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BIOLOGICAL ASSESSMENT

OF

BUDDIES ONE LLC PROPERTY
55483 + 55477 HIGHWAY ONE, BIG SUR, CA 93920
APN 421-241-004 and 421-241-005

Prepared For:

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I. INTRODUCTION

This Biological Assessment, authorized by Buddies One LLC on April 27, 2018, has been prepared to evaluate potential impacts to plants, habitats, and wildlife that would be generated from a two-phased, proposed development construction project on one residential parcel (421-241-005) located at 55477 Highway One in Big Sur, CA. Additional surveys for potential future development were conducted on the adjacent parcel APN 421-241-004 at 55483 Highway One. The report also makes recommendations needed to reduce potential impacts, maps native plant communities and identifies sensitive biotic resources near the proposed development location. Field surveys of the 10.01-acre and 10.09-acre parcels in the locations of the proposed development areas were conducted during two site visits in 2018 and 2019. Surveys were also conducted throughout the parcel to assist in determining the siting of development locations that would avoid impacts to sensitive habitats and minimize impacts to native plant communities.

The proposed project includes two phases of development including a test well installation (Phase 1 on APN 421-241-005) and replacement of two single family dwellings on the property with a single family dwelling and detached bedroom structure of the same size within the same footprint of the existing structures (Phase 2 on APN 421-241-005). Conceptual plans were supplied by the project architect showing locations of the proposed development and a hydrogeologic map was supplied showing the test well location.

II. SUMMARY

The proposed Phase 1 test well head development will have less than significant direct impacts to natural communities as the test well is sited within a location directly adjacent to the access driveway in a fire clearance area that is inundated with exotic annual grasses.

The proposed Phase 2 single family dwelling and detached bedroom structure will have less than significant impacts to native habitat and species as the development is proposed to take place in the footprint of the existing structures and access to the site will take place using the existing dirt driveway. Existing landscape plantings around the current development will buffer the edges of proposed development from outlining native habitats and restrict impacts from reaching beyond the existing footprint.

Environmentally sensitive resources listed in the Big Sur Coast Land Use Plan and/or agency-listed elements, including Redwood Forest habitat, Arroyo Willow Riparian habitat, Purple Needle-grass and Foothill Needlegrass Grassland habitats, Santa Lucia gooseberry (*Ribes sericeum*), and a unique rock outcropping with endemic species, occur on property but outside the project areas and should not be impacted by the proposed development. Invasive species are found in several locations along the parcel as described in Section V.

Comprehensive findings are included in Section V below describing natural communities in the development zone and the parcel. Impact assessments and recommendations are included below in Section VII for the development. If the recommendations contained in this report are implemented, the impacts of the proposed project will be reduced to levels that sustain the biotic resources supported at the subject properties.

III. REGIONAL SETTING

The subject parcel is located within the boundaries of the Big Sur coastal planning area, approximately 0.8 miles south of Esalen Institute along the east side of Highway One, in the northern boundary of the Lopez Point USGS 7.5' quadrangle. The proposed development area is located at 1,300' elevation within a watershed leading directly to the Dolan Creek south of the site. The native natural communities found in mixed ecotones within the parcel and extending beyond the boundaries of parcel supports *California Sagebrush Scrub*, *Purple Needle-grass and Foothill Needlegrass Grasslands, Coast Live Oak Forest, Redwood Forest*, and *Arroyo Willow Riparian.*

IV. METHODS

Field methods included walking the entire proposed development areas and a 100-foot perimeter observations, notations on the habitats of the parcel outside the development zones, surveying for sensitive elements, inventorying observed plant and animal species, and photographing existing conditions. Two reconnaissance site visits were conducted, including Spring Surveys on April 28, 2018 and February 12, May 13 and May 20, 2019. Weather conditions were clear and full access to the site allowed for careful site and resource observations. The proposed development area was accessible and development impact areas were identified on a site plan supplied by the project architect and the project hydrogeologist.

Local maps and consultations with personnel familiar with the project were utilized during the preparation of this Biological Assessment. The California Natural Diversity Data Base (CNDDB) maintained by the State of California Department of Fish and Wildlife (DFW) and the California Native Plant Society Inventory of Rare and Endangered Plants (website, 2010), were consulted for the identification of known populations of Federal and State listed rare, threatened and endangered plant species on or in the vicinity of the Buddies One LLC project site. Survey methods included utilizing The Jepson Manual (Hickman 1993), Invasive Plants of California's Wildlands (Bossard, Randall, and Hoshovsky 2000), A Manual of California Vegetation (Sawyer, Keeler-Wolf, and Evens 2009), The Plants of Monterey County An Illustrated Field Key (Matthews and Mitchell 2015), Big Sur Coast Land Use Plan (Monterey County and certified by the CA Coastal Commission 1986), The Natural History of Big Sur (Henson and Usner 1993), and Coastal Implementation Plan, Part 3 (Monterey County – Regulations for Development in the Big Sur Coast Land Use Plan 1988).

V. NATURAL COMMUNITIES

The Phase 1 portion of the development proposes to install a test well in an area adjacent to the existing dirt driveway access road with the test well sited in a fire clearance area along a grassy knoll dominated with exotic annual grass and forb species.

Phase 1: Test Well area on parcel 005.

The general area along the north-to-south running knoll contains an ecotone of natural communities with *Coast Live Oak Forest* growing north, south and east of the knoll and *California*

Sagebrush Scrub along the west slope of the knoll. The area in close proximity to the test well contains numerous landscape ornamental plants and fruit trees found leading to the existing structures and pool south of the test well area as well as east of the knoll along an annual grass meadow that harbors several varieties of fruit trees including apple, fig, citrus, kiwi vine and others. Direct impacts as a result of the test well installation will occur to exotic annual grassland dominated by wild oat (*Avena fatua*), soft brome (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), foxtail brome (*Bromus* madritensis), and red-stemmed filaree (*Erodium cicutarium*). Sparse native grassland constituents are also found in this location at the road edge including purple needlegrass (*Stipa pulchra*) and California poppy (*Eschscholzia californica*).

