

MEMORANDUM

DATE: July 10, 2017

To: Steve Marshall, AICP, Planning and Environmental Services Manager, City of Novato

FROM: Theresa Wallace, AICP, Project Manager
John Kunna, Senior Biologist
Tim Lacy, Principal Biologist

SUBJECT: 2017 Hanna Ranch Mixed-Use Project – Biological Resources Evaluation

INTRODUCTION

This memorandum provides an overview of the potential impacts to biological resources that could occur with implementation of the 2017 Hanna Ranch Mixed-Use Project (2017 project), pursuant to the California Environmental Quality Act (CEQA). In 2011, an Environmental Impact Report (EIR) was prepared and certified by the City of Novato for a previously proposed version of the project (referred to herein as the 2011 project). The 2011 EIR evaluated the potential environmental effects associated with the proposed development of an approximately 19.7-acre site. The site is located on an irregularly shaped parcel at the southern terminus of Rowland Boulevard, east of US Highway (US) 101 and north of State Route (SR) 37. In 2011, the project applicant proposed to develop the site with a mix of commercial uses, including a maximum of 34,700 square feet of retail use, 21,200 square feet of office use, 10,000 square feet of restaurant use, a 70,600 square-foot (116-room) hotel, and associated grading, parking, landscaping, and extension of infrastructure. The project also included a Class I bicycle and pedestrian pathway and two potential alignments were considered in the EIR.

The 2017 project includes changes to the mix of uses approved in 2011 and evaluated in the certified EIR. The current 2017 project includes approximately 13,500 square feet of retail uses, 12,540 square feet of restaurant use, 36,420 square feet of residential use (approximately 48 units), a 74,200-square-foot hotel with 125 guest rooms, and a Costco gas station. No office uses are proposed.

The footprints of the buildings and associated paved surfaces and landscaping of the 2017 project are slightly different from those in the 2011 project (see Figures III-3a and III-3b in the 2011 EIR). Specifically, the original Buildings A and B would be replaced with smaller buildings as well as a vehicular fueling station for a nearby retailer (Costco). The original Building C would be replaced with a longer and taller mixed-use building incorporating retail on the ground floor and residential on the upper floors. The original Restaurant D would be replaced with a smaller Building E. The original Hotel E would be largely left unchanged. With regards to the general parking layout, slight modifications have been made to the original design to improve traffic flow and to maximize parking count. The Class I bicycle and pedestrian path proposed as part of the 2011 project is not proposed

as part of the 2017 project. The internal access roadway has also been realigned for the 2017 project, and would run parallel to the eastern shoreline of the Beverly Ehreth Ecological Preserve pond.

Due to the changes in the 2017 mix and location of proposed uses on the site and possible changes to existing conditions at and in the vicinity of the project site since 2011, LSA biologists conducted a field survey, literature review, and review of the impacts and mitigation measures identified in the 2011 EIR to determine if new or more severe impacts would result with implementation of the 2017 project, as compared to the 2011 project.

This following summarizes how existing conditions on the site and the project itself and its potential impacts have changed since 2011, and provides recommendations to ensure that impacts remain less than significant with implementation of the 2017 project. As discussed in more detail below, no new or substantially more severe impacts were identified for the 2017 project as compared to the 2011 project, although impact statements and mitigation text have been slightly modified to reflect the current project and currently applicable mitigation standards. In addition, it is recommended that additional measures be implemented as conditions of approval for the 2017 project, to further ensure that potential impacts related to biological resources would remain less than significant.

METHODS

LSA biologists reviewed the 2011 project plans as well as the currently proposed 2017 plans, dated March 22, 2017, and evaluated the potential effects of the proposed 2017 project on biological resources, including wetlands. The CAD versions of the 2011 and 2017 projects were also reviewed. These overlays were not georeferenced and, therefore, not precise enough to determine the exact trees that will be preserved or removed. The biologists conducted a new search of the California Natural Diversity Data Base (CNDDDB) (Rarefind 5) to determine if new occurrences of special-status biological resources have been found in the vicinity of the site or if the protection status of any of the species had changed. The scientific and vernacular nomenclature for plant species used in this memorandum are derived from Baldwin et. al. (2012) and updates listed on the Jepson Herbarium website (Jepson Herbarium 2017).

LSA biologists also reviewed the following documents that were prepared for the 2011 project:

- Wetlands Research Associates, Inc. 2004. Biological Site Assessment, Hanna Ranch, Novato, California. June (revised October) 2004.
- Wetlands Research Associates, Inc., 2004. Delineation of Jurisdictional Wetlands and Waters of the United States, Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, Hanna Ranch, Novato, California. July.
- United States Army Corps of Engineers, 2010. Jurisdictional Determination Re-verification.
- Wetlands Research Associates, Inc. 2010. California Red-legged Frog Habitat Site Assessment, Hanna Ranch, Marin County, California. July.

- Wetlands Research Associates, Inc., 2009. Hanna Ranch Rare Plant Survey Report, Novato, Marin County, California. August.
- MacNair and Associates. 2008. Hanna Ranch Eucalyptus Tree Inventory and Evaluation, Novato, California. November 11.
- Ralph Osterling Consultants, Inc. 2004. Tree Report for the Hanna Ranch Property, Novato, California. September 1.

LSA biologists conducted reconnaissance-level surveys of the site on April 22, 24, and 25, 2017, to determine how the existing conditions and habitats had changed since the previous surveys.

OVERVIEW OF EXISTING 2017 CONDITIONS COMPARED TO 2011 CONDITIONS

The general conditions of the site are similar to those described in earlier reports and the 2011 EIR, with the following minor changes.

The Sonoma-Marín Area Rail Transit (SMART) railroad tracks were constructed in approximately 2016 and replaced the old railroad tracks on the eastern boundary of the site. The bridge at the outflow of the small on-site pond was widened to accommodate the second set of railroad tracks. A few trees on the eastern side of the property were removed as well. The new bridge and alignment for the SMART tracks filled the small brackish marsh that was described in 2011 at the eastern end of the small on-site pond.

The site continues to be used extensively by off-road four wheel drive vehicles and dirt bikes. The trails created by the off-road driving have accelerated erosion and led to sediment flowing into the small on-site pond. The fence around the Beverly Ehreth Preserve pond is vandalized or broken in several places. Part of the northern end of the site is actively used to store construction materials including gravel and trench plates. Household waste and parts of off-road vehicles have been dumped throughout the site. In 2017, LSA biologists observed that several rodenticide bait stations were in use on the eastern side of the shopping center immediately north of the site. It appears that these are associated with the Costco retailer.

