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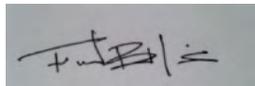
BIOLOGICAL ASSESSMENT
OF
VAN ESS RESIDENCE
182 Van Ess Way
Carmel, CA 93923
APN: 241-311-036 + 241-311-037

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I. INTRODUCTION

This 28-page biological report has been authorized by Jess Field (Project Architect) on April 5, 2022.

This biological assessment report has been prepared to evaluate and document the biological resources present at the two parcels (APN 241-311-036 and 241-311-037) located at 182 Van Ess Way in Carmel, CA. This report will consider the biological impacts resulting from a proposed residential construction project and provide recommended measures to reduce impacts to levels that will support the environmental resources of the property. The project consists of the demolition of an existing residence and garage on two existing developed parcels and construction of a new residential development.

II. SUMMARY

The 182 Van Ess parcels support several sensitive biological elements including populations of seacliff buckwheat (*Eriogonum parvifolium*), the host plant for the Federally-listed *endangered* Smith's blue butterfly (*Euphilotes enoptes smithi*). Several California Native Plant Society California Rare Plant Ranked (CRPR) species are present on site including seaside paintbrush (*Castilleja latifolia*) CRPR 4.3, Monterey ceanothus (*Ceanothus rigidus*) CRPR 4.2, small leaved lomatium (*Lomatium parvifolium*) CRPR 4.2, Monterey cypress (*Hesperocyparis macrocarpa*) CRPR 1B.2, and Monterey pine (*Pinus radiata*) CRPR 1B.1. Environmentally sensitive habitats observed include Northern Coastal Bluff Scrub and Central Maritime Chaparral. Proposed construction is sited within areas of preexisting architectural or landscape development and preplanning design has avoided direct impacts to site-identified natural vegetation, sensitive habitat, and special status species. In compliance with Carmel Area LUP ESHA Policy 2.3.3.2., the architectural site planning and design features avoid direct natural vegetation impacts and the project as currently proposed will be compatible with the long-term maintenance of the surrounding biological resources if recommendations are integrated with the project that include habitat protection measures, habitat restoration, and invasive species eradication to reduce encroaching impacts to below the current level.

As currently proposed, the development project presents the opportunity to improve baseline native habitat conditions across both legal parcels. Civil Engineering and Landscape plans were not readily available for review and inclusion in this report and biological review of the subject plans shall be conditioned in the project Conditions of Approval in order to fully assess potential project impacts to biological resources and revise recommendations/mitigations. Draft Septic Plans (drainfield and percolation testing by BioSphere Consulting, June 14, 2023) were reviewed for inclusion of this report.

Findings are included in Section V below describing natural communities near the development zone. Impact assessments and recommendations are included below in Section VIII for the development.

III. REGIONAL SETTING

The project site is located along the Carmel Highlands coastal area at the northern border of the Soberanes Point Quadrangle approximately 250 meters east of Highway 1. The proposed project site development is under the jurisdiction of the policies, requirements and standards of the Monterey County Coastal Implementation Plan and the Carmel Area Land Use Plan. The existing developed parcels are located at approximately 480 feet elevation on the edge of a ridge with steep slopes falling northward (over 70% slope) and westward (25% to 88% slope) with parcel boundaries terminating at Spindrift Road below. East slopes tail off from the development envelope and driveway at 30-60+% slope and south slopes trailing off downward at 30% slope to adjacent residential parcels. The soils and underlying rock are Salinian granitic based. Dominant plant communities of the regional area include Coastal Scrub Alliances, Central Maritime Chaparral, Monterey Pine Forest, Monterey Cypress Forest, Riparian and Coastal Prairie Grassland.

IV. METHODS

The botanical survey was conducted during four reconnaissance-level site visits on April 14, 2022, August 17, 2022, January 31, 2023 and April 18, 2023. Field methods included walking the proposed development areas and surveying outlying adjacent natural plant communities, inventorying observed habitats, plant and animal species, and photographing existing conditions. Weather conditions were clear and full access to the site allowed for careful site and resource observations. The proposed architectural development plan and topographic survey map were supplied by the project representative for the field survey and the Arborist Report was reviewed. A spring survey was conducted for inclusion in this report.

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 (CNDDDB) maintained by the State of California Department of Fish and Wildlife (CDFW) and the California Native Plant Society Inventory of Rare and Endangered Plants (8th Edition, 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 Van Ess project site. Survey methods included utilizing The Jepson Manual (Hickman 1993), Invasive Plants of California's Wildlands (Bossard, Randall, and Hoshovsky 2000), The Plants of Monterey County An Illustrated Field Key (Matthews and Mitchell 2015), Carmel Area Land Use Plan, The Natural History of Big Sur (Henson and Usner 1993), and the Monterey County Coastal Implementation Plan, Part 4 (Monterey County – Regulations for Development in the Carmel Area Land Use Plan 1988).

V. LOCAL VEGETATION

The subject properties contain four main overlapping plant communities and two fragmented forest habitats detailed within this report and mapped on the attached Section X. Vegetation Map. (Note: Asterisks * in front of the association code indicate a special status plant community; "rare and worthy of consideration")

NORTHERN COASTAL BLUFF SCRUB (CDFW code *31.100.00)

COASTAL SCRUB (CDFW code 32.000.00)

CENTRAL MARITIME CHAPARRAL (CDFW code *37.308.02)

CHAMISE (CDFW code 37.101.00)

The proposed development zone lies within a terraced portion of two preexisting developed parcels, approximately 250 meters west of Highway 1. The gated entry to the development begins at the end of Van Ess Way through parcel 241-311-037 along a paved driveway. This existing driveway will be utilized for the new development. To the west of the drive, the slope rises approximately 40 feet to the crest of the knoll where natural vegetation is found. Within this area of the parcel an existing well is sited in a disturbed terrace area dominant with invasive iceplant (*Carpobrotus edulis*), in addition to isolated specimens of pampas grass (*Cortaderia jubata*) and pride of Madeira (*Echium candicans*). These three invasive species are listed by the California Invasive Plant Council (Cal-IPC) and have varying adverse ecological impacts to physical process, plant and animal communities and natural vegetation structure. Pioneering native coyote brush (*Baccharis pilularis*) and chamise (*Adenostoma fasciculatum*) are found directly adjacent to the well site transitioning to Chamise Chaparral habitat that dominates the area with several large stands of fragmented Central Maritime Chaparral.

Central Maritime Chaparral is considered Environmentally Sensitive Habitat Area by the California Coastal Commission and also identified as a natural community "rare and worthy of consideration" by the CNDDDB. This unique habitat is characterized by low dense shrubs, many of which are endemic manzanita (*Arctostaphylos*) and ceanothus (*Ceanothus*) species that occur in narrowly restricted distributional ranges. This natural community is generally found in isolated patches along the coastline in nutrient poor soils in areas of persistent marine influence. The presence of numerous endemic plants and special status species contribute to

making Central Maritime Chaparral a rich and ecologically diverse plant community. Shaggy-barked manzanita (*Arctostaphylos tomentosa* ssp. *tomentosa*) and sticky monkey-flower (*Diplaucus aurantiacus*) are the co-dominant shrubs in the area of the well. Other shrubs in this community include California lilac (*Ceanothus thrysiflorus*), toyon (*Heteromeles arbutifolia*), coffeeberry (*Frangula californica*), with lesser dominant shrubs and forb species including coyote brush, poison oak (*Toxicodendron diversilobum*), golden yarrow (*Eriophyllum confertiflorum*), leafy bent grass (*Agrostis pallens*) and others. Monterey pine (*Pinus radiata*), of various age, including several standing dead trees are found scattered within the knoll habitats.



Knoll area with well location, west of entry gate.



Central Maritime Chaparral and Monterey Pine on north slope of the knoll above the existing driveway.

The indigenous range of Monterey Pine Forest habitat (DFW code *87.110.00) in Monterey County extends through the nearby Carmel Highlands and across Malpas Creek only a short distance to the south where the natural southern range extension terminates. In its natural range, Monterey Pine Forest is generally considered Environmentally Sensitive Habitat Area by the Coastal Commission and is also a natural community identified as "rare and worthy of consideration" by the CNDDDB. The California Native Plant Society lists Monterey pine as Rank 1B.1. However in the context of the subject parcel, historical imagery of the coastal zone seems to indicate the Monterey pine trees and naturalized seedlings on the parcel have likely recruited from introduced planted trees (of unknown genetic origin) found within the subject parcels the adjoining subdivisions and are not an extension of the natural pine forest community. It is unlikely that the pines found on the Van Ess property are individual natural recruits from the southern-most extension of their natural range in this region as the wind-whipped knoll does not provide optimum conditions for the pine forest community. Dominant scrub and chaparral communities are the foundational natural habitat communities of the parcels.

