Otay Ranch Resort Village

March 2015

Preserve Edge Plan

The Otay Ranch Resort Village Preserve Edge Plan

OTAY RANCH RESORT VILLAGE; GPA 04-03, SP 04-002, REZ 04-009, TM 5361,

ER# 04-19-005

Preserve Edge Plan

1. Purpose

The purpose of the Preserve Edge Plan is to identify allowable uses within appropriate land use designations for areas adjacent to the Otay Ranch Preserve. In accordance with Policy 7.2 of the Otay Ranch RMP, an edge plan is to be developed for all Specific Plans that contain areas adjacent to the Preserve. The edge plan area is a publicly or privately owned, 100-foot wide strip of land adjacent to the Preserve. To provide further guidance relating to the content of the Edge Plan, the MSCP Subarea Plan contains policies related to land use adjacency.

2. Compliance with Otay Ranch RMP/MSCP Subarea Plan Policies

The following discussion describes how the policies identified in the Otay Ranch RMP and MSCP Subarea Plan are met by the various components of the Resort Specific Plan.

Drainage Measures

The Otay Ranch Resort site is topographically characterized by hills and ravines. Vegetation consists mainly of native vegetation. Runoff from the area drains via incised canyon channels to existing culverts under Otay Lakes Road and then to the Lower Otay Lake. The San Diego Regional Water Quality Control Board (RWQCB) identifies the County of San Diego as a "discharger" who owns or operates a municipal separate storm sewer system (MS4) through which urban runoff is discharged into waters within the San Diego Region.

The proposed drainage system for the projects is more fully described in the Master *Drainage Study for Otay Ranch Resort Village* prepared by Hunsaker & Associates. Key components of the proposed drainage system are summarized below and depicted in Exhibit 1 Water Quality Basin Facilities.

Natural runoff from most areas north of the Project site will be separated from the developed site runoff via separate storm drain systems. Thus, runoff from natural (undeveloped) areas would continue to drain directly to the Lower Otay Reservoir, and not mix with runoff from the development until downstream of the proposed water quality basins (after low flows from the development areas have been treated). However, due to storm drain optimization, and to avoid a double storm drain system in many streets of the proposed development, some runoff from natural areas will mix with runoff from developed areas.

To protect the water quality in the Lower Otay Lake, runoff from the 85^{th} percentile storm will be diverted to fifteen water quality basins, seven bio-retention basins and eight vegetated swales which are also bio-retention basins. The locations of the bio-retention basins are illustrated below in Exhibit 1. These water quality basins will drain slowly to ensure settlement of solids. The basins will be designed to drain over a 24-72 hour period. Low flow drainage will be treated through grassy swales and will meet all San Diego Regional Water Quality Control Board (RWQCB) requirements prior to discharge.

All runoff conveyed in the storm drain systems will be treated in compliance with RWQCB regulations and federal criteria prior to discharging to natural watercourses. Post construction Best Management Practices (BMPs) refer to specific storm water management techniques which are applied to manage construction and post construction site runoff to minimize erosion. BMPs include "source control," aimed at reducing the amount of sediment and other pollutants, and "treatment control" aimed at keeping soil and other pollutants onsite once they have been loosened by storm water erosion.

All structural BMPs for the Otay Ranch Resort Village will be located to infiltrate, filter or treat the required runoff volume or flow (based on first flush rainfall) prior to its discharge. The BMPs will be designed to reduce toxin, nutrient and sediment loading of the first flush from the development. Structural BMPs will remove pollutants from urban runoff by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or other physical, biological or chemical process. Volume-based and flow-based BMPs will be designed to mitigate the volume and maximum flow-rate of runoff produced from a storm event.

Maintenance of site BMPs will be the responsibility of the Homeowners Association or a county approved maintenance entity. A maintenance plan will include the following information:

- Specification of routine and non-routine maintenance activities to be performed;
- A schedule of maintenance activities; and
- Name, qualifications and contact information for the parties responsible for maintaining the BMPs.

