMZs 17, 18, and 22 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 E 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 projects satisfy the requirements of the Laguna Beach General Plan (Policies 9.3, 10.6, 10G, 4G, 4H, 4N, 4O, and 4P) regarding increasing safety from fire hazards and creating defensible space around development. FMZ 22's location along Park Avenue would serve as an important fuel break that reduces the potential for wildfire to cross an important evacuation route. In the event of a wildfire, Park Avenue would be a crucial emergency escape route for evacuees. FMZ 17 and FMZ 18 are adjacent to residential homes along steep hills and ridges. The FMZs would provide defensible space between manmade structures and wildfires, reducing thermal outputs and flame lengths by an average of 75 percent. The proposed projects are also 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.

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Appendix H

CalVTP Consistency Analysis

CALVTP BACKGROUND

The California Vegetation Treatment Program (CalVTP) is proposed by the California Board of Forestry and Protection to treat vegetation that has the potential to fuel wildfires. The purpose of the CalVTP is to serve as a component of the State's range of actions to reduce wildfire risk and the harmful effects of wildfire on people, property, and natural resources within the California Department of Forestry and Fire Protection's (CAL FIRE's) State Responsibility Area, which covers more than 31 million acres of private and public land. Treatment areas are identified in Figure 2-1, Treatable Landscape, in Chapter 2 (Program Description) in the CalVTP Programmatic Environmental Impact Report (PEIR).[1] As part of the CalVTP, CAL FIRE and other project proponents would implement vegetation treatment activities to meet the State goals regarding wildfire response and management.

The CalVTP has developed a list of standard project requirements (SPRs) that are to be incorporated into all proposed vegetation treatment activities under the CalVTP within the identified treatment areas as a standard part of treatment design and implementation. SPRs are intended to avoid and minimize environmental impacts and comply with applicable laws and regulations.

The proposed projects are not located within CalVTP's treatment areas (see IS/MND Figure 1, Bluebird Canyon and Park Avenue Fuel Modification Projects Location Map) but are located within the CAL FIRE Local Responsibility Area, where the City of Laguna Beach, not CAL FIRE, is financially responsible for wildland fire protection[2]. The proposed projects would implement applicable treatment methods listed in the following section consistent with CAL FIRE practices to the extent possible.

STANDARD PROJECT REQUIREMENTS AND MITIGATION MEASURES

Table 1, below, lists all SPRs and mitigation measures (MM) required under the CalVTP and identifies which are applicable to the Bluebird Canyon and Park Avenue Fuel Modification Projects. The table describes when applicable SPRs and MMs will be implemented, identifies the implementing entity, and whether the proposed projects are consistent with the SPRs and MMs.

Each column presents information as follows:

- **Applicable (Y/N.** Document whether the SPR or mitigation measure is applicable to the initial treatment and/or treatment maintenance (Yes or No).
- **Timing.** Identifies the time frame in which the SPR or mitigation measure will be implemented (e.g., prior to treatment, during treatment, etc.).
- **Implementing Entity**. The implementing entity is the agency or organization responsible for carrying out the requirement.
- **Verifying/Monitoring Entity**. The verifying/monitoring entity is the agency or organization responsible for ensuring that the requirement is implemented. The verifying/monitoring entity may be different from the implementing entity.
- **Justification.** If the proposed projects are determined to be inconsistent with an SPR or mitigation, this column provides justification. If the proposed projects do not require an SPR or mitigation measure because it is not applicable, then this column describes why the SPR or mitigation measure is not applicable.
- **Consistent (Y/N).** Identifies whether the proposed projects are consistent with each SPR or mitigation measure.

[1] California Board of Forestry and Protection. 2019. California Vegetation Treatment Program Final Environmental Impact Report. November. [online:]: https://bof.fire.ca.gov/projects-and-programs/calvtp/calvtp-program-eir/

[2] CAL FIRE. 2007. Fire Hazard Severity Zones. [online]: https://osfm.fire.ca.gov/divisions/wildfire-planning-engineering/wildfire-prevention-engineering/fire-hazard-severity-zones/. Accessed September 27, 2021.

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
Administrative Standard Project Requirements						
SPR AD-1 Project Proponent Coordination: For treatments coordinated with CAL FIRE, CAL FIRE will meet with the project proponent to discuss all natural and environmental resources that must be protected using SPRs and any applicable mitigation measures; identify any sensitive resources onsite; and discuss resource protection measures. For any prescribed burn treatments, CAL FIRE will also discuss the details of the burn plan in the incident action plan (IAP). This SPR applies to all treatment activities and treatment types, including treatment maintenance.	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N/A	Projects are within the City of Laguna Beach and is not funded by CAL FIRE; therefore, coordination with CAL FIRE would not occur. LBFD would coordinate with FEMA and USFWS on resource protection measures. Therefore, SPR AD-1 is not applicable.	N/A
SPR AD-2 Delineate Protected Resources: The project proponent will clearly define the boundaries of the treatment area and protected resources on maps for the treatment area and with highly-visible flagging or clear, existing landscape demarcations (e.g., edge of a roadway) prior to beginning any treatment to avoid disturbing the resource. "Protected Resources" refers to environmentally sensitive places within or adjacent to the treatment areas that would be avoided or protected to the extent feasible during planned treatment activities to sustain their natural qualities and processes. This work will be performed by a qualified person, as defined for the specific resource (e.g., qualified Registered Professional Forester or biologist). This SPR applies to all treatment activities and treatment types, including treatment maintenance.	**Initial Treatment:** Y **Treatment Maintenance:** Y	Prior to and during treatment.	LBFD	City of Laguna Beach Fire Chief	The treatment areas have been mapped and clearly show the proposed treatment methods as well as avoidance areas and buffers. Therefore, the intent of SPR AD-2 is met.	Y
SPR AD-3 Consistency with Local Plans, Policies, and Ordinances: The project proponent will design and implement the treatment in a manner that is consistent with applicable local plans (e.g., general plans, Community Wildfire Protection Plans, CAL FIRE Unit Fire Plans), policies, and ordinances to the extent the project is subject to them. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	**Initial Treatment:** Y **Treatment Maintenance:** Y	During treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	The proposed projects would be consistent with the City of Laguna General Plan and the City of Laguna Beach Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting as discussed in IS/MND Appendix G (Policy Consistency Analysis for Bluebird Canyon and Park Avenue Fuel Modification	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
					Projects). Therefore, the intent of SPR AD-3 is met.	
SPR AD-4 Public Notifications for Prescribed Burning: At least days prior to the commencement of prescribed burning operations, the project proponent will: 1) post signs along the closest public roadway to the treatment area describing the activity and timing, and requesting persons in the area to contact a designated representative of the project proponent (contact information will be provided with the notice) if they have questions or smoke concerns; 2) publish a public interest notification in a local newspapers or other widely distributed media source describing the activity, timing, and contact information; 3) send the local county supervisor and county administrative officer (or equivalent official responsible for distribution of public information) a notification letter describing the activity, its necessity, timing, and measures being taken to protect the environment and prevent prescribed burn escape. This SPR applies only to prescribed burn treatment activities and all treatment types, including treatment maintenance.	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N/A	Prescribed burning is not proposed. Therefore, SPR AD-4 is not applicable.	N/A
SPR AD-5 Maintain Site Cleanliness: If trash receptacles are used on-site, the project proponent will use fully covered trash receptacles with secure lids (wildlife proof) to contain all food, food scraps, food wrappers, beverages, and other worker generated miscellaneous trash. Remove all temporary non-biodegradable flagging, trash, debris, and barriers from the project site upon completion of project activities. This SPR applies to all treatment activities and all treatment types, including treatment maintenance.	**Initial Treatment:** Y **Treatment Maintenance:** Y	During treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	Project activities in FMZs 17, 18, and 22 would follow the City's Treatment Protocols for waste management and recycling. Project activities in FMZ 22 would also comply with AMM 8/CM 2 (Waste Management), which states work areas will be kept free of loose trash and food waste will be removed daily. Therefore, the intent of SPR AD-5 is met.	Y
SPR AD-6 Public Notifications for Treatment Projects. One to three days prior to the commencement of a treatment activity, the project proponent will post signs in a conspicuous location near the treatment area describing the activity and timing, and requesting persons in the area to contact a designated representative of the project proponent (contact information will	**Initial Treatment: Y** **Treatment Maintenance:** Y	During treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	LBFD notified the public through early notification postcards sent in September 2021 and the Notice of Intent as required by CEQA. Signs would be posted at the project sites with project and	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
be provided with the notice) if they have questions or concerns. This SPR applies to all treatment activities and all treatment types, including treatment maintenance. Prescribed burning is subject to the additional notification requirements of SPR AD-4.					contact information, as well as on the City's website and local newspaper. As such, the intent of SPR AD-6 is met.	
SPR AD-7 Provide Information on Proposed, Approved, and Completed Treatment Projects. For any vegetation treatment project using the CalVTP PEIR for CEQA compliance, the project proponent will provide the information listed below to the Board or CAL FIRE during the proposed, approved, and completed stages of the project. The Board or CAL FIRE will make this information available to the public via an online database or other mechanism. Information on proposed projects (PSA in progress): ▶ GIS data that include project location (as a point); ▶ project size (typically acres); ▶ treatment types and activities; and ▶ contact information for a representative of the project proponent. The project proponent will provide information on the proposed project to the Board or CAL FIRE as early as feasible in the planning phase. The project proponent will provide this information to the Board or CAL FIRE with sufficient lead time to allow those agencies to make the information available to the public no later than two weeks prior to project approval. The project proponent may also make information available to the public via other mechanisms (e.g., the proponent's own website). Information on approved projects (PSA complete): ▶ A completed PSA Environmental Checklist; ▶ A completed Mitigation Monitoring and Reporting Program (using Attachment A to the Environmental Checklist); ▶ GIS data that include a polygon(s) of the project area, showing the extent of each treatment type included in the project (ecological restoration, fuel break, WUI fuel reduction).	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N/A	Although the proposed projects are not within the boundaries of the treatable landscape identified in Chapter 2, Project Description of the CalVTP PEIR, the City of Laguna Beach has developed this information and included it within the IS-MND for the projects, project notices and mailings, and included information on the City's website for public access. Therefore, the intent of SPR AD-7 has been satisfied.	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
Information on completed projects: ▶ GIS data that include a polygon(s) of the treated area, showing the extent of each treatment type implemented (ecological restoration, fuel break, WUI fuel reduction) ▶ A post-project implementation report (referred to by CAL FIRE as a Completion Report) that includes ■ Size of treated area (typically acres); ■ Treatment types and activities; ■ Dates of work; ■ A list of the SPRs and mitigation measures that were implemented ■ Any explanations regarding implementation if required by SPRs and mitigation measures (e.g., explanation for feasibility determination required by SPR BIO-12; explanation for reduction of a no-disturbance buffer below the general minimum size described in Mitigation Measures BIO-1a and BIO-2b). This SPR applies to all treatment activities and all treatment types, including treatment maintenance.						
SPR AD-8 Request Access for Post-Treatment Assessment. For CAL FIRE projects, during contract development, CAL FIRE will include access to the treated area over a prescribed period (usually up to three years) to assess treatment effectiveness in achieving desired fuel conditions and other CalVTP objectives as well as any necessary maintenance, as a contract term for consideration by the landowner. For public landowners, access to the treated area over a prescribed period will be a requirement of the executed contract. This SPR applies to all treatment activities and all treatment types, including treatment maintenance.	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N/A	Although the proposed projects are not CAL FIRE projects, the City of Laguna Beach has entered into trespass agreements for project activities for all private property within the project area. Therefore, the intent of SPR AD-8 has been satisfied.	Y
SPR AD-9: Obtain a Coastal Development Permit for Proposed Treatment Within the Coastal Zone Where Required. When planning a treatment project within the Coastal Zone, the project proponent will contact the local Coastal Commission district office, or applicable local government to determine if the project	**Initial Treatment:** Y	Prior to treatment	LBFD	California Coastal Commission	The projects would obtain a Coastal Development Permit from the California Coastal Commission. Therefore, SPR AD-9 has been satisfied.	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements						
Standard Project Requirements	**Applicable? (Y/N)**	**Timing**	**Implementing Entity**	**Verifying/Monitoring Entity**	**Justification**	**Consistent (Y/N)**
area is within the jurisdiction of the Coastal Commission, a local government with a certified Local Coastal Program (LCP), or both. All treatment projects in the Coastal Zone will be reviewed by the local Coastal Commission district office or local government with a certified LCP (in consultation with the local Coastal Commission district office regarding whether a Coastal Development Permit (CDP) is required). If a CDP is required, the treatment project will be designed to meet the following conditions: i. The treatment project will be designed in compliance with applicable provisions of the Coastal Act that provide substantive performance standards for the protection of potentially affected coastal resources, if the treatment activity will occur within the original jurisdiction of the Commission or an area of a local coastal government without a certified LCP; and ii. The treatment project will be designed in compliance with the applicable provisions of the certified LCP, specifically the substantive performance standards for the protection of potentially affected coastal resources, if the treatment activity will occur within the jurisdiction of a local coastal government with a certified LCP. This SPR applies to all treatment activities and all treatment types, including treatment maintenance.	**Treatment Maintenance:** Y					
Aesthetic and Visual Resource Standard Project Requirements						
SPR AES-1 Vegetation Thinning and Edge Feathering: The project proponent will thin and feather adjacent vegetation to break up or screen linear edges of the clearing and mimic forms of natural clearings as reasonable or appropriate for vegetation conditions. In general, thinning and feathering in irregular patches of varying densities, as well as a gradation of tall to short vegetation at the clearing edge, will achieve a natural transitional appearance. The contrast of a distinct clearing edge will be faded into this transitional band. This SPR only applies to mechanical and manual treatment activities and all treatment types, including treatment maintenance.	**Initial Treatment:** Y **Treatment Maintenance:** N	During treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	The proposed projects would remove up to 50 percent of fuel loads, prioritizing removal of non-native species and dead or dying plants first. Vegetation clearing would stop in areas where 50 percent reduction in wildfire fuel is achieved by invasive vegetation removal. Retained native vegetation would reduce the visual contrast between the project areas and	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
					surrounding areas. Therefore, SPR AES-1 has been satisfied.	
SPR AES-2 Avoid Staging within Viewsheds: The project proponent will store all treatment-related materials, including vehicles, vegetation treatment debris, and equipment, outside of the viewshed of public trails, parks, recreation areas, and roadways to the extent feasible. The project proponent will also locate materials staging and storage areas outside of the viewshed of public trails, parks, recreation areas, and roadways to the extent feasible. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	**Initial Treatment:** Y **Treatment Maintenance:** Y	During treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	Daily staging of vehicles and materials for Bluebird Canyon Fuel Modification Project would occur along residential streets near access points for FMZs 17 and 18, but staging areas would be occupied on a short-term and temporary basis as work moves from one area to the next. Daily staging of vehicles and materials for Park Avenue Fuel Modification Project would occur along Park Ave. and be removed at the end of each workday. Vehicles would be temporarily parked off site at Thurston Middle School and/or paved or graded areas with no vegetation along Park Avenue. Therefore, SPR AES-2 has been satisfied.	Y
SPR AES-3 Provide Vegetation Screening: The project proponent will preserve sufficient vegetation within, at the edge of, or adjacent to treatment areas to screen views from public trails, parks, recreation areas, and roadways as reasonable or appropriate for vegetation conditions. This SPR applies to all treatment activities and all treatment types, including treatment maintenance.	**Initial Treatment:** Y **Treatment Maintenance:** Y	During treatment and maintenance	LBFD	Laguna Beach Fire Chief	Fuel loads would be reduced by up to 50 percent near residences and along Park Avenue. Native and sensitive vegetation would be prioritized to remain in place based on the hierarchical list in the City's Fuel Modification Treatment Protocols. A small portion of the southern end of FMZ 17 would be within Aliso and Wood Canyons Wilderness Park, but this area would not be of a substantial size, nor would it remove a excessive amount of	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
					vegetation. Therefore, SPR AES-3 has been satisfied.	
Air Quality Standard Project Requirements						
SPR AQ-1 Comply with Air Quality Regulations: The project proponent will comply with the applicable air quality requirements of air districts within whose jurisdiction the project is located. This SPR applies to all treatment activities and all treatment types, including treatment maintenance.	**Initial Treatment:** Y **Treatment Maintenance:** Y	During treatment and maintenance	LBFD	South Coast Air Quality Management District	The proposed projects would comply with South Coast Air Quality Management District's standards and requirements. Therefore, SPR AQ-1 has been satisfied.	Y
SPR AQ-2 Submit Smoke Management Plan: The project proponent will submit a smoke management plan for all prescribed burns to the applicable air district, in accordance with 17 CCR Section 80160. Pursuant to this regulation a smoke management plan will not be required for burns less than 10 acres that also will not be conducted near smoke sensitive areas, unless otherwise directed by the air district. Burning will only be conducted in compliance with the burn authorization program of the applicable air district(s) having jurisdiction over the treatment area. Example of a smoke management plan is in Appendix PD-2. This SPR applies only to prescribed burning treatment activities and all treatment types, including treatment maintenance.	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N/A	Prescribed burning is not part of the proposed projects. Therefore, SPR AQ-2 is not applicable.	N/A
SPR AQ-3 Create Burn Plan: The project proponent will create a burn plan using the CAL FIRE burn plan template for all prescribed burns. The burn plan will include a fire behavior model output of First Order Fire Effects Model and BEHAVE or other fire behavior modeling simulation and that is performed by a qualified fire behavior technical specialist that predicts fire behavior, calculates consumption of fuels, tree mortality, predicted emissions, greenhouse gas emissions, and soil heating. The project proponent will minimize soil burn severity from broadcast burning to reduce the potential for runoff and soil erosion. The burn plan will be created with input from a qualified technician or certified State burn boss. This SPR applies only to prescribed burning treatment activities and all treatment types, including treatment maintenance.	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N/A	Prescribed burning is not part of the proposed projects. Therefore, SPR AQ-3 is not applicable.	N/A

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
SPR AQ-4 Minimize Dust: To minimize dust during treatment activities, the project proponent will implement the following measures: ▶ Limit the speed of vehicles and equipment traveling on unpaved areas to 15 miles per hour to reduce fugitive dust emissions, in accordance with the California Air Resources Board (CARB) Fugitive Dust protocol. ▶ If road use creates excessive dust, the project proponent will wet appurtenant, unpaved, dirt roads using water trucks or treat roads with a non-toxic chemical dust suppressant (e.g., emulsion polymers, organic material) during dry, dusty conditions. Any dust suppressant product used will be environmentally benign (i.e., non-toxic to plants and will not negatively impact water quality) and its use will not be prohibited by ARB, EPA, or the State Water Resources Control Board (SWRCB). The project proponent will not over-water exposed areas such that the water results in runoff. The type of dust suppression method will be selected by the project proponent based on soil, traffic, site-specific conditions, and air quality regulations. ▶ Remove visible dust, silt, or mud tracked-out on to public paved roadways where sufficient water supplies and access to water is available. The project proponent will remove dust, silt, and mud from vehicles at the conclusion of each workday, or at a minimum of every 24 hours for continuous treatment activities, in accordance with Vehicle Code Section 23113. ▶ Suspend ground-disturbing treatment activities, including land clearing and bulldozer lines, when there is visible dust transport (particulate pollution) outside the treatment boundary, if the particulate emissions may "cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any of those persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property," per Health and Safety Code Section 41700.	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N/A	The proposed project does not include off-road use of vehicles; therefore, SPR AQ-4 is not applicable.	N/A