In addition to the knoll area, younger aged pines are dispersed in a few concentrated clusters throughout both parcels, mainly along north-facing slopes of parcel -037. With the absence of fire events in the area due to decades of suppression efforts, the pine trees are encroaching into native shrub communities and partially shifting (succession) the vegetation communities from lower woody shrub dominated to pine dominated. Evidence of a successional community at play is apparent as an etiolated shrub community of *Arctostaphylos* species is waning under the shade of pines along the north slope of the knoll in Central Maritime Chaparral habitat.

In its native setting, Monterey Pine Forest habitat supports numerous special status plant species, for example, on the Monterey Peninsula where more than a dozen special plants are associated with pine forest associations. On the Van Ess parcels, the trees on site do not occur in a forest setting and are often solitary individuals surrounded by Coastal Scrub and Chaparral communities, with the largest pines located adjacent to the structures and likely planted as landscape specimens.



Large Monterey pines located adjacent to existing A-frame structure on lot -037.

Though these trees provide valuable cover for birds and other wildlife (and could potentially imply a range extension of Monterey Pine Forest in response to changing environmental conditions from lack of fire and grazing, climate warming), the presence of the encroaching trees is viewed as a detriment to the existing sensitive scrub communities on site.

Spring surveys noted the presence of several listed species including spring flowering small leaved lomatium in addition to sea cliff buckwheat and Monterey ceanothus growing in the knoll area above the development. Small leaved lomatium is a perennial, California endemic herb

listed by the California Native Plant Society with a California Rare Plant Rank 4.2 (plants of limited distribution; fairly threatened in California). Approximately 12 seacliff buckwheat are found in a discontinuous grouping with a few individual occurrences throughout the knoll on the fringe of the Chamise Chaparral habitat adjacent to Central Maritime Chaparral. Seacliff buckwheat is the host plant for the federally-endangered Smith's blue butterfly (*Euphilotes enoptes smithii*). Though no butterfly sightings were observed during the field surveys, there is potential for the butterfly to utilize the buckwheat plants on the parcel as historical sightings have been recorded in nearby coastal parcels to the east and south. Monterey ceanothus is a perennial, California endemic shrub listed by the California Native Plant Society with a California Rare Plant Rank 4.2 (plants of limited distribution; fairly threatened in California). A few scattered occurrences are present on the knoll.



Monterey ceanothus on the knoll area.



Seacliff buckwheat on the knoll area.

The knoll area is sited outside areas of proposed development improvements, but it does lie within the fuel management zone and potential impacts could occur to sensitive elements during fuel modifications. Chaparral shrub constituents are senescent due to decades of fire suppression and the strategic top growth pruning from careful fuel management will stimulate crown sprouting and provide light for subshrub and herb species to flourish. Recommendations are included below (Ref. Section VIII, Impact Assessment, Mitigation Measures, and Recommendations) to reduce vegetation fuel management impacts to a less than significant level by integrating hand pruning techniques to senescent burl-sprouting shrubs to reduce fuel loads.

Additionally in this area (and other areas of both parcels), invasive species, including pampas grass, iceplant, pride of Madeira and potentially others that may pioneer to the site, have the ability to adversely impact adjacent Central Maritime Chaparral ESHA habitat. Carmel Area LUP (Ref. Policy 2.3.3.2) stipulates land uses adjacent to locations of environmentally sensitive habitats shall be compatible with the long-term maintenance of the resources. As such, recommendations are included (Ref. Section VIII) to eradicate invasive species from the knoll area in order to prevent continued encroachment into adjacent sensitive habitats.

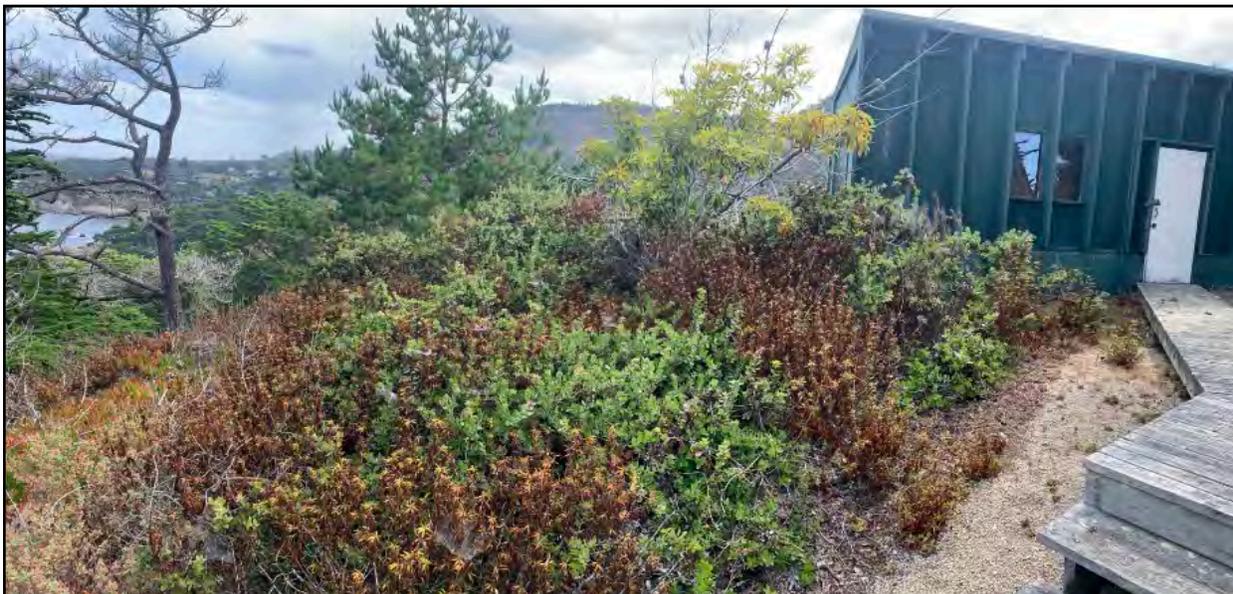
North of the knoll, the driveway continues westerly to the western border of parcel -037 where an existing A-frame structure, garage and two small generator sheds are proposed for demolition. New construction elements include a new 2,055 SF "upper" residence, 5 parking spaces, and hardscape elements that include walls, steps and pathways leading to the main house entrance located to the northwest at the boundary of the two parcels. Areas of direct impacts will occur with preexisting landscaped zones, mostly within a ruderal grassy area dominated by colonizing exotic annual vegetation consisting of wild oat (*Avena fatua*), rat tail fescue (*Festuca myuros*), soft brome (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), big quaking grass (*Briza maxima*) and others that make up a groundcover that is devoid of native plant constituents. Mixed ornamental shrub and groundcover landscape plantings and

introduced Monterey cypress and coast redwood trees, in addition to a few seemingly landscape-introduced Monterey pine, have long replaced any remnant natural plant communities.



Proposed area for parking, utility shed and hardscape elements.

Along the east and north facing slopes below the existing A-frame, Garage and proposed “upper” Residence, natural plant communities including the dominant Coastal Scrub with small fragmented islands of Central Maritime Chaparral on the upper slope and are found growing adjacent to the proposed parking and utility shed area. Proposed construction is sited to avoid natural community vegetation as structures are sited within predisturbed, existing development footprints or landscaped areas. Natural habitat constituents in close proximity will require protection fencing during construction activities to avoid adverse impacts and recommendations are included in Section VIII to prevent unwarranted construction impacts to natural vegetation.



Fragmented patch of Central Maritime Chaparral north of existing A-frame and Garage structure.

Additionally in this area, invasive species including pride-of-Madeira and cape ivy (*Delairea odorata*), and to a lesser degree Victorian box (*Pittosporum undulatum*) are found displacing native Coastal Scrub and Central Maritime Chaparral habitat communities. Pride-of-Madeira plants dominate the area of the proposed “upper” residence on lot -037.



Invasive Pride of Madeira and iceplant near existing garage area.



East slope of garage with carpet of invasive cape ivy.



Invasive Pride of Madeira in the proposed "upper" Residence footprint.