Existing 2017 vegetation, wildlife, and wetland conditions on the site as compared to 2011 conditions are described below, including the potential for special-status species to occur on the site. Special-status species are defined as follows:

- Species that are listed, formally proposed, or designated as candidates for listing as threatened or endangered under the federal Endangered Species Act or the California Endangered Species Act;
- Plant species on Lists 1A, 1B, and 2 in the California Rare Plant Rank;
- Animal species designated by the California Department of Fish and Wildlife as Species of Special Concern or Fully Protected Species;

- Species that meet the definition of rare, threatened, or endangered under Section 15380 of the CEQA Guidelines; or
- Species considered to be a taxon of special concern by local agencies.

Also refer to pages 232 through 236 of the 2011 Draft EIR for a description of the applicable regulatory context.

Vegetation and Plants

The 2011 EIR discussion related to existing vegetation and plant species on the site still accurately describe the current conditions of the site. Some vegetation on the site and around the Beverly Ehreth Preserve Pond has grown taller, and the invasive Himalayan blackberry (*Rubus armeniacus*) thickets appear to have expanded. One tree had fallen recently, and stumps and piles of wood chips indicate that some trees were cut down and chipped on the site.

All plant species that have been observed on the site since 2009 are shown in Table 1 and all special-status plant species that have had the potential to occur within or in the vicinity of the site in 2017 are shown in Table 2. The vegetation types on the site still consist of valley oak woodland, non-native grasslands with native grassland components, ruderal/weedy vegetation, Eucalyptus groves, and wetland vegetation. Some of the scientific names of rare and common plant species discussed in the 2011 EIR have changed, and the new names are used in Table 1 and Table 2. The name changes for special-status plant species did not change any of the legal protections afforded to them.

Several small stands of purple needle grass grassland still occur on the project site, and are approximately the same size they were in 2011. These stands are less than 0.1 acre in size. The cover of purple needle grass varies from 15 to 50 percent of these stands. The non-native wild oats and quaking grass are also dominants or sub-dominants in the purple needle grass grassland at cover of 20 to 30 percent. Purple needle grass grassland is considered sensitive by the California Department of Fish and Wildlife, meaning that the species is considered to be rare, although not specifically listed by regulatory agencies as threatened or endangered and does not qualify as a “special-status” species. Nevertheless, project-related impacts to sensitive species are considered significant under CEQA and must be considered and mitigated to a less than significant level.

Special-Status Plants

All special-status plant species that potentially occur in the vicinity of the site in 2017 are listed in Table 2. This list was updated in 2017 to include new occurrences, new scientific or common names, and new protective status or Rare Plant Rank for each plant. As was true in 2011, no special-status plant species are expected to occur on the site.

Table 1: Plant Species Observed at the Hanna Ranch Project Site, March 6, and May 5, 2009; July 10, 2010; and April 24, 2017

FAMILY/Species Name - Scientific	FAMILY/Common Name	Nativity
FERNS and FERN ALLIES		
PTERIDACEAE	BRAKE FAMILY	
<i>Pentagramma triangularis</i>	Gold-back fern	yes
GYMNOSPERMS		
PINACEAE	PINE FAMILY	
<i>Pinus radiata</i>	Monterey pine	yes
MAGNOLIIDS		
LAURACEAE	LAUREL FAMILY	
<i>Umbellularia californica</i>	California laurel	yes
EUDICOTS		
ANACARDIACEAE	SUMAC/CASHEW	
<i>Toxicodendron diversilobum</i>	Poison oak	yes
APIACEAE	CARROT	
<i>Conium maculatum</i>	Poison hemlock	no
<i>Foeniculum vulgare</i>	Fennel	no
<i>Sanicula crassicaulis</i>	Wood sanicle	yes
ASTERACEAE	SUNFLOWER FAMILY	
<i>Baccharis pilularis</i>	Coyote brush	yes
<i>Carduus pycnocephalus</i>	Italian thistle	no
<i>Centaurea melitensis</i>	Tocalote	no
<i>Centaurea solstitialis</i>	Yellow star-thistle	No; INVASIVE SPECIES
<i>Cirsium vulgare</i>	Bull thistle	no
<i>Helminthotheca echioides</i>	Bristly ox-tongue	no
<i>Logfia gallica</i>	Narrow-leaves cottonrose	no
<i>Matricaria discoidea</i>	Pineapple weed	no
<i>Pseudognaphalium luteoalbum</i>	Jersey cudweed	no
<i>Psilocarphus tenellus</i>	Slender woolyheads	yes
<i>Senecio vulgaris</i>	Common groundsel	no
BORAGINACEAE	BORAGE FAMILY	
<i>Amsinckia menziesii</i>	Menzies' fiddleneck	yes
BRASSICACEAE	MUSTARD FAMILY	
<i>Capsella bursa-pastoris</i>	Shepherd's purse	no
<i>Hirschfeldia incana</i>	Shortpod mustard	no
<i>Raphanus sativus</i>	Wild radish	no
CAPRIFOLIACEAE	HONEYSUCKLE FAMILY	
<i>Symphoricarpos albus var. laevigatus</i>	Snowberry	yes
CARYOPHYLLACEAE	PINK FAMILY	
<i>Spergularia rubra</i>	Red sandspurry	no
<i>Stellaria media</i>	Chickweed	no
CONVOLVULACEAE	MORNING GLORY	
<i>Calystegia subacaulis</i>	Stemless morning glory	yes
ERICACEAE	HEATH FAMILY	
<i>Arbutus menziesii</i>	Pacific madrone	yes