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
This SPR applies to all treatment activities and treatment types, including treatment maintenance.						
SPR AQ-5 Avoid Naturally Occurring Asbestos: The project proponent will avoid ground-disturbing treatment activities in areas identified as likely to contain naturally occurring asbestos (NOA) per maps and guidance published by the California Geological Survey, unless an Asbestos Dust Control Plan (17 CCR Section 93105) is prepared and approved by the air district(s) with jurisdiction over the treatment area. Any NOA-related guidance provided by the applicable air district will be followed. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N/A	Ground disturbance would be minimal and work limited to vegetation. Naturally occurring asbestos is not known to occur in the project areas.[3] Therefore, SPR AQ-5 is not applicable.	N/A
SPR AQ-6: Prescribed Burn Safety Procedures. Prescribed burns planned and managed by non-CAL FIRE crews will follow all safety procedures required of CAL FIRE crew, including the implementation of an approved Incident Action Plan (IAP). The IAP will include the burn dates; burn hours; weather limitations; the specific burn prescription; a communications plan; a medical plan; a traffic plan; and special instructions such as minimizing smoke impacts to specific local roadways. The IAP will also assign responsibilities for coordination with the appropriate air district, such as conducting onsite briefings, posting notifications, weather monitoring during burning, and other burn related preparations. This SPR applies only to prescribed burning treatment activities and all treatment types, including treatment maintenance.	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N/A	Prescribed burning is not part of the proposed projects. Therefore, SPR AQ-6 is not applicable.	N/A
Archaeological, Historical, and Tribal Cultural Resources Standard Project Requirements						
SPR CUL-1 Conduct Record Search: An archaeological and historical resource record search will be conducted per the applicable state or local agency procedures. Instead of conducting a new search, the project proponent may use recent record searches containing the treatment area requested by a landowner or other public agency in accordance applicable	**Initial Treatment:** Y **Treatment Maintenance:** Y	Prior to treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	A cultural resources records search has been conducted as part of the proposed projects. Therefore, SPR CUL-1 has been satisfied.	Y

[3] https://mrdata.usgs.gov/asbestos/map-us.html

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
agency guidance. This SPR applies to all treatment activities and treatment types, including treatment maintenance.						
SPR CUL-2 Contact Geographically Affiliated Native American Tribes: The project proponent will obtain the latest Native American Heritage Commission (NAHC) provided Native Americans Contact List. Using the appropriate Native Americans Contact List, the project proponent will notify the California Native American Tribes in the counties where the treatment activity is located. The notification will contain the following: ▶ A written description of the treatment location and boundaries. ▶ Brief narrative of the treatment objectives. ▶ A description of the activities used (e.g., prescribed burning, mastication) and associated acreages. ▶ A map of the treatment area at a sufficient scale to indicate the spatial extent of activities. ▶ A request for information regarding potential impacts to cultural resources from the proposed treatment. ▶ A detailed description of the depth of excavation, if ground disturbance is expected. In addition, the project proponent will contact the NAHC for a review of their Sacred Lands File. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	**Initial Treatment:** Y **Treatment Maintenance:** Y	Prior to treatment and maintenance.	LBFD	City of Laguna Beach Fire Chief	Notice of the proposed projects has been sent to the NAHC and a Sacred Lands File Search completed. Tribes identified by the NAHC have been notified. Therefore, SPR CUL-2 has been satisfied.	Y
SPR-CUL-3 Pre-field Research: The project proponent will conduct research prior to implementing treatments as part of the cultural resource investigation. The purpose of this research is to properly inform survey design, based on the types of resources likely to be encountered within the treatment area, and to be prepared to interpret, record, and evaluate these findings within the context of local history and prehistory. The qualified archaeologist and/or archaeologically-trained resource professional will review records, study maps, read pertinent ethnographic, archaeological, and historical literature specific to the area being studied, and conduct other tasks to maximize the effectiveness of the survey. This SPR applies to all	**Initial Treatment:** Y **Treatment Maintenance:** Y	Prior to treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	A cultural resources records search was completed and reviewed as part of the IS/MND (IS/MND Appendix D – Confidential). Therefore, SPR CUL-3 has been satisfied.	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
treatment activities and treatment types, including treatment maintenance.						
SPR CUL-4 Archaeological Surveys: The project proponent will coordinate with an archaeologically-trained resource professional and/or qualified archaeologist to conduct a site-specific survey of the treatment area. The survey methodology (e.g., pedestrian survey, subsurface investigation) depends on whether the area has a low, moderate, or high sensitivity for resources, which is based on whether the records search, pre-field research, and/or Native American consultation identifies archaeological or historical resources near or within the treatment area. A survey report will be completed for every cultural resource survey completed. The specific requirements will comply with the applicable state or local agency procedures. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	**Initial Treatment:** Y **Treatment Maintenance:** Y	Prior to treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	A cultural resources survey was completed (IS/MND Appendix D – Confidential). Therefore, SPR CUL-4 has been satisfied.	Y
SPR CUL-5 Treatment of Archaeological Resources: If cultural resources are identified within a treatment area, and cannot be avoided, a qualified archaeologist will notify the culturally affiliated tribe(s) based on information provided by NAHC and assess, whether an archaeological find qualifies as a unique archaeological resource, an historical resource, or in coordination with said tribe(s), as a tribal cultural resource. The project proponent, in consultation with culturally affiliated tribe(s), will develop effective protection measures for important cultural resources located within treatment areas. These measures may include adjusting the treatment location or design to entirely avoid cultural resource locations or changing treatment activities so that damaging effects to cultural resources will not occur. These protection measures will be written in clear, enforceable language, and will be included in the survey report in accordance with applicable state or local agency procedures. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N/A	The proposed projects have been designed to avoid any known cultural resources. Additionally, LBFD would retain the services of a qualified archaeological monitor per MM CUL-1 to provide on-call monitoring services and per MM CUL-2 to train construction personnel to recognize possible buried cultural resources, protect resources during construction, and maintain avoidance areas. The intent of SPR CUL-5 has been satisfied.	Y
SPR CUL-6 Treatment of Tribal Cultural Resources: The project proponent, in consultation with the culturally affiliated tribe(s), will develop effective protection measures for important tribal cultural resources located within treatment areas. These measures may	**Initial Treatment:** Y	Prior to treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	Tribal outreach letters were mailed on 9/21/21 to those tribes identified by the NAHC. Any identified resources would be	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
include adjusting the treatment location or design to entirely avoid cultural resource locations or changing treatment activities so that damaging effects to cultural resources will not occur. The project proponent will provide the tribe(s) the opportunity to submit comments and participate in consultation to resolve issues of concern. The project proponent will defer implementing the treatment until the tribe approves protection measures, or if agreement cannot be reached after a good-faith effort, the proponent determines that any or all feasible measures have been implemented, where feasible, and the resource is either avoided or protected. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	**Treatment Maintenance:** Y				avoided through project re-design (i.e., adding buffers) or through mitigation measures. As recommended in IS/MND Section 18 (Tribal Cultural Resources), MM TCR-1 allows a member of the Gabrielino Tongva Indians of California Tribal Council to spot-check vegetation removal activities. If cultural resources are discovered, work shall stop, and contractors shall contact the archaeologist to assist in assessing the nature of the find to determine if additional full-time monitoring is appropriate. Work in the area of the find can resume once an agreement on the treatment of the find is made between the City of Laguna Beach Fire Department and the Gabrielino Tongva Indians of California Tribal Council, in consultation with the qualified archaeologist. Therefore, SPR CUL-6 has been satisfied.	
SPR CUL-7 Avoid Built Historical Resources: If the records search identifies built historical resources, as defined in Section 15064.5 of the State CEQA Guidelines, the project proponent will avoid these resources. Within a buffer of 100 feet of the built historical resource, there will be no prescribed burning or mechanical treatment activities Buffers less than 100 feet for built historical resources will only be used after consultation with and receipt of written approval from a qualified archaeologist. If the records search does not identify known historical resources in the treatment area, but structures (i.e., buildings, bridges, roadways) over 50 years old that have not been evaluated for historic	**Initial Treatment:** Y **Treatment Maintenance:** Y	During treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	IS/MND Section 5 (Cultural Resources) recommends MMs CUL-1, CUL-2, and CUL-3. These MMs require retaining a professional archaeologist to monitor project activities, training construction personnel on the recognition of buried cultural resources, and flagging and avoiding two identified	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
significance are present in the treatment area, they will similarly be avoided. This SPR applies to all treatment activities and treatment types, including treatment maintenance.					archaeological sites. Therefore, SPR CUL-7 has been satisfied.	
SPR CUL-8 Cultural Resource Training: The project proponent will train all crew members and contractors implementing treatment activities on the protection of sensitive archaeological, historical, or tribal cultural resources. Workers will be trained to halt work if archaeological resources are encountered on a treatment site and the treatment method consists of physical disturbance of land surfaces (e.g., soil disturbance). This SPR applies to all treatment activities and treatment types, including treatment maintenance.	**Initial Treatment:** Y **Treatment Maintenance:** Y	Prior to treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	As discussed in Section 5 (Cultural Resources), MM CUL-2 would be implemented to train all construction personnel on the recognition of possible buried cultural resources and protection of all archaeological resources. Therefore, SPR CUL-8 has been satisfied.	Y
Biological Resources Standard Project Requirements						
SPR BIO-1: Review and Survey Project-Specific Biological Resources. The project proponent will require a qualified RPF or biologist to conduct a data review and reconnaissance-level survey prior to treatment, no more than one year prior to the submittal of the PSA, and no more than one year between completion of the PSA and implementation of the treatment project. The data reviewed will include the biological resources setting, species and sensitive natural communities tables, and habitat information in this PEIR for the ecoregion(s) where the treatment will occur. It will also include review of the best available, current data for the area, including vegetation mapping data, species distribution/range information, CNDDB, California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California, relevant BIOS queries, and relevant general and regional plans. Reconnaissance-level biological surveys will be general surveys that include visual and auditory inspection for biological resources to help determine the environmental setting of a project site. The qualified surveyor will 1.) identify and document sensitive resources, such as riparian or other sensitive habitats, sensitive natural community, wetlands, or wildlife nursery site or habitat (including bird nests), and 2.) assess the suitability of habitat for special-status plant and animal species. The surveyor will also record any incidental wildlife observations. For	**Initial Treatment:** Y **Treatment Maintenance:** Y	Prior to treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	A California gnatcatcher survey and biological resources reconnaissance survey was conducted in fall/winter 2021, and a biological technical report was prepared for the proposed projects. Therefore, SPR BIO-1 has been satisfied.	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
each treatment project, habitat assessments will be completed at a time of year that is appropriate for identifying habitat and no more than one year prior to the submittal of the PSA, unless it can be demonstrated in the PSA that habitat assessments older than one year remain valid (e.g., site conditions are unchanged and no treatment activity has occurred since the assessment). If more than one year passes between completion of the PSA and initiation of the treatment project, the project proponent will verify the continued accuracy of the PSA prior to beginning the treatment project by reviewing for any data updates and/or visiting the site to verify conditions. Based on the results of the data review and reconnaissance-level survey, the project proponent, in consultation with a qualified RPF or biologist, will determine which one of the following best characterizes the treatment:						
1. **Suitable Habitat Is Present but Adverse Effects Can Be Clearly Avoided**. If, based on the data review and reconnaissance-level survey, the qualified RPF or biologist determines that suitable habitat for sensitive biological resources is present but adverse effects on the suitable habitat can clearly be avoided through one of the following methods, the avoidance mechanism will be implemented prior to initiating treatment and will remain in effect throughout the treatment: a. by physically avoiding the suitable habitat, or b. by conducting treatment outside of the season when a sensitive resource could be present within the suitable habitat or outside the season of sensitivity (e.g., outside of special-status bird nesting season, during dormant season of sensitive annual or geophytic plant species, or outside of maternity and rearing season at wildlife nursery sites). Physical avoidance will include flagging, fencing, stakes, or clear, existing landscape demarcations (e.g., edge of a roadway) to delineate the boundary of the avoidance area around the suitable habitat. For physical avoidance, a buffer may be implemented as determined necessary by the qualified RPF or biologist.	**Initial Treatment:** Y **Treatment Maintenance:** Y	Prior to treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	A biological resources reconnaissance survey was conducted and two listed species, big-leaved crownbeard and coastal California gnatcatcher were determined to have a moderate to high potential to be present. In addition, several special-status plants and animals were also determined to have a moderate to high potential to be present including California box-thorn, Catalina mariposa lily, intermediate mariposa-lily, paniculate tarplant, Coulter's matilija poppy, Western dichondra, red-diamond rattlesnake, California glossy snake, coast patch-nosed snake, coastal whiptail, orange-throated whiptail, and Cooper's hawk. As described in Section 4, several	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
2. **Suitable Habitat is Present and Adverse Effects Cannot Be Clearly Avoided**. Further review and surveys will be conducted to determine presence/absence of sensitive biological resources that may be affected, as described in the SPRs below. Further review may include contacting USFWS, NOAA Fisheries, CDFW, CNPS, or local resource agencies as necessary to determine the potential for special-status species or other sensitive biological resources to be affected by the treatment activity. Focused or protocol-level surveys will be conducted as necessary to determine presence/absence. If protocol surveys are conducted, survey procedures will adhere to methodologies approved by resource agencies and the scientific community, such as those that are available on the CDFW webpage at: https://www.wildlife.ca.gov/Conservation/Survey-Protocols. Specific survey requirements are addressed for each resource type in relevant SPRs (e.g., additional survey requirements are presented for special-status plants in SPR BIO-7). This SPR applies to all treatment activities and treatment types, including treatment maintenance.					mitigation measures will be implemented to avoid or reduce all potential adverse impacts. Therefore, SPR BIO-1 (1) has been satisfied. SPR BIO-1 (2) is not applicable.	
SPR BIO-2: Require Biological Resource Training for Workers. The project proponent will require crew members and contractors to receive training from a qualified RPF or biologist prior to beginning a treatment project. The training will describe the appropriate work practices necessary to effectively implement the biological SPRs and mitigation measures and to comply with the applicable environmental laws and regulations. The training will include the identification, relevant life history information, and avoidance of pertinent special-status species; identification and avoidance of sensitive natural communities and habitats with the potential to occur in the treatment area; impact minimization procedures; and reporting requirements. The training will instruct workers when it is appropriate to stop work and allow wildlife encountered during treatment activities to leave the area unharmed and when it is necessary to report encounters to a qualified RPF, biologist, or biological technician. The qualified RPF, biologist, or biological technician will immediately contact CDFW or USFWS, as	**Initial Treatment:** Y **Treatment Maintenance:** Y	Prior to treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	As described in IS/MND Section 4(a) (Biological Resources), a training for all workers would be conducted to ensure that workers 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	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements						
Standard Project Requirements	**Applicable? (Y/N)**	**Timing**	**Implementing Entity**	**Verifying/Monitoring Entity**	**Justification**	**Consistent (Y/N)**
appropriate, if any wildlife protected by the California Endangered Species Act (CESA) or Federal Endangered Species Act (ESA) is encountered and cannot leave the site on its own (without being handled). This SPR applies to all treatment activities and treatment types, including treatment maintenance.					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. Therefore, SPR BIO-2 has been satisfied.	
Sensitive Natural Communities and Other Sensitive Habitats						
SPR BIO-3: Survey Sensitive Natural Communities and Other Sensitive Habitats. If SPR BIO-1 determines that sensitive natural communities or sensitive habitats may be present and adverse effects cannot be avoided, the project proponent will: ▶ require a qualified RPF or biologist to perform a protocol-level survey following the CDFW "Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities" (current version dated March 20, 2018) of the treatment area prior to the start of treatment activities for sensitive natural communities and sensitive habitats. Sensitive natural communities will be identified using the best means possible, including keying them out using the most current edition of *A Manual of California Vegetation* (including updated natural communities data at http://vegetation.cnps.org/), or referring to relevant reports (e.g., reports found on the VegCAMP website). ▶ map and digitally record, using a Global Positioning System (GPS), the limits of any potential sensitive habitat and sensitive natural community identified in the treatment area. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	**Initial Treatment:** Y **Treatment Maintenance:** Y	Prior to treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	A detailed vegetation map has not yet been prepared for the projects. However, the Nature Reserve of Orange County did map most of the project sites in 2015. Nine vegetation and other cover types were mapped within the project sites including approximately 0.9 acres of lemonade berry scrub (*Rhus integrifolia* Shrubland Alliance) that has a State Rank of 3 and is considered a sensitive natural community. Most of the lemonade berry scrub overlaps with the High and Very High Value Habitat already mapped and addressed in IS/MND Section 4 (Biological Resources). With implementation of the MMs AMMs, impacts to sensitive natural communities are avoided or reduced. Therefore, SPR BIO-3 has been satisfied.	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
SPR BIO-4: Design Treatment to Avoid Loss or Degradation of Riparian Habitat Function. Project proponents, in consultation with a qualified RPF or qualified biologist, will design treatments in riparian habitats to retain or improve habitat functions by implementing the following within riparian habitats: ▶ Retain at least 75 percent of the overstory and 50 percent of the understory canopy of native riparian vegetation within the limits of riparian habitat identified and mapped during surveys conducted pursuant to SPR BIO-3. Native riparian vegetation will be retained in a well distributed multi-storied stand composed of a diversity of species similar to that found before the start of treatment activities. ▶ Treatments will be limited to removal of uncharacteristic fuel loads (e.g., removing dead or dying vegetation), trimming/limbing of woody species as necessary to reduce ladder fuels, and select thinning of vegetation to restore densities that are characteristic of healthy stands of the riparian vegetation types characteristic of the region. This includes hand removal (or mechanized removal where topography allows) of dead or dying riparian trees and shrubs, invasive plant removal, selective thinning, and removal of encroaching upland species. ▶ Removal of large, native riparian hardwood trees (e.g., willow, ash, maple, oak, alder, sycamore, cottonwood) will be minimized to the extent feasible and 75 percent of the pretreatment native riparian hardwood tree canopy will be retained. Because tree size varies depending on vegetation type present and site conditions, the tree size retention parameter will be determined on a site-specific basis depending on vegetation type present and setting; however, live, healthy, native trees that are considered large for that type of tree and large relative to other trees in that location will be retained. A scientifically-based, project-specific explanation substantiating the retention size parameter for native riparian hardwood tree removal will be provided in the Biological Resources Discussion of the PSA. Consideration of factors such as site hydrology, erosion potential, suitability of	**Initial Treatment:** Y **Treatment Maintenance:** Y	Prior to treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	Blue line streams within the project areas have been mapped and will have avoidance buffers in place during fuel treatment activities. Native vegetation within 25 feet of these stream buffers would be protected in place, and only non-native plants would be removed (with certain case-by-case exceptions such has removal of excessive dead plant matter and rubbish). Therefore, SPR BIO-4 has been satisfied.	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
wildlife habitat, presence of sufficient seed trees, light availability, and changes in stream shading may inform the tree size retention requirements. ▶ Removed trees will be felled away from adjacent streams or waterbodies and piled outside of the riparian vegetation zone (unless there is an ecological reason to do otherwise that is approved by applicable regulatory agencies, such as adding large woody material to a stream to enhance fish habitat, e.g., see Accelerated Wood Recruitment and Timber Operations: Process Guidance from the California Timber Harvest Review Team Agencies and National Marine Fisheries Service). ▶ Vegetation removal that could reduce stream shading and increase stream temperatures will be avoided. ▶ Ground disturbance within riparian habitats will be limited to the minimum necessary to implement effective treatments. This will consist of the minimum disturbance area necessary to reduce hazardous fuels and return the riparian community to a natural fire regime (i.e., Condition Class 1) considering historic fire return intervals, climate change, and land use constraints. ▶ Only hand application of herbicides approved for use in aquatic environments will be allowed and only during low-flow periods or when seasonal streams are dry. ▶ The project proponent will notify CDFW when required by California Fish and Game Code Section 1602 prior to implementing any treatment activities in riparian habitats. Notification will identify the treatment activities, map the vegetation to be removed, identify the impact avoidance identification methods to be used (e.g., flagging), and appropriate protections for the retention of shaded riverine habitat, including buffers and other applicable measures to prevent erosion into the waterway. ▶ In consideration of spatial variability of riparian vegetation types and condition and consistent with California Forest Practice Rules Section 916.9(v) (February 2019 version), a different set of vegetation retention standards and protection measures from those specified in the above bullets may be						

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
implemented on a site-specific basis if the qualified RPF and the project proponent demonstrate through substantial evidence that alternative design measures provide a more effective means of achieving the treatment goals objectives and would result in effects to the Beneficial Functions of Riparian Zones equal or more favorable than those expected to result from application of the above measures. Deviation from the above design specifications, different protection measures and design standards will only be approved when the treatment plan incorporates an evaluation of beneficial functions of the riparian habitat and with written concurrence from CDFW. This SPR applies to all treatment activities and treatment types, including treatment maintenance.						
SPR BIO-5: **Avoid Environmental Effects of Type Conversion and Maintain Habitat Function in Chaparral and Coastal Sage Scrub.** The project proponent will design treatment activities to avoid type conversion where native coastal sage scrub and chaparral are present. An ecological definition of type conversion is used in the CalVTP PEIR for assessment of environmental effects: a change from a vegetation type dominated by native shrub species that are characteristic of chaparral and coastal sage scrub vegetation alliances to a vegetation type characterized predominantly by weedy herbaceous cover or annual grasslands. For the PEIR, type conversion is considered in terms of habitat function, which is defined here as the arrangement and capability of habitat features to provide refuge, food source, and reproduction habitat to plants and animals, and thereby contribute to the conservation of biological and genetic diversity and evolutionary processes (de Groot et al. 2002). Some modification of habitat characteristics may occur provided habitat function is maintained (i.e., the location, essential habitat features, and species supported are not substantially changed). During the reconnaissance-level survey required in SPR BIO-1, a qualified RPF or biologist will identify chaparral and coastal sage scrub vegetation to the alliance level and determine the condition	**Initial Treatment:** Y **Treatment Maintenance:** Y	Prior to treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	The proposed projects would reduce fuel loads up to 50 percent, prioritizing the removal of non-native species and dead or dying plants first; if 50 percent reduction in wildfire fuel is achieved by removing invasive vegetation, vegetation clearing would stop. If further thinning or removal needs to occur, crews would follow the hierarchical list of vegetation in the City's fuel modification treatment protocols (IS/MND Appendix A) to remove the least sensitive plants first. All healthy specimens of southern maritime chaparral species including bush rue, spiny redberry, and bigpod lilac would be retained. Following the City's fuel modification treatment protocols would avoid type conversion and maintain	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
class and fire return interval departure of the chaparral and/or coastal sage scrub present in each treatment area. For all treatment types in chaparral and coastal sage scrub, the project proponent, in consultation with a qualified RPF or qualified biologist will: ▶ Develop a treatment design that avoids environmental effects of type conversion in chaparral and coastal sage scrub vegetation alliances, which will include evaluating and determining the appropriate spatial scale at which the proponent would consider type conversion, and substantiating its appropriateness. The project proponent will demonstrate with substantial evidence that the habitat function of chaparral and coastal sage scrub would be at least maintained within the identified spatial scale at which type conversion is evaluated for the specific treatment project. Consideration of factors such as site hydrology, erosion potential, suitability of wildlife habitat, spatial needs of sensitive species, presence of sufficient seed plants and nurse plants, light availability, and edge effects may inform the determination of an appropriate spatial scale. ▶ The treatment design will maintain a minimum percent cover of mature native shrubs within the treatment area to maintain habitat function; the appropriate percent cover will be identified by the project proponent in the development of treatment design and be specific to the vegetation alliances that are present in the identified spatial scale used to evaluate type conversion. Mature native shrubs that are retained will be distributed contiguously or in patches within the stand. If the stand consists of multiple age classes, patches representing a range of middle to old age classes will be retained to maintain and improve heterogeneity, to the extent needed to avoid type conversion. These SPR requirements apply to all treatment activities and all treatment types, including treatment maintenance. Additional measures will be applied to ecological restoration treatment types:					chaparral and coastal sage scrub communities by prioritizing the removal of non-native plants first. Therefore, SPR BIO-5 has been satisfied.	