Downslope east and north of the existing garage on parcel -037, the slope drops steeply toward Spindrift Road. The heavily shaded and forested slope with a mix of Monterey pine, Monterey cypress (*Hesperocyparis macrocarpa*) and invasive Eucalyptus (*Eucalyptus globus*) has a Coastal Scrub understory infested with a pervasive carpet of cape ivy. Cape ivy is listed by the Cal-IPC with a *high* rating, indicating the invasive species has severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Impacts to the coastal scrub community along the slope are evident as native understory constituents are shaded out and disturbed ecologically by the overwhelming layer of the cape ivy. Sparse poison oak, hedge nettle (*Stachys bullata*), California blackberry (*Rubus ursinus*) struggle to persist along with lesser dominant sticky monkey-flower and lizard tail (*Eriophyllum staechadifolium*) found on the slope. Near the bottom of the slope, the proposed septic leach field is sited for parcel -037. This low-diversity, north-facing shady zone harbors sparse native constituents and is dominated with exotic annual grasses, cape ivy and invasive veldt grass (*Ehrharta erecta*). Impacts to native scrub habitat is less than significant due to degraded habitat conditions.



Proposed septic leach field for parcel -037.

Along the existing entry driveway crossing the -037 parcel boundary into the -036 parcel, the proposed residence is designed and sited within the footprint of the existing development. Hardscape pathways/walls and ornamental landscape plantings surround the footprint of the development, with landscape plantings merging with native plant communities downslope of the residence. Several landscape-introduced species have become naturalized on the parcel and are encroaching into native habitats. Specifically invasive pride-of-Madeira which has enveloped most of the landscape areas and is spreading unabated through natural communities adjacent to the development.

In reviewing the proposed architectural plans, several features of the proposed development fall outside the footprint of the existing residential structure. These areas were field verified to review potential impacts to native constituents and found that the proposed encroachments fall within existing hardscape or landscape areas and do not impact zones containing natural communities or sensitive elements found on the parcel.



Entry to residence with ornamental planting beds dominated with naturalized pride of Madeira.



South facing areas of proposed development in yellow highlight.



Proposed septic drainfield locations sited in areas dominated with invasive pride-of-Madeira.

Natural communities on the west and north facing slopes adjacent to the development are present with a fascinating mosaic of vegetation types including the dominant Coastal Scrub intermixed with overlapping ecotones of Chamise Chaparral, Central Maritime Chaparral and Northern Coastal Bluff Scrub that converge in a mosaic pattern along the steep, rocky slopes and create a local diversity hot spot worthy of protection and conservation. No development impacts are proposed within areas of these natural plant communities though proposed construction is in close proximity to native habitat areas and avoidance and protection measures are recommended in Section VIII.



Chamise Chaparral dominant community on southwest slope and knoll area.

The southwest side of the proposed house will be anchored by the presence of several existing established Monterey cypress trees. Monterey Cypress Forest (*CDFW code 81.604.00*) are endemic to Monterey County and are listed as sensitive elements for the CNDDB Monterey quadrangle. Indigenous Monterey Cypress Forest habitat under the ESHA Policies of the Carmel Area LUP is recognized as an environmentally sensitive habitat area and is also considered a sensitive natural community by the California Department of Fish and Wildlife. In addition, Monterey cypress are List 1B.2 (Plants Rare, Threatened, or Endangered in California and Elsewhere) of the California Native Plant Society Inventory of Rare, Threatened, and Endangered Plants of California, 8th Edition, 2010. List 1B.2 plants are rare throughout their range with the majority endemic to California. All plants constituting List 1B meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing. Though indigenous Monterey cypress are afforded special status listing and subject protections, the large cypress trees on the parcels are planted, landscape-introduced specimens (of unknown genetic origin) as these trees and others in the surrounding area were planted during the development of the Spindrift residential subdivision. As with the Monterey pines on the parcels, these trees are not considered a natural extension of indigenous forests that occur in the region.

This southwest stand of introduced cypress trees are growing within scrub and chaparral habitat. They are likely close to 60 years old and the California Coastal Records Project shows aerial images of the site from 1972 where a small cluster of young cypress in this location are visible along with the residence. It is difficult to ascertain if these cypress trees were planted or naturalized on the site from native origins of nearby trees found on the lower Spindrift Road area. Clearly there are others that are landscape-introduced elsewhere on property adjacent to the residence and along the driveway as well as younger naturalized seedlings encroaching into scrub and chaparral habitats. The southwest stand lies outside the proposed construction envelope and development impacts to trees and critical root zones are anticipated to be less

than significant with recommended tree protection measures in place during all grading and construction activities.

Downslope and throughout the understory of the southwest cypress trees, a large solid stand of invasive pink rosea iceplant (*Drosanthemum floribundum*) is found under the drip lines of the cypress trees. At the southwest edge of the iceplant stand, another large stand of highly invasive iceplant (*Carpobrotus edulis*) is growing throughout the slope in varying degrees in site coverage. The *Carpobrotus* iceplant poses a significant threat to the coastal scrub alliances found across the hillside and throughout both parcels. Iceplant is a well recorded threat to indigenous ecosystems through its aggressive surface runners (up to 3 foot radius per year) that have the ability to smother ground cover vegetation as well as change soil chemistry by making soils increasingly acidic and reducing levels of calcium, magnesium and other minerals. Iceplant is ranked by the Cal-IPC with a *high* rating, having severe ecological impacts to native plant and animal communities. The LUP (Ref. Policy 2.3.3.2) stipulates land uses adjacent to locations of environmentally sensitive habitats shall be compatible with the long-term maintenance of the resources. As such, recommendations are included (Ref. Section VIII) to eradicate invasive species from the slope area in order to prevent continued encroachment into adjacent sensitive scrub and chaparral habitats.



Monterey cypress trees southwest of existing residence with a large stand of invasive iceplant species.

Further west downslope, more prominent natural vegetation emerges with co-dominant Coastal Scrub and Northern Coastal Bluff Scrub habitats that wraps northward intermixed to the south with overlapping ecotones of Chamise Chaparral and Central Maritime Chaparral.

Coastal Scrub and Northern Coastal Bluff Scrub habitat are the co-dominant vegetation types along the north slope and lower portion of the west slope. The composition and structure of the two habitats is not separated by a distinct ecotone as the two are not clearly segregated and the overwhelming presence of invasive ice plant (*Carpobrotus edulis*) throughout the slope and vertical rocky cliff-faces further diffuses the delineation along with nuances of microhabitat conditions across the wind sculpted, rocky slope that create distinction. The Coastal Scrub habitat alliance on site exhibits a unique species composition that does not fit into a clearly defined alliance category, as the habitat exhibits a variety of shrub and subshrub species that transition throughout the headland area with no clear dominant shrub species. This floristically diverse habitat extends throughout the boundaries of the -036 parcel west and north of the residence with sub-shrub and forb constituents more dominant throughout the slope. The mosaic of species includes California sagebrush (*Artemisia californica*), Carmel ceanothus (*Ceanothus thrysiflorus* var. *griseus*), lizard tail (*Eriophyllum staechadifolium*), poison oak (*Toxicodendron diversilobum*), hedgenettle (*Stachys bullata*), California blackberry (*Rubus*

ursinus), western bracken fern (*Pteridium aquilinum*), Douglas iris (*Iris douglasiana*), soap plant (*Chlorogalum pomeridianum*), coast morning glory (*Calystegia macrostegia* ssp. *cyclostegia*), and others all growing within a matrix that is heavily interspersed with a thatched layer of highly invasive ice plant.



West facing slope with overlapping coastal scrub alliances and chaparral natural habitat communities.

Listed sensitive species including seacliff buckwheat (*Eriogonum parvifolium*), seaside paintbrush (*Castilleja latifolia*), and Monterey ceanothus (*Ceanothus rigidus*) are found in several locations along the west and north slope. Seacliff buckwheat is found in several scattered, discontinuous patches and individual occurrences. Though populations of the plant are waning and no federally endangered Smith's blue butterfly sightings were observed during the field surveys, there is potential for the butterfly to utilize the buckwheat plants on the parcel as historical sightings have been recorded in nearby coastal parcels to the north and south. The endemic Monterey ceanothus is a rare plant listed by the CNPS with a 4.2 rare plant ranking; a plant of limited distribution that is fairly threatened in California. Seaside paintbrush is classified by the CNPS Inventory of Rare and Endangered Plants with a rare plant ranking of 4.3; considered "a plant with limited distribution, but not very threatened in California". List 4.3 plants have a low degree and immediacy of threat from a statewide perspective, but are uncommon enough that their status should be monitored regularly. This hemiparasitic plant is endemic to the coastal zone within central California and several plants were observed growing along the slope vegetation.