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FABACEAE	LEGUME FAMILY	
<i>Acacia dealbata</i>	Silver wattle	no
<i>Lotus corniculatus</i>	Bird's-foot trefoil	no
<i>Lupinus nanus</i>	Sky lupine	yes
<i>Medicago polymorpha</i>	Bur-clover	no
<i>Trifolium hirtum</i>	Rose clover	no
<i>Vicia villosa</i>	Hairy vetch	no
FAGACEAE	OAK FAMILY	
<i>Quercus agrifolia</i>	Coast live oak	yes
<i>Quercus kelloggii</i>	California black oak	yes
<i>Quercus lobata</i>	Valley oak	yes
GERANIACEAE	GERANIUM FAMILY	
<i>Erodium botrys</i>	Long beaked filaree	no
<i>Geranium dissectum</i>	Cutleaf geranium	no
<i>Geranium molle</i>	Woodland geranium	no
HYPERICACEAE		
<i>Hypericum perforatum</i>	Klamath weed	no
LAMIACEAE	MINT FAMILY	
<i>Mentha pulegium</i>	Pennyroyal	no
LYTHRACEAE	LOOSETRIFE	
<i>Lythrum hyssopifolium</i>	Hyssopp loosetrife	no
MALVACEAE	MALLOW FAMILY	
<i>Malva parviflora</i>	Cheeses	no
MONTIACEAE	PURSLANE FAMILY	
<i>Claytonia parviflora</i>	Miner's lettuce	yes
MYRSINACEAE		
<i>Lysimachia arvensis</i> [<i>Anagallis arvensis</i>]	Scarlet pimpernel	no
MYRTACEAE	MYRTLE FAMILY	
<i>Eucalyptus camaldulensis</i>	Red gum	no
<i>Eucalyptus globulus</i>	Blue gum eucalyptus	no
ONAGRACEAE	EVENING PRIMROSE FAMILY	
<i>Epilobium brachycarpum</i>	Willowherb	yes
<i>Taraxia ovata</i>	Camissonia	yes
PLANTAGINACEAE	PLANTIAN FAMILY	
<i>Plantago coronopus</i>	Buckhorn plantain	no
<i>Plantago lanceolata</i>	English plantain	no
POLYGONACEAE	BUCKWHEAT FAMILY	
<i>Polygonum aviculare</i> subsp. <i>depressum</i>	Prostrate knotweed	no
<i>Rumex crispus</i>	Curly dock	no
<i>Rumex pulcher</i>	Fiddle dock	no
RANUNCULACEAE	BUTTERCUP FAMILY	
<i>Ranunculus californicus</i>	California buttercup	yes

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ROSACEAE	ROSE FAMILY	
<i>Prunus ilicifolia</i>	Holly-leaved cherry	yes
<i>Rubus armeniacus</i>	Himalayan blackberry	yes
RUBIACEAE	MADDER FAMILY	
<i>Galium aparine</i>	Goose grass	yes
SAPINDACEAE	BUCKEYE FAMILY	
<i>Aesculus californica</i>	California buckeye	yes
SAXIFRAGACEAE	SAXIFRAGE FAMILY	
<i>Lithophragma affine</i>	Woodland star	yes
VIOLACEAE		
<i>Viola pedunculata</i>	Johnny-jump-up	yes
MONOCOTS		
CYPERACEAE	SEDGE FAMILY	
<i>Bolboschoenus robustus</i>	Seacoast bulrush	yes
JUNCACEAE	RUSH FAMILY	
<i>Juncus bufonius</i>	Toad rush	yes
<i>Juncus patens</i>	Blue rush	yes
THEMIDACEAE	BRODIAEA FAMILY	
<i>Dichelostemma capitatum</i>	Blue dicks	yes
TYPHACEAE	CATTAIL FAMILY	
<i>Typha angustifolia</i>	Narrowleaf cattail	yes
POACEAE	GRASS FAMILY	
<i>Avena barbata</i>	Slender wild oat	no
<i>Avena fatua</i>	Common wild oat	no
<i>Brachypodium distachyon</i>	False brome	no
<i>Briza maxima</i>	Rattlesnake grass	no
<i>Briza minor</i>	Little quaking grass	no
<i>Bromus catharticus var. elatus</i>	Harlan brome	no
<i>Bromus diandrus</i>	Ripgut brome	no
<i>Bromus hordeaceus</i>	Soft cheatgrass	no
<i>Elymus elymoides</i>	Squirreltail	yes
<i>Elymus glaucus</i>	Blue wildrye	yes
<i>Elymus triticoides</i>	Creeping wildrye	yes
<i>Festuca myuros</i>	Rat's-tail fescue	no
<i>Festuca perennis</i>	Italian ryegrass	no
<i>Hordeum brachyantherum</i>	Meadow barley	yes
<i>Hordeum marinum subsp. gussoneanum</i>	Mediterranean barley	no
<i>Paspalum dilatatum</i>	Dallis grass	no
<i>Phalaris aquatica</i>	Harding grass	no
<i>Poa annua</i>	Annual bluegrass	no
<i>Polypogon monspeliensis</i>	Rabbit's-foot grass	no
<i>Stipa pulchra</i>	Purple needlegrass	yes

Source: LSA, 2017.

Table 2: Special-Status Plant Species Potentially Occurring in the Vicinity of the Hanna Ranch Project Site in 2017

Species	Status* (Federal/State/RPR)	Habitat Requirements	Blooming Period	Potential for Occurrence
<i>Allium peninsulare</i> var. <i>franciscanum</i> Franciscan onion	-/-/1B	Cismontane woodland, valley and foothill grassland. Clay soils; often on serpentine. Dry hillsides. 100–300 meters.	May–June	Unlikely to occur because of disturbed habitat. Not observed during surveys.
<i>Alopecurus aequalis</i> var. <i>sonomensis</i> Sonoma alopecurus	FE/-/1B	Freshwater marshes and swamps, riparian scrub. 5–360 meters.	May–July	Not expected to occur. Suitable marsh habitat not present.
<i>Amorpha californica</i> var. <i>napensis</i> Napa false indigo	-/-/1B	Openings in broad-leafed upland forest, chaparral, cismontane woodland. 150–2,000 meters.	April–July	Unlikely to occur because of disturbed habitat. Not observed during surveys.
<i>Amsinckia lunaris</i> Bent-flowered fiddleneck	-/-/1B	Coastal bluff scrub, cismontane woodland, valley and foothill grassland. 50–500 meters.	March–June	Not expected to occur. Marginal habitat present, but not detected during protocol-level rare plant surveys in March and May 2009. ¹
<i>Arctostaphylos hookeri</i> subsp. <i>montana</i> Mt. Tamalpais manzanita	-/-/1B	Serpentine slopes in chaparral, valley and foothill grassland. 160–760 meters.	February–April	Not expected to occur. Suitable serpentine habitat not present.
<i>Arctostaphylos virgata</i> Marin manzanita	-/-/1B	Broad-leafed upland forest, closed-cone coniferous forest, chaparral, North Coast coniferous forest. Sandstone or granitic soils. 60–700 meters.	January–March	Not expected to occur. Suitable forest and chaparral habitat not present.
<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i> Coastal marsh milk-vetch	-/-/1B	Coastal dunes and salt marshes. 0–30 meters.	April–October	Not expected to occur. Suitable salt marsh habitat not present.
<i>Astragalus tener</i> var. <i>tener</i> Alkali milk-vetch	-/-/1B	Grassy flats and vernal pool margins, on alkali soils. 0–160 meters.	March–June	Not expected to occur. Suitable habitat not present.
<i>Blennosperma bakeri</i> Sonoma sunshine	FE/SE/1B	Vernal pools, seasonal wetlands, valley and foothill grassland. 10–100 meters.	March–May	Not expected to occur. Grassland provides marginal habitat but not detected during protocol-level rare plant surveys in March and May 2009. ²
<i>Calochortus tiburonensis</i> Tiburon mariposa lily	FT/ST/1B	Open, rocky slopes in serpentine grassland. 50–150 meters.	March–June	Not expected to occur. Serpentine habitat not present.
<i>Carex lyngbyei</i> Lyngbye’s sedge	-/-/2	Marshes and swamps (freshwater or brackish). 0–10 meters.	May–August	Not expected to occur. Suitable marsh habitat not present.
<i>Castilleja affinis</i> subsp. <i>neglecta</i> Tiburon Indian paintbrush	FE/ST/1B	Rocky serpentine sites in valley and foothill grassland. 75–400 meters.	April–June	Not expected to occur. Serpentine habitat not present.