Access to the test well area along paved driveway entering the property off the dirt easement road is unimpeded with a high canopy of coast live oak trees (*Quercus agrifolia*) that align the driveway access and the roadway fringes. The trees and adjacent driveway vegetation have been managed to reduce fuel loads in accordance with local fire clearance mandates. Entering the property, the driveway meanders up through an coast live oak forest with a small canyon, located approximately 50-feet to the east, that functions as a drainage corridor. This corridor contains a diverse oak woodland habitat with California laurel (*Umbellularia californica*), tan oak (*Notholithocarpus densiflorus*) and mixed native shrubs such as toyon (*Heteromeles arbutifolia*), creeping snowberry (*Symphoricarpos mollis*), coffeeberry (*Frangula californica*), blue elderberry (*Sambucus nigra ssp. caerulea*) and poison oak (*Toxicodendron diversilobum*). Numerous native understory constituents including California hedge nettle (*Stachys bullata*), woodland strawberry (*Fragaria vesca*), rounded-fruit sedge (*Carex globosa*), and diverse fern species make up a unique, but characteristic of Big Sur, habitat of overlapping ecotones of scrub, willow, redwood and oak woodland habitats merging in the general canyon area.

Within this canyon, Redwood Forest and Arroyo Willow Riparian habitats are found in small groupings mixed with a diverse oak woodland.

Redwood Forest natural community is considered rare by the CDFW and environmentally sensitive habitat under the provisions of the Big Sur Coast LUP (Ref. Policy 3.3.3.A.8.). Coast redwoods (*Sequoia sempervirens*) in Big Sur are also used for roosting by California condors (*Gymnogyps californianus*), a bird which is both State and Federally-listed endangered. Three condors were observed roosting on an adjacent neighboring parcels' coast redwoods and landing on a rocky outcrop on parcel 004 east of the small drainage canyon.

Arroyo Willow Riparian Forest community, with the dominant arroyo willow (*Salix* lasiolepis), is considered rare by the California Department of Fish and Wildlife (CDFW) and environmentally sensitive habitat under the provisions of the Big Sur Coast LUP (Ref. Policy 3.3.).

Adjacent to the drainage canyon along the west and east side of the entry paved driveway, invasive sticky eupatorium (*Ageratina adenophora*) lines roadway. This exotic plant reproduces by seed between April and mid-June, easily dispersed by wind and water. This perennial herb is classified by the California Invasive Plant Council (Cal-IPC) as having *moderate* impacts to native ecosystems. In addition, sticky eupatorium is also classified by the United States Department of Agriculture (USDA) as a *noxious weed* with the ability to cause damage to natural resources and the environment by dispersing native species. Studies also indicate this exotic plant reduces the growth of nearby vegetation by releasing inhibitors (allelopathic compounds) into the soil.

Further along the existing driveway past the proposed test well area the access road crosses into parcel APN 421-241-004 as the road turns north. The vegetation transitions from Coast Live Oak Forest to Grassland. The west side of the road contains exotic, annual grass species with remnant ornamental landscaping including mixed fruit trees and garden beds. The east side of the road contains similar annual groundcover grasses with scattered fruit trees transitioning to native perennial Purple Needlegrass Grassland habitat that extends upslope eastward, north and south throughout and beyond the parcel boundaries.

Lower annual grassland transitioning to native perennial Purple Needlegrass Grassland (APN 421-241-004).
(See vegetation map for delineation)

The lower weedy portion of the grassland was likely at one time an extension of the perennial native grassland found to the east and south along the west facing slope, though previous ornamental landscape impacts from the fruit tree and gardening additions likely altered the landscape to it's current weedy annual grass state. Annual exotic grasses including ripgut brome (*Bromus diandrus*), wild oat (*Avena fatua*), soft brome (*Bromus hordeaceus*) and other weedy forb species such as red-stemmed filaree (*Erodium cicutarium*), English plantain (*Plantago lanceolata*), burr clover (*Medicago polymorpha*) and others dominate the lower grassland area and transition eastward to native purple needle grass (*Stipa pulchra*) and foothill needlegrass (*Stipa lepida*) dominant grassland with associated habitat constituents that include native wildflower species such as California poppy (*Eschscholzia californica*), blue dicks (*Dichelostemma capitatum*), sky lupine (*Lupinus nanus*), arroyo lupine (*Lupinus succulentus*), gambleweed (*Sanicula crassicaulis*), California fuchsia (*Epilobium canum*) and others.

Native Purple Needlegrass Grassland habitat (APN 421-241-004).

Native perennial grassland communities are considered environmentally sensitive habitat under the provisions of the Big Sur Coast Land Use Plan (Ref. Policy 3.3.3.A.7.), and shall be compatible with the maintenance of the habitat. As stated in the Big Sur LUP, development shall be sited and designed to avoid disturbance or destruction of grasslands, though compatible uses include low-intensity residential uses. To avoid impacts to native grassland habitat, any future development or infrastructure in the area should be sited on the lower portion of grassland where the weedy species dominate.