Northern Coastal Bluff Scrub is considered Environmentally Sensitive Habitat Area by the California Coastal Commission and has been described as a California Department of Fish and Wildlife threatened plant community and classified as a natural community "rare and worthy of consideration" by the CNDDDB (2003). A distinctive floristic association of Coastal Scrub, Northern Coastal Bluff Scrub occurs on steep, rocky, wind-swept bluffs along the Pacific Ocean coastal bluff zone. Characterized by some of the same shrubs as Coastal Scrub, the Northern Coastal Bluff Scrub association tends to have shorter stature, more succulent foliage and additional salt-tolerant species not commonly found on adjacent uplands. This habitat occurs across the Van Ess western and northern slope found colonizing on eroding, rocky slopes exposed to salt-laden winds, where other plant types have difficulty becoming established. The habitat supports common yarrow (*Achillea millefolium*), sea cliff buckwheat, bluff lettuce (*Dudleya farinosa*), California beach aster (*Corethrogyne filaginifolia*), leafy bentgrass (*Agrostis pallens*), saltgrass (*Distichlis spicata*), seaside daisy (*Erigeron glaucus*), soap plant

(*Chlorogalum pomeridianum*), coastal lotus (*Acemison maritimus*), and other constituents including the listed sensitive species seaside paintbrush, seacliff buckwheat and endemic species such as white globe lily (*Calochortus albus*) and sea lettuce (*Dudleya caespitosa*). Rock outcrops in this area and on the knoll also support unique associations of mosses and lichens.



Endemic white globe lily along west slope.



Endemic sea lettuce along west slope.

Along the western slope below the cypress tree cluster, a subtle ridge running east downslope west delineates the coastal scrub alliances with a dominant Chamise Chaparral that carries on southward across the slope and wrapping back up to the knoll. This Chamise Chaparral natural community is dominated by tall, woody, senescent chamise shrubs with sticky monkey-flower sub-dominant plants. Understory constituents in this habitat type are scarce due to the canopy shading effects of the tall chamise. Several native grass and herb understory plants persist though invasive iceplant fills the majority of the understory void between chamise plants. With the lack of fire or other disturbance (fuel management activities), several areas within this habitat are experiencing a successional shading out and dying of chamise species. Portions of this natural community fall within the fuel management zone and recommendations are included in Section VIII on techniques for maintaining burl and root systems of the deep rooted chamise shrubs while revitalizing the plant community with select hand pruning to provide a stimulus for the regrowth of shrubs and the diverse floristic seed bank that awaits for light and moisture to germinate. Fragmented islands of Central Maritime Chaparral also exist on this west facing slope.

Several black corrugated drain lines were present along this slope and it is uncertain as to their viability or if they will be utilized for the new proposed construction. Biological impacts related to site drainage were not analyzed as a Civil Plan has not yet been developed for the project.

Along the north area of the development, the slope drops precipitously down to Spindrift Road below. A mosaic of Coastal Scrub alliances interplay eastward across the rocky north facing slope, with a stand of Monterey pine located below the main residence in a pocket of deeper soil substrate. The coastal scrub in this area is dominated with more sub-shrub and herbaceous type species with hedge nettle, poison oak, lizard tail, Douglas iris (*Iris douglasiana*), bracken fern (*Pteridium aquilinum*), giant wildrye (*Leymus condensatus*) and others that make up a floristically diverse community. Between the existing residence and the slope edge, hardscape pathways, rock walls and landscape plantings separate and buffer the development from the natural communities along the north slope. Three portions of the proposed residential development (primary bedroom, dining room, and bedroom 1) along the north side appear to have roof lines that cantilever over areas of natural communities. It is assumed that construction impacts to a small area of coastal scrub in these cantilevered areas

will occur due to the necessity of requiring feasible work space to implement the project. Surveys were conducted in these areas and observed that the vegetation directly below the existing retaining walls is mixed with coastal scrub constituents and several naturalized landscape plants including euphorbia species, pink rosea iceplant, and mixed exotic succulents.



North slope with Coastal Scrub alliances below main residence.

A small naturally occurring rocky outcrop between the Monterey pine stand and the retaining wall harbors a microhabitat of Northern Coastal Bluff Scrub with several sea cliff buckwheat. The presence of a few buckwheat plants likely does not support a Smith's blue Butterfly population and none were observed during site observations. However the potential exists for the plant to be utilized and proposed habitat restoration of existing landscape areas, in conjunction with natural community rehabilitation through invasive species removal present an opportunity for the site to be greatly enhanced and provide future potential for the butterfly to persist on site. In an effort to conserve the natural scrub resources, including the sensitive buckwheat in this area, recommendations are included in Section VIII to institute a Condition of Approval to the project that requires the general contractor to meet with the project biologist to delineate the perimeter required to implement the construction project and review habitat protection fencing boundaries in order to fully assess potential impacts that may require additional project recommendations or mitigations.



Seacliff buckwheat rock outcrop, 20 feet below proposed dining room.

Further east along the north slope, the proposed project has redesigned the entry to the residence across the boundary of parcel -036 leading from the proposed parking of parcel -037. Concrete retaining walls, pathways, and steps are proposed under the canopy of a landscaped-introduced Monterey cypress grouping.



Proposed front entry pathway and retaining wall.

Areas of proposed impact for the entry development are isolated to landscaped zones with mixed succulents and barren duff-layered soils under a canopy of landscape-introduced Monterey cypress planted trees. An arborist report is anticipated to address potential tree and critical root zones impacts, though it appears potential impacts to critical root zones may occur to the cluster of the landscaped-introduced 8" DBH cypress trees. With implementation of habitat protection fencing and erosion control measures to ensure protection of natural communities and the 36" Monterey cypress found downslope to the north, the entry development should have a less than significant impact on tree resources and habitat communities on the parcels.

VI. WILDLIFE

During the four field survey visits to the project location, several bird species were identified (see Observed Animal Species List). Anna's hummingbird (*Calypte anna*), dark-eyed junco (*Junco hyemalis*), Stellar's jay (*Cyanocitta stelleri*) and California towhee (*Melospiza crissalis*) were observed using the northern slope area for foraging. Other observed avian species are included in the attached species list. The window of the breeding season is currently in progress and further site observations may be required to document any nesting behavior if construction activities are initiated within the nesting season (mid February - mid August).

Raptors and their nests are protected under the California Department of Fish and Wildlife (CDFW) Code. Nesting seasons of migratory species are overlapping with breeding residents occurring in the Monterey Bay region typically occurring between February and August. Various species of raptors including red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), great horned owl (*Bubo virginianus*), barn owl (*Tyto alba*), turkey vulture (*Cathartes aura*) and others have a potential to nest within any of the large Monterey pine and cypress trees present within the parcels. In addition, avian species identified as species of concern by the CDFW or fully protected species including white tailed kite (*Elanus leucurus*), sharp-skinned hawk (*Accipiter striatus*), or peregrine falcon (*Falco peregrines anatum*) have the potential to occur near the subject parcel as suitable habitat exists within the surrounding tree canopy and scrub habitats. Potential foraging and nesting habitat exists on the parcels for the newly listed Western Bumble bee (*Bombus occidentalis*).

The Migratory Bird Treaty Act (16 USC 703) prohibits the taking, hunting, killing, selling, purchasing, etc. of migratory birds, parts of migratory birds, and their eggs and nests. As used in the act, the term “take” is defined as meaning, “to pursue, hunt, capture, collect, kill or attempt to pursue, unless the context otherwise requires.” Section 3503.5 of the California Fish and Wildlife Code also protects the nests and eggs of birds-of-prey (raptors) and essentially overlaps with the Migratory Bird Treaty Act.

VII. RARE, THREATENED, AND ENDANGERED SPECIES

The parcels and development area were surveyed for occurrences of rare, threatened, and endangered habitat, plant and wildlife species. Monitoring observations also analyzed potential impacts that could result from proposed re-development. The site was also surveyed for current sensitive elements listed by the California Department of Fish and Game Natural Diversity Data Base (CNDDDB) for the Soberanes Quadrangle and adjacent Monterey quadrangle. Apart from the previously listed sensitive elements that occur on the parcel, the potential for listed special-status wildlife species within the development area was determined to be low, based on the site surveys, presence of micro-habitat characteristics, biological knowledge of the target species, the overwhelming cover of invasive iceplant and introduced landscape plantings that dominate the existing development areas. Proposed development impacts are nearly completely isolated to areas within footprints of existing development structures, hardscape or landscape features.

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 Game 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.

The California Environmental Quality Act (CEQA) recognizes plants listed by the California Native Plant Society (CNPS) as Rare Plant Rank 1B (plants rare, threatened or endangered in California as special status species. The CNPS website states that, “Plants with a California Rare Plant Rank of 1B are rare throughout their range with the majority of them endemic to California. Most of the plants that are ranked 1B have declined significantly over the last century. All of the plants constituting California Rare Plant Rank 1B meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Wildlife Code and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.”