Table 2: Special-Status Plant Species Potentially Occurring in the Vicinity of the Hanna Ranch Project Site in 2017

Species	Status* (Federal/ State/RPR)	Habitat Requirements	Blooming Period	Potential for Occurrence
<i>Ceanothus masonii</i> Mason’s ceanothus	-/SR/1B	Chaparral. Endemic to Marin County. Serpentine ridges or slopes in chaparral or transition zone. 180–460 meters.	March–April	Not expected to occur. Serpentine chaparral not present.
<i>Centromadia parryi</i> subsp. <i>parryi</i> Pappose tarplant	-/-/1B	Vernally mesic, often alkaline sites in coastal prairie, meadows and seeps, coastal salt marsh, valley and foothill grassland. 2–240 meters.	May– November	Not expected to occur. Not observed during surveys.
<i>Chloropyron maritimum</i> subsp. <i>palustre</i> Point Reyes bird’s-beak	-/-/1B	Coastal salt marsh. 0–15 meters.	June–October	Not expected to occur. Salt marsh habitat not present.
<i>Chloropyron molle</i> subsp. <i>molle</i> Soft bird’s-beak	FE/SR/1B	Coastal salt marsh. 0–3 meters.	July–November	Not expected to occur. Salt marsh habitat not present.
<i>Chorizanthe valida</i> Sonoma spineflower	FE/SE/1B	Sandy soils in coastal prairie. 10–305 meters.	June–August	Not expected to occur. Sandy soil habitat not present.
<i>Chorizanthe cuspidata</i> var. <i>cuspidata</i> San Francisco Bay spineflower	-/-/1B	Sandy soil on terraces and slopes in coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub. 5–550 meters.	April–August	Not expected to occur. Sandy soil habitat not present.
<i>Cirsium hydrophilum</i> var. <i>vaseyi</i> Mt. Tamalpais thistle	-/-/1B	Serpentine seeps and streams in broad-leafed upland forest and chaparral. 265–620 meters.	May–August	Not expected to occur. Serpentine habitat not present.
<i>Delphinium bakeri</i> Baker’s larkspur	FE/SE/1B	Decomposed shale substrates on northwest-facing slopes in coastal scrub and grasslands. 90–205 meters.	March–May	Not expected to occur. Grassland provides marginal habitat, but not detected during protocol-level rare plant surveys in March and May 2009.
<i>Delphinium luteum</i> Golden larkspur	FE/SR/1B	North-facing, rocky slopes in chaparral, coastal prairie, and coastal scrub. 0–100 meters.	March–May	Not expected to occur. Habitat conditions not appropriate for species. Not detected during protocol-level rare plant surveys in March and May 2009.
<i>Dirca occidentalis</i> Western leatherwood	-/-/1B	Mesic soils in broad-leafed upland forest, chaparral, closed-cone coniferous forest, cismontane woodland, North Coast coniferous forest, riparian forest, and riparian woodland. 30–550 meters.	January–April	Not expected to occur. Suitable habitat not present and not observed during surveys.
<i>Downingia pusilla</i> Dwarf downingia	-/-/2	Mesic sites in valley and foothill grassland, vernal pools. 1–445 meters.	March–May	Not expected to occur. Suitable vernal pool type habitat absent. Not detected during protocol-level rare plant surveys in March and May 2009.

Table 2: Special-Status Plant Species Potentially Occurring in the Vicinity of the Hanna Ranch Project Site in 2017

Species	Status* (Federal/ State/RPR)	Habitat Requirements	Blooming Period	Potential for Occurrence
<i>Entosthodon kochii</i> Koch's cord moss	-/-/1B	Serpentine soils in cismontane woodland. 500–1000 meters.	N/A	Not expected to occur. Serpentine habitat not present.
<i>Eriogonum luteolum</i> var. <i>caninum</i> Tiburon buckwheat	-/-/1B	Serpentine soils in chaparral, coastal prairie, valley and foothill grassland. 10–500 meters.	June– September	Not expected to occur. Serpentine habitat not present.
<i>California macrophyllum</i> Round-leaved filaree	-/-/1B	Clay soils in cismontane woodland and in valley and foothill grassland. 15–1200 meters.	March–May	Not expected to occur. Grassland provides marginal habitat but not detected during protocol-level rare plant surveys in March and May 2009. ⁵
<i>Fissidens pauperculus</i> Minute pocket moss	-/-/1B	Damp soils in North Coast coniferous forest. 10–100 meters.	N/A	Not expected to occur. Suitable coniferous forest habitat not present.
<i>Fritillaria lanceolata</i> var. <i>tristulis</i> Marin checker lily	-/-/1B	Coastal bluff scrub, coastal scrub, coastal prairie. 30–300 meters.	February–April	Not expected to occur at this inland site; only known from coastal areas.
<i>Fritillaria liliacea</i> Fragrant fritillary	-/-/1B	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland. 3–410 meters.	February–April	Not expected to occur. Grassland provides marginal habitat but not detected during protocol-level rare plant surveys in March and May 2009.
<i>Gilia capitata</i> subsp. <i>tomentosa</i> Woolly-headed gilia	-/-/1B	Rocky outcrops in coastal bluff scrub. 15–155 m.	May–June	Not expected to occur. Suitable rocky outcrops and scrub habitat not present.
<i>Grindelia hirsutula</i> San Francisco gumplant	-/-/3.2	Sandy or serpentine slopes in coastal scrub, coastal bluff scrub, valley and foothill grassland. 15–400 meters.	August– September	Not expected to occur not detected during protocol-level rare plant surveys in March and May 2009.
<i>Helianthella castanea</i> Diablo helianthella	-/-/1B	Rocky, azonal soil in broad-leaved upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. 25–1150 meters.	April–June	Not expected to occur. Habitat conditions not appropriate for species. Not detected during protocol-level rare plant surveys in March and May 2009.
<i>Hemizonia congesta</i> subsp. <i>congesta</i> Seaside tarplant	-/-/1B	Coastal scrub, valley and foothill grassland. 25–365 meters.	April–October	Not expected to occur. Grassland provides marginal habitat. Not detected during protocol-level rare plant surveys in July 2010.
<i>Hesperolinon congestum</i> Marin western flax	FT/ST/1B	Serpentine in chaparral, valley and foothill grassland. 30–365 meters.	April–July	Not expected to occur. Suitable serpentine habitat not present.