At the north end of the Purple Needlegrass Grassland a natural rocky outcrop lies on the edge of the slope before it dropping northward into a treelined canyon. An existing redwood water tank is sited amongst the rock cluster. This rock cluster contains a dynamic species-rich native plant assemblage that contains California endemic plants such as California peony (*Paeonia californica*), California phacelia (*Phacelia californica*), and Santa Lucia gooseberry (*Ribes sericeum*). Santa Lucia gooseberry is a Monterey County endemic plant listed with a California Native Plant Society rare plant ranking of 4.3 (*Limited distribution in California*). Although no development is currently proposed in this area, removal of the existing dilapidated redwood water tank could result in adverse impacts to this sensitive plant. Habitat supporting this limited species is also threatened by the spread of exotic plants, especially invasive sticky eupatorium (*Ageratina adenophora*) found growing in the area near the plant. This invasive species should be managed to prevent migration to surrounding native plant communities including the area where the gooseberry is located and the area at the lower driveway near the test well. The Big Sur LUP Policy 3.3.3.10 encourages Big

Sur residents to undertake restoration of natural environments by removal of exotic, invasive plants.

Santa Lucia Gooseberry (*Ribes sericeum*).

Northeast of the old redwood tank and along the Northern boundary of parcel 004, the native perennial purple needlegrass grassland along the steep north facing slope transitions to a highly diversified, intact *Foothill Needlegrass Grassland* plant community. Dominant foothill needlegrass is found growing with numerous associated grassland forb constituents including coast range melic (*Melica imperfecta*), soap plant (*Chlorogalum pomeridianum*), California peony, bristly goldenaster (*Heterotheca sessiliflora ssp. echiodes*), yarrow (*Achillea millefolium*), golden yarrow (*Eriophyllym confertiflorum*), blue dicks (*Dichelostemma capitatum*), coyote mint (*Monardella villosa*) and others that make up a species-rich native perennial grassland. Butterflies were also observed utilizing the nectar sources of the grassland forb species, including acmon blue (*Plebejus acumen*), California ringlet (*Coenonympha tullia californica*), and buckeye butterfly (*Junonia coenia*).

Continuing along the driveway, the annual grassland-lined road makes a westerly turn then heads south past the proposed Phase 1 test well development towards the proposed Phase 2 structure development along the south-tapering ridge line. At the U-turn area the annual weedy grassland transitions to Coastal Sagebrush Scrub habitat just below the slope edge where the topography drops northward down to Coast Live Oak Forest that transitions to a Redwood Forest lined canyon within a watershed feeding Soberanes Creek located beyond the northern boundary of parcel -004.

Northern canyon at parcel APN 421-241-004.

Established large coast live oak trees and bay trees anchor the north corner of the U-turn area where coast live oak forest community intertwines with coastal sagebrush scrub and mixed, annual-dominant grassland. These areas are outside of the proposed development zones. Existing staged materials, trailers and a metal water tank are found at the U-turn area in a landscape zone that is mostly denuded from vehicle traffic along the exotic, annual-grassland knoll.

At the U-turn, the driveway transitions from asphalt to dirt leading to the Phase 2 portion of the development located on parcel APN 421-241-005, where two existing single family dwellings are located. These two structures are proposed for removal and updated new construction will be installed within the footprint of the preexisting dwellings. The dirt access road follows along a small ridge line north sloping towards the south. Along this small ridge the area leading to the structures is lined with large native coast live oak trees to the east and California Sagebrush Scrub habitat on the western facing slope and continuing past the lower house to the south. The area surrounding the two structures and existing pool is flanked by ornamental landscape and edible fruit tree plantings that encompass the development.

Phase 2 area of development showing existing landscape and structures.

California Sagebrush Scrub habitat is characterized by a dominant California sagebrush (*Artemisia californica*). Other constituent shrubs and sub-shrubs include toyon, black sage (*Salvia mellifera*), California fuchsia, golden yarrow, sticky monkey flower (*Mimulus aurantiacus*), deer weed (*Acmispon glaber var. glaber*), coyote brush (*Baccharis pilularis*), poison oak and others. Herbaceous understory species are present in this fire clearance zone and include yerba buena (*Clinopodium douglasii*), leafy bentgrass (*Agrostis pallens*), California everlasting (*Gnaphalium californicum*), soap plant, coast figwort (*Scrophularia californica* ssp. *californica*) and others.

Landscape plantings surrounding the existing structures include rosemary, grevillea, citrus trees, freeway daisy and mixed shrubs and ornamental grasses. Several of the landscape plantings, including Mexican feather grass (*Stipa tenuissima*) and fountain grass (*Pennisetum setaceum*) have naturalized on the site and are beginning to encroach into the native plant communities

outlining the landscaped areas. These two invasive grass species are listed by the Cal-IPC as having the ability to impact native ecosystems and should be managed to prevent migration to surrounding native plant communities found adjacent to the landscape areas. The Big Sur LUP Policy 3.3.3.10 encourages Big Sur residents to undertake restoration of natural environments by removal of exotic, invasive plants.

Invasive fountain grass (*Pennisetum setaceum*) naturalizing on the south slope below existing structure.

Southeast of the existing southerly structure and west of the paved entry road, a stand of invasive French broom (*Genista monspessulana*) is growing along the existing driveway road cut and encroaching into the native scrub habitat. The scrub habitat in this lower zone, outside the southern portion of the Phase 2 area, contains diverse native shrubs, sub-shrub, and forb species including wooly leaf manzanita (*Arctostaphylos tomentosa*), blue blossom (*Ceanothus thrysiflorus*), scrub oak (*Quercus berberidifolia*), Santa Lucia gooseberry, wooly Indian paintbrush (*Castilleja foliolosa*) and others. This area lies within the fuel management area and provisions should be made to ensure the sensitive Santa Lucia gooseberry is not eradicated during vegetation management. Fuel management guidelines are included in Section VII below.

French broom is considered highly invasive by the California Invasive Plant Council (CalIPC) and classified as having adverse ecological impacts to native habitat. This species should be managed to prevent migration to natural communities that are found beyond the development area. The Big Sur LUP Policy 3.3.3.10 encourages Big Sur residents to undertake restoration of natural environments by removal of exotic, invasive plants.