In addition, the Approved Maintenance Entity will be responsible for notifying residents of activities deemed unlawful by the RWQCB and therefore prohibited in the Otay Ranch Resort planning area. These prohibited activities include:

- Discharges of sediment, pet waste, vegetative clippings or other landscaping or construction related wastes;
- Discharges of wash water from the cleaning or hosing of impervious surfaces including parking lots, streets, sidewalks, driveways, patios, plazas and outdoor eating and drinking areas. Landscape irrigation and lawn watering, as well as non-commercial washing of vehicles in residential zones is exempt from this restriction;
- Discharges of pool or fountain water containing chloride, biocides or other chemicals;
- Discharges or runoff from material storage areas containing chemicals, fuels, grease, oil or other hazardous materials;

- Discharges of food-related wastes (grease, food processing, trash bin wash water, etc.);

- Discharges of wash water from the hosing or cleaning of gas stations, auto repair garages or other types of automotive service facilities;

- Discharges resulting from the cleaning, repair or maintenance of any type of equipment, machinery or facility including motor vehicles, cement-related equipment, port-a-potty servicing, etc; and

- Discharges of wash water from mobile operations such as mobile automobile washing, steam cleaning, power washing and carpet cleaning.

In addition to the water quality basins, the RWQCB regulations require that a Storm Water Pollution Prevention Plan (SWPPP) be prepared for development within the Plan area. The SWPPP would address water quality impacts associated with construction and operation of the project. To mitigate impacts from "first flush" runoff and flow, all BMPs identified in the SWPPP would be implemented. The SWPPP will be consistent with the requirements of the federal Clean Water Act and the BMPs of the RWQCB. BMPs identified in the SWPPP will include, but are not limited to the following:

Construction- Related Measures:

- Existing vegetation will be retained where possible. To the extent feasible, grading activities will be limited to the immediate area required for construction.

- Temporary erosion control measures will be employed for disturbed areas.

- No disturbed surfaces will be left without erosion control measures in place from October 1 through April 1.

Design/Post-Construction Measures:

- Sediment will be retained on-site by a system of sediment basins, traps, or other appropriate measures.

- Where deemed necessary, storm drains will be equipped with silt and oil traps to remove oils, debris and other pollutants. Storm drain inlets shall be labeled "No Dumping-Drains to Ocean." Storm drains shall be regularly maintained to ensure their effectiveness.

- The parking lots will be designed to allow storm water runoff to be directed to vegetative filter strips and/or oil-water separators to control sediment, oil, and other contaminants.

- Permanent energy dissipaters will be included for drainage outlets.

- The project area drainage basins will be designed to provide effective water quality control measures. Design and operational features of the drainage basins will include design features to provide maximum detention time for settling of fine particles; maximize the distance between basin inlets and outlets to reduce velocities; and establish maintenance schedules for periodic removal of sedimentation, excessive vegetation and debris.

In addition to the permanent drainage facilities, temporary de-siltation basins to control construction related water quality impacts would be constructed within the Specific Plan area with each grading phase to control sedimentation during construction. The interim de-siltation basins would be designed to prevent discharge of sediment from the project grading operations into the natural drainage channel and would incorporate water quality control features to comply with Regional Water Quality Control Board 401 Certification requirements. The exact size, location and component elements of these interim basins would be identified on the grading plans.