Table 2: Special-Status Plant Species Potentially Occurring in the Vicinity of the Hanna Ranch Project Site in 2017

Species	Status* (Federal/ State/RPR)	Habitat Requirements	Blooming Period	Potential for Occurrence
<i>Holocarpha macradenia</i> Santa Cruz tarplant	FT/SE/1B	Heavy clay soil that retains moisture late in year in coastal prairie, valley and foothill grassland. 10–260 meters.	June–October	Not expected to occur. Habitat conditions not appropriate for species. Not detected during protocol-level rare plant surveys.
<i>Horkelia tenuiloba</i> Thin-lobed horkelia	-/-/1B	Mesic, sandy openings in coastal scrub, chaparral. 45– 500 meters.	May–July	Not expected to occur. Sandy soil habitat not present.
<i>Kopsiopsis hookeri</i> Small groundcone	-/-/2	North Coast coniferous forest. 90–885 meters.	April–August	Not expected to occur. Suitable host plants not present.
<i>Lasthenia conjugens</i> Contra Costa goldfields	FE/-/1B	Valley and foothill grassland, vernal pools, cismontane woodland. 1–445 meters.	March–June	Not expected to occur. Seasonal wetlands provide marginal habitat but not detected during protocol-level rare plant surveys in March and May 2009.
<i>Leptosiphon croceus</i> Coast yellow leptosiphon	-/-/1B	Coastal bluff scrub, coastal prairie. 10–150 meters.	May	Not expected to occur. Habitat conditions not appropriate for species. Not present.
<i>Lessingia hololeuca</i> Woolly-headed lessingia	-/-/3	Clay or serpentine soils in broad-leafed upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland. 15–305 meters.	June–October	Not expected to occur. Habitat conditions not appropriate for species. Not detected during protocol-level rare plant surveys in March and May 2009.
<i>Lessingia micradenia</i> var. <i>micradenia</i> Tamalpais lessingia	-/-/1B	Serpentine soils in chaparral and valley and foothill grassland, often on roadsides. 100–305 meters.	June–October	Not expected to occur. Suitable serpentine habitat not present.
<i>Limnanthes vinculans</i> Sebastopol meadowfoam	FE/SE/1B	Swales, wet meadows, and marshy areas in valley oak savanna. On poorly drained soils of clay and sandy loam. 15–115 meters.	April–May	Not expected to occur. Suitable vernal pool and marsh habitat not present.
<i>Micropus amphibolus</i> Mt. Diablo cottonweed	-/-/3	Rocky soils in broad-leafed upland forest, chaparral, cismontane woodland, valley and foothill grassland. 45– 835 meters.	March–May	Not expected to occur. Woodland and grassland provide marginal habitat but not detected during protocol-level rare plant surveys in March and May 2009.
<i>Microseris paludosa</i> Marsh microseris	-/-/1B	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. 5–300 meters.	April–June	Not expected to occur. Woodland and grassland provide marginal habitat but not detected during protocol-level rare plant surveys in March and May 2009.
<i>Mielichhoferia elongata</i> Elongate copper moss	-/-/4.3	Very acidic, metamorphic rock or other substrates in cismontane woodland. 500–1300 meters.	N/A	Not expected to occur. Metamorphic rock habitat not present.
<i>Navarretia leucocephala</i> subsp. <i>bakeri</i> Baker’s navarretia	-/-/1B	Saturated soils of meadows and seeps in valley and foothill grassland, vernal pools and swales. 15–1740 meters.	May–July	Not expected to occur. Suitable ponded areas not present.

Table 2: Special-Status Plant Species Potentially Occurring in the Vicinity of the Hanna Ranch Project Site in 2017

Species	Status* (Federal/State/RPR)	Habitat Requirements	Blooming Period	Potential for Occurrence
<i>Navarretia rosulata</i> Marin County navarretia	-/-/1B	Rocky, sometimes serpentine soil in closed-cone coniferous forest and chaparral. 200–636 meters.	May–July	Not expected to occur. Suitable rocky habitat not present.
<i>Pentachaeta bellidiflora</i> White-rayed pentachaeta	FE/SE/1B	Open dry rocky slopes and grassy areas usually on soil from serpentine bedrock in valley and foothill grassland. 35–620 meters.	March–May	Not expected to occur. Habitat conditions not appropriate for species. Not detected during protocol-level rare plant surveys in March and May 2009.
<i>Plagiobothrys mollis</i> var. <i>vestitus</i> Petaluma popcorn flower	-/-/1A	Wet sites in grasslands, possibly near coastal marsh margins. 10–50 meters.	June–July	Presumed extinct. Not expected to occur because of disturbed habitat. Not observed during surveys.
<i>Plagiobothrys glaber</i> Hairless popcorn flower	-/-/1A	Alkaline meadows and seeps, coastal salt marshes and swamps. 5–180 meters.	March–May	Not expected to occur. Suitable alkaline wet areas not present.
<i>Pleuropogon hooverianus</i> North Coast semaphore grass	-/ST/1B	Saturated soils of broad-leafed upland forest, meadows and seeps. Wet grassy, usually shady areas; sometimes freshwater marsh. 10–1150 meters.	May–August	Not expected to occur. Suitable wet areas not present.
<i>Polygonum marinense</i> Marin knotweed	-/-/3	Coastal salt marshes and brackish marshes. 0–10 meters.	May–August	Not expected to occur. Salt marsh habitat not present.
<i>Quercus parvula</i> var. <i>tamalpaisensis</i> Tamalpais oak	-/-/1B	Lower montane coniferous forest. 100–750 meters.	March–April	Not expected to occur. Habitat not appropriate. Not detected during protocol-level rare plant surveys in March and May 2009.
<i>Sidalcea calycosa</i> subsp. <i>rhizomata</i> Point Reyes checkerbloom	-/-/1B	Marshes and swamps. 3–75 meters.	April–September	Not expected to occur. Marsh habitat not present.
<i>Sidalcea hickmanii</i> subsp. <i>viridis</i> Marin checkerbloom	-/-/1B	Chaparral on serpentine or volcanic soils, sometimes after burns. 0–430 meters.	May–June	Not expected to occur. Serpentine chaparral habitat not present.
<i>Stebbinsoseris decipiens</i> Santa Cruz microseris	-/-/1B	On seaward slopes, soil derived from sandstone shale or serpentine in broad-leafed upland forest, closed-cone coniferous forest, chaparral, coastal prairie, and coastal scrub. 10–500 meters.	April–May	Not expected to occur. Habitat conditions not appropriate for species. Not detected during protocol-level rare plant surveys in March and May 2009.
<i>Streptanthus batrachopus</i> Tamalpais jewel-flower	-/-/1B	Closed-cone coniferous forest, talus serpentine outcrops in chaparral. 305–650 meters.	April–June	Not expected to occur. Serpentine habitat not present.
<i>Streptanthus glandulosus</i> subsp. <i>niger</i> Tiburon jewel-flower	FE/SE/1B	Shallow rocky serpentine slopes in valley and foothill grassland. 30–150 meters.	May–June	Not expected to occur. Serpentine habitat not present.