In addition to the Central Maritime Chaparral, Northern Coastal Bluff Scrub, Monterey Pine Forest, and Monterey Cypress Forest environmentally sensitive habitats, the following special status biological elements are present (or *potentially* present as represented with an asterisk *) on the parcels:

<u>Scientific Name Listing</u>	<u>Common Name</u>	<u>Federal</u>	<u>State</u>	<u>CNPS</u>
PLANTS				
<i>Castilleja latifolia</i>	Seaside paintbrush			4.3
<i>Ceanothus rigidus</i>	Monterey ceanothus			4.2
<i>Hesperocyparis macrocarpa</i>	Monterey cypress			1B.2
<i>Eriogonum parvifolium</i>	Seacliff buckwheat (host plant for Smith’s blue)			
<i>Lomatium parvifolium</i>	small leaved lomatium			4.2
<i>Pinus radiata</i>	Monterey pine			1B.1
ANIMALS				
<i>Bombus occidentalis</i>	Western bumble bee *		SC	

<i>Euphilotes enoptes smithi</i> *	Smith's blue butterfly	E	
<i>Falco peregrinus anatum</i> *	peregrine falcon		SFP
<i>Neotoma fuscipes luciana</i> *	Monterey dusky-footed woodrat	SC	SC

Abbreviations for Status Codes:

E	=	Endangered
SC	=	Species of Special Concern
SFP	=	State Fully Protected Animal
1B.1	=	Plants Rare, Threatened, or Endangered in California; Seriously Threatened in CA
1B.2	=	Plants Rare, Threatened, or Endangered in California; Moderately Threatened in CA
4.2	=	Plants of Limited Distribution; Moderately Threatened in CA
4.3	=	Plants of Limited Distribution; Not Very Threatened in CA

VIII. IMPACT ASSESSMENT, MITIGATION MEASURES, AND RECOMMENDATIONS

The proposed residential development is primarily sited within an existing development footprint with portions extending into landscaped areas. In accordance with LUP ESHA Policy 2.3.3., siting of the development was coordinated to avoid disturbance in adjacent areas containing environmentally sensitive natural plant communities and natural habitat of the parcel. However, there are sensitive elements that exist in close proximity (within 20 feet) of the proposed development. As conditioned with the below listed recommendations, the project will ensure the biological continuance of natural habitats on the subject site and is found consistent with ESHA protection provisions of the LCP. Infrastructure elements and Civil Engineering impacts have not been analyzed as plans have not been presented for assessment to biological resources.

Project design and recommendations take into account compliance with current fire and construction codes (though utilities, construction staging, and Civil Engineering plans were not available for review). Specific direct and potential indirect impacts have been assessed and included in the below recommendations.

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, erosion control measures, restoration practices, fuel management guidelines, and biological monitoring, the project should enhance the sensitive natural communities and other habitats found on the parcel through long-term management and invasive species control. Without extensive restoration or land management, or if left unchecked, the listed sensitive habitats and potential Federally-endangered Smith's blue butterfly habitat would likely be severely compromised by the overwhelming encroachment of the invasive iceplant and other encroaching exotic species currently enveloping the coastal parcel.

Impact 1: Habitat Protection

To comply with the Carmel Area LUP Key Policy 2.3.2, sensitive plants "shall be protected, maintained, and where possible, enhanced and restored". Prior to issuance of grading or construction permits, to protect sensitive species and sensitive native habitat values located adjacent to the existing development area, habitat areas should be fenced with protective fencing to prevent unwarranted impacts during the construction period. Fencing should be continuous in wrapping around the development area and driveway to protect native sensitive elements that occur within adjacent habitats and prevent construction personnel from entering sensitive areas. The biological monitor should provide field guidance to restoration contractors on fencing locations and provide a summary to County planning prior to project permitting.

Recommendation 1:

- A. Prior to issuance of grading or construction permits for the residential development and infrastructure elements, habitat protection fencing should be installed around the perimeter

of the development envelope, including infrastructure elements, to the minimum edge necessary to implement construction, staging and parking.

- B. Due to the sensitive elements that occur on the site, a Project Biologist should oversee fencing locations and installation, and document the installation (including any findings of new sensitive elements that may occur along the fence line) for a report submittal to the Monterey County Housing and Community Development – Project Planner prior to the issuance of construction permits.
- C. Protective fencing shall remain in place until final construction inspection.

Impact 2: Nesting Survey

The Monterey cypress and pines near the development area could potentially provide suitable nesting habitat for raptor or listed migratory species that occur throughout the Carmel Area coastal region.

To avoid and reduce impacts to potential nesting raptors and other protected avian species (including, but not limited to, the white-tailed kite, peregrine falcon, sharp-skinned hawk, Golden eagle, Cooper’s hawk or other resident or migratory species), the start of construction activities can be timed to avoid the nesting season period. Specifically, any proposed tree removal, if approved, can be scheduled after September 1 and before January 31 to avoid impacts to these aviary species. Alternatively, if avoidance of the nesting period is not feasible, pre-construction surveys shall be conducted for nesting raptors and migratory birds that may utilize the site.

Recommendation 2:

- A. Conduct pre-construction surveys for potential nesting raptors or special status birds within 300 feet of proposed construction activities if construction is to be initiated between February 1 and August 31. Pre-construction surveys shall be conducted no more than 14 days prior to the start of construction. If nesting of special status species are identified during the pre-construction surveys, the CDFW shall be contacted and an appropriate no-disturbance buffer imposed within which no construction activities or disturbance shall take place (generally 300 feet in all directions for raptors) until the young of the year have fledged and are no longer reliant upon the nest or parental care for survival, as determined by a qualified biologist and the CDFW.

Impact 3: Monarch Butterfly

The Monarch butterfly (*Danaus plexippus*) is noted to occur in nearby groves of eucalyptus, Monterey cypress, and Monterey pine trees. Butterfly overwintering roosting sites are recognized as Environmentally Sensitive Habitat Areas in the Big Sur Coast LUP, but not specifically recognized in the Carmel Area LUP. The butterfly is a candidate for inclusion of the US Fish and Wildlife Service list of endangered and threatened wildlife and is recently classified as ‘endangered’ by the International Union for Conservation of Nature (IUCN), as such they are recognized as a sensitive element unique and limited with statewide significance.

Disturbance to roosting trees or loud activities near roosting sites can disrupt the overwintering butterflies. The Monterey cypress and pine trees on the parcel -037 may provide potential overwintering roots for the sensitive Monarch butterfly. Surveys were not conducted for the development of this report due to the off timing season for observations. Though overwintering habitat is determined to be of low potential on the two parcels due to the salt laden wind exposure, the potential does exist for the butterfly to overwinter on site. If proposed construction is implemented during nesting season, surveys should be conducted during observations times (mid-October - February) to determine their presence or lack thereof. If overwintering populations are observed, construction buffer zones may be developed to limit unwarranted construction impacts from potentially impacting the butterflies.

Recommendation 3:

- A. The existing established groves of Monterey cypress and pine trees along the eastern portion of parcel -037 should be preserved and protection fencing be installed to avert unwarranted construction impacts to the tree trunks, roots, and limbs.
- B. If construction is proposed to start during the butterfly overwintering period (October - February), butterfly monitoring should occur prior to construction activities to determine the presence or absence of the butterflies potentially utilizing the trees for roosting habitat. If their presence exists within 300-feet of the development zone, the biologist will develop protocols for avoidance and safeguarding the populations. Monitoring results and, if required, avoidance safeguards will be reported to the Monterey County Housing and Community Development – Project Planner.

Impact 4: Monterey Cypress and Monterey Pine

Monterey cypress and Monterey pine are found on the property near the proposed development in several locations. Monterey cypress are listed by the California Native Plant Society as a List 1B.2 species (rare, threatened or endangered in CA and elsewhere) and Monterey pine are a List 1B.1 species (seriously endangered in CA). These two species are within the vicinity of their respective natural ranges, though many of the trees within the landscaped areas are determined to be landscaped-introduced species and naturalized younger trees have an unknown genetic origin. Historical imagery of the parcels suggest the stand on parcel -037 on the east slope has been on site for over 60+ years though is likely introduced as a landscape tree.