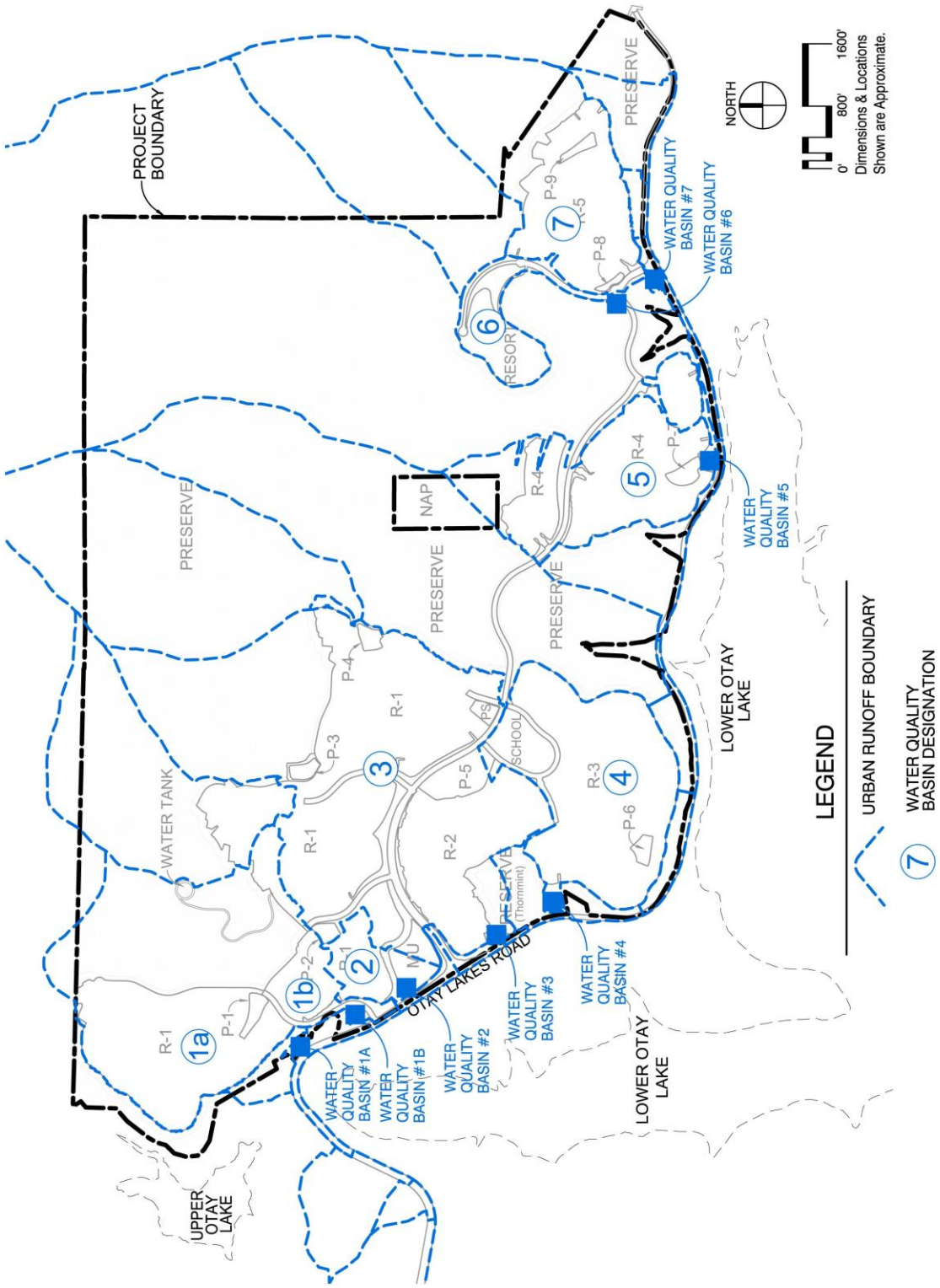

Exhibit 1
Water Quality Basin Facilities

Toxic Substance Measures:

All agricultural uses, including animal-keeping activities, and recreational uses that use chemicals or general by-products such as manure, potentially toxic or impactful to wildlife, sensitive species, habitat, or water quality need to incorporate methods on their site to reduce impacts caused by the application and/or drainage of such materials into the Preserve. Methods shall not be in addition to requirements requested by the Regional Water Quality Control Board (RWQCB).

The Plan area has phased out agricultural uses adjacent to the Preserve. Future recreational uses will be required to adhere to this policy.