Table 2: Special-Status Plant Species Potentially Occurring in the Vicinity of the Hanna Ranch Project Site in 2017

Species	Status* (Federal/ State/RPR)	Habitat Requirements	Blooming Period	Potential for Occurrence
<i>Streptanthus glandulosus</i> subsp. <i>pulchellus</i> Mount Tamalpais bristly jewel- flower	-/-/1B	Serpentine slopes in chaparral, valley and foothill grassland. 150–800 meters,	May–July	Not expected to occur. Serpentine habitat not present.
<i>Symphotrichum lentum</i> Suisun marsh aster	-/-/1B	Brackish and freshwater marshes and swamps. 0–3 meters.	May– November	Not expected to occur. Suitably wet areas not present.
<i>Trifolium amoenum</i> Two fork clover	FE/-/1B	Coastal bluff scrub, valley and foothill grassland (sometimes serpentinite). 5–560 meters.	April–June	Not expected to occur. Grassland habitat is too disturbed. Not detected during protocol-level rare plant surveys in March and May 2009.
<i>Trifolium hydrophilum</i> Saline clover	-/-/1B	Seasonally wet alkaline marshes; vernal pools; in valley and foothill grassland. 0–300 meters.	April–June	Not expected to occur. Grasslands on the site are not appropriate habitat. Not detected during protocol-level rare plant surveys in March and May 2009.
<i>Triquetrella californica</i> Coastal triquetrella	-/-/1B	Soil over rock in coastal sage scrub. 10–100 meters.	N/A	Not expected to occur. Scrub habitat not present.

* Status:

FE = federally endangered

FT = federally threatened

SE = State endangered

ST = State threatened

SR = State rare

1A = Rare Plant Rank (RPR) 1A: species presumed extinct.

1B = California Rare Plant Rank 1B: species considered rare or endangered in California and elsewhere.

2B = California Rare Plant Rank 2B: Plants presumed extirpated in California, but common elsewhere

3 = California Rare Plant Rank 3 – Plants about which more information is needed – a review list

4 = California Rare Plant Rank 4 – watch list, plants of limited distribution – = No status

Source: CDFW 2010, 2017; CNPS 2010, 2017; WRA 2009.

Wildlife

The accepted common and/or scientific names of some vertebrate wildlife species discussed in the 2011 EIR have changed. For example, the Ridgway's rail (*Rallus obsoletus*) was known as the California clapper rail (*Rallus longirostris obsoletus*) at the time the 2011 EIR was written. This name change did not change any of the legal protections afforded this or any of the other species discussed.

The scientific name of the western pond turtle (*Emys marmorata*) has also changed. Additionally, the United States Fish and Wildlife Service (USFWS) was petitioned in 2012 to list the western pond turtle as threatened or endangered under the federal Endangered Species Act (ESA). In 2015 the USFWS responded to the petition, and determined that ESA protection may be warranted for the species. The USFWS is now conducting a status review on the species, which will determine whether or not it will become a candidate species. The status of all reptile and amphibian California Species of Special Concern has been re-evaluated, and the results were published in 2016 by CDFW. The western pond turtle is still a Species of Special Concern; however, new and updated information regarding its habitat requirements, distribution, trends in abundance, and the nature and degree of the threats it is facing will be part of the USFWS status review.

The longfin smelt (*Spirinchus thaleichthys*) was not addressed in the 2011 EIR. The CNDDDB now contains one occurrence within 5 miles of the site. The occurrence was created in 2012, and is based on longfin smelt caught at USFWS beach seining stations in San Pablo Bay. The longfin smelt is State listed as threatened, and is considered a Species of Special Concern (refer to Table 2). It is also now a federal candidate for listing under the ESA. The longfin smelt is not expected to occur on the site, due to a lack of suitable freshwater river habitat.

All but two vertebrate wildlife species seen on the site in 2017 had been previously documented during earlier surveys, as recorded in Table IV.I-1 in the 2011 EIR. The additional species seen were the golden-crowned sparrow (*Zonotrichia atricapilla*), which is not a special-status species, and prints from domestic dogs. Table 3 lists all of the vertebrate wildlife species that have been detected to date, and has been updated with the currently accepted names.

Special-Status Wildlife

All special-status wildlife species with CNDDDB occurrences within 5 miles of the site are listed in Table 4. The 2017 CNDDDB search contained six occurrences within 5 miles of the site that are based on observations made after 2010. These include a longfin smelt on January 31, 2012; nesting western snowy plover (*Charadrius alexandrinus nivosus*) sighting made on July 30, 2013; two California black rail (*Laterallus jamaicensis coturniculus*) sightings made on December 15, 2011, and July 17, 2016; and two Ridgeway rail sightings made on April 4, 2011, and February 25, 2014. None of these four species are expected to occur on the site, due to lack of suitable habitat.