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
▶ For ecological restoration treatment types, complete removal of the mature shrub layer will not occur in native chaparral and coastal sage scrub vegetation types. ▶ Ecological restoration treatments will not be implemented in vegetation types that are within their natural fire return interval (i.e., time since last burn is less than the average time listed as the fire return interval range in Table 3.6-1) unless the project proponent demonstrates with substantial evidence that the habitat function of chaparral and coastal sage scrub would be improved. ▶ A minimum of 35 percent relative cover of existing shrubs and associated native vegetation will be retained at existing densities in patches distributed in a mosaic pattern within the treated area or the shrub canopy will be thinned by no more than 20 percent from baseline density (i.e., if baseline shrub canopy density is 60 percent, post treatment shrub canopy density will be no less than 40 percent). A different percent relative cover can be retained if the project proponent demonstrates with substantial evidence that alternative treatment design measures would result in effects on the habitat function of chaparral and coastal sage scrub that are equal or more favorable than those expected to result from application of the above measures. Biological considerations that may inform a deviation from the minimum 35 percent relative cover retention include but are not limited to soil moisture requirements, increased soil temperatures, changes in light/shading, presence of sufficient seed plants and nurse plants, erosion potential, and site hydrology. ▶ If the stand within the treatment area consists of multiple age classes, patches representing a range of middle to old age classes will be retained to maintain and improve heterogeneity. These SPR requirements apply to all treatment activities and only the ecosystem restoration treatment type, including treatment maintenance. A determination of compliance with the SB 1260 prohibition of type conversion in chaparral and coastal sage scrub is a statutory						

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
issue separate from CEQA compliance that may involve factors additional to the ecological definition and habitat functions presented in the PEIR, such as geographic context. It is beyond the legal scope of the PEIR to define SB 1260 type conversion and statutory compliance. The project proponent, acting as lead agency for the proposed later treatment project, will be responsible for defining type conversion in the context of the project and making the finding that type conversion would not occur, as required by SB 1260. The project proponent will determine its criteria for defining and avoiding type conversion and, in making its findings, may draw upon information presented in this PEIR.						
SPR BIO-6: Prevent Spread of Plant Pathogens. When working in sensitive natural communities, riparian habitats, or oak woodlands that are at risk from plant pathogens (e.g., Ione chaparral, blue oak woodland), the project proponent will implement the following best management practices to prevent the spread of *Phytopthora* and other plant pathogens (e.g., pitch canker (*Fusarium*), goldspotted oak borer, shot hole borer, bark beetle): ▶ 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; ▶ 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	**Initial Treatment:** Y **Treatment Maintenance:** Y	Prior to treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	IS/MND Section 4 (Biological Resources) recommends MM BIO-7, which requires the projects to implement best management practices to prevent the spread of Phytopthora and other plant pathogens. Therefore, SPR BIO-6 has been satisfied.	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements						
Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
▶ 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). This SPR applies to all treatment activities and treatment types, including treatment maintenance.						
Special-Status Plants						
SPR BIO-7: Survey for Special-Status Plants. If SPR BIO-1 determines that suitable habitat for special-status plant species is present and cannot be avoided, the project proponent will require a qualified RPF or botanist to conduct protocol-level surveys for special-status plant species with the potential to be affected by a treatment prior to initiation of the treatment. The survey will 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." Surveys to determine the presence or absence of special-status plant species will be conducted in suitable habitat that could be affected by the treatment and timed to coincide with the blooming or other appropriate phenological period of the target species (as determined by a qualified RPF or botanist), or all species in the same genus as the target species will be assumed to be special-status. If potentially occurring special-status plants are listed under CESA or ESA, protocol-level surveys to determine presence/absence of the listed species will be conducted in all circumstances, unless determined otherwise by CDFW or USFWS. For other special-status plants not listed under CESA or ESA, as defined in Section 3.6.1 of this PEIR, surveys will not be required under the following circumstances: ▶ If protocol-level surveys, consisting of at least two survey visits (e.g., early blooming season and later blooming season) during a normal weather year, have been completed in the 5 years before implementation of the treatment project and no special-status plants were found, and no treatment activity has	**Initial Treatment:** Y **Treatment Maintenance:** Y	Prior to treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	As described in IS/ND Section 4 (Biological Resources), suitable habitat for several special-status plants was identified within the project sites. MM BIO-6 requires a protocol-level botanical survey to be completed prior to the start of project activities. Therefore, SPR BIO-7 has been satisfied.	

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
occurred following the protocol-level survey, treatment may proceed without additional plant surveys. ▶ If the target special-status plant species is an herbaceous annual, stump-sprouting, or geophyte species, the treatment may be carried out during the dormant season for that species or when the species has completed its annual lifecycle without conducting presence/absence surveys provided the treatment will not alter habitat or destroy seeds, stumps, or roots, rhizomes, bulbs and other underground parts in a way that would make it unsuitable for the target species to reestablish following treatment. This SPR applies to all treatment activities and treatment types, including treatment maintenance.						
Environmentally Sensitive Habitat Areas						
SPR BIO-8: Identify and Avoid or Minimize Impacts in Coastal Zone ESHAs. When planning a treatment project within the Coastal Zone, the project proponent will, in consultation with the Coastal Commission or a local government with a certified Local Coastal Program (LCP) (as applicable), identify the habitat types and species present to determine if the area qualifies as an Environmentally Sensitive Habitat Area (ESHA). If the area is an ESHA, the treatment project may be allowed pursuant to this PEIR, if it meets the following conditions. If a project requires a CDP by the Coastal Commission or a local government with a certified LCP (as applicable), the CDP approval may require modification to these conditions to further avoid and minimize impacts: ▶ The treatment will be designed, in compliance with the Coastal Act or LCP if a site is within a certified LCP area, to protect the habitat function of the affected ESHA, protect habitat values, and prevent loss or type conversion of habitat and vegetation types that define the ESHA, or loss of special-status species that inhabit the ESHA. ▶ Treatment actions will be limited to eradication or control of invasive plants, removal of uncharacteristic fuel loads (e.g., removing dead, diseased, or dying vegetation),	**Initial Treatment:** Y **Treatment Maintenance:** Y	Prior to treatment and maintenance	LBFD	City of Laguna Beach	The proposed projects would prioritize the removal of non-native vegetation to protect sensitive and native vegetation. ESHA has been mapped in the project sites as High and Very High Value Habitat. As described in IS/MND Section 4 (Biological Resources), MMs are recommended to reduce or avoid impacts to ESHA. The proposed projects would be designed and implemented in compliance with a Coastal Development Permit. Therefore, SPR BIO-8 has been satisfied.	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
trimming/limbing of woody species as necessary to reduce ladder fuels, and select thinning of vegetation to restore densities that are characteristic of healthy stands of the vegetation types present in the ESHA. ▶ A qualified biologist or RPF familiar with the ecology of the treatment area will monitor all treatment activities in ESHAs. ▶ Appropriate no-disturbance buffers will be developed in compliance with the Coastal Act or relevant LCP policies for treatment activities in the vicinity of ESHAs to avoid adverse direct and indirect effects to ESHAs. This SPR applies to all treatment activities and all treatment types, including treatment maintenance.						
Invasive Plants and Wildlife						
SPR BIO-9: Prevent Spread of Invasive Plants, Noxious Weeds, and Invasive Wildlife. The project proponent will take the following actions to prevent the spread of invasive plants, noxious weeds, and invasive wildlife (e.g., New Zealand mudsnail): ▶ 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 will 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 qualified RPF or biological technician will deny entry to the work areas;	**Initial Treatment:** Y **Treatment Maintenance:** Y	During treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	MM BIO-8 has been added to IS/MND Section 4 (Biological Resources) which requires the project to implement best management practices to prevent the spread of invasive plants, noxious weeds, and invasive wildlife. Therefore, SPR BIO-9 has been satisfied.	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
▶ stage equipment in areas free of invasive plant infestations unless there are no uninfested 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, manual or mechanical treatments, prescribed burning, and/or herbivory, 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; ▶ treat invasive plant biomass onsite to eliminate seeds and propagules and prevent reestablishment or dispose of invasive plant biomass offsite at an appropriate waste collection facility (if not kept on site); transport invasive plant materials in a closed container or bag to prevent the spread of propagules during transport; and ▶ implement Fire and Fuel Management BMPs outlined in the "Preventing the Spread of Invasive Plants: Best Management Practices for Land Mangers" (Cal-IPC 2012, or current version). This SPR applies to all treatment activities and treatment types, including treatment maintenance.						

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
Wildlife						
SPR BIO-10: Survey for Special-Status Wildlife and Nursery Sites. If SPR BIO-1 determines that suitable habitat for special-status wildlife species or nurseries of any wildlife species is present and cannot be avoided, the project proponent will require a qualified RPF or biologist to conduct focused or protocol-level surveys for special-status wildlife species or nursery sites (e.g., bat maternity roosts, deer fawning areas, heron or egret rookeries, monarch overwintering sites) with potential to be directly or indirectly affected by a treatment activity. The survey area will be determined by a qualified RPF or biologist based on the species and habitats and any recommended buffer distances in agency protocols. The qualified RPF or biologist will determine if following an established protocol is required, and the project proponent may consult with CDFW and/or USFWS for technical information regarding appropriate survey protocols. Unless otherwise specified in a protocol, the survey will be conducted no more than 14 days prior to the beginning of treatment activities. Focused or protocol surveys for a special-status species with potential to occur in the treatment area may not be required if presence of the species is assumed. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	**Initial Treatment:** Y **Treatment Maintenance:** Y	Prior to treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	According to IS/MND Section 4 (Biological Resources), with implementation of AMM 9 (Work Area Designation to Minimize Disturbance), AMM 10/CM 3 (Environmental Awareness Training for Construction Personnel), AMM 11/CM 4 (Biological Monitor), AMM 12/CM 5 (Work Restrictions Near Active Nests), and AMM 13/CM 6 (Habitat Avoidance), impacts to these listed, special-status, and other protected species, including "take" would be avoided or reduced in FMZ 22. In FMZs 17 and 18, MMs BIO-1, BIO-2, BIO-5, and BIO-6 (MM BIO-6 covers both projects) would include surveying for special-status species and nesting birds and flagging and avoiding areas where the presence of special-status species and nesting birds is known.	Y
SPR BIO-11. Install Wildlife-Friendly Fencing (Prescribed Herbivory). If temporary fencing is required for prescribed herbivory treatment, a wildlife-friendly fencing design will be used. The project proponent will require a qualified RPF or biologist to review and approve the design before installation to minimize the risk of wildlife entanglement. The fencing design will meet the following standards: ▶ Minimize the chance of wildlife entanglement by avoiding barbed wire, loose or broken wires, or any material that could impale or snag a leaping animal; and, if feasible, keeping	**Initial Treatment:** Y **Treatment Maintenance: Y**	During treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	Hand treatment is expected to be the primary vegetation treatment method. However, goats may be used in suitable portions of FMZ 17 and FMZ 18 (yet to be identified) in conjunction with hand crew treatment. Per the Treatment Protocols (IS/MND Appendix A) goats are to remain in secure enclosures at all times.	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
electric netting-type fencing electrified at all times or laid down while not in use. ▶ Charge temporary electric fencing with intermittent pulse energizers; continuous output fence chargers will not be permitted. ▶ Allow wildlife to jump over easily without injury by installing fencing that can flex as animals pass over it and installing the top wire low enough (no more than approximately 40 inches high on flat ground) to allow adult ungulates to jump over it. The determination of appropriate fence height will consider slope, as steep slopes are more difficult for wildlife to pass. ▶ Be highly visible to birds and mammals by using high-visibility tape or wire, flagging, or other markers. This SPR applies only to prescribed herbivory and all treatment types, including treatment maintenance.					The City has committed to implement "wildlife-friendly" fencing approved by the project biologist as part of the projects.	
SPR BIO-12. Protect Common Nesting Birds, Including Raptors. The project proponent will schedule treatment activities to avoid the active nesting season of common native bird species, including raptors, that could be present within or adjacent to the treatment site, if feasible. Common native birds are species not otherwise treated as special status in the CalVTP PEIR. The active nesting season will be defined by the qualified RPF or biologist. If active nesting season avoidance is not feasible, a qualified RPF or biologist will conduct a survey for common nesting birds, including raptors. Existing records (e.g., CNDDB, eBird database, State Wildlife Action Plan) should be reviewed in advance of the survey to identity the common nesting birds, including raptors, that are known to occur in the vicinity of the treatment site. The survey area will encompass reasonably accessible areas of the treatment site and the immediately surrounding vicinity viewable from the treatment site. The survey area will be determined by a qualified RPF or biologist, based on the potential species in the area, location of suitable nesting habitat, and type of treatment. For vegetation removal or project activities that would occur during the nesting season, the survey will be conducted at a time that balances the effectiveness of detecting nests and the	**Initial Treatment:** Y **Treatment Maintenance:** Y	Prior to treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	As discussed in IS/MND Section 4 (Biological Resources), several MMs have been added to reduce or avoid impacts to nesting birds in FMZ 17/18, including MM BIO-1, BIO-2, and BIO-3. Proposed fuel modification activities in FMZ 22 would be completed in accordance with the Biological Assessment's recommended avoidance and minimization measure (AMM) 12 and the Carlsbad Fish and Wildlife Office's conservation measure (CM) 5 for work restrictions near active nests. If active nests are detected during biological monitoring, work would be suspended until birds have fledged, or an exclusionary buffer would be established by a	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
reasonable consideration of potential avoidance strategies. Typically, this timeframe would be up to 3 weeks before treatment. The survey will occur in a single survey period of sufficient duration to reasonably detect nesting birds, including raptors, typically one day for most treatment projects (depending on the size, configuration, and vegetation density in the treatment site), and conducted during the active time of day for target species, typically close to dawn and/or dusk. The survey may be conducted concurrently with other biological surveys, if they are required by other SPRs. Survey methods will be tailored by the qualified RPF or biologist to site and habitat conditions, typically involving walking throughout the survey area, visually searching for nests and birds exhibiting behavior that is typical of breeding (e.g., delivering food). If an active nest is observed (i.e., presence of eggs and/or chicks) or determined to likely be present based on nesting bird behavior, the project proponent will implement a feasible strategy to avoid disturbance of active nests, which may include, but is not limited to, one or more of the following: ▶ **Establish Buffer.** The project proponent will establish a temporary, species-appropriate buffer around the nest sufficient to reasonably expect that breeding would not be disrupted. Treatment activities will be implemented outside of the buffer. The buffer location will be determined by a qualified RPF or biologist. Factors to be considered for determining buffer location will include: presence of natural buffers provided by vegetation or topography, nest height above ground, baseline levels of noise and human activity, species sensitivity, and expected treatment activities. Nests of common birds within the buffer need not be monitored during treatment. However, buffers will be maintained until young fledge or the nest becomes inactive, as determined by the qualified RPF, biologist, or biological technician. ▶ **Modify Treatment.** The project proponent will modify the treatment in the vicinity of an active nest to avoid disturbance of active nests (e.g., by implementing manual treatment methods, rather than mechanical treatment methods).					Carlsbad Fish and Wildlife Office-approved biologist. If an exclusion zone is established, the Carlsbad Fish and Wildlife Office-approved biologist would monitor the nest during construction; if adverse effects are detected, the biologist would have the authority to stop construction near the nest and coordinate with the Carlsbad Fish and Wildlife Office to determine whether additional conservation measures can avoid or minimize effects on the nesting birds. Alternatively, the biologist would continue to monitor the nest and would determine when the young have fledged. Once the young have left the nest, the buffer and exclusion zone may be removed and construction activities within these areas may resume. Therefore, SPR BIO-12 has been satisfied.	