Lighting Measures:

The Resort Village Specific Plan Village Design Plan includes criteria for the design of lighting for the villages and surrounding streets. Improvement plans for the Otay Ranch Resort development areas and streets will include shielded lighting designs that avoid spillover light in the Preserve. Lighting Plans and a photometric analysis shall be prepared to illustrate the location of proposed lighting standards and the type of shielding measures.

Noise Measures:

When clearing, grading or grubbing activities occur during the breeding season for the California gnatcatcher (February 15 to August 15, annually) or raptors (January 15 to July 31, annually), nesting bird surveys shall be conducted by a qualified biologist for the San Diego County Department of Planning and Development Services to identify active nest locations. Construction activities shall be restricted or modified such that noise levels related to those activities are below 60 dBA L_{eq} at the location of the active nest site.

Uses in or adjacent to the Preserve shall be designed to minimize noise impacts. Berms or walls shall be constructed adjacent to commercial areas and any other use that may introduce noises that could impact or interfere with wildlife utilization of the Preserve. Excessively noisy uses or activities adjacent to breeding areas shall incorporate noise reduction measures or be curtailed during the breeding season of sensitive bird species.

Invasives

Landscape adjacent to the Preserve will not contain any invasive exotic species, as listed by the County. The following is a list prepared by Anita Hayworth, PhD (Dudek + Associates), a qualified biologist, of species to be planted on manufactured slopes adjacent to the Preserve boundary. The area may be planted with container stock (liners) or hydro-seed mix. This meets the requirements outlined in the Fire Protection Plan as these manufactured slopes are also within the 100' brush management zone required by the MSCP. Any changes to the plant species listed below must be approved by the County and RFPD.

Trees:

Ceratonia siliqua	Carob Tree
Gerijera parviflora	Australian Willow
Quercus agrifolia	Coast Live Oak
Quercus suber	Cork Oak
Rhus lancea	African Sumac
Tristania conferta	Brisbane box

Shrubs & Groundcover

Cistus species	Rock Rose
Dalea orcuttii	Baja Indigo Bush
Echium faastuosum	Pride of Madeira
Heteromeles arbutifolia	Toyon
Rhamnus californica	California Coffeeberry
Rhus lentii	Pink Flowering Sumac
Rosmarinus officinalis	Rosemary
Salvia mellifera	Black Sage
Sambucus species	Elderberry
Archtostapylos 'Emerald Carpet'	Emerald Carpet Manzanita
Baccharis pilularis 'Twin Peaks'	Dwarf Coyote Bush
Ceanothus maratimus	Maratime Ceanothus
Epilobium californicum	California Fushcia
Mimulus auranticus	Monkey Flower

Succulents:

Agave attenuata	Desert Century Plant
Agave shawii	Coastal Agave
Yucca schidigera	Mojave Yucca
Yucca whipplei	Foothill Yucca

Hydroseed Mix:

Dichelostemma capitatum	Wild-Hyacinth
Distichlis spicata	Salt Grass
Dudleya edulis	Lady's Fingers
Dudleya pulverulenta	Chalk Duleya
Lasthenia californica	Goldfields
Layia platyglossa	Tidy Tips
Lupinus bicolor	Miniature Lupine
Sisyrinchium bellum	Blue-Eyed Grass

Fuel Management Measures:

A 100' Fuel Modification Zone has been incorporated into the proposed development areas of the Specific Plan pursuant to the requirements of the MSCP Subarea Plan. No fuel modification activities will occur within Preserve areas.

Where appropriate, graded landscaped slope areas will be maintained pursuant to Fire District requirements and will be outside of the Preserve. Where a cut slope condition results in the Preserve boundary adjacent to rear yard areas, the following methods, either alone or in combination, may be employed to meet Fire District requirements without resulting in brush management activities encroaching into Preserve areas:

1) the use of masonry walls, or barriers comprised of other acceptable fire resistant materials;

2) setback requirements for structures and other combustible appurtenances (per Resort Village Specific Plan);

3) fire sprinklers; and/or

4) architectural design features that minimize fire risk.