Many diverse birds, including migratory and resident species, were noted throughout the parcel, though a higher density of the birds were utilizing the eastern canyon area within the mixed oak woodland, arroyo willow and redwood groves. Several species including American robin (*Turdus migratorius*), spotted towhee (*Pipilo maculatus*), scrub jay (*Aphelocoma californica*) and Bewick's wren (*Thryomanes bewickii*) were observed engaging in breeding and nesting behavior. Cooper's hawk, California condor and golden eagle, were observed passing through the mountainous corridor against the eastern slope with the California condors (3) utilizing a eastern rocky outcrop on parcel 004 as well as redwood trees adjacent to parcel 004. No raptor nesting was identified on the subject parcels and elements of the proposed development phases are not expected to have adverse impacts on protected bird species.

Fire clearance tree and shrub pruning and removal of large landscape oleander bushes has been implemented in the areas flanking the access road and surrounding the structures to comply with fire clearance mandates and reduce fuel ladders. The south and western sloped coastal sagebrush scrub vegetation lie outside the development areas, though it does exist within the fuel management zone and will require appropriate detailing to remove dead tree litter and seasonal pruning/mowing management in order to keep the site in compliance for local and State fire clearance mandates.

If the recommendations contained in this report are implemented, the impacts of the proposed project will be reduced to levels that sustain the biotic resources supported at the subject property

and to natural communities and sensitive elements adjacent to the parcels. In addition when the recommendations in this report are applied, no development activities associated with the proposed project will have long-term adverse impacts on the sensitive biological resources that occur on site or on adjacent areas.

VI. RARE, THREATENED, AND ENDANGERED SPECIES AND HABITAT

The proposed development site was surveyed for occurrences of potential habitat and impacts to rare, threatened, and endangered plant and wildlife species. The site was also surveyed for current sensitive elements listed by the California Department of Fish and Wildlife Natural Diversity Data Base (CNDDB) for the Lopez Point USGS Quadrangle and adjacent quadrangles in the Big Sur region. Apart from the previously above listed sensitive elements described in Section V, the potential for listed special-status wildlife species within the development area was determined to be low, based on the surveys, presence of micro-habitat characteristics, and biological knowledge of the target species that occur within the vicinity.

State Listing is pursuant to Section 1904 (Native Plant Protection Act of 1977) and Section 2074.2 and 2075.5 (California Endangered Species Act of 1984) of the Fish and Wildlife Code, relating to listing Endangered, Threatened, and Rare species of plants and animals. Federal Listing is pursuant with the Federal Endangered Species Act of 1973.

VII. IMPACT ASSESSMENT AND RECOMMENDATIONS

In accordance with the Big Sur Coast LUP, the proposed Phase 1 test well development is sited and designed to minimize site disturbance and impacts to native habitat, as the test well will occur in a clearance area within exotic annual grassland nearly devoid of native plant constituents.

In accordance with the Big Sur Coast LUP, the Phase 2 development is sited and designed to minimize site disturbance and impacts to native habitat as the development will occur exclusively in the footprint of preexisting development. Large native trees oak trees are near and adjacent to the access road and development areas, and will require root and tree protection measures prior to mobilization.

With the implementation of the below listed items, the project should have a less than significant impact on special natural communities, plants, and animals protected by local, state, or federal regulations. By implementing the listed protection measures and restoration practices, the project should enhance the remnant habitats found on the parcel through long-term management and exotic species control.

Impact 1: Phase 1 Test Well BMP's

Test well spoils will require containment on site to prevent unwarranted impacts to outlining native habitats downslope to the west of the project area. Careless human or vehicular traffic during the test well installation phase is unnecessary and can adversely impact the surrounding native scrub habitat ecology. Impacts from parking, overflow staging, stockpiling of materials, etc., should be absolutely minimized to only the areas slated for test well installation, access routes, and staging. All impact areas should occur on the denuded dirt driveway or annual, exotic grassland areas.

Recommendation 1:

The health outlining coast live oak trees and scrub habitat within the general area of the Phase 1 test well should not be impacted if the following recommendations are implemented.

1. Avoid deposition of well tailings or fill soils, parking equipment, and construction staging near existing coast live oak trees. Impacts by compaction around critical root zones of trees can alter water/air relationships with the roots.

2. Test well spoils should be retained on site with a retention pit or staged retention pit with sediment retention barriers to prevent spoils and fluid runoff into native habitats or potential offsite sensitive resources.

3. Annual grassland mowing around the approved test well zone should be conducted prior to equipment mobilization to reduce fuel loads in the work area and reduce fire risk during drilling.

4. Any exposed bare soils resulting from the test well installation should be mulched with organic native mulching to prevent potential weed seed germination or erosion of native soils.

Impact 2: Phase 2 Coast Live Oak Tree Protections

Prior to the mobilization of demolition or construction equipment, the coast live oak trees along the ridge line leading down to the Phase 2 project area shall be protected from impacts to critical root zones, lateral limbs and trunks. Potential light limb pruning to the lower limbs of the trees along the ridge line dirt access road may be required prior to mobilizing equipment.

Recommendation 2:

1. Light limb pruning shall be conducted so that cuts are placed immediately beyond the branch collar, making clean cuts by scoring the underside of the branch first, and for coast live oak, avoiding the period from February through May.

2. Pruned oak materials should be cut and split into firewood to discourage infestation and dispersion of bark beetles. No wood piles should be stacked against existing oak trees.

3. Prior to structure demolition and construction mobilization, standard temporary tree protection measures should be implemented around coast live oak trees adjacent to the construction area.