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
Treatment modifications will be determined by the project proponent in coordination with the qualified RPF or biologist. ▶ **Defer Treatment.** The project proponent will defer the timing of treatment in the portion(s) of the treatment site that could disturb the active nest. If this avoidance strategy is implemented, treatment activity will not commence until young fledge or the nest becomes inactive, as determined by the qualified RPF, biologist, or biological technician. Feasible actions will be taken by the project proponent to avoid loss of common native bird nests. The feasibility of implementing the avoidance strategies will be determined by the project proponent based on whether implementation of this SPR will preclude completing the treatment project within the reasonable period of time necessary to meet CalVTP program objectives, including, but not limited to, protection of vulnerable communities. Considerations may include limitations on the presence of environmental and atmospheric conditions necessary to execute treatment prescriptions (e.g., the limited seasonal windows during which prescribed burning can occur when vegetation moisture, weather, wind, and other physical conditions are suitable). If it is infeasible to avoid loss of common bird nests (not including raptor nests), the project proponent will document the reasons implementation of the avoidance strategies is infeasible in the PSA. After completion of the PSA and prior to or during treatment implementation, if there is any change in the feasibility of avoidance strategies from those explained in the PSA, this will be documented in the post-project implementation report (referred to by CAL FIRE as a Completion Report). The following avoidance strategies may also be considered together with or in lieu of other actions for implementation by a project proponent to avoid disturbance to raptor nests: ▶ **Monitor Active Raptor Nest During Treatment**. A qualified RPF, biologist, or biological technician will monitor an active raptor nest during treatment activities to identify signs of agitation, nest defense, or other behaviors that signal disturbance of the active nest is likely (e.g., standing up from a brooding position, flying off the nest). If breeding raptors are showing signs of						

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
nest disturbance, one of the other avoidance strategies (establish buffer, modify treatment or defer treatment) will be implemented or a pause in the treatment activity will occur until the disturbance behavior ceases. ▶ **Retention of Raptor Nest Trees**. Trees with visible raptor nests, whether occupied or not, will be retained. This SPR applies to all treatment activities and treatment types, including treatment maintenance.						
Geology, Soils, and Mineral Resource Standard Project Requirements						
SPR GEO-1 Suspend Disturbance during Heavy Precipitation: The project proponent will suspend mechanical, prescribed herbivory, and herbicide treatments if the National Weather Service forecast is a "chance" (30 percent or more) of rain within the next 24 hours. Activities that cause mechanical soil disturbance may resume when precipitation stops and soils are no longer saturated (i.e., when soil and/or surface material pore spaces are filled with water to such an extent that runoff is likely to occur). Indicators of saturated soil conditions may include, but are not limited to: (1) areas of ponded water, (2) pumping of fines from the soil or road surfacing, (3) loss of bearing strength resulting in the deflection of soil or road surfaces under a load, such as the creation of wheel ruts, (4) spinning or churning of wheels or tracks that produces a wet slurry, or (5) inadequate traction without blading wet soil or surfacing materials. This SPR applies only to mechanical, prescribed herbivory, and herbicide treatment activities and all treatment types, including treatment maintenance.	**Initial Treatment:** Y **Treatment Maintenance:** Y	During treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	Per the project schedule, no work would occur during adverse weather conditions such as rain and Red Flag conditions. As such the intent of SPR GEO-1 is met.	Y
SPR GEO-2 Limit High Ground Pressure Vehicles: The project proponent will limit heavy equipment that could cause soil disturbance or compaction to be driven through treatment areas when soils are wet and saturated to avoid compaction and/or damage to soil structure. Saturated soil means that soil and/or surface material pore spaces are filled with water to such an extent that runoff is likely to occur. If use of heavy equipment is required in saturated areas, other measures such as operating on organic debris, using low ground pressure vehicles, or operating on frozen soils/snow covered soils will be implemented to	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N/A	No heavy equipment would be used for the proposed projects. Therefore, SPR GEO-2 is not applicable.	N/A

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
minimize soil compaction. Existing compacted road surfaces are exempted as they are already compacted from use. This SPR applies only to mechanical treatment activities and all treatment types, including treatment maintenance.						
SPR GEO-3 Stabilize Disturbed Soil Areas: The project proponent will stabilize soil disturbed during mechanical, prescribed herbivory treatments, and prescribed burns that result in exposure of bare soil over 50 percent or more of the treatment area with mulch or equivalent immediately after treatment activities, to the maximum extent practicable, to minimize the potential for substantial sediment discharge. If mechanical, prescribed herbivory, or prescribed burn treatment activities could result in substantial sediment discharge from soil disturbed by machinery, animal hooves, or being bare, organic material from mastication or mulch will be incorporated onto at least 75 percent of the disturbed soil surface where the soil erosion hazard is moderate or high, and 50 percent of the disturbed soil surface where soil erosion hazard is low to help prevent erosion. Where slash mulch is used, it will be packed into the ground surface with heavy equipment so that it is sufficiently in contact with the soil surface. This SPR only applies to mechanical, prescribed herbivory, and prescribed burns that result in exposure of bare soil over 50 percent of the project area treatment activities and all treatment types, including treatment maintenance.	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N/A	The proposed projects would not result in exposure of bare soil over 50 percent or more of any treatment area. The proposed projects would treat and stabilize disturbed areas with bare earth by placing up to 12 inches of chipped native vegetative waste. AMM 6 would be implemented in FMZ 22 to cover stockpiled soils to prevent sedimentation from runoff and wind and to remove all project-related sediment at the end of fuel treatment activities. AMM 9 would be implemented in FMZ 22 to minimize the amount of disturbance to a work area by salvaging existing vegetation wherever possible and restoring removed topsoil to recreate pre-disturbance conditions as closely as possible. Additionally, recommendations of the project geotechnical reports (IS/MND Appendix E) would be followed. Therefore, SPR GEO-3 is not applicable.	N/A
SPR GEO-4 Erosion Monitoring: The project proponent will inspect treatment areas for the proper implementation of erosion control SPRs and mitigations prior to the rainy season. If erosion control measures are not properly implemented, they will be	**Initial Treatment:** Y	During treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	The proposed projects would implement erosion control measures such as leaving perennial plant roots in place,	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
remediated prior to the first rainfall event per SPR GEO-3 and GEO-8. Additionally, the project proponent will inspect for evidence of erosion after the first large storm or rainfall event (i.e., ≥ 1.5 inches in 24 hours) as soon as is feasible after the event. Any area of erosion that will result in substantial sediment discharge will be remediated within 48 hours per the methods stated in SPRs GEO-3 and GEO-8. This SPR applies only to mechanical, prescribed herbivory, and prescribed burning treatment activities and all treatment types, including treatment maintenance.	**Treatment Maintenance:** Y				strategically placing cut native vegetation material, installing straw waddles and bales, and following recommendations of the geotechnical studies as required by MM GEO-1. Therefore, the intent of SPR GEO-4 is met.	
SPR GEO-5 Drain Stormwater via Water Breaks: The project proponent will drain compacted and/or bare linear treatment areas capable of generating storm runoff via water breaks using the spacing and erosion control guidelines contained in Sections 914.6, 934.6, and 954.6(c) of the California Forest Practice Rules (February 2019 version). Where waterbreaks cannot effectively disperse surface runoff, including where waterbreaks cause surface run-off to be concentrated on downslopes, other erosion controls will be installed as needed to maintain site productivity by minimizing soil loss. This SPR applies only to mechanical, manual, and prescribed burn treatment activities and all treatment types, including treatment maintenance.	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N/A	The proposed projects would not have compacted or bare linear treatment areas. Therefore, SPR GEO-5 is not applicable.	N/A
SPR GEO-6 Minimize Burn Pile Size: The project proponent will not create burn piles that exceed 20 feet in length, width, or diameter, except when on landings, road surfaces, or on contour to minimize the spatial extent of soil damage. In addition, burn piles will not occupy more than 15 percent of the total treatment area (Busse et al. 2014). The project proponent will not locate burn piles in a Watercourse and Lake Protection Zone as defined in SPR HYD-4. This SPR applies to mechanical, manual, and prescribed burning treatment activities and all treatment types, including treatment maintenance.	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N/A	Prescribed burning is not part of the proposed projects. Therefore, SPR GEO-6 is not applicable.	N/A
SPR GEO-7 Minimize Erosion: To minimize erosion, the project proponent will: (1) Prohibit use of heavy equipment where any of the following conditions are present:	**Initial Treatment:** Y	During treatment	LBFD	City of Laguna Beach Fire Chief	The proposed projects would not use heavy equipment. Goats may be used in the western portions of FMZs 17 and 18 with less than 50 percent slope and are not	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
(i) Slopes steeper than 65 percent. (ii) Slopes steeper than 50 percent where the erosion hazard rating is high or extreme. (iii) Slopes steeper than 50 percent that lead without flattening to sufficiently dissipate water flow and trap sediment before it reaches a watercourse or lake. (2) On slopes between 50 percent and 65 percent where the erosion hazard rating is moderate, and all slope percentages are for average slope steepness based on sample areas that are 20 acres, or less, heavy equipment will be limited to: (i) Existing tractor roads that do not require reconstruction, or (ii) New tractor roads flagged by the project proponent prior to the treatment activity. (3) Prescribed herbivory treatments will not be used in areas with over 50 percent slope. This SPR applies to all treatment activities and all treatment types, including treatment maintenance.	**Treatment Maintenance:** Y				proposed in FMZ 22 due to geological stability concerns. As such the intent of SPR GEO-7 is met.	
SPR GEO-8 Steep Slopes: The project proponent will require a Registered Professional Forester (RPF) or licensed geologist to evaluate treatment areas with slopes greater than 50 percent for unstable areas (areas with potential for landslide) and unstable soils (soil with moderate to high erosion hazard). If unstable areas or soils are identified within the treatment area, are unavoidable, and will be potentially directly or indirectly affected by the treatment, a licensed geologist (P.G. or C.E.G.) will determine the potential for landslide, erosion, of other issue related to unstable soils and identity measures (e.g., those in SPR GEO-7) that will be implemented by the project proponent such that substantial erosion or loss of topsoil would not occur. This SPR applies only to mechanical treatment activities and WUI fuel reduction, non-shaded fuel breaks, and ecological restoration treatment types, including treatment maintenance.	**Initial Treatment:** Y **Treatment Maintenance:** Y	Prior to treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	Geotechnical reports have been prepared for the proposed projects. The proposed projects would implement recommendations outlined in these geotechnical reports. Therefore, the intent of SPR GEO-8 has been met.	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
Greenhouse Gas Emissions Standard Project Requirements						
SPR GHG-1 Contribute to the AB 1504 Carbon Inventory Process: The project proponent of treatment projects subject to the AB 1504 process will provide all necessary data about the treatment that is needed by the U.S. Forest Service and FRAP to fulfill requirements of the AB 1504 carbon inventory, and to aid in the ongoing research about the long-term net change in carbon sequestration resulting from treatment activity. This SPR applies to all treatment activities and all treatment types, including treatment maintenance.	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N/A	AB 1504 requires the Board of Forestry and Fire Protection to ensure the regulations governing the harvest of commercial tree species consider the capacity of forest resources to sequester carbon dioxide emissions sufficient to meet or exceed the State's GHG reduction requirements for the forestry sector. The proposed projects are not subject to AB 1504, as they would not occur within a forest ecosystem. Therefore, SPR GHG-1 is not applicable.	N/A
Hazardous Material and Public Health and Safety Standard Project Requirements						
SPR HAZ-1 Maintain All Equipment: The project proponent will maintain all diesel- and gasoline-powered equipment per manufacturer's specifications, and in compliance with all state and federal emissions requirements. Maintenance records will be available for verification. Prior to the start of treatment activities, the project proponent will inspect all equipment for leaks and inspect everyday thereafter until equipment is removed from the site. Any equipment found leaking will be promptly removed. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	**Initial Treatment:** Y **Treatment Maintenance:** Y	Prior to and during treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	The proposed fuel modification activities in FMZ 22 would implement AMM 4, requiring well-maintained equipment and proper fueling of vehicles and equipment. Equipment would be inspected daily for leaks or spills. If leaks or spills are encountered, the source of the leak would be identified, leaked material would be cleaned up, and cleaning materials would be collected and properly disposed. Vehicles and equipment would be fueled and serviced in a safe area outside of sensitive habitats. Fueling of equipment would be conducted according to the Spill Prevention and Pollution Control Plan. The	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
					proposed projects would also implement Mitigation Measure HAZ-1 which covers the requirements of SPR HAZ-1, as well as requiring hand clearing provisions including refueling power tools in areas clear of fire hazards, fueling power tools over a containment system to catch and prevent spills, cleaning up and properly disposing of fuel spills, fueling trucks off site, and avoiding the use of engine fuel as a cleaning solvent. Therefore, the proposed projects would implement SPR HAZ-1.	
SPR HAZ-2 Require Spark Arrestors: The project proponent will require mechanized hand tools to have federal- or state-approved spark arrestors. This SPR applies only to manual treatment activities and all treatment types, including treatment maintenance.	**Initial Treatment:** Y **Treatment Maintenance:** Y	During treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	As part of City contracts with contractors, project equipment would be required to have spark arrest features. Therefore, the proposed projects would implement SPR HAZ-2.	Y
SPR HAZ-3 Require Fire Extinguishers: The project proponent will require tree cutting crews to carry one fire extinguisher per chainsaw. Each vehicle would be equipped with one long-handled shovel and one axe or Pulaski consistent with PRC Section 4428. This SPR applies only to manual treatment activities and all treatment types, including treatment maintenance.	**Initial Treatment:** Y **Treatment Maintenance:** Y	During treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	The proposed project would require fire extinguishers on site during fuel management activities. For FMZ 22, AMM 7/CM 1 requires fire extinguishers for all vehicles used adjacent to undeveloped open spaces. Therefore, the intent of SPR HAZ-3 is met.	Y
SPR HAZ-4 Prohibit Smoking in Vegetated Areas: The project proponent will require that smoking is only permitted in designated smoking areas barren or cleared to mineral soil at least 3 feet in diameter (PRC Section 4423.4). This SPR applies to	**Initial Treatment:** Y **Treatment Maintenance:** Y	During treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	The proposed project would prohibit smoking. Therefore, the intent of SPR HAZ-4 is met.	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
all treatment activities and treatment types, including treatment maintenance.						
SPR HAZ-5 Spill Prevention and Response Plan: The project proponent or licensed Pest Control Advisor (PCA) will prepare a Spill Prevention and Response Plan (SPRP) prior to beginning any herbicide treatment activities to provide protection to onsite workers, the public, and the environment from accidental leaks or spills of herbicides, adjuvants, or other potential contaminants. The SPRP will include (but not be limited to): ▶ a map that delineates staging areas, and storage, loading, and mixing areas for herbicides; ▶ a list of items required in an onsite spill kit that will be maintained throughout the life of the activity; ▶ procedures for the proper storage, use, and disposal of any herbicides, adjuvants, or other chemicals used in vegetation treatment. This SPR applies only to herbicide treatment activities and all treatment types, including treatment maintenance.	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N/A	Herbicide use would be limited to spot treatment of invasive species, as determined by a biologist, and would not occur within 25 feet of any blue-line drainages. Herbicides would not be used at a landscape scale and would not be stored on site in quantities that could create an upset or accident condition. 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. Therefore, SPR HAZ-5 is not applicable.	N/A
SPR HAZ-6 Comply with Herbicide Application Regulations: The project proponent will coordinate pesticide use with the applicable County Agricultural Commissioner(s), and all required licenses and permits will be obtained prior to herbicide application. The project proponent will prepare all herbicide applications to do the following: ▶ Be implemented consistent with recommendations prepared annually by a licensed PCA. ▶ Comply with all appropriate laws and regulations pertaining to the use of pesticides and safety standards for employees and the public, as governed by the EPA, DPR, and applicable local jurisdictions. ▶ Adhere to label directions for application rates and methods, storage, transportation, mixing, container disposal, and weather limitations to application such as wind speed, humidity, temperature, and precipitation.	**Initial Treatment:** Y **Treatment Maintenance:** Y	During treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	Herbicides applications contracted by the City is competed by licensed applicators in compliance with applicable regulations. The proposed projects would implement SPR HAZ-6.	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
▶ Be applied by an applicator appropriately licensed by the State. This SPR applies only to herbicide treatment activities and all treatment types, including treatment maintenance.						
SPR HAZ-7 Triple Rinse Herbicide Containers: The project proponent will triple rinse all herbicide and adjuvant containers with clean water at an approved site, and dispose of rinsate by placing it in the batch tank for application per 3 CCR Section 6684. The project proponent will puncture used containers on the top and bottom to render them unusable, unless said containers are part of a manufacturer's container recycling program, in which case the manufacturer's instructions will be followed. Disposal of non-recyclable containers will be at legal dumpsites. Equipment will not be cleaned, and personnel will not be washed in a manner that would allow contaminated water to directly enter any body of water within the treatment area or adjacent watersheds. Disposal of all herbicides will follow label requirements and waste disposal regulations. This SPR applies only to herbicide treatment activities and all treatment types, including treatment maintenance.	**Initial Treatment:** Y **Treatment Maintenance:** Y	After treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	The proposed projects would use small amounts of herbicides (averaging approximately 2 to 5 gallons per 10 acres). Rinsing of small application equipment would be practiced consistent with container rinsing requirements. Contaminated residue and containers would be disposed of properly. Therefore, the intent of HAZ-7 has been met.	Y
SPR HAZ-8 Minimize Herbicide Drift to Public Areas: The project proponent will employ the following herbicide application parameters during herbicide application to minimize drift into public areas: ▶ application will cease when weather parameters exceed label specifications or when sustained winds at the site of application exceeds 7 miles per hour (whichever is more conservative); ▶ spray nozzles will be configured to produce the largest appropriate droplet size to minimize drift; ▶ low nozzle pressures (30-70 pounds per square inch) will be utilized to minimize drift; and ▶ spray nozzles will be kept within 24 inches of vegetation during spraying. This SPR applies only to herbicide treatment activities and all treatment types, including treatment maintenance.	**Initial Treatment:** Y **Treatment Maintenance:** Y	During treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	Herbicide application would be applied in small quantities for spot treatment. Landscape-scale herbicide treatment requiring spraying would not be implemented as part of the proposed projects. Due to the small scale of herbicide application, herbicide drift or runoff would not occur. Therefore, the intent of SPR HAZ-8 is met.	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
SPR HAZ-9 Notification of Herbicide Use in the Vicinity of Public Areas: For herbicide applications occurring within or adjacent to public recreation areas, residential areas, schools, or any other public areas within 500 feet, the project proponent will post signs at each end of herbicide treatment areas and any intersecting trails notifying the public of the use of herbicides. The signs will include the signal word (i.e., Danger, Warning or Caution), product name, and manufacturer; active ingredient; EPA registration number; target pest; treatment location; date and time of application; restricted entry interval, if applicable per the label requirements; date which notification sign may be removed; and a contact person with a telephone number. Signs will be posted prior to the start of treatment and notification will remain in place for at least 72 hours after treatment ceases. This SPR applies only to herbicide treatment activities and all treatment types, including treatment maintenance.	**Initial Treatment:** Y **Treatment Maintenance:** Y	During and after treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	Herbicide application would be applied in small quantities for spot treatment only. Signs would be posted at the project sites with project and contact information, as well as on the City's website and local newspaper. Therefore, the intent of SPR HAZ-9 has been met.	Y
Hydrology and Water Quality Standard Project Requirements						
SPR HYD-1 Comply with Water Quality Regulations: Project proponents must also conduct proposed vegetation treatments in conformance with appropriate RWQCB timber, vegetation and land disturbance related Waste Discharge Requirements (WDRs) and/or related Conditional Waivers of Waste Discharge Requirements (Waivers), and appropriate Basin Plan Prohibitions. Where these regulatory requirements differ, the most restrictive will apply. If applicable, this includes compliance with the conditions of general waste discharge requirements (WDR) and waste discharge requirement waivers for timber or silviculture activities where these waivers are designed to apply to non-commercial fuel reduction and forest health projects. In general, WDR and Waivers of waste discharge requirements for fuel reduction and forest health activities require that wastes, including but not limited to petroleum products, soil, silt, sand, clay, rock, felled trees, slash, sawdust, bark, ash, and pesticides must not be discharged to surface waters or placed where it may be carried into surface waters; and that Water Board staff must be allowed reasonable access to the property in order to determine compliance with the waiver conditions. The specifications for each	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N/A	According to the CalVTP Appendix HYD-1, the proposed projects are located in Region 8 (Santa Ana), which is minimally forested and does not have WDRs or Waivers for timber and vegetation management activities. Therefore, SPR HYD-1 is not applicable.	N/A

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
WDR and Waiver vary by region. Regions 2 (San Francisco Bay), 4 (Los Angeles), 8 (Santa Ana), and 7 (Colorado River) are highly urban or minimally forested and do not offer WDRs or Waivers for fuel reduction or vegetation management activities. The current applicable WDRs and Waivers for timber and vegetation management activities are included in Appendix HYD-1. This SPR applies to all treatment activities and treatment types, including treatment maintenance.						
SPR HYD-2 Avoid Construction of New Roads: The project proponent will not construct or reconstruct (i.e., cutting or filling involving less than 50 cubic yards/0.25 linear road miles) any new roads (including temporary roads). This SPR applies to all treatment activities and treatment types, including treatment maintenance.	**Initial Treatment:** Y **Treatment Maintenance:** Y	Prior to and during treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	The proposed projects would not construct new permanent or temporary roads or reconstruct existing roads. Therefore, the projects are consistent with SPR HYD-2.	Y
SPR HYD-3 Water Quality Protections for Prescribed Herbivory: The project proponent will include the following water quality protections for all prescribed herbivory treatments: ▶ Environmentally sensitive areas such as waterbodies, wetlands, or riparian areas will be identified in the treatment prescription and excluded from prescribed herbivory project areas using temporary fencing or active herding. A buffer of approximately 50 feet will be maintained between sensitive and actively grazed areas. ▶ Water will be provided for grazing animals in the form of an on-site stock pond or a portable water source located outside of environmentally sensitive areas. ▶ Treatment prescriptions will be designed to protect soil stability. Grazing animals will be herded out of an area if accelerated soil erosion is observed. This SPR applies to prescribed herbivory treatment activities and all treatment types, including treatment maintenance.	**Initial Treatment:** Y **Treatment Maintenance:** Y	During treatment	LBFD	City of Laguna Beach Fire Chief	The proposed projects would follow the City's Treatment Protocols for goat-grazing, including protocols protecting water quality and soil. Therefore, the intent of SPR HYD-3 is met.	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements

<table>
<tr><th>Standard Project Requirements</th><th>Applicable? (Y/N)</th><th>Timing</th><th>Implementing Entity</th><th>Verifying/Monitoring Entity</th><th>Justification</th><th>Consistent (Y/N)</th></tr>
<tr><td>SPR HYD-4 Identify and Protect Watercourse and Lake Protection Zones: The project proponent will establish Watercourse and Lake Protection Zones (WLPZs) on either side of watercourses as defined in the table below, which is based on 14 CCR Section 916 .5 of the California Forest Practice Rules (February 2019 version). WLPZ's are classified based on the uses of the stream and the presence of aquatic life. Wider WLPZs are required for steep slopes.