Where the edge condition involves streets and/or front yard areas adjacent to Preserve areas, hard surface and irrigated landscaped areas would serve as wildland fire buffers, in accordance with any specific requirements of the Fire District.

Zone A

Definition: All public and private areas located between a structure's edge and 50' outward. These areas may be located on public slopes, private open-space lots, public streets and/or private yards, as defined in the landscape brush management exhibits.

Zone A - Specific Criteria:

- This irrigated wet zone shall be serviced by a permanent automatic irrigation system.
- No tree limb encroachment within 10 feet of a structure or chimney, including outside barbecues or fireplaces
- Minimum 10 feet between tree canopies
- Tree maintenance includes limbing-up (canopy raising) 6 feet or one-third the height of the tree
- Additional trees (excluding prohibited or highly flammable species) may be planted as parkway trees on single loaded streets.
- 75% of all groundcover and sprawling vine masses shall be limited to a maximum height of eighteen inches.

- 25% of all groundcover and sprawling vine masses may reach a maximum height of twenty-four inches.
- Ground covers must be of high-leaf moisture content
- Shrubs shall be less than 2 feet tall, on 5-foot centers
- Randomly place approved succulent type plant material may exceed the height requirements, provided they are spaced in groups of no more than three and a minimum of five feet away from described "clear access routes".
- Vegetation/Landscape Plans shall be in compliance with the Otay Ranch Resort Village Fire Protection Plan (FPP).

Zone B

Definition: All public and private areas located between the outside edge of Zone A and 50' outward. These areas may be located on public slopes, private open-space lots, public streets and/or private yards, as defined in the landscape brush management exhibits.

Zone B - Specific Criteria:

- Represents a 50% thinning zone – 50% less fuel than on adjacent unmaintained preserve areas.
- All manufactured slopes within this area shall be serviced by a temporary automatic irrigation system which will be turned off once the plantings are established.
- Trees may be located within this zone, provided that they are planted in clusters of no more than three. A minimum distance of no less than twenty feet shall be maintained between the tree cluster's mature canopies. The trees will be limbed up to maintain vertical separation from understory shrubs.
- Only those trees on the County of San Diego's "Suggested Plant List for a Defensible Space" and those approved by the biologist shall be allowed within this zone.
- 75% of all groundcover and sprawling vine masses shall be limited to a maximum height of 36".
- 25% of all groundcover and sprawling vine masses may reach a maximum height of 48".
- Randomly placed approved succulent type plant material may exceed the height requirements, provided that they are spaced in groups of no more than three and a minimum of five feet away from described "clear access routes".

- Single specimen native shrubs, exclusive of chamise and sage, may be retained, on 20-foot centers.

OTHER VEGETATION MANAGEMENT

Roadside Fuel Modification Zones (Including Driveways)

- High BTU producing, flammable vegetation including shrubs and trees shall be cleared and are prohibited.
- Tree and shrub canopies shall be spaced such that interruptions of tree crowns occur and horizontal spacing of 20 feet between mature canopies of trees or tree groups is maintained.
- Grass shall be mowed to 4 inches.
- Single tree specimens, fire resistive shrubs, or cultivated ground cover such as green grass, succulents or similar plants used as ground covers may be used, provided they do not form a means of readily transmitting fire.
- All roads in the development will have vegetation clearance of flammable vegetation on each side, as follows:
    1. Fire Access Roads – 30 feet from edge of pavement
    2. New roads/driveways – 30 feet from edge of pavement
    3. Existing roads/driveways – 20 feet from edge of pavement. *EXCEPTION occurs where the preserve is at the edge of an existing road, such as Otay Lakes Road where fuel modification may not be consistent with preserve management directives. However, in an effort to minimize the likelihood of road related activities triggering a Preserve wildfire, an HOA or CFD-funded maintenance district would provide ongoing maintenance for fuel management consistent with Code requirements and habitat management directives.*
- Trees may be placed within the Roadside Vegetation Management Zones. The following criteria must be followed:
    1. Tree spacing to be 20 feet between mature canopies (30 feet if adjacent to a slope steeper than 41%).
    2. Trees must be limbed up one-third the height of mature tree or 6 feet, whichever is greater.