These native tree species are also listed by the California Invasive Plant Council (Cal-IPC) and classified as having potential *limited* impacts on native ecosystems. While the species may potentially provide overwintering habitat for the Monarch Butterfly or nesting raptors, offspring saplings of these species is adversely impacting the sensitive *Northern Coastal Bluff Scrub* and *Central Maritime Chaparral* habitats through pioneering seedlings that are encroaching within the habitat in several locations on the property. Management of germinating saplings should occur within these sensitive habitat areas.

Trenching near the established Monterey cypress and pine trees on the parcels for potential updated infrastructure is anticipated and could impact the health of long established trees on site. Please refer to the Arborist Report for tree and critical root zone protection measures.

Recommendation 4:

- A. Though major root and tree impacts are not anticipated to occur beyond a less than significant level, any grading or trenching (including infrastructure piping or septic leach lines) should avoid detrimental impacts to major roots of the existing cypress trees. At least 50% of the existing soil surface around the trees should be preserved in addition to the project biologist approving final locations of proposed lines. No soil deposition should occur to alter the native grades in the location of the existing trees and protection fencing measures should be installed during construction activities to avoid tree damage, soil accumulation around trunks, or soil compaction caused by staging, parking or trenching. All encountered roots (< 2") diameter during trenching operations shall be flush cut, while roots >2" diameter shall be avoided or approved for pruning by the project biologist during trenching operations.
- B. Monterey cypress seedlings that recruit into outlying habitats should be treated as an exotic species and removed when the presence is noted. This action can be incorporated into the overall exotic species removal plan and fuel management plan for the parcel. To ensure compliance, an initial removal of existing saplings within sensitive habitat of the parcel

should be documented by the project biologist and a monitoring report submitted to the Monterey County Housing and Community Development – Project Planner.

- C. Grading must not be permitted to sever major structural roots of the pine or cypress trees.
- D. Tree protection fencing should be installed along the critical root zones of pine and cypress trees to be retained within the development areas to the greatest extent feasible. Tree trunks may require trunk wrapping prior to grading and construction activities as specified in the forthcoming arborist report. Photographic evidence of tree protection measures installation should be submitted to the Monterey County Housing and Community Development – Project Planner prior to the issuance of grading or construction permits.
- E. Material staging and parking shall not be allowed in undisturbed critical root zones of native areas to avoid tree root impacts, compaction and to maintain the long-term health of the tree resources.
- F. No soil deposition should occur to alter the native grades in the location of the existing trees to be retained and protection fencing measures shall be installed prior to mobilization and remain in place during construction activities to avoid tree damage or soil compaction around critical root zones.

Impact 5: Invasive Species Control

Eradication of invasive species should be an ongoing effort to enhance and maintain existing native habitats. Several site-identified highly aggressive invasive exotic species, including several introduced as landscape plantings that have now naturalized into habitats, have the ability to invade environmentally sensitive and other native habitats throughout the property (See XI. Vegetation Map). Invasive species can easily overwhelm disturbed soils and storm water runoff from unvegetated slopes can adversely impact water quality and adjacent sensitive habitat. Implementing an invasive species eradication plan will be consistent with LUP policies regarding environmentally sensitive habitats and long term maintenance (Ref. LUP Policies 2.3.3.2.). Comprehensive eradication of the highly invasive, exotic species from environmentally sensitive habitats (and restoration of these habitats) would allow the existing and proposed development to be compatible with the habitats occurring on site, and would reduce long-term adverse impacts there, which if left unmitigated would eventually severely degrade or destroy the sensitive habitats. To prevent erosion in areas treated for 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.

The existing highly invasive iceplant is pervasive throughout the two parcels and threatens to overwhelm existing habitats including the environmentally sensitive Northern Coastal Bluff Scrub. This species should be removed from the natural areas to accommodate the restoration efforts and encouraged for removal within the parcels as stated in the LUP (Ref. Policy 2.3.3.2.) stating “land uses adjacent to locations of environmentally sensitive habitats shall be compatible with the long-term maintenance of the resource” and (Ref. Policy 2.3.3.8.) stating “County shall require the use of appropriate native species in proposed landscaping”.

Invasive cape ivy, pride-of-Madeira, and to a lesser degree pampas grass, freeway daisy, and pink rosea iceplant are also encroaching into sensitive natural communities on site.

Recommendation 5:

- A. In order to protect the habitat values of the parcels, the invasive landscape introduced species nearest the development (pride-of-Madeira, freeway daisy, and pink rosea iceplant) should be eradicated prior to grading or construction activities in order to expand access for materials staging and/or parking. In addition, eradication of the cape ivy on parcel -037 within landscaped zones. Cape ivy is easily spread by ground disturbance actions and could

potentially spread to other onsite or offsite areas if soil disturbance occurs prior to the plants removal. Cape ivy on the north slope of -036 within the coastal scrub zone will be a long term effort that will require strategic planning. Cape ivy is especially problematic for native ecosystems as vines form dense mats of vegetation that kill plants underneath. The plant is also toxic to animals and fish. Stems, rhizomes and stolon fragments report if left in the ground after treatments making it a difficult plant to fully eradicate. *Carpobrotus* iceplant should be systematically removed from sensitive and native vegetation communities on the two parcels using manual removal efforts. Invasive species removal contractors shall be trained to identify sensitive species that exist within the proposed removal areas.

- B. All disturbed soil generated during any site grading shall be 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. Any disturbed soils generated from grading or exotic plant removal should be restored with species from representative coastal scrub or northern coastal bluff scrub habitats.
- C. To ensure the success of the invasive species removal objectives, a minimum 3-year monitoring plan shall be implemented with bi-annual monitoring reports submitted to the Monterey County Housing and Community Development – Project Planner. Bi-annual site monitoring will be conducted for the three years duration, conducted during the onset of spring germination and early fall.

Impact 6. Erosion Control and Habitat Protection Guidelines

In accordance with the Carmel Area LUP polices to minimize habitat impacts and maximize protection measures, during the construction phase the following best management practices are recommended for the project site.

Recommendation 6:

- A. Mobilized mechanized grading equipment should be pressure washed prior to mobilization to prevent unwarranted plant pathogens or invasive species seed or vegetative debris from entering and potentially pioneering on the site. Use of heavy equipment should be restricted to areas within the approved construction envelope.
- B. 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 the adjacent habitat and sensitive resources are 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 biodegradable netting, mulching or planting strategy.
- C. Any disturbed soil within the project zone generated by the project must be kept free of invasive, exotic plant species.
- D. Excavated clean upper soil horizon soils from the construction site could be used to top dress final landscape restoration areas in order to provide a suitable medium for vegetation establishment and growth. Prior to final grading, all construction debris shall be removed and construction activities completed in the areas to be treated with the approved native seed mix. To protect adjacent habitats from inadvertent soil deposition impacts, excavated substrate materials shall not be cast into adjacent habitats or areas beyond the approved development zone; rather it should be hauled off location and disposed at a receiver site or used for in-fill within the development area per recommendations of the grading plan.

- E. If needed to stabilize any disturbed areas within the work zone, final landscape/restoration grading should consist of a roughened condition, perpendicular to the slope, in order to augment seed germination and soil stabilization. After the completion of the soil disturbance activities, any disturbed soils shall be stabilized with native landscape species, plant materials, and mulching and installed in all restoration areas in the fall months prior to or in conjunction with the seasonal rains.
- F. Native plant seeding or revegetation may be necessary in the areas where soil disturbance, including areas where exotic species have been removed.
- G. Potential off-hauling impacts have not been assessed in this document, though recommendations shall be incorporated into the project Construction Management Plan to reduce potential direct or indirect environmental impacts (noise, dust, contaminants, spills, etc) resulting from off-hauling excavated materials if pertinent.

Impact 7: Habitat Restoration

To comply LUP ESHA policies (Ref. Policy 2.3.3.8.) stating “ County shall require the use of appropriate native species in proposed landscaping”, a *Restoration Landscape Plan* should be developed and implemented to restore existing landscape areas on the parcel including areas currently occupied with aggressive invasive species (primarily iceplant, cape ivy, and pride-of-Madeira). The restoration plan shall describe passive restoration approaches, potential salvage and growing operations, plant specifications, restoration techniques, and management strategies including long term monitoring and invasive species control protocols required for the restoration and management of the sensitive resource found on the parcel. The plan shall also address restoration of disturbed areas on both parcels that will require revegetation and sensitive species mitigation planting (if required) for respective natural communities that are disturbed due to infrastructure (septic, water lines, and utilities), driveway paving, staging, and any other disturbed soils resulting from construction related impacts.