4. Landscape vegetation clearance and tree limb pruning should be restricted to the approved development area.

5. Any bare soils resulting from the demolition and construction, if not immediately landscaped, should be mulched with organic native mulching to prevent potential weed seed germination or erosion of native soils.

Impact 3: Exotic Species Control and Habitat Protection

Adoption of an invasive species control program should be on going in an effort to enhance and maintain existing native habitats adjacent to the development zone and eradicate invasive plants. Several site-identified highly invasive exotic species, such as site-identified sticky eupatorium, French broom, fountain grass and Mexican feather grass, have the ability to invade environmentally sensitive areas and other native habitats throughout the property or offsite. Invasive species can easily overwhelm disturbed soils and storm water runoff from unvegetated slopes can adversely impact water quality and adjacent sensitive habitat including the arroyo willow grove and redwood forest located on site. Implementing an exotic species eradication plan will be consistent with LUP policy regarding restoring natural environments by removal of exotic plants (Ref. LUP Policies 3.3.1, 3.3.2.7, and 3.3.3.A.10). Comprehensive eradication of the invasive, exotic species from the development areas and outside the development zones (and restoration of these habitats) would allow the existing proposed development to be compatible with the habitats occurring on the parcel, and would reduce long-term impacts there, which if left unmitigated would eventually severely degrade or destroy the sensitive elements of the parcel. To prevent erosion in areas treated for invasive species eradication, exposed areas not stabilized with existing native plants must be revegetated with site appropriate native species endemic to the communities in which the exotics were removed.

Recommendation 3:

1. In order to protect the habitat values of the parcels and adjoining areas, invasive species, particularly sticky eupatorium, French broom, within the parcel should be eradicated prior to grading activities. These invasive species have the ability to thrive rapidly in disturbed soils by wind borne seed dispersal, seed production, or introduction to the site by way of contaminated earthmoving equipment, and attention will be required annually to control the possible pioneering and establishment of these exotic species. Hand removal techniques should be incorporated for spot control of late or early season flowering invasive species that may flower before or after seasonal mowing has occurred. Removed invasive species requires tarping the loads to prevent seed dispersal during transit along access roads and highways, and responsibly depositing green waste at the nearest waste facility.

2. All disturbed soil and stockpiled soils generated during any site grading shall be stabilized with erosion control measures and kept free of exotic species, which if left unattended, could cause inadvertent spread of the species and degradation of the sensitive habitats on the site.

3. Mobilization of equipment can also lead to invasive species introductions from other locations. Earthmoving equipment should be pressure-washed prior to mobilization to reduce the ability of invasive species from entering a site and becoming a nuisance.

4. Prior to mobilization or land disturbance activities, temporary erosion and sediment control devices must be installed at the lower (downhill) development perimeters to prevent unwarranted impacts to habitat resources adjacent to the development zone.

5. Restore all impacted ground disturbed areas with native mulching and site-identified species within respective habitats and eliminate all aggressive exotic invasive species during native plant establishment that could adversely impact the restoration of natural communities within the project site.

6. Existing and restored habitats should be managed with annual eradication of invasive species including but not limited to sticky eupatorium, French broom, exotic grasses and others that may appear or persist on site. Fire clearance activities should be completed before or after bird nesting season and after wildflowers have set seed, with a goal of exotic species suppression. Project Biologist should be consulted for timing of pruning activities to avoid potential nesting impacts.

Impact 4: General BMP's

General best management practices should be in place for both proposed Phases to protect impacts from occurring on adjacent native habitats and potential off site erosion or sedimentation.

Recommendation 4:

1. Use of heavy equipment should be restricted to areas within the construction envelope and access road.

2. Sediment control devices should be installed on the downhill perimeter of the construction envelope and exposed soil areas. Specifically, sediment control devices, debris fencing or silt dams should be installed in a manner that adjacent habitat is protected from disturbed excavated or graded construction soils or construction debris from moving offsite. No site erosion shall be permitted to enter areas supporting natural communities beyond the impact perimeter of the development. Disturbed soils shall be stabilized prior to rainy weather, either with the use of tarping, biodegradable netting, native mulching, or hydroseeding an approved native or sterile seed mix, mulch and tackifier.

3. Prior to final grading, all construction debris shall be removed and construction activities completed in the areas to be treated with site stabilization plantings. To protect adjacent habitats

and trees from inadvertent soil deposition impacts, excavated material should not be cast into adjacent habitats or beyond the edges of the approved development envelope; rather it should be hauled off location and disposed at a receiver site.

4. After the completion of the soil disturbance activities, all disturbed soils shall be stabilized with native duff mulching and kept free of exotic species. Any invasive encroaching pioneering species on disturbed soils could negatively impact the extant natural communities through competition, shading, or invasion. Not adhering to the guidelines of this impact mitigation could result in adverse impacts to the sensitive native surrounding habitats and would be inconsistent with Big Sur LUP Policy 3.3.2.7., mandating that "land uses adjacent to environmentally sensitive habitats (arroyo willow riparian and redwood forest) shall be compatible with the long-term maintenance of the resource."

5. Any disturbed soil generated by the project must be kept free of invasive, exotic plant species.

6. The ridge line location of the site is prone to high winds and construction materials should be secured, tied down, and tarped on a daily basis to prevent loss of materials or construction debris from entering surrounding habitats or lost downslope to the steep canyons. Trash enclosures need to have lids and tie-downs to prevent trash from blowing into surrounding natural communities.

Impact 5: Fuel Management Guidelines

Fuel management plans are developed to create defensible space around structures through the removal and thinning of vegetation on the parcel and developing new planting concepts using fire-wise landscaping and habitat restoration. Fuel modification should be accomplished through the removal of highly flammable and dead vegetation around the proposed structures and decking, including thinning of additional vegetation and fire-wise landscaping with low-fuel native plant materials.