3. No tree canopies lower than 13 feet 6 inches over roadways.
4. No tree trunks intruding into roadway width.
5. No trees or other plants on the Prohibited Plant List (Appendix I) are permitted.
6. No flammable understory is permitted beneath trees.
7. Any vegetation under trees to be fire resistive and kept to 2 feet in height or below, and no more than one third the height of the lowest limb/branch on the tree.

Trail Vegetation Management

- Trail maintenance shall occur on the trails to remove flashy fuels and maintain the trail in a useable, low fuel condition.

Parks, Open Space, etc.

- Landscaping within parks and open space areas will be in compliance with the guidelines in this plan.
- Flammable vegetation must be removed and is prohibited.
- Grasses must be maintained/mowed to 4 inches.
- Types and spacing of trees, plants, and shrubs, to comply with the criteria in this plan.
- No plants in the Prohibited Plant List (Appendix I) are permitted in this area.
- Down and dead vegetation will be removed as observed.
- Trees to be properly limbed and spaced and from approved, fire resistive plant list.

Vacant Parcels and Lots

- Vegetation management will not be required on vacant lots until construction begins. However, perimeter Vegetation Management Zones must be implemented prior to commencement of construction utilizing combustible materials.
- Vacant lots adjacent to active construction areas/lots will be required to implement vegetation management if they are within 30 feet of the active construction area. Perimeter areas of the vacant lot shall be

maintained as a Vegetation Management Zone extending 30 feet from roadways and adjacent construction areas.

- Prior to issuance of a permit for any construction, grading, digging, installation of fences, etc., the 30 feet at the perimeter of the lot is to be maintained as a Vegetation Management Zone.
- In addition to the establishment of a 30-foot-wide vegetation management zone prior to combustible materials being brought on site, existing vegetation on the lot shall be reduced by at least 60% upon commencement of construction.
- Dead fuel, ladder fuel (fuel which can spread fire from ground to trees), and downed fuels shall be removed and trees/shrubs shall be properly limbed, pruned and spaced per this plan.