Erosion control measures will be required to cover bare soils and long-term invasive species management will be critical to eliminate aggressive invasive species and promote native flora. In order to develop a healthy and functioning native ecosystem, qualitative and quantitative monitoring will be essential to meet restoration objectives and success criteria. A minimum 3-year monitoring plan shall be implemented with monitoring reports submitted to the Monterey County Housing and Community Development – Project Planner. Quarterly monitoring will be conducted for the first two years followed by bi-annual monitoring for year three.

Recommendation 7:

- A. Prior to mobilization or ground disturbance activities, the Project Biologist shall meet with the project team members on site to determine the extent of the area required for the development of the residential structure (including staging areas, infrastructure impact areas and all other areas that may require adverse land impacts on the site). Per habitat protection guidelines in Recommendation 1, prior to mobilization or land disturbance activities, temporary habitat protective fencing must be installed at the development perimeter to prevent unwarranted impacts within the restoration areas. Additional sensitive species monitoring (including sensitive species counts for seacliff buckwheat, Monterey Indian paintbrush, Monterey ceanothus, or small leaved lomatium) may be required after the meeting to account for any sensitive species that may be impacted due to proposed construction requirements that were not identified prior to this report.

Replanting mitigations (if required due to impacts not yet assessed for this document), including sensitive species replanting mitigations at a 2:1 ratio may be required and results of the aforementioned meeting and survey will be submitted to the Monterey County Housing and Community Development – Project Planner. Replanting mitigation requirements will be added to the Restoration Plan.

B. Develop a Restoration Landscape Plan with the primary goal of restoring all areas currently occupied by introduced landscape plantings around the development area, including proposed septic leach field areas inundated with exotic species and any disturbed soils resulting from staging, trenching or other ground disturbance development impacts on the two parcels. Objectives of the Plan include restoring coastal bluff scrub habitat alliances and Central Maritime Chaparral with site-identified native species and eliminate all aggressive exotic invasive species (including but not limited to iceplant, cape ivy, Pride-of-Madeira, and encroaching pine and cypress tree saplings) that could adversely impact the natural communities. Objectives for accomplishing the project goals will include:

1. Prior to grading activities, Project Biologist to conduct qualitative and quantitative analysis of existing northern coastal bluff scrub habitat for baseline data of species compositions to develop species and quantitative replanting specifications. If impacts to outlining coastal sensitive elements on the two parcel are caused by construction activities (i.e. inadvertent damage from invasive species removal efforts or other causes including careless construction impacts) the incorporation of mitigated replacement sensitive species at a minimum 3:1 ratio within the restoration area shall be implemented and monitored for success.
2. Remove introduced landscape plantings and eradicate all aggressive invasive species within the restoration areas.
3. Seed and plant collections of site-specific native northern coastal bluff scrub species for propagation for restoration plant stock. It is imperative to keep the genetic stock of restoration plant material local to the parcel. Contract grow plant materials with specialized restoration nursery familiar with the propagation and growing requirements of the subject native plant species.
4. Stabilize soils with erosion control measures.
5. Restore coastal bluff with propagated materials during the late Fall season to coincide with seasonal rains.
6. Establish exotic species control protocols and management tools.
7. Establish a monitoring program to track success of exotic species control and establishment of native coastal bluff scrub species. Quarterly monitoring will be conducted for the first two years followed by bi-annual monitoring for year three. Success criteria and percent cover analysis to be determined after establishing the baseline data and will be incorporated into the restoration plan.
8. Establish long-term maintenance program for invasive species control, soil stabilization, and other actions noted during monitoring.
9. Avoid impacts to outlining habitats and improve area as habitat for wildlife by maintaining good land stewardship practices.

Impact 8: Western Bumble Bee

Western bumble bee (*Bombus occidentalis*) is a candidate species for listing as an endangered species under the California Endangered Species Act (CESA). As a candidate species, they receive the same legal protection afforded to endangered or threatened species (Fish & G. Code §§ 2074.2 & 2085). Due to the abundance of floristic forage opportunity within the existing natural communities on the parcels and bare open ground (nesting potential) located in various areas throughout the parcel, the potential exists on site for the Western bumble bee to utilize the site. Pre-construction surveys are recommended to reduce impacts to a less than significant level and comply with CDFW guidelines.

Recommendation 8:

A qualified biologist shall survey the work area prior to the start of Project activities to identify whether over-wintering, nesting, or foraging habitats of the Western bumble bee are present on or within 50-feet of the work area. If suitable habitat is identified in the work area, a qualified biologist shall conduct visual surveys during the flying period between March 1 to September 1

prior to Project activity. Permittee shall submit survey reporting to CDFW and County of Monterey at least seven days prior to commencing any Project work. If an individual is observed, Project activities shall not occur until the animal has left the work area on its own volition. If a nest is observed, no Project activities shall occur until a plan to protect Western bumble bees, including over-wintering queens, has been submitted and approved in writing by CDFW.

Impact 9: Fuel Management

In order to achieve State- and locally-mandated fire safety objectives, vegetation around new proposed structures will be modified. Current vegetation within the development area is dominated by unkempt, woody ornamental species and the overwhelming presence of invasive pride-of-Madeira. Site objectives will include removal of dense exotic species cover and vegetation conversion to a low-risk cover such as site appropriate low stature, native scrub habitat constituents while retaining much of the pre-existing native material that may generate after the removal of pervasive invasive species. Fire clearance around structures can vary in width, in relationship to the vegetative fuel type, tree limb height, the steepness of nearby slopes, and flammability of the construction material. In the highest-risk fire areas, construction should utilize fire-proof or fire-resistant materials. In all areas, an assessment should be made as to the degree of vegetation clearance needed to protect structures. To reduce potential habitat loss, fire clearance will be reduced to the minimum needed for fire safety.

Recommendation 9:

California Public Resource Code 4291 requires land owners to maintain defensible space of 100-feet from each side of structures, with the amount of fuel modification specific to the flammability of the structures as affected by building material, building standards, location and vegetation type. Fuels are to be maintained in a condition so that a wildfire burning under average weather conditions would be unlikely to ignite the structure. The intensity of fuels management varies within the 100-foot perimeter of the structure, with more intense fuel reductions required between 5 and 30 feet around the structure, and an ember-resistant zone being required within 5-feet of the structures. Site specific recommendations for the various management zones based on the natural vegetation communities of the Van Ess parcels and tree locations shall be included in the Fuel Management Plan to comply with State and County defensible space guidelines.

Fuel Management Plans can have adverse impacts to sensitive natural communities, though the Van Ess site will likely benefit from a coordinated fuel modification approach that will eliminate highly flammable invasive species (pride of Madeira, pampass grass, others), dead trees and limb debris, and apply a tactical approach of hand-cutting techniques to manage senescent, woody, burl sprouting native shrubs (chamise, shaggy bark manzanita, toyon). With a strategized approach to balance sensitive resources with human safety, the sensitive habitat resources should experience a revitalization for the plant communities by providing a stimulus for regrowth from existing shrubs and new growth from a dormant seed bank filled with native forb and sub shrub species. Essentially the manual cutting regime will simulate a low intensity fire by eliminating woody flammable materials and stimulating vigorous new growth of the rare plant communities on site.

Impacts to native plant constituents resulting from fuel modifications are expected to be less than significant with the bulk of the fuel modification efforts taking within zones that are rampant with woody, fuel heavy, invasive pride of Madeira and native community areas where shrub pruning of senescent or dead woody materials will remove high fuel loads.

Tree pruning, limbing guidelines, and woody debris fuel removal shall be specified in the Fuel Management Plan to reduce fuel loads and maintain a fire-safe landscape. Restoration guidelines and low hazardous fuel-type plant specifications for areas where invasive species have been removed shall be specified in the Restoration Plan. Passive restoration techniques

and planting specifications, where required to stabilize soils, shall implement low growing species, site-specific to the natural communities of the parcel, and arranged in discontinuous groupings.

A. The project biologist shall work with the project team to develop a site specific Fuel Management Plan to assist in the balance of creating a fire safe environment that benefits the preservation of sensitive ecological habitats on site. Prior to the issuance of grading or construction permits, a biologist approved Fuel Management Plan will be submitted to the Monterey County Housing and Community Development – Project Planner.

IX. PLANT & ANIMAL SPECIES OBSERVED

- Notes: 1. **Bold** print denotes special status species.
 2. * Denotes non-native species growing in naturalized areas.
 3. ∞ Denotes landscape introduced species.