Recommendation 5:

1. Vegetation in the landscape and surrounding natural communities at the Buddies One LLC properties should be maintained by the reduction of fuel ladders, use of fire-wise landscaping materials, removal of dead limbs and other ground-laying flammable debris (including piles of cut branches and non-organized firewood piles), and grassland mowing conducted after nesting and after wildflower seeds have dispersed (generally in the early summer/June period).

2. Future landscape and restoration plantings should be installed by carefully spacing shrubs and trees, utilizing low groundcovers or mulch, and reducing mass plantings. Plants must be spaced so that fire cannot spread horizontally or vertically (by way of a fuel ladder) from plant to plant. Future treatments around structures should offer protection from intense flames through the use of properly maintained irrigated plants with high moisture content, through walkways, gravel/ stone, or paved surfaces. Vines or other climbing plants attached to structures should be carefully considered, as vines can provide a receptive fuel directly on to the structure.

3. Trees should be treated by removing dead ground material and deadwood tree limbs to reduce fuel loads. Live tree limbs should be pruned up to at least 6-feet above the bare soils and a minimum 3X the height of underlying plants.

4. Fuel Modification Plans generally do not extend to areas outside the subject parcel, however the owner is encouraged to collaborate with adjacent private landowners and agencies to extend fuel modifications in ways that benefit everyone in the community.

5. Fuel Management Plans are not static as the landscape and natural vegetation will continue to change over time. Long-term maintenance is required to ensure that defensible space is maintained and should include vegetation and structural management. In addition to the

prescriptions described above, the roof gutters should be maintained to be free of leaves, pine needles, tree duff and other vegetative debris, deadwood pruning should continue yearly, maintain any chimney or stove pipe flue-screening for optimum performance and trim all tree limbs with 10-feet of the outlet, and ensure house numbers are posted per Fire Department requirements.

6. In order to satisfy fire clearance mandates, clearance around new structures need not be complete. Whenever possible, islands of native vegetation should be retained within otherwise cleared zones. In areas where the endemic, listed Santa Lucia gooseberry is located and mapped (near the redwood water tank and south of the existing single family dwelling), fire clearance should avoid direct contact with this sensitive species. Instead, the gooseberry would be left intact as islands of vegetation within the clearance.

VIII. LIST OF SPECIES ENCOUNTERED

(* indicates exotic species)

Tree Species

Arbutus menziesii	Pacific madrone
Citrus sp. *	mixed citrus
Eucalyptus globosa *	blue gum eucalyptus
Ficus carica *	common fig
Malus pumila *	apple
Notholithocarpus densiflorus	tan oak
Pinus radiata	Monterey pine
Pinus ponderosa	ponderosa pine
Platanus x acerifolia *	London planetree
Quercus agrifolia	coast live oak
Quercus berberidifolia	scrub oak
Salix lasiolepis	arroyo willow
Sequioia sempervirens	coast redwood
Umbellularia californica	California bay

Shrub Species

Acmispon glaber var. glaber	deerweed
Actinidia deliciosa *	kiwifruit
Arctostaphylos tomentosa	shaggy barked manzanita
Artemisia californica	California sagebrush
Bachcharis pilularis	coyote brush
Ceanothus thrysiflorus	California lilac
Epilobium canum	California fuchsia
Eriophyllum confertiflorum	golden yarrow
Feijoa sellowiana *	pineapple guava
Frangula californica	coffeeberry
Genista monspessulana *	French broom
Grindelia stricta var. platyphylla	Pacific gum plant
Hazard squarrosa	sawtooth goldenbush
Heteromeles arbutifolia	toyon
Lavendula sp. *	lavender
Mimulus aurantiacus	monkey flower
Ribes sericeum	Santa Lucia gooseberry
Ribes californicum	hillside gooseberry
Ribes sanguineum	red-flowering currant
Rosmarinus officianalis *	rosemary
Rubus ursinus	California blackberry
Salvia mellifera	black sage

Sambucus nigra subsp. caerulea	blue elderberry
Symphorocarpus mollis	creeping snowberry
Toxicodendron diversilobum	poison oak

Herbaceous/Forb Species

Achillea millefolium	yarrow
Adiantum jordanii	California maidenhair fern
Ageratina adenophora *	sticky eupatorium
Agoseris heterophylla var. cryptopleura	mountain dandelion
Agrostis pallens	bent grass
Anagallis arvensis *	scarlet pimpernel
Artemisia douglasiana	mugwort
Athyrium filix-femina var. cyclosorum	western lady fern
Avena barbata *	slender oat
Avena fatua *	wild oat
Briza mazima *	big quaking grass
Briza minor *	little quaking grass
Bromus diandrus *	ripgut brome
Bromus hordeaceus *	soft brome
Bromus madritensis ssp. rubens *	foxtail brome
Calystegia macrostegia ssp. cyclostegia	coast morning glory
Carex brevicaulis	short stemmed sedge
Carex globosa	rounded fruit sedge
Castilleja foliolosa	wooly Indian paintbrush
Cerastium glomeratum *	mouse-ear chickweed
Chamomilla suaveolens *	pineapple weed
Chlorogalum pomeridianum	soap plant
Clinopodium douglasii	yerba buena
Clayton perfoliata	miner's lettuce
Dichelostemma capitatum	blue dicks
Dryopteris arguta	wood fern
Elymus glaucus	blue wild rye
Epilobium canum	California fuchsia
Eriophyllum confertiflorum	golden yarrow
Erioophyllum staechadifolium	lizard tail
Erodium cicutarium *	red stemmed filaree
Eschscholzia californica	California poppy
Filago gallica *	slender flag
Fragaria versa	woodland strawberry
Elymus glaucus	blue wildrye
Gastridium nitidum *	nit grass
Geranium molle *	dove's-foot geranium
Hesperoyucca whipplei	chaparral yucca
Heterotheca sessiflora ssp. echiodes	bristly goldenaster
Hordeum murinum ssp. leporinum	barnyard foxtail
Iris douglasiana	Douglas iris
Lathyrus vestitus ssp. puberulus	Pacific pea
Lavendula sp. *	lavender
Lotus corniculatus *	birds-foot trefoil
Lupinus albifrons	silver lupine
Lupinus bicolor	bicolor lupine
Lupinus nanus	sky lupine
Lupinus succulentus	arroyo lupine
Madia exigua	small tarweed
Marah fabacea	California man-root