Procedures for Determining Watercourse and Lake Protection Zone (WLPZ) Widths
<table>
<tr><th>Water Class</th><th>Class I</th><th>Class II</th><th>Class III</th><th>Class IV</th></tr>
<tr><td>Water Class Charac-teristics or Key Indicator Beneficial Use</td><td>1) Domestic supplies, including springs, on site and/or within 100 feet downstrea m of the operations area and/or
2) Fish always or seasonally present onsite, includes habitat to sustain fish migration and spawning.</td><td>1) Fish always or seasonally present offsite within 1,000 feet down-stream and/or
2) Aquatic habitat for nonfish aquatic species.
3) Excludes Class III waters that are tributary</td><td>No aquatic life present, watercourse showing evidence of being capable of sediment transport to Class I and II waters under normal high-water flow conditions after completion of timber operations.</td><td>Man-made watercourses, usually downstream, established domestic, agricultural, hydroelectric supply or other beneficial use.</td></tr>
</table>
</td><td>Initial Treatment: Y

Treatment Maintenance: Y</td><td>Prior to and during treatment and maintenance</td><td>LBFD</td><td>City of Laguna Beach Fire Chief</td><td>The proposed projects would include 25-foot buffers on either side of "blue-line" drainages or streams. Buffer areas would be protected in place except for the treatment of invasive species, if found. Therefore, the intent of SPR HYD-4 is met.</td><td>Y</td></tr>
</table>

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements				Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
		to Class I waters.							
WLPZ Width (ft) – Distance from top of bank to the edge of WLPZ									
< 30 % Slope	75	50	Sufficient to prevent the degradation of downstream beneficial uses of water. Determined on a site-specific basis.						
30-50 % Slope	100	75							
>50 % Slope	150	100							

Source: 14 CCR Section 916.5 [936.5, 956.5] (February 2019 version)

The following WLPZ protections will be applied for all treatments:

- Treatment activities with WLPZs will retain at least 75 percent surface cover and undisturbed area to act as a filter strip for raindrop energy dissipation and for wildlife habitat. If this percentage is reduced a qualified RPF will provide the project proponent with a site- and/or treatment activity-specific explanation for the percent surface cover reduction, which will be included in the PSA. After completion of the PSA and prior to or during treatment implementation, if there is any deviation (e.g., further reduction) from the reduced percent as explained in the PSA, this will be documented in the post-project implementation report (referred to by CAL FIRE as a Completion Report). This requirement is based on 14 CCR Section 916.4 [936.4, 956.4] Subsection (b)(6) (February 2019 version) and 14 CCR Section 916.5 (February 2019 version).
- Equipment, including tractors and vehicles, must not be driven in wet areas or WLPZs, except over existing roads or watercourse crossings where vehicle tires or tracks remain dry.
- Equipment used in vegetation removal operations will not be serviced in WLPZs, within wet meadows or other wet areas, or in locations that would allow grease, oil, or fuel to pass into lakes, watercourses, or wet areas.

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
▶ WLPZs will be kept free of slash, debris, and other material that harm the beneficial uses of water. Accidental deposits will be removed immediately. ▶ Burn piles will be located outside of WLPZs. ▶ No fire ignition (nor use of associated accelerants) will occur within WLPZs however low intensity backing fires may be allowed to enter or spread into WLPZs. ▶ Within Class I and Class II WLPZs, locations where project operations expose a continuous area of mineral soil 800 square feet or larger shall be treated for reduction of soil loss. Treatment shall occur prior to October 15th and disturbances that are created after October 15th shall be treated within 10 days. Stabilization measures shall be selected that will prevent significant movement of soil into water bodies and may include but are not limited to mulching, rip-rap, grass seeding, or chemical soil stabilizers. ▶ Where mineral soil has been exposed by project operations on approaches to watercourse crossings of Class I, II, or III within a WLPZ, the disturbed area shall be stabilized to the extent necessary to prevent the discharge of soil into watercourses or lakes in amounts that would adversely affect the quality and beneficial uses of the watercourse. ▶ Where necessary to protect beneficial uses of water from project operations, protection measures such as seeding, mulching, or replanting shall be used to retain and improve the natural ability of the ground cover within the WLPZ to filter sediment, minimize soil erosion, and stabilize banks of watercourses and lakes. ▶ Equipment limitation zones (ELZs) will be designated adjacent to Class III and Class IV watercourses with minimum widths of 25 feet where side-slope is less than 30 percent and 50 feet where side-slope is 30 percent or greater. An RPF will describe the limitations of heavy equipment within the ELZ and, where appropriate, will include additional measures to protect the beneficial uses of water.						

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
This SPR applies to all treatment activities and treatment types, including treatment maintenance.						
SPR HYD-5 Protect Non-Target Vegetation and Special-status Species from Herbicides: The project proponent will implement the following measures when applying herbicides: ▶ Locate herbicide mixing sites in areas devoid of vegetation and where there is no potential of a spill reaching non-target vegetation or a waterway. ▶ Use only herbicides labeled for use in aquatic environments when working in riparian habitats or other areas where there is a possibility the herbicide could come into direct contact with water. Only hand application of herbicides will be allowed in riparian habitats and only during low-flow periods or when seasonal streams are dry. ▶ No terrestrial or aquatic herbicides will be applied within WLPZs of Class I and II watercourses, if feasible. If this is not feasible, hand application of herbicides labeled for use in aquatic environments may be used within the WLPZ provided that the project proponent notifies the applicable regional water quality control board no fewer than 15 days prior to herbicide application. The feasibility of avoiding herbicide application within WLPZ of Class I and II watercourses will be determined by the project proponent and may be based on whether doing so will preclude achieving CalVTP program objectives, including, but not limited to, protection of vulnerable communities. The reasons for infeasibility will be documented in the PSA. ▶ No herbicides will be applied within a 50-foot buffer of ESA or CESA listed plant species or within 50 feet of dry vernal pools. ▶ For spray applications in and adjacent to habitats suitable for special-status species, use herbicides containing dye (registered for aquatic use by DPR, if warranted) to prevent overspray. ▶ Application will cease when weather parameters exceed label specifications or when sustained winds at the site of	**Initial Treatment:** Y **Treatment Maintenance:** Y	During treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	Herbicides would only be used for spot treatment of invasive vegetation as determined by a biologist. Herbicide use would be the primary invasive vegetation treatment method within 25-foot buffers on either side of blue-line drainages within the FMZs. Herbicide treatment would be specific and limited to its intended use to not pose any risk to nearby sensitive species or water courses. Herbicides would not be used on a landscape scale to remove large expanses of vegetation. As such, the intent of SPR HYD-5 is met.	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements						
Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
application exceeds 7 miles per hour (whichever is more conservative); ▶ No herbicide will be applied during precipitation events or if precipitation is forecast 24 hours before or after project activities. This SPR applies to herbicide treatment activities and all treatment types, including treatment maintenance.						
SPR HYD-6 Protect Existing Drainage Systems: If a treatment activity is adjacent to a roadway with stormwater drainage infrastructure, the existing stormwater drainage infrastructure will be marked prior to ground disturbing activities. If a drainage structure or infiltration system is inadvertently disturbed or modified during project activities, the project proponent will coordinate with owner of the system or feature to repair any damage and restore pre-project drainage conditions. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	**Initial Treatment:** Y **Treatment Maintenance:** Y	Prior to treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	The proposed projects would incorporate erosion control methods to reduce erosion and sedimentation and protect any stormwater infrastructure. The majority of perennial plant roots would be left in place; mulch, scattered cut brush clippings, straw wattles, straw bales, and/or jute netting would be installed as necessary. Therefore, the intent of SPR HYD-6 is met.	Y
Noise Standard Project Requirements						
SPR NOI-1 Limit Heavy Equipment Use to Daytime Hours: The project proponent will require that operation of heavy equipment associated with treatment activities (heavy off-road equipment, tools, and delivery of equipment and materials) will occur during daytime hours if such noise would be audible to receptors (e.g., residential land uses, schools, hospitals, places of worship). Cities and counties in the treatable landscape typically restrict construction-noise (which would apply to vegetation treatment noise) to particular daytime hours. If the project proponent is subject to local noise ordinance, it will adhere to those to the extent the project is subject to them. If the applicable jurisdiction does not have a noise ordinance or policy restricting the time-of-day when noise-generating activity can occur noise-generating vegetation treatment activity will be limited to the hours of 7:00 a.m. to 6:00 p.m., Monday through Saturday, and between 9:00 a.m. and 6:00 p.m. on Sunday and federal holidays. If the project	**Initial Treatment:** Y **Treatment Maintenance:** Y	During treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	Work would be limited to Monday to Friday 8am-5pm and would not occur on federal holidays 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), as well as Orange County noise regulations (Title 4 – Health Sanitation and Animal Regulations, Division 6 – Noise Control, Section 4-6-7 – Special Provisions). Therefore, SPR NOI-1 has been satisfied.	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
proponent is not subject to local ordinances (e.g., CAL FIRE), it will adhere to the restrictions stated above or may elect to adhere to the restrictions identified by the local ordinance encompassing the treatment area. This SPR applies to all treatment activities and treatment types, including treatment maintenance.						
SPR NOI-2 Equipment Maintenance: The project proponent will require that all powered treatment equipment and power tools will be used and maintained according to manufacturer specifications. All diesel- and gasoline-powered treatment equipment will be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations. This SPR applies to all activities and all treatment types, including treatment maintenance.	**Initial Treatment:** Y **Treatment Maintenance:** Y	During treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	Fuel modification activities in FMZ 22 would implement AMM 4 (Equipment Inspection and Maintenance), requiring daily inspection of equipment for leaks and spills and AMM 12/CM 5 (Work Restrictions Near Active Nests), requiring suspension of work until the young have fledged or complying with an exclusionary zone to avoid noise and disturbance impacts to California gnatcatcher. Additionally, project equipment used in all FMZs would have spark arrest features, noise-reduction intake and exhaust mufflers, and engine shrouds, as appropriate for each piece of equipment. Therefore, the intent of SPR NOI-2 is met.	Y
SPR NOI-3 Engine Shroud Closure: The project proponent will require that engine shrouds be closed during equipment operation. This SPR applies only to mechanical treatment activities and all treatment types, including treatment maintenance.	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N/A	The proposed projects would not use large, motorized equipment requiring engine shrouds. Therefore, SPR NOI-3 is not applicable.	N/A
SPR NOI-4 Locate Staging Areas Away from Noise-Sensitive Land Uses: The project proponent will locate treatment activities, equipment, and equipment staging areas away from nearby noise-sensitive land uses (e.g., residential land uses, schools, hospitals, places of worship), to the extent feasible, to minimize noise	**Initial Treatment:** Y **Treatment Maintenance:** Y	During treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	Staging in FMZs 17 and 18 would occur along residential streets since project activities occur adjacent to residential development. Fuel modification	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
exposure. This SPR applies to all treatment activities and treatment types, including treatment maintenance.					would not cause excessive noise levels, as it would be limited to hand crew removal and goat-grazing. Staging in FMZ 22 would occur along Park Avenue and be removed at the end of each workday. Vehicles would be parked in off-site staging areas including several paved or graded areas with no vegetation along Park Avenue. As such, the intent of SPR NOI-4 is met.	
SPR NOI-5 Restrict Equipment Idle Time: The project proponent will require that all motorized equipment be shut down when not in use. Idling of equipment and haul trucks will be limited to 5 minutes. This SPR applies to all treatment activities and all treatment types, including treatment maintenance.	**Initial Treatment:** Y **Treatment Maintenance:** Y	During treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	Idling of large trucks and chainsaws would be limited to 5 minutes as required by the California Air Resources Board and California Law. Other project equipment involved includes chainsaws, loppers, and other hand tools. The proposed projects would comply with SPR NOI-5 as required by law.	Y
SPR NOI-6 Notify Nearby Off-Site Noise-Sensitive Receptors: For treatment activities utilizing heavy equipment, the project proponent will notify noise-sensitive receptors (e.g., residential land uses, schools, hospitals, places of worship) located within 1,500 feet of the treatment activity. Notification will include anticipated dates and hours during which treatment activities are anticipated to occur and contact information, including a daytime telephone number, of the project representative. Recommendations to assist noise-sensitive land uses in reducing interior noise levels (e.g., closing windows and doors) will also be included in the notification. This SPR applies only to mechanical treatment activities and all treatment types, including treatment maintenance.	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N?A	The proposed projects would not utilize heavy equipment other than an occasional dump truck. Therefore, SPR NOI-6 is not applicable.	N/A

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
Recreation Standard Project Requirements						
SPR REC-1 Notify Recreational Users of Temporary Closures. If a treatment activity would require temporary closure of a public recreation area or facility, the project proponent will coordinate with the owner/manager of that recreation area or facility. If temporary closure of a recreation area or facility is required, the project proponent will work with the owner/manager to post notifications of the closure at least 2 weeks prior to the commencement of the treatment activities. Additionally, notification of the treatment activity will be provided to the Administrative Officer (or equivalent official responsible for distribution of public information) of the county(ies) in which the affected recreation area or facility is located. This SPR applies to all treatment activities and treatment types, including treatment maintenance.	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N/A	The proposed projects would not require the temporary closure of a public recreation area or facility. Therefore, SPR REC-1 is not applicable.	N/A
Transportation Standard Project Requirements						
SPR TRAN-1 Implement Traffic Control during Treatments: Prior to initiating vegetation treatment activities the project proponent will work with the agency(ies) with jurisdiction over affected roadways to determine if a Traffic Management Plan (TMP) is needed. A TMP will be needed if traffic generated by the project would result in obstructions, hazards, or delays exceeding applicable jurisdictional standards along access routes for individual vegetation treatments. If needed, a TMP will be prepared to provide measures to reduce potential traffic obstructions, hazards, and service level degradation along affected roadway facilities. The scope of the TMP will depend on the type, intensity, and duration of the specific treatment activities under the CalVTP. Measures included in the TMP could include (but are not be limited to) construction signage to provide motorists with notification and information when approaching or traveling along the affected roadway facilities, flaggers for lane closures to provide temporary traffic control along affected roadway facilities, treatment schedule restrictions to avoid seasons or time periods of peak vehicle traffic, haul-trip, delivery, and/or commute time restrictions that would be implemented to avoid peak traffic days	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N/A	The proposed projects would not add a substantial amount of traffic to affected roadways due to the small scale of fuel modification activities involving hand crew removal and the use of goats. Additionally, the proposed projects would not use prescribed burning for fuel modification purposes. Therefore, SPR TRAN-1 is not applicable.	N/A

Table 1. Project Consistency with CalVTP Standard Project Requirements

Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
and times along affected roadway facilities. If the TMP identifies impacts on transportation facilities outside of the jurisdiction of the project proponent, the TMP will be submitted to the agency with jurisdiction over the affected roadways prior to commencement of vegetation treatment projects. This SPR applies to all treatment activities and treatment types, including treatment maintenance. Smoke generated during prescribed burn operations could potentially affect driver visibility and traffic operations along nearby roadways. Direct smoke impacts to roadway visibility and indirect impacts related to driver distraction will be considered during the planning phase of burning operations. Smoke impacts and smoke management practices specific to traffic operations during prescribed fire operations will be identified and addressed within the TMP. The TMP will include measures to monitor smoke dispersion onto public roadways, and traffic control operations will be initiated in the event burning operations could affect traffic safety along any roadways. This SPR applies only to prescribed burn treatment activities and all treatment types, including treatment maintenance.						
Public Services and Utilities Standard Project Requirements						
SPR UTIL-1: Solid Organic Waste Disposition Plan. For projects requiring the disposal of material outside of the treatment area, the project proponent will prepare an Organic Waste Disposition Plan prior to initiating treatment activities. The Solid Organic Waste Disposition Plan will include the amount (e.g., tons) of solid organic waste to be managed onsite (i.e., scattering of wood materials, generating unburned piles, and pile burning) and transported offsite for processing (i.e., biomass power plant, wood product processing facility, composting). If the project proponent intends to transport solid organic waste offsite, the Solid Organic Waste Disposition Plan will clearly identify the location and capacity of the intended processing facility, consistent with local and state regulations to demonstrate that adequate capacity exists to accept the treated materials. This SPR applies only to mechanical and	**Initial Treatment:** Y **Treatment Maintenance:** Y	Prior to treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	The proposed projects would remove all non-native vegetation waste from the site and haul it 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. Tierra Verde Industries has a daily maximum permitted tonnage for	Y

Table 1. Project Consistency with CalVTP Standard Project Requirements						
Standard Project Requirements	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
manual treatment activities and all treatment types, including treatment maintenance.					waste of 2,900 tons per day[4]. Green waste that is not accepted by the green waste recycler would be hauled to a landfill. Chipped native vegetation and mulch would be reused for erosion control and deposited over bare earth for dust control within the FMZs. All efforts would be made to recycle as much native waste on site as possible. As such, an Organic Waste Disposition Plan is not necessary, and the intent of SPR UTIL-1 has been met.	

[4]CalRecycle. 2021. SWIS Facility/Site Inspection Details, Tierra Verde Industries EcoCenter (30-AB-0403). October 14. Accessed December 16, 2021. https://www2.calrecycle.ca.gov/SolidWaste/SiteInspection/Details/333399

Table 2. Project Consistency with CalVTP Mitigation Measures

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
Aesthetics and Visual Resources						
Mitigation Measure AES-3: Conduct Visual Reconnaissance for Non-Shaded Fuel Breaks and Relocate or Feather and Screen Publicly Visible Non-Shaded Fuel Breaks The project proponent will conduct a visual reconnaissance of the treatment area prior to implementing non-shaded fuel breaks to observe the surrounding landscape and determine if public viewing locations, including scenic vistas, public trails, and state scenic highways, have views of the proposed treatment area. If none are identified, the non-shaded fuel break may be implemented without additional visual mitigation. If the project proponent identifies public viewing points, including heavily used scenic vistas, public trails, recreation areas, and state scenic highways with lengthy views (i.e., longer than a few seconds) of a proposed non-shaded fuel break treatment area, the project proponent will, prior to implementation, attempt to identify any feasible change in location of the fuel break to reduce its visibility from public viewpoints. If no feasible location changes exist that would reduce impacts to public viewers and achieve the intended wildfire risk reduction objectives of the proposed non-shaded fuel break, the project proponent will implement, where feasible, a shaded fuel break rather than a non-shaded fuel break, if the shaded fuel break would achieve the intended wildfire risk reduction objectives. With the shaded fuel break, the project proponent will thin and feather adjacent vegetation to break up the linear edges of the fuel break and strategically preserve vegetation at the edge of the fuel break, as feasible, to help screen public views and minimize the contrast between the fuel break and surrounding vegetation.	**Initial Treatment:** Y **Treatment Maintenance:** Y	Prior to treatment and maintenance	LBFD	City Of Laguna Beach Fire Chief	The proposed projects would remove up to 50 percent of fuel loads, prioritizing removal of non-native species sand dead or dying plants first. Vegetation clearing would stop in areas where 50 percent reduction in wildfire fuel is achieved by invasive vegetation removal. Retained native vegetation would reduce the visual contrast between the projects areas and surrounding areas. Combined with the topography, existing structures, and trees, the projects would not be highly visible from public viewpoints. Therefore, the intent of MM AES-3 is met.	Y
Air Quality						
Mitigation Measure AQ-1: Implement On-Road Vehicle and Off-Road Equipment Exhaust Emission Reduction Techniques Where feasible, project proponents will implement emission reduction techniques to reduce exhaust emissions from off-road equipment. It is acknowledged that due to cost, availability, and the limits of current technology, there may be circumstances where implementation of certain emission reduction techniques will not feasible. The project proponent will document the emission reduction techniques that will be applied and	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N/A	The proposed projects do not use off-road equipment. Therefore, MM AQ-1 is not applicable.	N/A

Table 2. Project Consistency with CalVTP Mitigation Measures

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
will explain the reasons other techniques that could reduce emissions are infeasible. Techniques for reducing emissions may include, but are not limited to, the following: ▶ Diesel-powered off-road equipment used in construction will meet EPA's Tier 4 emission standards as defined in 40 CFR 1039 and comply with the exhaust emission test procedures and provisions of 40 CFR Parts 1065 and 1068. Tier 3 models can be used if a Tier 4 version of the equipment type is not yet produced by manufacturers. This measure can also be achieved by using battery-electric off-road equipment as it becomes available. Prior to implementation of treatment activities, the project proponent will demonstrate the ability to supply the compliant equipment. A copy of each unit's certified tier specification or model year specification and operating permit (if applicable) will be available upon request at the time of mobilization of each unit of equipment. ▶ Use renewable diesel fuel in diesel-powered construction equipment. Renewable diesel fuel must meet the following criteria: ▪ meet California's Low Carbon Fuel Standards and be certified by CARB Executive Officer; ▪ be hydrogenation-derived (reaction with hydrogen at high temperatures) from 100 percent biomass material (i.e., non-petroleum sources), such as animal fats and vegetables; ▪ contain no fatty acids or functionalized fatty acid esters; and ▪ have a chemical structure that is identical to petroleum-based diesel and complies with American Society for Testing and Materials D975 requirements for diesel fuels to ensure compatibility with all existing diesel engines. ▶ Electric- and gasoline-powered equipment will be substituted for diesel-powered equipment. ▶ Workers will be encouraged to carpool to work sites, and/or use public transportation for their commutes. ▶ Off-road equipment, diesel trucks, and generators will be equipped with Best Available Control Technology for emission reductions of NO_X and PM.						