Table 3: Wildlife Species Detected on or Adjacent to the Hanna Ranch Project Site, June 18 and 22, 2004; July 14, 2010; and April 22, 24, and 25, 2017

Common Name	Scientific Name	Status
Fish		
Western mosquitofish	<i>Gambusia affinis</i>	R
Reptiles		
Western pond turtle	<i>Emys marmorata</i>	R
Western fence lizard	<i>Sceloporus occidentalis</i>	R
Sharp-tailed snake	<i>Contia tenuis</i>	R
Amphibians		
American bullfrog	<i>Lithobates catesbeianus</i>	R
Birds		
Canada goose	<i>Branta canadensis</i>	R/pond
American white pelican	<i>Pelecanus erythrorhynchos</i>	T/flyover
Black-crowned night-heron	<i>Nycticorax nycticorax</i>	R/pond
Snowy egret	<i>Egretta thula</i>	R/pond
Great egret	<i>Ardea alba</i>	R
Turkey vulture	<i>Cathartes aura</i>	R
Red-tailed hawk	<i>Buteo jamaicensis</i>	R
Cooper's hawk	<i>Accipiter cooperi</i>	R
Caspian tern	<i>Hydropogone caspia</i>	T/pond
Mourning dove	<i>Zenaida macroura</i>	R
Rock pigeon	<i>Columba livia</i>	R
Belted kingfisher	<i>Ceryle alcyon</i>	R/pond
Acorn woodpecker	<i>Melanerpes formicivorus</i>	R
Nuttall's woodpecker	<i>Picoides nuttallii</i>	R
Downy woodpecker	<i>Picoides pubescens</i>	R
Hairy woodpecker	<i>Picoides villosus</i>	R
Northern flicker	<i>Colaptes auratus</i>	R
Black phoebe	<i>Sayornis nigricans</i>	R
American crow	<i>Corvus brachyrhynchos</i>	R
Common raven	<i>Corvus corax</i>	R
Northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>	S
Cliff swallow	<i>Petrochelidon pyrrhonata</i>	S
Barn swallow	<i>Hirundo rustica</i>	S
Chestnut-backed chickadee	<i>Poecile rufescens</i>	R
Oak titmouse	<i>Baeolophus inornatus</i>	R
Bushtit	<i>Psaltriparus minimus</i>	R
White-breasted nuthatch	<i>Sitta carolinensis</i>	R
Bewick's wren	<i>Thryomanes bewickii</i>	R
Pacific wren	<i>Troglodytes hiemalis</i>	R
Northern mockingbird	<i>Mimus polyglottos</i>	R
European starling	<i>Sturnus vulgaris</i>	R
Spotted towhee	<i>Pipilo maculatus</i>	R
California towhee	<i>Melospiza crissalis</i>	R
Red-winged blackbird	<i>Agelaius phoeniceus</i>	R
Golden-crowned sparrow	<i>Zonotrichia atricapilla</i>	R
Bullock's oriole	<i>Icterus bullockii</i>	S
House finch	<i>Haemorhous mexicanus</i>	R
Lesser goldfinch	<i>Spinus psaltria</i>	R
American goldfinch	<i>Spinus tristis</i>	R

Table 3: Wildlife Species Detected on or Adjacent to the Hanna Ranch Project Site, June 18 and 22, 2004; July 14, 2010; and April 22, 24, and 25, 2017

Common Name	Scientific Name	Status
Mammals		
California ground squirrel	<i>Otospermophilus beecheyi</i>	R
California vole	<i>Microtus californicus</i>	R
Common muskrat	<i>Ondatra zibethicus</i>	R
Black-tailed jackrabbit	<i>Lepus californicus</i>	R
Domestic dog	<i>Canis familiaris</i>	T (paw prints seen)

R = Year-round resident: Expected to nest/breed in the project area or vicinity
 S = Spring/summer resident: May nest in the project area or vicinity
 T = Transient: May occur in the project area sporadically, but unlikely to nest or occur regularly
 N = evidence of nesting observed (e.g., fledglings)
 pond = Observed in Beverly Ehreth Ecological Preserve but not in project area
 flyover = observed flying over but not on project area
 Source: LSA, 2017.

The 2011 EIR addressed the potential for the California red-legged frog (*Rana draytonii*) to occur on the site. Focused surveys and habitat assessments previously conducted by Wetlands Research Associates, Inc. (WRA) indicated that the species was not present on the site. The USWFS released an updated protocol for surveying for California red-legged frogs in August of 2005. The surveys conducted in 2004 do not satisfy the requirements of this protocol. However, it is unlikely California red-legged frogs may have colonized this site since those surveys were conducted, due to extensive physical barriers between the site and known populations.

The conditions of the site in 2017 are similar enough that no changes are required to the 2011 EIR’s conclusion that the following three special-status wildlife species may be present on the site:

- Western pond turtle (*Emys marmorata*), a California Species of Special Concern;
- White-tailed kite (*Elanus leucurus*), a California Fully Protected Species; and
- Loggerhead shrike (*Lanius ludovicianus*), California Species of Special Concern.

Additionally, LSA biologists determined in 2017 that there is some potential for the following two special-status bird species to nest on the site:

- San Pablo song sparrow (*Melospiza melodia samuelis*), a California Species of Special Concern and
- Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*), a California Species of Special Concern

Each of these species is discussed in further detail in the following section.

Table 4: Special-Status Animal Species Potentially Occurring in the Vicinity of the Hanna Ranch Project Site in 2017

Species	Status* (Federal/State/CDFW)	Habitat Requirements	Potential for Occurrence
Fish			
Sacramento splittail <i>Pogonichthys macrolepidotus</i>	-/-/CSC	Rivers, lakes, sloughs; tolerant of brackish water in estuaries and the lower reaches of rivers. Spawns in areas of flooded vegetation (during high water), with the fertilized adhesive eggs sticking to submerged vegetation and debris.	Not expected to occur. Suitable creek habitat not present.
Longfin smelt <i>Spirinchus thaleichthys</i>	FC/ST/CSC	Spends its adult life in bays, estuaries, and nearshore coastal areas, and migrates into freshwater rivers and tidally influenced freshwater wetlands to spawn.	Not expected to occur. Suitable freshwater river habitat not present.
Tidewater goby <i>Eucyclogobius newberryi</i>	FE/-/CSC	Lower reaches of coastal streams, typically in freshwater estuaries behind seasonal barrier beaches. The open estuaries of relatively large streams/ rivers (e.g., Napa River) do not generally provide suitable habitat. This California endemic may be extirpated from the San Francisco Estuary.	Not expected to occur. There is one CNDDDB record within 5 miles of the site, and it is considered extirpated. The occurrence was made in 1945 in Novato Creek, at the Highway 101 crossing. A survey conducted in 1984 at the same location did not detect the species. Suitable creek habitat not present.
Amphibians			
California red-legged frog <i>Rana draytonii</i>	FT/-/CSC	Ponds, streams, drainages and associated uplands; requires areas of deep, still, and/or slow-moving water for breeding	Unlikely to occur. There is only one CNDDDB occurrence within 5 miles of the site. On-site pond and preserve pond provide suitable habitat, but species not detected during focused surveys conducted in October 2004 and 2005.
Foothill yellow-legged frog <i>Rana boylei</i>	-/-/CSC	Partly shaded, shallow streams and riffles with a rocky substrate.	Not expected to occur. Suitable creek habitat not present.
California giant salamander <i>Dicamptodon ensatus</i>	-/-/CSC	Mesic coastal forests. Cold permanent or semi-permanent streams are required for breeding and larval development.	Not expected to occur. Suitable forest and creek habitat not present.
Reptiles			
Western pond turtle <i>Emys marmorata</i>	-/-/CSC	Ponds, streams, drainages, and associated uplands.	Likely to occur. Small on-site pond and preserve pond provide suitable aquatic habitat. One western pond turtle was in this pond in 2004.