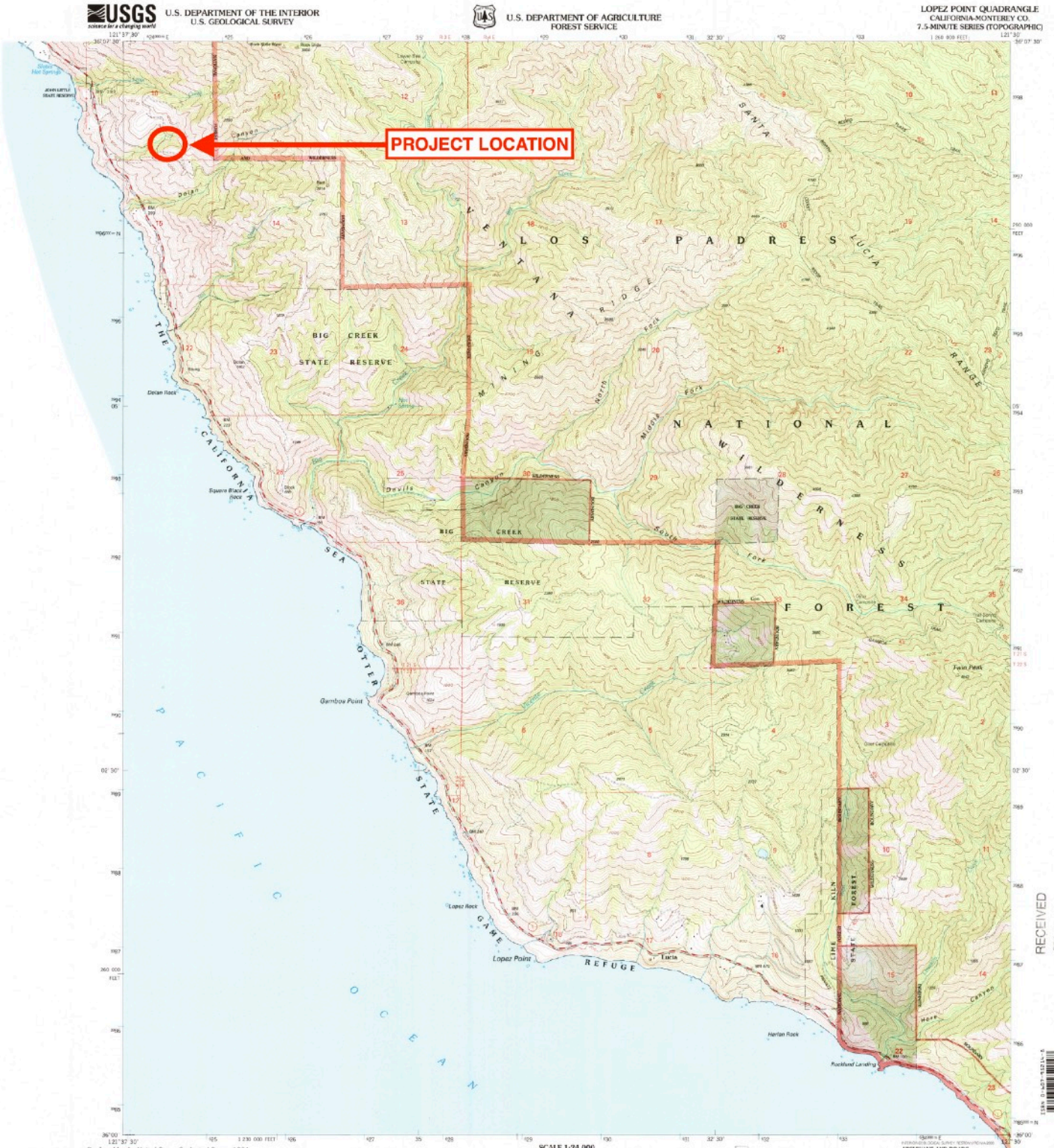
Medicago polymorpha *	bur-clover
Melica imperfecta	coast range melic
Monardella villosa	coyote mint
Oxalis pescarpe *	Bermuda buttercup
Paenoia californica	California peony
Pennisetum setaceum *	fountain grass
Phacelia californica	California phacelia
Plantago lanceolata *	English plantain
Polypodium californicum	California polypody
Pseudognaphalium californicum	ladies tobacco
Pseudognaphalium luteoalbum *	Jersey cudweed
Pseudognaphalium stramineum	cottonbatting plant
Pteridium aquilinum	Western bracken fern
Sanicula crassicaulis	gambleweed
Scrophularia californica	bee plant
Sisyrinchium bellum	Western blue eyed grass
Sonchus asper *	prickly sow thistle
Sonchus oleraceus *	common sow thistle
Stachys bullata	California hedgenettle
Stellaria media *	common chickweed
Stipa lepida	foothill needle grass
Stipa pulchra	purple needle grass
Stipa tenuissima *	Mexican feather grass
Toxicoscordion fremontii	Fremont's star lily
Vicia gigantea	giant vetch
Vicia sativa *	spring vetch
Yucca whipplei	yucca