Table 2. Project Consistency with CalVTP Mitigation Measures

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
Archaeological, Historical, and Tribal Cultural Resources						
Mitigation Measure CUL-2: Protect Inadvertent Discoveries of Unique Archaeological Resources or Subsurface Historical Resources If any prehistoric or historic-era subsurface archaeological features or deposits, including locally darkened soil ("midden"), that could conceal cultural deposits, are discovered during ground-disturbing activities, all ground-disturbing activity within 100 feet of the resources will be halted and a qualified archaeologist will assess the significance of the find. The qualified archaeologist will work with the project proponent to develop a primary records report that will comply with applicable state or local agency procedures. If the archaeologist determines that further information is needed to evaluate significance, a data recovery plan will be prepared. If the find is determined to be significant by the qualified archaeologist (i.e., because the find constitutes a unique archaeological resource, subsurface historical resource, or tribal cultural resource), the archaeologist will work with the project proponent to develop appropriate procedures to protect the integrity of the resource. Procedures could include preservation in place (which is the preferred manner of mitigating impacts to archaeological sites), archival research, subsurface testing, or recovery of scientifically consequential information from and about the resource. Any find will be recorded standard DPR Primary Record forms (Form DPR 523) will be submitted to the appropriate regional information center.	**Initial Treatment:** Y **Treatment Maintenance:** N	During treatment	LBFD	City of Laguna Beach Fire Chief	As discussed in IS/MND Section 5 (Cultural Resources) the proposed projects would implement IS/MND MMs CUL-1, CUL-2, CUL-3, CUL-4, and TCR-1 which include retaining a professional archaeologist on site to monitor project activities, training all construction personnel regarding the recognition of possible buried cultural resources, protecting known archaeological sites, implementing protocols in the event of the discovery of human remains, and tribal cultural resources monitoring. As such, the intent of MM CUL-2 is met.	Y
Biological Resources						
Mitigation Measure BIO-1a: Avoid Loss of Special-Status Plants Listed under ESA or CESA If listed plants are determined to be present through application of SPR BIO-1 and SPR BIO-7, the project proponent will avoid and protect these species by establishing a no-disturbance buffer around the area occupied by listed plants and marking the buffer boundary with high-visibility flagging, fencing, stakes, or clear, existing landscape demarcations (e.g., edge of a roadway), exceptions to this requirement are listed later in this measure. The no-disturbance buffers will generally be a minimum of 50 feet from listed plants, but the size and shape of the buffer zone may be adjusted if a qualified RPF or botanist determines that a smaller buffer will be sufficient to avoid killing or damaging listed plants or that a larger	**Initial Treatment:** Y **Treatment Maintenance:** Y	Prior to and during treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	As discussed in IS/MND Section 4 (Biological Resources), the proposed projects would implement MMs BIO-1 through BIO-7. The proposed projects would avoid special-status plant species. As such, the intent of MM BIO-1a is met.	Y

Table 2. Project Consistency with CalVTP Mitigation Measures

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
buffer is necessary to sufficiently protect plants from the treatment activity. The appropriate buffer size will be determined based on plant phenology at the time of treatment (e.g., whether the plants are in a dormant, vegetative, or flowering state), the individual species' vulnerability to the treatment method being used, and environmental conditions and terrain. For example, paint-on or wicking application of herbicides to invasive plants may be implemented within 50 feet of listed plant species without posing a risk, especially if the listed plants are dormant at the time of application. Consideration of factors such as site hydrology, changes in light, edge effects, and potential introduction of invasive plants and noxious weeds may inform the determination of buffer width. If a no-disturbance buffer is reduced below 50 feet from a listed plant, a qualified RPF or botanist will provide the project proponent with a site- and/or treatment activity-specific explanation for the buffer reduction, which will be included in the PSA. After completion of the PSA and prior to or during treatment implementation, if there is any deviation (e.g., further reduction) from the reduced buffer as explained in the PSA, this will be documented in the post-project implementation report (referred to by CAL FIRE as a Completion Report) with a science-based justification for the deviation. No fire ignition (nor use of associated accelerants) will occur within 50 feet of listed plants. For species listed under ESA or CESA, if the project proponent cannot avoid loss by implementing no-disturbance buffers, the project proponent will implement Mitigation Measure BIO-1c. The only exception to this mitigation approach is in cases where it is determined by a qualified RPF or botanist, in consultation with CDFW and USFWS, as appropriate depending on species status and location, that the listed plants would benefit from treatment in the occupied habitat area even though some of the listed plants may be lost during treatment activities. For a treatment to be considered beneficial to listed special-status plants, the qualified RPF or botanist will demonstrate with substantial evidence that habitat function is reasonably expected to improve with implementation of the treatment (e.g., by citing scientific studies demonstrating that the species (or similar species) has benefitted from increased sunlight due to canopy opening, eradication of invasive species, or otherwise reduced competition for resources), and the substantial evidence will be included in the PSA. If it is determined that treatment						

Table 2. Project Consistency with CalVTP Mitigation Measures

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
activities would be beneficial to listed plants, no compensatory mitigation for loss of individuals will be required.						
Mitigation Measure BIO-1b: Avoid Loss of Special-Status Plants Not Listed Under ESA or CESA If non-listed special-status plant species (i.e., species not listed under ESA or CESA, but meeting the definition of special-status as stated in Section 3.6.1 of the Program EIR) are determined to be present through application of SPR BIO-1 and SPR BIO-7, the project proponent will implement the following measures to avoid loss of individuals and maintain habitat function of occupied habitat: ▶ Physically avoid the area occupied by the special-status plants by establishing a no-disturbance buffer around the area occupied by species and marking the buffer boundary with high-visibility flagging, fencing, stakes, or clear, existing landscape demarcations (e.g., edge of a roadway). The no-disturbance buffers will generally be a minimum of 50 feet from special-status plants, but the size and shape of the buffer zone may be adjusted if a qualified RPF or botanist determines that a smaller buffer will be sufficient to avoid loss of or damaging to special-status plants or that a larger buffer is necessary to sufficiently protect plants from the treatment activity. The appropriate size and shape of the buffer zone will be determined by a qualified RPF or botanist and will depend on plant phenology at the time of treatment (e.g., whether the plants are in a dormant, vegetative, or flowering state), the individual species' vulnerability to the treatment method being used, and environmental conditions and terrain. Consideration of factors such as site hydrology, changes in light, edge effects, and potential introduction of invasive plants and noxious weeds may inform an appropriate buffer size and shape. ▶ Treatments may be conducted within this buffer if the potentially affected special-status plant species is a geophytic, stump-sprouting, or annual species, and the treatment can be conducted outside of the growing season (e.g., after it has completed its annual life cycle) or during the dormant season using only treatment activities that would not damage the stump, root system or other underground parts of special-status plants or destroy the seedbank.	**Initial Treatment:** Y **Treatment Maintenance:** Y	During treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	As discussed in IS/MND Section 4 (Biological Resources), the proposed projects would implement MMs BIO-2 and BIO-6. The proposed projects would avoid special-status plant species. As such, the intent of MM BIO-1b is met.	Y

Table 2. Project Consistency with CalVTP Mitigation Measures

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
▶ Treatments will be designed to maintain the function of special-status plant habitat. For example, for a fuel break proposed in treatment areas occupied by special-status plants, if the removal of shade cover would degrade the special-status plant habitat despite the requirement to physically or seasonally avoid the special-status plant itself, habitat function would be diminished and the treatment would need to be modified or precluded from implementation. ▶ No fire ignition (nor use of associated accelerants) will occur within the special-status plant buffer. A qualified RPF or botanist with knowledge of the special-status plant species habitat and life history will review the treatment design and applicable impact minimization measures (potentially including others not listed above) to determine if the anticipated residual effects of the treatment would be significant under CEQA because implementation of the treatment would not maintain habitat function of the special-status plant habitat (i.e., the habitat would be rendered unsuitable) or because the loss of special-status plants would substantially reduce the number or restrict the range of a special-status plant species. If the project proponent determines the impact on special-status plants would be less than significant, no further mitigation will be required. If the project proponent determines that the loss of special-status plants or degradation of occupied habitat would be significant under CEQA after implementing feasible treatment design alternatives and impact minimization measures, then Mitigation Measure BIO-1c will be implemented. The only exception to this mitigation approach is in cases where it is determined by a qualified RPF or botanist that the special-status plants would benefit from treatment in the occupied habitat area even though some of the non-listed special-status plants may be killed during treatment activities. For a treatment to be considered beneficial to non-listed special-status plants, the qualified RPF or botanist will demonstrate with substantial evidence that habitat function is reasonably expected to improve with implementation of the treatment (e.g., by citing scientific studies demonstrating that the species (or similar species) has benefitted from increased sunlight due to canopy opening, eradication of invasive species, or otherwise reduced competition for resources), and the substantial evidence will be included in the PSA. If it is determined that						

Table 2. Project Consistency with CalVTP Mitigation Measures

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
treatment activities would be beneficial to special-status plants, no compensatory mitigation will be required.						
Mitigation Measure BIO-1c: Compensate for Unavoidable Loss of Special-Status Plants If significant impacts on listed or non-listed special-status plants cannot feasibly be avoided as specified under the circumstances described under Mitigation Measures BIO-1a and 1b, the project proponent will prepare a Compensatory Mitigation Plan that identifies the residual significant impacts that require compensatory mitigation and describes the compensatory mitigation strategy being implemented and how unavoidable losses of special-status plants will be compensated. The project proponent will consult with CDFW and/or any other applicable responsible agency prior to finalizing the Compensatory Mitigation Plan to satisfy that responsible agency's requirements (e.g., permits, approvals) within the plan. If the special-status plant taxa are listed under ESA or CESA, the plan will be submitted to CDFW and/or USFWS (as appropriate) for review and comment. The first priority for compensatory mitigation will be preserving and enhancing existing populations outside of the treatment area in perpetuity, or if that is not an option because existing populations that can be preserved in perpetuity are not available, one of the following mitigation options will be implemented by the project proponent instead: ▶ creating populations on mitigation sites outside of the treatment area through seed collection and dispersal (annual species) or transplantation (perennial species); ▶ purchasing mitigation credits from a CDFW- or USFWS-approved conservation or mitigation bank in sufficient quantities to offset the loss of occupied habitat; and ▶ if the affected special-status plants are not listed under ESA or CESA, compensatory mitigation may include restoring or enhancing degraded habitats so that they are made suitable to support special-status plant species in the future. If relocation efforts are part of the Compensatory Mitigation Plan, the plan will include details on the methods to be used, including collection, storage, propagation, receptor site preparation, installation, long-term protection and management, monitoring and reporting requirements,	**Initial Treatment:** Y **Treatment Maintenance:** Y	During treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	As discussed in IS/MND Section 4 (Biological Resources), the proposed projects would implement MMs BIO-2 and BIO-6. The proposed projects would avoid special-status plant species. As such, the intent of MM BIO-1c is met.	Y

Table 2. Project Consistency with CalVTP Mitigation Measures

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
success criteria, and remedial action responsibilities should the initial effort fail to meet long-term monitoring requirements. The following performance standards will be applied for relocation: ▶ the extent of occupied area will be substantially similar to the affected occupied habitat and will be suitable for self-producing populations. Re-located/re-established populations will be considered suitable for self-producing when: ▶ habitat conditions allow for plants to reestablish annually for a minimum of 5 years with no human intervention, such as supplemental seeding; and ▶ reestablished habitats contain an occupied area comparable to existing occupied habitat areas in similar habitat types in the region. If preservation of existing populations or creation of new populations is part of the mitigation plan, the Compensatory Mitigation Plan will include a summary of the proposed compensation lands and actions (e.g., the number and type of credits, location of mitigation bank or easement, restoration or enhancement actions), parties responsible for the long-term management of the land, and the legal and funding mechanisms (e.g., holder of conservation easement or fee title). The project proponent will submit evidence that the necessary mitigation has been implemented or that the project proponent has entered into a legal agreement to implement it and that compensatory plant populations will be preserved in perpetuity. If mitigation includes dedication of conservation easements, purchase of mitigation credits, or other offsite conservation measures, the details of these measures will be included in the mitigation plan, including information on responsible parties for long-term management, conservation easement holders, long-term management requirements, funding assurances, and success criteria such as those listed above and other details, as appropriate to target the preservation of long term viable populations. If mitigation includes restoring or enhancing habitat within the treatment area or outside of the treatment area, the Compensatory Mitigation Plan will include a description of the proposed habitat improvements, success criteria that demonstrate the performance standard of maintained habitat function has been met, legal and funding mechanisms, and parties						

Table 2. Project Consistency with CalVTP Mitigation Measures

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
responsible for long-term management and monitoring of the restored habitat. If the loss of occupied habitat cannot be offset (e.g., if preservation of existing populations or creation of new populations through relocation efforts are not available for a certain species), and as a result treatment activities would substantially reduce the number or restrict the range of listed plant species, then the treatment will not qualify as within the scope of this PEIR. Compensatory mitigation may be satisfied through compliance with permit conditions, or other authorizations obtained by the project proponent (e.g., incidental take permit for state-listed plants), if these requirements are equally or more effective than the mitigation identified above.						
Mitigation Measure BIO-2a: Avoid Mortality, Injury, or Disturbance and Maintain Habitat Function for Listed Wildlife Species and California Fully Protected Species (All Treatment Activities) If California Fully Protected Species or species listed under ESA or CESA are observed during reconnaissance surveys (conducted pursuant to SPR BIO-1) or focused or protocol-level surveys (conducted pursuant to SPR BIO-10), the project proponent will avoid adverse effects to the species by implementing the following. <u>Avoid Mortality, Injury, or Disturbance of Individuals</u> The project proponent will implement one of the following 2 measures to avoid mortality, injury, or disturbance of individuals: 1. Treatment will not be implemented within the occupied habitat. Any treatment activities outside occupied habitat will be a sufficient distance from the occupied habitat such that mortality, injury, or disturbance of the species will not occur, as determined by a qualified RPF or biologist using the most current and commonly-accepted science and considering published agency guidance; OR 2. Treatment will be implemented outside the sensitive period of the species' life history (e.g., outside the breeding or nesting season) during which the species may be more susceptible to disturbance, or disturbance could result in loss of eggs or young. For species present year-round, CDFW and/or USFWS/NOAA Fisheries will be consulted to	**Initial Treatment:** Y **Treatment Maintenance:** Y	During treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	Fuel modification activities in FMZ 22 would implement AMM 12/CM 5 (Work Restrictions Near Active Nests) and AMM 13/CM 6 (Habitat Avoidance) to avoid or minimize adverse effects to the federally endangered coastal California gnatcatcher. In addition, as discussed in IS/MND Section 4 (Biological Resources) the proposed projects would implement MMs BIO-1 through BIO-7. The proposed projects would avoid or minimize adverse effects to the federally endangered coastal California gnatcatcher. No other listed wildlife species	Y

Table 2. Project Consistency with CalVTP Mitigation Measures

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
determine if there is a period of time within which treatment could occur that would avoid mortality, injury, or disturbance of the species. ▶ For species listed under ESA or CESA, if the project proponent cannot avoid mortality, injury or disturbance by implementing one of the two options listed above, the project proponent will implement Mitigation Measure BIO-2c. ▶ Injury or mortality of California Fully Protected Species is prohibited pursuant to Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code and will be avoided. <u>Maintain Habitat Function</u> ▶ The project proponent will design treatment activities to maintain the habitat function, by implementing the following: ■ While performing review and surveys for SPR BIO-1 and SPR BIO-10, a qualified RPF or biologist will identify any habitat features that are necessary for survival (e.g., habitat necessary for breeding, foraging, shelter, movement) of the affected wildlife species (e.g., trees with complex structure, trees with large cavities, trees with nesting platforms; dens; tree snags; large raptor nests [including inactive nests]; downed woody debris; food sources). These habitat features will be marked and treatments applied to the features will be designed to minimize or avoid the loss or degradation of suitable habitat for listed species during treatments. Identification and treatment of these features will be based on the life history and habitat requirements of the affected species and the most current, commonly accepted science. ■ If it is determined during implementation of SPR BIO-1 and SPR BIO-10 that listed or fully protected wildlife with specific requirements for high canopy cover (e.g., Humboldt marten, fisher, spotted owl, coastal California gnatcatcher, riparian woodrat) are present within a treatment area, then tree or shrub canopy cover within existing suitable areas will be retained at the percentage preferred by the species (as determined by expert opinion, published habitat association information, or other documented standards that are commonly accepted [e.g., 50 percent for coastal California gnatcatcher]) such that habitat function is maintained.					or fully protected species are expected to be impacted by the proposed project. As such, the intent of MM BIO-2a is met.	