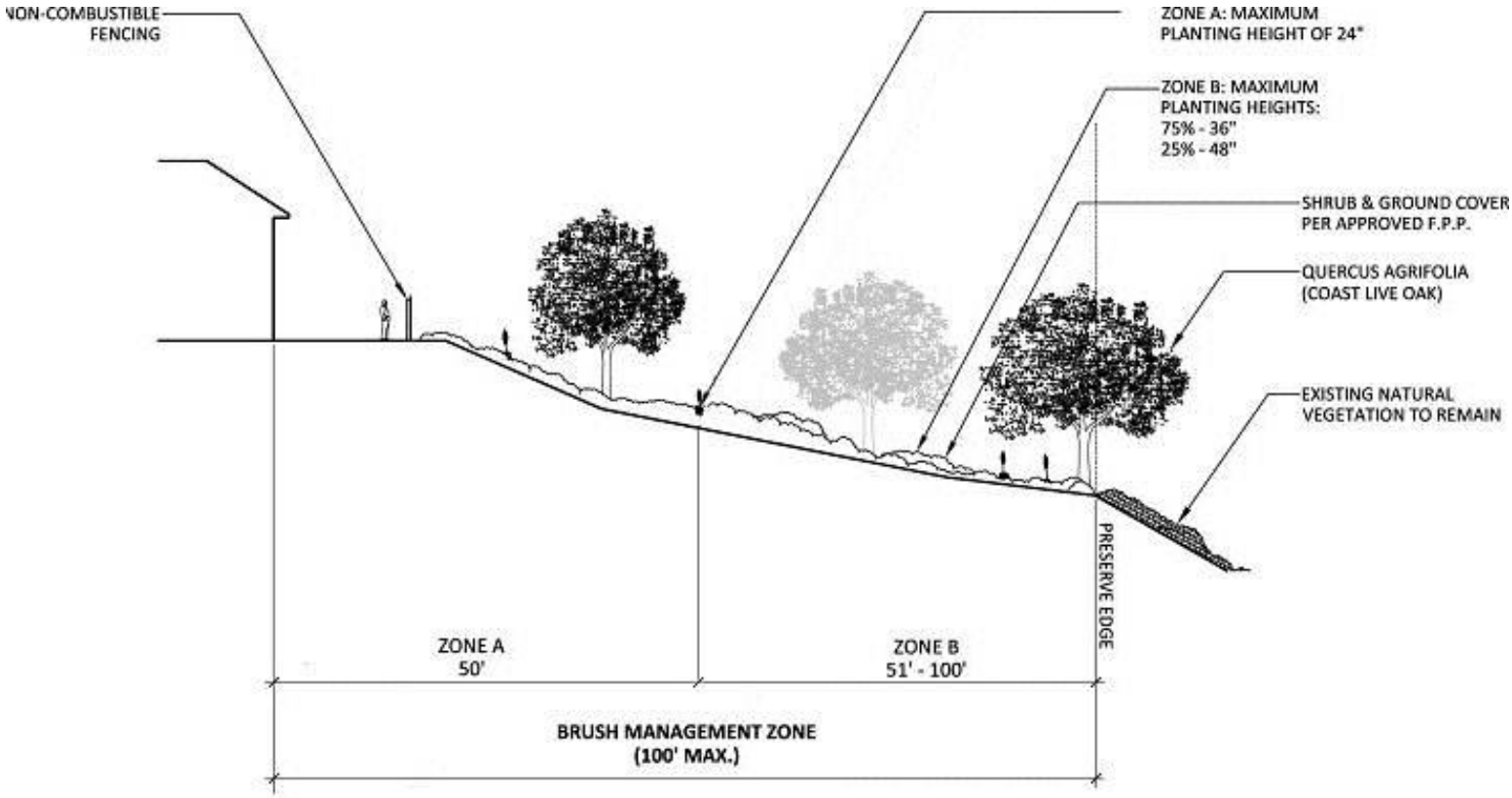

Exhibit 2
Fuel Modification Zone at Preserve Edge (Residential)