Wildlife Species

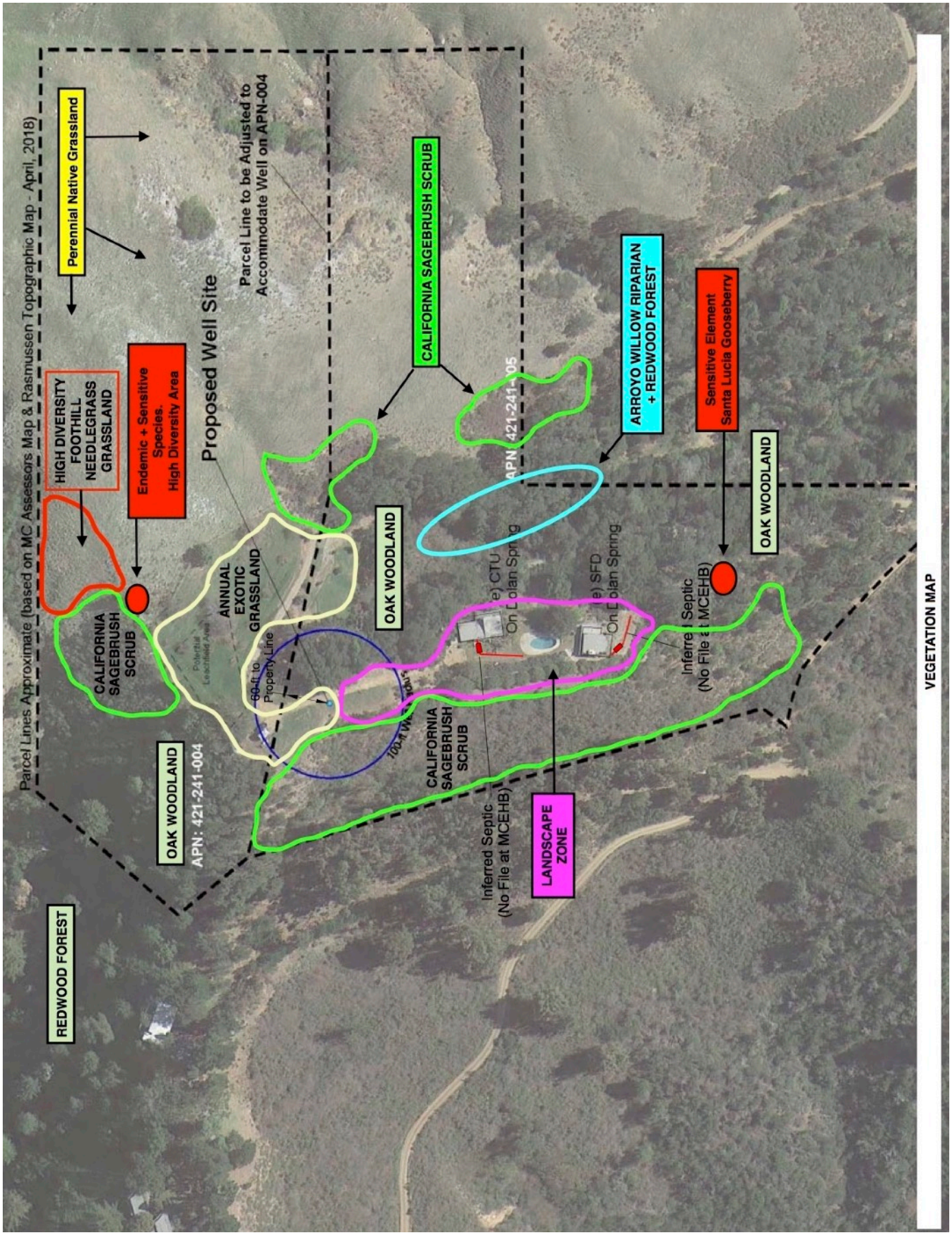
Accipiter cooper	Cooper's hawk
Aquila chrysaetos	golden eagle
Aphelocoma californica	scrub jay
Baeolophus inornatus	oak titmouse
Buteo jamaicensis	red-tailed hawk
Callipepla californica	California quail
Calypte anna	Anna's hummingbird
Carpodacus mexicans	house finch
Cathartes aura	turkey vulture
Coenonympha tullia californica	California ringlet
Colaptes auratus	northern flicker
Columba fasciata	band-tailed pigeon
Contopus sordidulus	Western wood-pewee
Corvus corax	common raven
Cyanocitta stelleri	Steller's jay
Eumeces skiltonianus	western skink
Eutamias merriami	Merriam chipmunk
Gymnogyps californianus	California condor
Junco hyemalis	dark-eyed junco
Junonia coenia	buckeye butterfly
Hirundo pyrrhonota	cliff swallow
Melanerpes formicivorus	acorn woodpecker
Melospiza melodia	song sparrow
Melozone crissalis	California towhee
Mimus polyglottos	Northern mockingbird
Odocoileus hemionus	black tailed deer

Peromyscus maniculatus	deer mouse
Pipilo maculatus	spotted towhee
Plebejus acumen	acmon blue
Poecile rufescens	chestnut-backed chickadee
Psaltriparus minimus	bush tit
Sayornis nigricans	black Phoebe
Sceloporus occidentalis	western fence lizard
Scirius griseus	western gray squirrel
Sialia mexicana	Western bluebird
Sylvilagus bachmani	Western brush rabbit
Thomomys bottae	Botta's pocket gopher
Thryomanes bewickii	Bewick's wren
Toxostoma redivivum	California Thrasher
Turdus migratorius	American robin

IX. REGIONAL MAP



X. VEGETATION MAP



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