Table 2. Project Consistency with CalVTP Mitigation Measures

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
▶ A qualified RPF or biologist will determine if, after implementation of the impact avoidance measures listed above, the habitat function will remain for the affected species after implementation of the treatment. Because this measure pertains to species listed under CESA or ESA or are fully protected, the qualified RPF or biologist will consult with CDFW and/or USFWS/NOAA Fisheries regarding the determination that habitat function is maintained. If consultation determines that the treatment will not maintain habitat function for the special-status species, the project proponent will implement Mitigation Measure BIO-2c.						
Mitigation Measure BIO-2b: Avoid Mortality, Injury, or Disturbance and Maintain Habitat Function for Other Special-Status Wildlife Species (All Treatment Activities) If other special-status wildlife species (i.e., species not listed under CESA or ESA or California Fully Protected, but meeting the definition of special status as stated in Section 3.6.1 of the Program EIR) are observed during reconnaissance surveys (conducted pursuant to SPR BIO-1) or focused or protocol-level surveys (conducted pursuant to SPR BIO-10), the project proponent will avoid or minimize adverse effects to the species by implementing the following. <u>Avoid Mortality, Injury, or Disturbance of Individuals</u> ▶ The project proponent will implement the following to avoid mortality, injury, or disturbance of individuals: For all treatment activities except prescribed burning, the project proponent will establish a no-disturbance buffer around occupied sites (e.g., nests, dens, roosts, middens, burrows, nurseries). Buffer size will be determined by a qualified RPF or biologist using the most current, commonly accepted science and will consider published agency guidance; however, buffers will generally be a minimum of 100 feet, unless site conditions indicate a smaller buffer would be sufficient for protection or a larger buffer would be needed. Factors to be considered in determining buffer size will include, but not be limited to, the species' tolerance to disturbance; the presence of natural buffers provided by vegetation or topography; nest height; locations of foraging territory; baseline levels of noise and human activity; and treatment activity. Buffer size may be adjusted if the qualified RPF or biologist determines that such	**Initial Treatment:** Y **Treatment Maintenance:** Y	During treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	As discussed in IS/MND Section 4 (Biological Resources), the proposed projects would implement MMs BIO-1 through BIO-7. The proposed projects would avoid mortality, injury, disturbance, or loss of habitat function for special-status wildlife species. As such, the intent of MM BIO-2b is met.	Y

Table 2. Project Consistency with CalVTP Mitigation Measures

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
an adjustment would not be likely to adversely affect (i.e., cause mortality, injury, or disturbance to) the species within the nest, den, burrow, or other occupied site. If a no-disturbance buffer is reduced below 100 feet from an occupied site, a qualified RPF or biologist will provide the project proponent with a site- and/or treatment activity-specific explanation for the buffer reduction, which will be included in the PSA. After completion of the PSA and prior to or during treatment implementation, if there is any deviation (e.g., further reduction) from the reduced buffer as explained in the PSA, this will be documented in the post-project implementation report (referred to by CAL FIRE as a Completion Report). ▶ No-disturbance buffers will be marked with high-visibility flagging, fencing, stakes, or clear, existing landscape demarcations (e.g., edge of a roadway). No activity will occur within the buffer areas until the qualified RPF or biologist has determined that the young have fledged or dispersed; the nest, den, or other occurrence is no longer active; or reducing the buffer would not likely result in disturbance, mortality, or injury. A qualified RPF, biologist, or biological technician will be required to monitor the effectiveness of the no-disturbance buffer around the nest, den, burrow, or other occurrence during treatment. If treatment activities cause agitated behavior of the individual(s), the buffer distance will be increased, or treatment activities modified until the agitated behavior stops. The qualified RPF, biologist, or biological technician will have the authority to stop any treatment activities that could result in mortality, injury or disturbance to special-status species. ▶ For prescribed burning, the project proponent will implement the treatment outside the sensitive period of the species' life history (e.g., outside the breeding or nesting season) during which the species may be more susceptible to disturbance, or disturbance could result in loss of eggs or young. For species present year-round, the qualified RPF or biologist will determine the period of time within which prescribed burning could occur that will avoid or minimize mortality, injury, or disturbance of the species. The project proponent may consult with CDFW and/or USFWS for technical information regarding appropriate limited operating periods.						

Maintain Habitat Function
▶ For all treatment activities, the project proponent will design treatment activities to maintain the habitat function by implementing the following:
  ▪ While performing review and surveys for SPR BIO-1 and SPR BIO-10, a qualified RPF or biologist will identify any habitat features that are necessary for survival (e.g., habitat necessary for breeding, foraging, shelter, movement) of the affected wildlife species (e.g., trees with complex structure, trees with large cavities, trees with nesting platforms; tree snags; large raptor nests [including inactive nests]; downed woody debris). These habitat features will be marked and treatments applied to the features will be designed to minimize or avoid the loss or degradation of suitable habitat for listed species during treatments. Identification and treatment of these features will be based on the life history and habitat requirements of the affected species and the most current, commonly accepted science.
  ▪ If it is determined during implementation of SPR BIO-1 and SPR BIO-10 that special-status wildlife with specific requirements for high canopy cover (e.g., northern goshawk, Sierra Nevada snowshoe hare) are present within a treatment area, then tree or shrub canopy cover within existing suitable areas will be retained at the percentage preferred by the species (as determined by expert opinion, published habitat association information, or other documented standards that are commonly accepted) such that the habitat function is maintained.
▶ A qualified RPF or biologist will determine if, after implementation of the impact avoidance measures listed above, the habitat function will remain for the affected species after implementation of the treatment. The qualified RPF or biologist may consult with CDFW and/or USFWS for technical information regarding habitat function.
A qualified RPF or biologist with knowledge of the special-status wildlife species habitat and life history will review the treatment design and applicable impact minimization measures (potentially including others not listed above) to determine if the anticipated residual effects of the treatment would be significant under CEQA because implementation of the treatment will not maintain habitat function of the special-status wildlife species' habitat or because the loss of special-status wildlife would substantially reduce the number or restrict the range of a special-status wildlife species. If the project proponent determines the impact on						

Table 2. Project Consistency with CalVTP Mitigation Measures

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
special-status wildlife would be less than significant, no further mitigation will be required. If the project proponent determines that the loss of special-status wildlife or degradation of occupied habitat would be significant under CEQA after implementing feasible treatment design alternatives and impact minimization measures, then Mitigation Measure BIO-2c will be implemented. The only exception to this mitigation approach is in cases where it is determined by a qualified RPF or biologist that the non-listed special-status wildlife would benefit from treatment in the occupied habitat area even though some of the non-listed special-status wildlife may be killed, injured, or disturbed during treatment activities. For a treatment to be considered beneficial to non-listed special-status wildlife, the qualified RPF or biologist will demonstrate with substantial evidence that habitat function is reasonably expected to improve with implementation of the treatment (e.g., by citing scientific studies demonstrating that the species (or similar species) has benefitted from increased sunlight due to canopy opening, eradication of invasive species, or otherwise reduced competition for resources), and the substantial evidence will be included in the PSA. If it is determined that treatment activities would be beneficial to special-status wildlife, no compensatory mitigation will be required. The qualified RPF or biologist may consult with CDFW and/or USFWS for technical information regarding the determination that a non-listed special-status species would benefit from the treatment.						
Mitigation Measure BIO-2c: Compensate for Mortality, Injury, or Disturbance and Loss of Habitat Function for Special-Status Wildlife if Applicable (All Treatment Activities) If the provisions of Mitigation Measure BIO-2a, BIO-2b, BIO-2d, BIO-2e, BIO-2f, or BIO-2g cannot be implemented and the project proponent determines that additional mitigation is necessary to reduce significant impacts, the project proponent will compensate for such impacts to species or habitat by acquiring and/or protecting land that provides (or will provide in the case of restoration) habitat function for affected species that is at least equivalent to the habitat function removed or degraded as a result of the treatment. Compensation may include:	**Initial Treatment:** Y **Treatment Maintenance:** Y	During treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	As discussed in IS/MND Section 4 (Biological Resources), the proposed projects would implement MMs BIO-1 through BIO-7. The proposed projects would avoid mortality, injury, disturbance, or loss of habitat function for special-status wildlife species. As such, the intent of MM BIO-2c is met.	Y

Table 2. Project Consistency with CalVTP Mitigation Measures

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
1. Preserving existing habitat outside of the treatment area in perpetuity; this may entail purchasing mitigation credits and/or lands from a CDFW- or USFWS-approved entity in sufficient quantity to offset the residual significant impacts, generally at a ratio of 1:1 for habitat; and 2. Restoring or enhancing existing habitat within the treatment area or outside of the treatment area (including decommissioning roads, adding perching structures, removing existing perching structures, or removing existing movement barriers or other existing features that are adversely affecting the species). The project proponent will prepare a Compensatory Mitigation Plan that identifies the residual significant effects that require compensatory mitigation and describes the compensatory mitigation strategy being implemented to reduce residual effects, and: 1. For preserving existing habitat outside of the treatment area in perpetuity, the Compensatory Mitigation Plan will include a summary of the proposed compensation lands (e.g., the number and type of credits, location of mitigation bank or easement), parties responsible for the long-term management of the land, and the legal and funding mechanisms for long-term conservation (e.g., holder of conservation easement or fee title). The project proponent will submit evidence that the necessary mitigation has been implemented or that the project proponent has entered into a legal agreement to implement it and that compensatory habitat will be preserved in perpetuity. 2. For restoring or enhancing habitat within the treatment area or outside of the treatment area, the Compensatory Mitigation Plan will include a description of the proposed habitat improvements, success criteria that demonstrate the performance standard of maintained habitat function has been met, legal and funding mechanisms, and parties responsible for long-term management and monitoring of the restored habitat. Review requirements are as follows: ▶ The project proponent will consult with CDFW and/or any other applicable responsible agency prior to finalizing the Compensatory Mitigation Plan in order to satisfy that responsible agency's requirements (e.g., permits, approvals) within the plan.						

Table 2. Project Consistency with CalVTP Mitigation Measures

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
▶ For species listed under ESA or CESA or a California Fully Protected Species, the project proponent will submit the mitigation plan to CDFW and/or USFWS/NOAA Fisheries for review and comment. ▶ For other special-status wildlife species the project proponent may consult with CDFW and/or USFWS regarding the availability and applicability of compensatory mitigation and other related technical information. Compensatory mitigation may be satisfied through compliance with permit conditions, or other authorizations obtained by the project proponent (e.g., incidental take permit), if these requirements are equally or more effective than the mitigation identified above.						
Mitigation Measure BIO-2d: Implement Protective Measures for Valley Elderberry Longhorn Beetle (All Treatment Activities) If elderberry shrubs within the documented range of valley elderberry longhorn beetle are identified during review and surveys for SPR BIO-1, and valley elderberry longhorn beetle or likely occupied suitable elderberry habitat (e.g., within riparian, within historic riparian, containing exit holes) is confirmed to be present during protocol-level surveys following the protocol outlined in USFWS Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (USFWS 2017) per SPR BIO-10, the following protective measures will be implemented to avoid and minimize impacts to valley elderberry longhorn beetle: ▶ If elderberry shrubs are 165 feet or more from the treatment area, and treatment activities would not encroach within this distance, direct or indirect impacts are not expected and further mitigation is not required. ▶ If elderberry shrubs are located within 165 feet of the treatment area, the following measures will be implemented: ▪ A minimum avoidance area of at least 20 feet from the dripline of each elderberry plant will be fenced or flagged and maintained to avoid direct impacts (e.g., damage to root system) that could damage or kill the plant, with the exception of the following activities:	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N/A	The valley elderberry longhorn beetle is endemic to the Central Valley in California. The proposed projects is in Laguna Beach in Southern California[5]. Therefore, it is unlikely that valley elderberry longhorn beetle occupies FMZs 17, 18, and 22. As such, this MM is not applicable.	N/A

[5] https://ecos.fws.gov/ecp/species/7850

Table 2. Project Consistency with CalVTP Mitigation Measures

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
- Manual trimming of elderberry shrubs will only occur between November and February and will avoid removal of any branches or stems that are greater than or equal to 1 inch in diameter to avoid and minimize adverse effects on valley elderberry longhorn beetle. - Manual or mechanical vegetation treatment within the drip-line of any elderberry shrub will be limited to the season when adults are not active (August - February), will be limited to methods that do not cause ground disturbance, and will avoid damaging the elderberry. ▪ A qualified RPF, biologist, or biological technician familiar with valley elderberry longhorn beetle and its life history will monitor the work area to verify the avoidance and minimization measures are implemented. The qualified RPF, biologist, or biological technician will have the authority to stop any treatment activities that could result in potential adverse effects to valley elderberry longhorn beetle. If the project proponent cannot implement the measures above to avoid mortality, injury, or disturbance of VELB or degradation of occupied habitat such that its function would not be maintained, the project proponent will implement Mitigation Measure BIO-2c.						
Mitigation Measure BIO-2e: Design Treatment to Retain Special-Status Butterfly Host Plants (All Treatment Activities) If federally listed butterflies are identified as occurring or having potential to occur during review and surveys for SPR BIO-1 and confirmed during protocol-level surveys per SPR BIO-10, then the following measures will be implemented: ▶ Treatment areas within the range of these species will be surveyed for the host plant for each species (Table 3.6-34). ▶ Host plants for federally listed butterflies within the occupied habitat will be marked with high-visibility flagging, fencing, or stakes, and no treatment activities will occur within 10 feet of these plants. ▶ Because prescribed herbivory could result in the indiscriminate removal of the host plants for federally listed butterflies, this treatment type will not be used within occupied habitat of any federally listed	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N/A	The proposed projects are outside of the range for these butterfly species except for Quino checker-spot butterfly which once occupied Orange County. The last record of Quino checkerspot butterfly was in 1976 and it is now considered to be extirpated from the County. Therefore, MM BIO-2e is not applicable.	N/A

Table 2. Project Consistency with CalVTP Mitigation Measures

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
butterfly species, unless it is known that the host plant is unpalatable to the herbivore. ▶ Treatment areas that are not occupied but are within the range of the federally listed butterfly will be divided into as many treatment units as feasible such that the entirety of the habitat is not treated within the same year. ▶ Treatments will be conducted in a patchy pattern to the extent feasible in areas that are not occupied but are within the range of the federally listed butterfly, such that the entirety of the habitat is not burned or removed and untreated portions of suitable habitat are retained. If the project proponent cannot implement the measures above to avoid mortality, injury, or disturbance of federally listed butterflies or degradation of occupied habitat (host plants) such that its function would not be maintained, the project proponent will implement Mitigation Measure BIO-2c. **CESA and ESA Listed Species.** A qualified RPF or biologist will determine if, after implementation of any feasible impact avoidance measures (potentially including others not listed above), the treatment will result in mortality, injury, or disturbance, or if after implementation of the treatment, habitat function will remain for the affected species. For species listed under CESA or ESA or that are fully protected, the qualified RPF or biologist will consult with CDFW and/or USFWS regarding this determination. If consultation determines that mortality, injury, or disturbance of listed butterflies or degradation of occupied habitat such that its function would not be maintained would occur, the project proponent will implement Mitigation Measure BIO-2c. **Other Special-status Species.** A qualified RPF or biologist with knowledge of the special-status species' habitat and life history will review the treatment design and applicable impact minimization measures (potentially including others not listed above) to determine if the anticipated residual effects of the treatment would be significant under CEQA, because implementation of the treatment will not maintain habitat function of the special-status species' habitat or because the loss of special-status individuals would substantially reduce the number or restrict the range of a special-status species. If the project proponent determines the impact on special-status butterflies would be less than significant, no further mitigation will be required. If the project proponent						

Table 2. Project Consistency with CalVTP Mitigation Measures

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
determines that the loss of special-status butterflies or degradation of occupied habitat would be significant under CEQA after implementing feasible treatment design alternatives and impact minimization measures, then Mitigation Measure BIO-2c will be implemented. The only exception to this mitigation approach is in cases where it is determined by a qualified RPF or biologist that the special-status butterfly species would benefit from treatment in the occupied habitat area even though some may be killed, injured or disturbed during treatment activities. For a treatment to be considered beneficial to special-status butterfly species, the qualified RPF or biologist will demonstrate with substantial evidence that habitat function is reasonably expected to improve with implementation of the treatment (e.g., by citing scientific studies demonstrating that the species (or similar species) has benefitted from increased sunlight due to canopy opening, eradication of invasive species, or otherwise reduced competition for resources). If it is determined that treatment activities would be beneficial to special-status butterflies, no compensatory mitigation will be required. **Table 3.6-34 Special-status Butterflies and Associated Host Plants** Butterfly Species / Host Plants bay checkerspot butterfly — dwarf plantain (*Plantago virginica*), purple owl's clover (*Castilleja exserta*) Behren's silverspot butterfly — blue violet (*Viola adunca*) callippe silverspot butterfly — California golden violet (*Viola pedunculata*) Carson wandering skipper — salt grass (*Distichlis spicata*) El Segundo blue butterfly — seacliff buckwheat (*Eriogonum parvifolium*) Hermes copper butterfly — spiny redberry (*Rhamnus crocea*) Kern primrose sphinx moth — plains evening-primrose (*Camissonia contorta*), field primrose (*Camissonia campestris*)						

Table 2. Project Consistency with CalVTP Mitigation Measures

Mitigation Measures		Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
Laguna Mountains skipper	Cleveland's horkelia (*Horkelia clevelandii*), sticky cinquefoil (*Drymocallis glandulosa*)						
Lange's metalmark butterfly	naked-stemmed buckwheat (*Eriogonum nudum*)						
lotis blue butterfly	seaside bird's foot trefoil (*Hosackia gracilis*)						
Mission blue butterfly	lupine (*Lupinus* spp.)						
Myrtle's silverspot butterfly	blue violet						
Oregon silverspot butterfly	blue violet						
Palos Verdes blue butterfly	Santa Barbara milkvetch (*Astragalus trichopodus*), common deerweed (*Acmispon glaber*)						
San Bruno elfin butterfly	broadleaf stonecrop (*Sedum spathulifolium*), manzanita (*Arctostaphylos* spp.), huckleberry (*Vaccinuum* spp.)						
Smith's blue butterfly	seacliff buckwheat, seaside buckwheat (*Eriogonum latifolium*)						
Quino checkerspot butterfly	dwarf plantain, purple owl's clover						

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
Mitigation Measure BIO-2f: Avoid Habitat for Special-Status Beetles, Flies, Grasshoppers, and Snails (All Treatment Activities) If treatment activities would occur within the limited range of any state or federally listed beetle, fly, grasshopper, or snail, and these species are identified as occurring or having potential to occur due to the presence of potentially suitable habitat during review and surveys for SPR BIO-1 and surveys for SPR BIO-10, then the following measures will be implemented: ▶ To avoid and minimize impacts to Mount Hermon June beetle and Zayante band-winged grasshopper, treatment activities will not occur within "Sandhills" habitat in Santa Cruz County, the only suitable habitat for these species. ▶ To avoid and minimize impacts to Casey's June beetle, Delhi Sands flower-loving fly (*Rhaphiomidas terminates abdominalis*), Delta green ground beetle (*Elaphrus virisis*), Morro shoulderband snail, Ohlone tiger beetle (*Cicindela ohlone*), and Trinity bristle snail, treatment activities will not occur within habitat in the range of these species that is deemed suitable by a qualified RPF or biologist with familiarity of the species. If the project proponent cannot implement the measures above to avoid mortality, injury or disturbance to listed beetles, flies, grasshoppers, and snails, or degradation of suitable habitat such that its function would not be maintained, the project proponent will implement Mitigation Measure BIO-2c.	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N/A	None of these listed species are known to occur in the projects area. Therefore, MM BIO-2f is not applicable.	N/A
Mitigation Measure BIO-2g: Design Treatment to Avoid Mortality, Injury, or Disturbance and Maintain Habitat Function for Special-Status Bumble Bees (All Treatment Activities) If special-status bumble bees are identified as occurring during review and surveys under SPR BIO-1 and confirmed during protocol-level surveys per SPR BIO-10, or if suitable habitat for special-status bumble bees is identified during review and surveys under SPR BIO-1 (e.g., wet meadow, forest meadow, riparian, grassland, or coastal scrub habitat containing sufficient floral resources within the range of the species), then the project proponent will implement the following measures, as feasible: ▶ Prescribed burning within occupied or suitable habitat for special-status bumble bees will occur from October through February to avoid the bumble bee flight season. ▶ Treatment areas in occupied or suitable habitat will be divided into a sufficient number of treatment units such that the entirety of the	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N/A	Crotch bumble bee is the only special-status bumble bee known from Orange County. Crotch bumble bee was previously proposed for State listing but was rejected because the California Endangered Species Act does not allow listing of invertebrates. It does not have any formal protection but does have a State rank of S1S2 which implies that it is rare. Crotch bumble bee was	N/A

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
habitat is not treated within the same year; the objective of this measure is to provide refuge for special-status bumble bees during treatment activities and temporary retention of suitable floral resources proximate to the treatment area. ▶ Treatments will be conducted in a patchy pattern to the extent feasible in occupied or suitable habitat, such that the entirety of the habitat is not burned or removed and untreated portions of occupied or suitable habitat are retained (e.g., fire breaks will be aligned to allow for areas of unburned floral resources for special-status bumble bees within the treatment area). ▶ Herbicides will not be applied to flowering native plants within occupied or suitable habitat to the extent feasible during the flight season (March through September). **CESA and ESA Listed Species.** A qualified RPF or biologist will determine if, after implementation of feasible avoidance measures (potentially including others not listed above), the treatment will result in mortality, injury, or disturbance to the species, or if after implementation of the treatment, habitat function will remain for the affected species. For species listed under CESA or ESA or that are fully protected, the qualified RPF or biologist will consult with CDFW and/or USFWS regarding this determination. If consultation determines that mortality, injury, or disturbance of listed bumble bees (in the event the Candidate listing is confirmed) or degradation of occupied (or assumed to be occupied) habitat such that its function would not be maintained would occur, the project proponent will implement Mitigation Measure BIO-2c. **Other Special-status Species.** A qualified RPF or biologist with knowledge of the special-status species' habitat and life history will review the treatment design and applicable impact minimization measures (potentially including others not listed above) to determine if the anticipated residual effects of the treatment would be significant under CEQA because implementation of the treatment will not maintain habitat function of the special-status species' habitat or because the loss of special-status individuals would substantially reduce the number or restrict the range of a special-status species. If the project proponent determines the impact on special-status bumble bees would be less than significant, no further mitigation will be required. If the project proponent determines that the loss of special-status bumble bees or degradation of occupied (or assumed to be occupied) habitat would be significant under CEQA after implementing feasible treatment design alternatives and					last detected in Laguna Beach in 1919 and has a very low potential to be present. Therefore, MM BIO-2g is not applicable.	