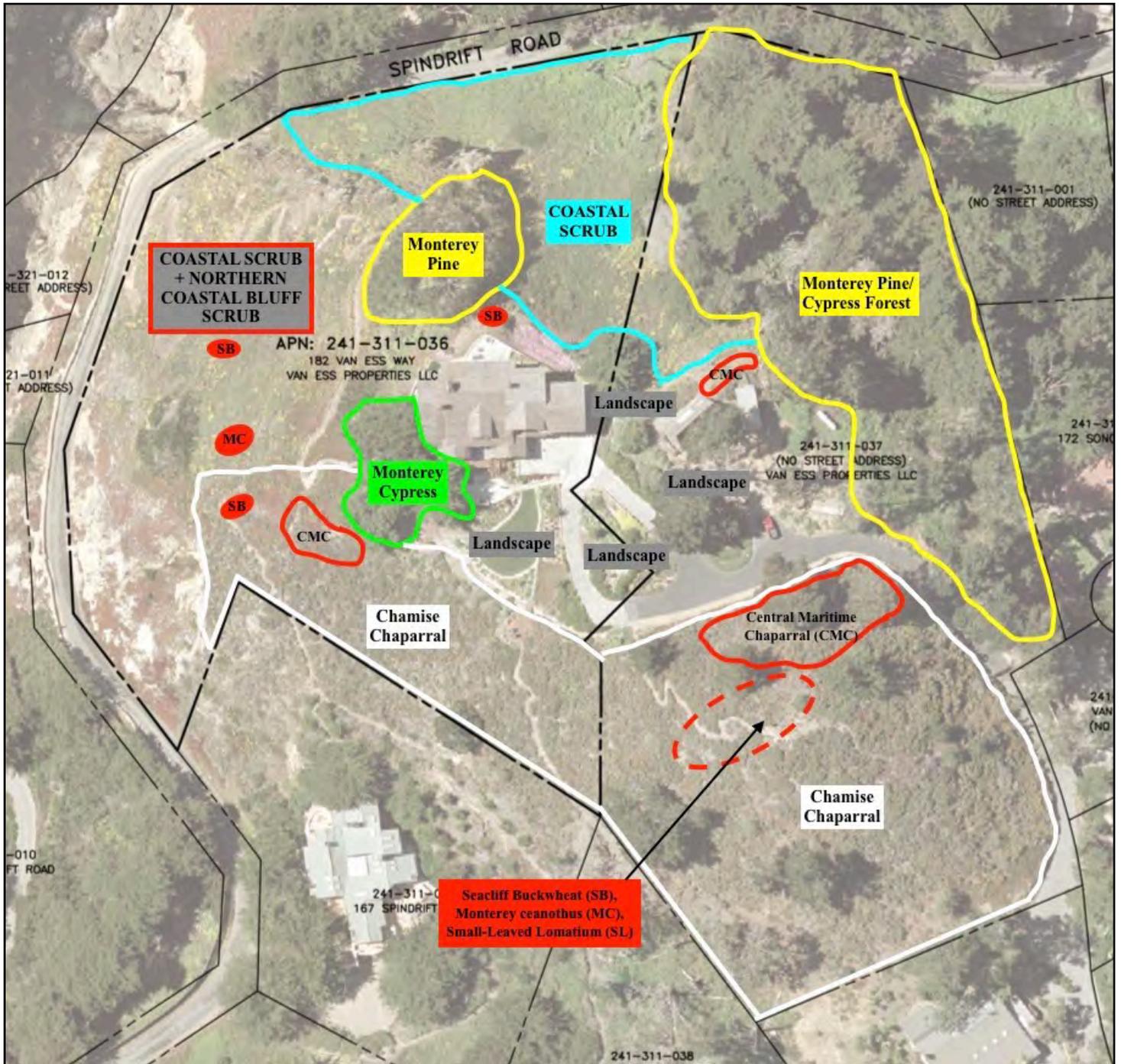
Tree Species	
<i>Acacia longifolia</i>	golden wattle
<i>Hesperocyparis macrocarpa</i> ∞	Monterey cypress
<i>Pinus radiata</i>	Monterey pine
<i>Quercus agrifolia</i>	coast live oak
<i>Pittosporum undulatum</i> ∞	Victorian box
<i>Sequoia sempervirens</i> ∞	coast redwood
Shrub and Forb Species	
<i>Acaena californica</i>	California acaena
<i>Achillea millefolium</i>	common yarrow
<i>Acmispon maritimus</i>	Coastal lotus
<i>Adenostoma fasciculatum</i>	chamise
<i>Adiantum jordanii</i>	California maidenhair
<i>Agoseris apargoides</i> var. <i>apargoides</i>	coast dandelion
<i>Agrostis pallens</i>	bentgrass
<i>Arctostaphylos tomentosa</i>	shaggy bark manzanita
<i>Artemisia californica</i>	California sagebrush
<i>Aspidotis californica</i>	California lace fern
<i>Avena fatua</i> *	wild oats
<i>Baccharis pilularis</i> ssp. <i>consanguinea</i>	coyote brush
<i>Briza maxima</i> *	quaking grass
<i>Briza minor</i> *	small quaking grass
<i>Bromus carinatus</i>	California brome

<i>Bromus hordeaceus</i> *	soft chess
<i>Bromus diandrus</i> *	rippgut brome
<i>Bromus hectorum</i> *	cheat grass
<i>Calochortus albus</i>	white globe lily
<i>Calystegia macrostegia</i> ssp. <i>cyclostegia</i>	coast morning glory
<i>Carex harfordii</i>	Monterey sedge
<i>Carpobrotus edulis</i> *	iceplant
<i>Castilleja latifolia</i>	Seaside paintbrush
<i>Ceanothus thyrsiflorus</i> var. <i>griseus</i>	Carmel ceanothus
<i>Ceanothus rigidus</i>	Monterey ceanothus
<i>Chloragalum pomeridianum</i>	soap plant
<i>Claytonia perfoliata</i>	minors lettuce
<i>Clinopodium douglasii</i>	yerba buena
<i>Corethrogyne filaginifolia</i>	California aster
<i>Diplaucus aurantiacus</i>	sticky monkey flower
<i>Dipterostemon capitatus</i>	blue dicks
<i>Dudley caespitosa</i>	sea lettuce
<i>Dudleya farinosa</i>	bluff lettuce
<i>Echium candicans</i> *	pride of Madeira
<i>Ehrharta erecta</i> *	veldt grass
<i>Elymus glaucus</i>	blue wild-rye
<i>Erigeron glaucus</i>	seaside daisy
<i>Eriogonum parvifolium</i>	seacliff buckwheat
<i>Eriophyllum staechadifolium</i>	lizard tail
<i>Frangula californica</i>	coffeeberry
<i>Festuca myuros</i> *	rat tail fescue
<i>Gallium californicum</i>	California bedstraw
<i>Genista monspessulana</i> *	French broom
<i>Heteromeles arbutifolia</i>	toyon
<i>Hordeum murinum</i> ssp. <i>leporinum</i> *	barnyard foxtail
<i>Iris douglasiana</i>	Douglas' iris
<i>Lathyrus vestitus</i>	Pacific pea
<i>Lomatium parvifolium</i>	small leaved lomatium
<i>Lotus scoparius</i>	deerweed

<i>Lysimachia arvensis</i> *	scarlet pimpernel
<i>Marah fabaceous</i>	California manroot
<i>Oxalis pes-caprae</i> *	Bermuda buttercup
<i>Poa secunda</i>	pine bluegrass
<i>Polypodium californium</i>	California polypody
<i>Pteridium aquilinum</i>	bracken fern
<i>Rubus ursinus</i>	California blackberry
<i>Rhus integrifolia</i>	lemonade berry
<i>Scrophularia californica</i>	bee plant
<i>Stachys bullata</i>	hedge nettle
<i>Stipa cernua</i>	nodding needlegrass
<i>Toxicodendron diversilobum</i>	Pacific poison oak
<i>Toxicoscordion fremonti</i>	Fremont's star lily

Animal Species	
<i>Aphelocoma californica</i>	western scrub-jay
Apodemus sp.	field mouse
<i>Calypte anna</i>	Anna's hummingbird
<i>Cathartes aura</i>	turkey vulture
<i>Corvus corax</i>	common raven
<i>Corvus brachyrhynchos</i>	American crow
<i>Cyanocitta stelleri</i>	Stellar's jay
<i>Gerrhonotus coeruleus</i>	northern alligator lizard
<i>Junco hyemalis</i>	dark-eyed junco
<i>Larus occidentalis</i>	Western gull
<i>Melospiza crissalis</i>	California towhee
<i>Sceloporus occidentalis bocourtii</i>	coast range fence lizard
<i>Sylvilagus bachmani</i>	brush rabbit
<i>Tachycineta thalassina</i>	violet green swallow
<i>Thomomys bottae</i>	Botta pocket gopher

XI. VEGETATION MAP



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