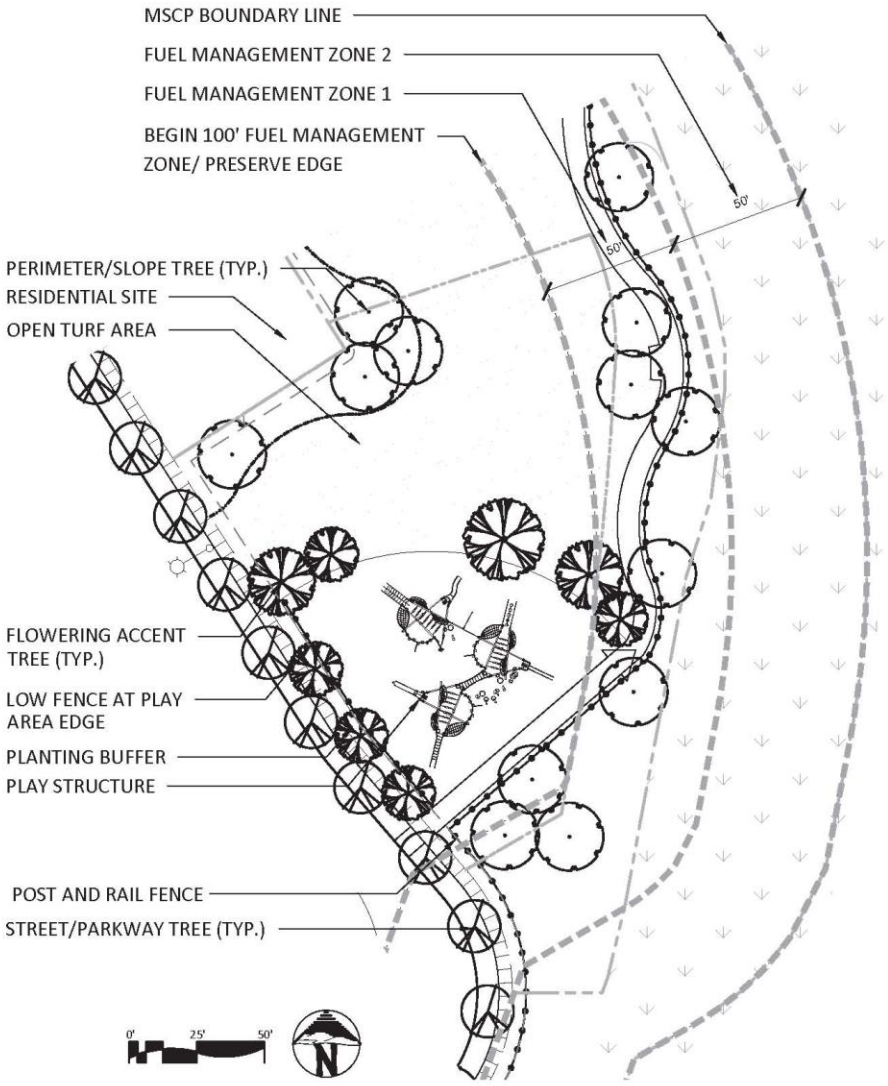

Exhibit 3
Conceptual Fuel Modification Zone at Preserve Edge (Park)

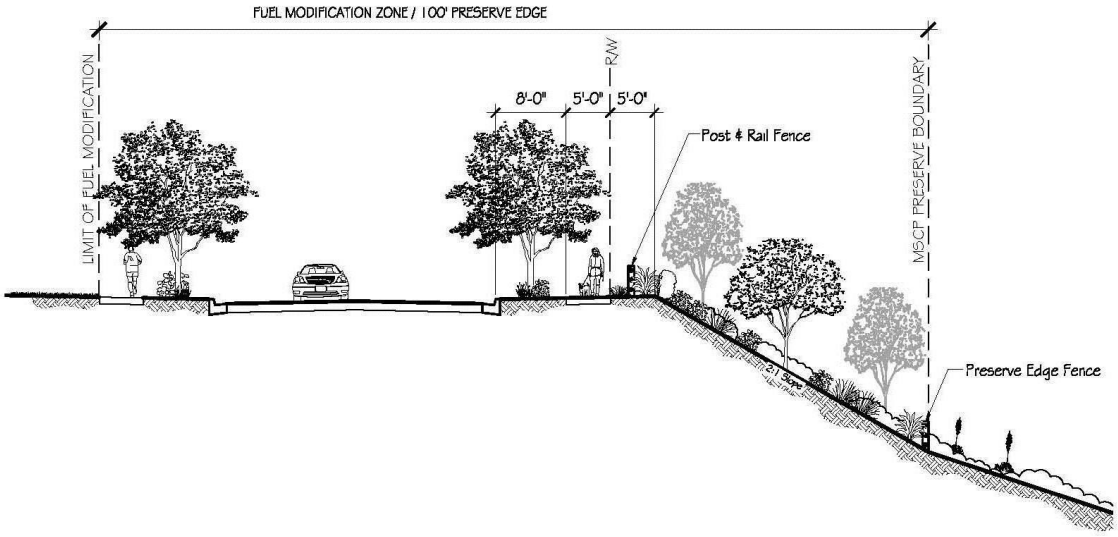

Exhibit 4
Fuel Modification Zone at Preserve Edge (Road)