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
impact minimization measures, then Mitigation Measure BIO-2c will be implemented. The only exception to this mitigation approach is in cases where it is determined by a qualified RPF or biologist that the special-status bumble bee species would benefit from treatment in the occupied (or assumed to be occupied) habitat area even though some of the non-listed special-status bumble bees may be killed, injured, or disturbed during treatment activities. For a treatment to be considered beneficial to special-status bumble bee species, the qualified RPF or biologist will demonstrate with substantial evidence that habitat function is reasonably expected to improve with implementation of the treatment (e.g., by citing scientific studies demonstrating that the species (or similar species) has benefitted from increased sunlight due to canopy opening, eradication of invasive species, or otherwise reduced competition for resources), and the substantial evidence will be included in the PSA. If it is determined that treatment activities would be beneficial to special-status bumble bees, no compensatory mitigation will be required.						
Mitigation Measure BIO-2h: Avoid Potential Disease Transmission Between Domestic Livestock and Special-Status Ungulates (Prescribed Herbivory) The project proponent will implement the following measure if treatment activities are planned within the range of desert bighorn sheep, peninsular bighorn sheep, Sierra Nevada bighorn sheep, or pronghorn: ▶ Prescribed herbivory activities will be prohibited within a 14-mile buffer around suitable habitat for any species of bighorn sheep within the range of these species consistent with the more stringent recommendations in the Recovery Plan for Sierra Nevada bighorn sheep (USFWS 2007). ▶ Prescribed herbivory activities will be avoided within the range of pronghorn where feasible (where this range does not overlap with the range of any species of bighorn sheep).	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N/A	Special-status ungulates do not occur within FMZs 17, 18, and 22. Therefore, MM BIO-2h is not applicable.	N/A
Mitigation Measure BIO-3a: Design Treatments to Avoid Loss of Sensitive Natural Communities and Oak Woodlands The project proponent will implement the following measures when working in treatment areas that contain sensitive natural communities identified during surveys conducted pursuant to SPR BIO-3: ▶ Reference the *Manual of California Vegetation*, Appendix 2, Table A2, *Fire Characteristics* (Sawyer et al. 2009 or current version, including	**Initial Treatment:** Y **Treatment Maintenance:** Y	During treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	A detailed vegetation map has not yet been prepared for the projects. However, the Nature Reserve of Orange County did map most of the project sites in 2015. Nine vegetation and	Y

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
updated natural communities data at http://vegetation.cnps.org/) or other best available information to determine the natural fire regime of the specific sensitive natural community type (i.e., alliance) present. The condition class and fire return interval departure of the vegetation alliances present will also be determined. ▶ Design treatments in sensitive natural communities and oak woodlands to restore the natural fire regime and return vegetation composition and structure to their natural condition to maintain or improve habitat function of the affected sensitive natural community. Treatments will be designed to replicate the fire regime attributes for the affected sensitive natural community or oak woodland type including seasonality, fire return interval, fire size, spatial complexity, fireline intensity, severity, and fire type as described in *Fire in California's Ecosystems* (Van Wagtendonk et al. 2018) and the *Manual of California Vegetation* (Sawyer et al. 2009 or current version, including updated natural communities data at http://vegetation. cnps.org/). Treatments will not be implemented in sensitive natural communities that are within their natural fire return interval (i.e., time since last burn is less than the average time required for that vegetation type to recover from fire) or within Condition Class 1. ▶ To the extent feasible, no fuel breaks will be created in sensitive natural communities with rarity ranks of S1 (critically imperiled) and S2 (imperiled). ▶ To the extent feasible, fuel breaks will not remove more than 20 percent of the native vegetation relative cover from a stand of sensitive natural community vegetation in sensitive natural communities with a rarity rank of S3 (vulnerable) or in oak woodlands. In forest and woodland sensitive natural communities with a rarity rank of S3, and in oak woodlands, only shaded fuel breaks will be installed, and they will not be installed in more than 20 percent of the stand of sensitive natural community or oak woodland vegetation (i.e., if the sensitive natural community covers 100 acres, no more than 20 acres will be converted to create the fuel break). ▶ Use prescribed burning as the primary treatment activity in sensitive natural communities that are fire dependent (e.g., closed-cone forest and woodland alliances, chaparral alliances characterized by fire-stimulated, obligate seeders), to the extent feasible and appropriate based on the fire regime attributes as described in *Fire in California's*					other cover types were mapped within the project sites including approximately 0.9 acres of lemonade berry scrub (Rhus integrifolia Shrubland Alliance) that has a State Rank of 3 and is considered a sensitive natural community. Most of the lemonade berry scrub overlaps with the High and Very High Value Habitat already mapped and addressed in IS/MND Section 4 (Biological Resources). With implementation of the MMs AMMs, impacts to sensitive natural communities are avoided or reduced. Therefore, MM BIO-3a is met.	

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
Ecosystems (Van Wagtendonk et al. 2018) and the *Manual of California Vegetation* (Sawyer et al. 2009 or current version, including updated natural communities data at http://vegetation.cnps.org/). ▶ Time prescribed herbivory to occur when non-target vegetation is not susceptible to damage (e.g. non-target vegetation is dormant or has completed its reproductive cycle for the year). For example, use herbivores to control invasive plants growing in sensitive habitats or sensitive natural communities when sensitive vegetation is dormant but invasive plants are growing. Timing of herbivory to avoid non-target vegetation will be determined by a qualified botanist, RPF, or biologist based on the specific vegetation alliance being treated, the life forms and life conditions of its characteristic plant species, and the sensitivity of the non-target vegetation to the effects of herbivory. The feasibility of implementing the avoidance measures will be determined by the project proponent based on whether implementation of this mitigation measure will preclude completing the treatment project within the reasonable period of time necessary to meet CalVTP program objectives, including, but not limited to, protection of vulnerable communities. If the avoidance measures are determined by the project proponent to be infeasible, the project proponent will document the reasons implementation of the avoidance strategies are infeasible in the PSA. After completion of the PSA and prior to or during treatment implementation, if there is any change in the feasibility of avoidance strategies from those explained in the PSA, this will be documented in the post-project implementation report (referred to by CAL FIRE as a Completion Report). A qualified RPF or botanist with knowledge of the affected sensitive natural community will review the treatment design and applicable impact minimization measures (potentially including others not listed above) to determine if the anticipated residual effects of the treatment would be significant under CEQA because implementation of the treatment will not maintain habitat functions of the sensitive natural community or oak woodland. If the project proponent determines the impact on sensitive natural communities or oak woodlands would be less than significant, no further mitigation will be required. If the project proponent determines that the loss or degradation of sensitive natural communities or oak woodlands would be significant under CEQA after implementing feasible treatment design alternatives and impact						

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
minimization measures, then Mitigation Measure BIO-3b will be implemented. The only exception to this mitigation approach is in cases where it is determined by a qualified RPF or botanist that the sensitive natural community or oak woodland would benefit from treatment in the occupied habitat area even though some loss may occur during treatment activities. For a treatment to be considered beneficial to a sensitive natural community or oak woodland, the qualified RPF or botanist will demonstrate with substantial evidence that habitat function is reasonably expected to improve with implementation of the treatment (e.g., by citing scientific studies demonstrating that the community (or similar community) has benefitted from increased sunlight due to canopy opening, eradication of invasive species, or otherwise reduced competition for resources), and the substantial evidence will be included in the PSA. If it is determined that treatment activities would be beneficial to sensitive natural communities or oak woodlands, no compensatory mitigation will be required.						
Mitigation Measure BIO-3b: Compensate for Loss of Sensitive Natural Communities and Oak Woodlands If significant impacts on sensitive natural communities or oak woodlands cannot feasibly be avoided or reduced as specified under Mitigation Measure BIO-3a, the project proponent will implement the following actions: ▶ Compensate for unavoidable losses of sensitive natural community and oak woodland acreage and function by: ▪ restoring sensitive natural community or oak woodland functions and acreage within the treatment area; ▪ restoring degraded sensitive natural communities or oak woodlands outside of the treatment area at a sufficient ratio to offset the loss of acreage and habitat function; or ▪ preserving existing sensitive natural communities or oak woodlands of equal or better value to the sensitive natural community lost through a conservation easement at a sufficient ratio to offset the loss of acreage and habitat function. ▶ The project proponent will prepare a Compensatory Mitigation Plan that identifies the residual significant effects on sensitive natural communities or oak woodlands that require compensatory mitigation	**Initial Treatment:** Y **Treatment Maintenance:** Y	During treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	As stated above, impacts to sensitive natural communities have been addressed in IS/MND Section 4 (Biological Resources). With imple-mentation of the MMs AMMs, impacts to sensitive natural communities are avoided or reduced. Therefore, MM BIO-3b is met.	Y

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
and describes the compensatory mitigation strategy being implemented to reduce residual effects, and: 1. For preserving existing habitat outside of the treatment area in perpetuity, the Compensatory Mitigation Plan will include a summary of the proposed compensation lands (e.g., the number and type of credits, location of mitigation bank or easement), parties responsible for the long-term management of the land, and the legal and funding mechanism for long-term conservation (e.g., holder of conservation easement or fee title). The project proponent will submit evidence that the necessary mitigation has been implemented or that the project proponent has entered into a legal agreement to implement it and that compensatory habitat will be preserved in perpetuity. 2. For restoring or enhancing habitat within the treatment area or outside of the treatment area, the Compensatory Mitigation Plan will include a description of the proposed habitat improvements, success criteria that demonstrate the performance standard of maintained habitat function has been met, legal and funding mechanisms, and parties responsible for long-term management and monitoring of the restored or enhanced habitat. The project proponent will consult with CDFW and/or any other applicable responsible agency prior to finalizing the Compensatory Mitigation Plan in order to satisfy that responsible agency's requirements (e.g., permits, approvals) within the plan.						
Mitigation Measure BIO-3c: Compensate for Unavoidable Loss of Riparian Habitat If, after implementation of SPR BIO-4, impacts to riparian habitat remain significant under CEQA, the project proponent will implement the following: ▶ Compensate for unavoidable losses of riparian habitat acreage and function by: ▪ restoring riparian habitat functions and acreage within the treatment area; ▪ restoring degraded riparian habitat outside of the treatment area; ▪ purchasing riparian habitat credits at a CDFW-approved mitigation bank; or	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N/A	The proposed projects would implement 25-foot buffers around blue-line streams and limit treatment to invasive plant and trash removal within these buffers. The loss of riparian habitat would not occur. Therefore, MM BIO-3c is not applicable.	N/A

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
▪ preserving existing riparian habitat of equal or better value to the riparian habitat lost through a conservation easement at a sufficient ratio to offset the loss of riparian habitat function and value. ▶ The project proponent will prepare a Compensatory Mitigation Plan that identifies the residual significant effects on riparian habitat that require compensatory mitigation and describes the compensatory mitigation strategy being implemented to reduce residual effects, and: 1. For preserving existing riparian habitat outside of the treatment area in perpetuity, the Compensatory Mitigation Plan will include a summary of the proposed compensation lands (e.g., the number and type of credits, location of mitigation bank or easement), parties responsible for the long-term management of the land, and the legal and funding mechanism for long-term conservation (e.g., holder of conservation easement or fee title). The project proponent will submit evidence that the necessary mitigation has been implemented or that the project proponent has entered into a legal agreement to implement it and that compensatory plant populations will be preserved in perpetuity. 2. For restoring or enhancing riparian habitat within the treatment area or outside of the treatment area, the Compensatory Mitigation Plan will include a description of the proposed habitat improvements, success criteria that demonstrate the performance standard of maintained habitat function has been met, legal and funding mechanisms, and parties responsible for long-term management and monitoring of the restored or enhanced habitat. The project proponent will consult with CDFW and/or any other applicable responsible agency prior to finalizing the Compensatory Mitigation Plan to satisfy that responsible agency's requirements (e.g., permits, approvals) within the plan. Compensatory mitigation may be satisfied through compliance with permit conditions, or other authorizations obtained by the project proponent (e.g., Lake and Streambed Alteration Agreement), if these requirements are equally or more effective than the mitigation identified above.						
Mitigation Measure BIO-4: Avoid State and Federally Protected Wetlands Impacts to wetlands will be avoided using the following measures: ▶ The qualified RPF or biologist will delineate the boundaries of federally protected wetlands according to methods established in the USACE wetlands delineation manual (Environmental Laboratory 1987) and the	**Initial Treatment:** N	N/A	N/A	N/A	The proposed projects would implement 25-foot buffers around blue-line streams and limit treat-ment to invasive plant and	N/A

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
appropriate regional supplement for the ecoregion in which the treatment is being implemented. ▶ The qualified RPF or biologist will delineate the boundaries of wetlands that may not meet the definition of waters of the United States, but would qualify as waters of the state, according to the state wetland procedures (California Water Boards 2019 or current procedures). ▶ A qualified RPF or biologist will establish a buffer around wetlands and mark the buffer boundary with high-visibility flagging, fencing, stakes, or clear, existing landscape demarcations (e.g., edge of a roadway). The buffer will be a minimum width of 25 feet but may be larger if deemed necessary. The appropriate size and shape of the buffer zone will be determined in coordination with the qualified RPF or biologist and will depend on the type of wetland present (e.g., seasonal wetland, wet meadow, freshwater marsh, vernal pool), the timing of treatment (e.g., wet or dry time of year), whether any special-status species may occupy the wetland and the species' vulnerability to the treatment activities, environmental conditions and terrain, and the treatment activity being implemented. ▶ A qualified RPF or biological technician will periodically inspect the materials demarcating the buffer to confirm that they are intact and visible, and wetland impacts are being avoided. ▶ Within this buffer, herbicide application is prohibited. ▶ Within this buffer, soil disturbance is prohibited. Accordingly, the following activities are not allowed within the buffer zone: mechanical treatments, prescribed herbivory, equipment and vehicle access or staging. ▶ Only prescribed (broadcast) burning may be implemented in wetland habitats if it is determined by a qualified RPF or biologist that: ▪ No special-status species are present in the wetland habitat ▪ The wetland habitat function would be maintained. ▪ The prescribed burn is within the normal fire return interval for the wetland vegetation types present ▪ Fire containment lines and pile burning are prohibited within the buffer ▪ No fire ignition (nor use of associated accelerants) will occur within the wetland buffer	**Treatment Maintenance:** N				trash removal within these buffers. The loss of state or federally protected wetland would not occur. Therefore, MM BIO-4 is not applicable.	

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
Mitigation Measure BIO-5: Retain Nursery Habitat and Implement Buffers to Avoid Nursery Sites The project proponent will implement the following measures while working in treatment areas that contain nursery sites identified in surveys conducted pursuant to SPR BIO-10: ▶ **Retain Known Nursery Sites**. A qualified RPF or biologist will identify the important habitat features of the wildlife nursery and, prior to treatment activities, will mark these features for avoidance and retention during treatment ▶ **Establish Avoidance Buffers.** The project proponent will establish a non-disturbance buffer around the nursery site if activities are required while the nursery site is active/occupied. The appropriate size and shape of the buffer will be determined by a qualified RPF or biologist, based on potential effects of project-related habitat disturbance, noise, visual disturbance, and other factors. No treatment activity will commence within the buffer area until a qualified RPF or biologist confirms that the nursery site is no longer active/occupied. Monitoring of the effectiveness of the non-disturbance buffer around the nursery site by a qualified RPF, biologist, or biological technician during and after treatment activities will be required. If treatment activities cause agitated behavior of the individual(s), the buffer distance will be increased, or treatment activities modified until the agitated behavior stops. The qualified RPF, biologist, or biological technician will have the authority to stop any treatment activities that could result in potential adverse effects to special-status species.	**Initial Treatment:** Y **Treatment Maintenance:** Y	During treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	According to IS/MND Section 4 (Biological Resources), with implementation of AMM 9 (Work Area Designation to Minimize Disturbance), AMM 10/CM 3 (Environmental Awareness Training for Construction Personnel), AMM 11/CM 4 (Biological Monitor), AMM 12/CM 5 (Work Restrictions Near Active Nests), and AMM 13/CM 6 (Habitat Avoidance), impacts to nesting birds and nursery sites would be avoided or reduced in FMZ 22. In FMZs 17 and 18, MMs BIO-1, BIO-2, BIO-5, and BIO-6 (MM BIO-6 covers both projects) would include surveying for nesting birds and flagging and avoiding areas where the presence of nesting birds is known. Therefore, MM BIO-5 is met.	Y

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
Greenhouse Gas Emissions						
Mitigation Measure GHG-2. Implement GHG Emission Reduction Techniques During Prescribed Burns When planning for and conducting a prescribed burn, project proponents implementing a prescribed burn will incorporate feasible methods for reducing GHG emissions, including the following, which are identified in the National Wildfire Coordinating Group Smoke Management Guide for Prescribed Fire (NWCG 2018): ▶ reduce the total area burned by isolating and leaving large fuels (e.g., large logs, snags) unburned; ▶ reduce the total area burned through mosaic burning; ▶ burn when fuels have a higher fuel moisture content; ▶ reduce fuel loading by removing fuels before ignition. Methods to remove fuels include mechanical treatments, manual treatments, prescribed herbivory, and biomass utilization; and ▶ schedule burns before new fuels appear. As the science evolves, other feasible methods or technologies to sequester carbon could be incorporated, such as conservation burning, a technique for burning woody material that reduces the production of smoke particulates and carbon released into the atmosphere and generates more biochar. Biochar is produced from the material left over after the burn and spread with compost to increase soil organic matter and soil carbon sequestration. Technologies to reduce greenhouse gas emissions may also include portable units that perform gasification to produce electricity or pyrolysis that produces biooil that can be used as liquid fuel and/or syngas that can be used to generate electricity. The project proponent will document in the Burn Plan required pursuant to SPR AQ-3 which methods for reducing GHG emissions can feasibly be integrated into the treatment design.	**Initial Treatment:** N **Treatment Maintenance:** N	N/A	N/A	N/A	Prescribed burning is not proposed. Therefore, MM GHG-2 is not applicable.	N/A

Mitigation Measures	Applicable? (Y/N)	Timing	Implementing Entity	Verifying/Monitoring Entity	Justification	Consistent (Y/N)
Hazardous Materials, Public Health and Safety						
Mitigation Measure HAZ-3: Identify and Avoid Known Hazardous Waste Sites Prior to the start of vegetation treatment activities requiring soil disturbance (i.e., mechanical treatments) or prescribed burning, CAL FIRE and other project proponents will make reasonable efforts to check with the landowner or other entity with jurisdiction (e.g., California Department of Parks and Recreation) to determine if there are any sites known to have previously used, stored, or disposed of hazardous materials. If it is determined that hazardous materials sites could be located within the boundary of a treatment site, the project proponent will conduct a DTSC EnviroStor web search (https://www.envirostor.dtsc.ca.gov/public/) and consult DTSC's Cortese List to identify any known contamination sites within the project site. If a proposed mechanical treatment or prescribed burn is located on a site included on the DTSC Cortese List as containing potential soil contamination that has not been cleaned up and deemed closed by DTSC, the area will be marked and no prescribed burning or soil disturbing treatment activities will occur within 100 feet of the site boundaries. If it is determined through coordination with landowners or after review of the Cortese List that no potential or known contamination is located on a project site, the project may proceed as planned.	**Initial Treatment:** Y **Treatment Maintenance:** Y	Prior to treatment and maintenance	LBFD	City of Laguna Beach Fire Chief	As discussed in IS/MND Section 9 (Hazards and Hazardous Materials), a search was conducted using the Department of Toxic Substances Control's Envirostor database and the State Water Resources Control Board's GeoTracker database. No hazardous materials sites are known to occur within the footprint of the proposed projects. As such, the intent of MM HAZ-3 has been met.	Y