Table 4: Special-Status Animal Species Potentially Occurring in the Vicinity of the Hanna Ranch Project Site in 2017

Species	Status* (Federal/State/CDFW)	Habitat Requirements	Potential for Occurrence
Birds			
White-tailed kite <i>Elanus leucurus</i>	-/-/CFP	Open grasslands, meadows, or marshes. Require dense-topped trees or shrubs for nesting and perching.	Not observed but may occur. Numerous trees on site provided suitable nest sites and grassland patches provide suitable foraging habitat.
California black rail <i>Laterallus jamaicensis coturniculus</i>	-/ST/CFP	Salt marshes bordering larger bays, also found in brackish and freshwater marshes.	Unlikely but may occur. There are nine CNDDDB occurrences within 5 miles of the site, and all are considered presumed extant. The nearest observation was made approximately 0.6 mile east of the site.
Ridgway's rail <i>Rallus obsoletus</i> (formerly known as California clapper rail <i>Rallus longirostris obsoletus</i>)	FE/SE/CFP	Tidal salt marshes with sloughs and substantial cordgrass (<i>Spartina</i> sp.) cover.	Not expected to occur. Suitable marsh habitat not present.
Western snowy plover (Pacific coast population) <i>Charadrius alexandrinus nivosus</i>	FT-/CSC	Sandy beaches, salt ponds, and salt pond levees.	Not expected to occur. There is only one CNDDDB occurrence within 5 miles of the site. The occurrence is based on observations made in 2013 at a wetland restoration site. Suitable bare areas absent.
Burrowing owl <i>Athene cunicularia</i>	-/-/CSC	Open habitats (e.g., grasslands, agricultural areas) with mammal burrows or other features (e.g., culverts, pipes, debris piles) suitable for nesting and roosting.	Not expected to occur. Suitable habitat (burrows, open terrain) not present.
Loggerhead shrike <i>Lanius ludovicianus</i>	-/-/CSC	Open grasslands and woodlands with scattered shrubs, fence posts, utility lines, or other perches. Nests in dense shrubs and lower branches of trees.	May occur. Numerous trees on site provide suitable nest sites.
Salt marsh common yellowthroat <i>Geothlypis trichas sinuosa</i>	-/-/CSC	Salt, brackish, and freshwater marshes; and riparian woodlands. Nests on or near ground in low vegetation near water. Brushy habitats used in migration. Forages among wetland herbs and shrubs for insects primarily.	May occur. Suitable dense vegetation near water present.
San Pablo song sparrow <i>Melospiza melodia samuelis</i>	-/-/CSC	Tidal and muted salt marshes on the fringes of San Pablo Bay, Tomales Bay, and Richardson Bay.	May occur. Suitable nesting habitat present.

Table 4: Special-Status Animal Species Potentially Occurring in the Vicinity of the Hanna Ranch Project Site in 2017

Species	Status* (Federal/State/CDFW)	Habitat Requirements	Potential for Occurrence
Mammals			
Townsend’s big-eared bat <i>Corynorhinus townsendii</i>	-/-/CSC	Roosts primarily in caves and abandoned mines, occasionally in buildings, bridges, rock crevices, and hollow trees; forages in open woodlands and along woodland edges.	Unlikely to occur. No caves or mines present, and no large hollows or cavities were observed in on-site trees. Dispersing or migrating individuals may occasionally fly or forage over site for brief periods, but extended use and roosting not expected.
Pallid bat <i>Antrozous pallidus</i>	-/-/CSC	Roosts in caves, tunnels, buildings, under bridges, and in tree hollows; forages over variety of habitats.	Unlikely to occur. There are three CNDDDB records within 5 miles of the site, but all three are considered possibly extirpated. No large hollows or cavities were observed in on-site trees. Dispersing or migrating individuals may occasionally fly over or forage on site for brief periods, but extended use and roosting not expected.
Salt marsh harvest mouse <i>Reithrodontomys raviventris</i>	FE/SE/CFP	Tidal salt marshes of San Francisco Bay and its tributaries. Requires tall, dense pickleweed for cover.	Not expected to occur. Salt marsh habitat with pickleweed not present.

*Status

- FE = federally endangered
 - FT = Federal threat threatened
 - FC = federal candidate
 - SE = State endangered
 - ST = State threatened
 - CSC = California Species of Special Concern
 - CFP = California Fully Protected Species
- Source: LSA, 2017

Western Pond Turtle. The western pond turtle is a California Species of Special Concern. In response to a petition to list the species as endangered under the Endangered Species Act in 2015, the USFWS determined that substantial scientific information indicated listing may be warranted for the species; therefore, the USFWS is currently reviewing its status. Pond turtles use permanent or nearly permanent water bodies in a variety of vegetation communities. They can be found in natural and manmade ponds, marshes, rivers, streams, irrigation ditches. Basking sites such as logs, rocks, mats of floating vegetation, or open mud banks are necessary for thermoregulation. Upland areas are used for egg laying. Most nests are between 50 and 250 feet from the edge of water, but nests have been found up to approximately 1,600 feet from water. Females dig a shallow nest, lay their eggs, and then cover it. Nesting can occur from May through July. The nest site is usually in an area with short grasses or forbs that have exposure to direct sunlight, and a south or west-facing aspect. Nests have been detected in slopes of dikes and roadsides. In northern California, the hatchlings usually spend their first winter in the nest and then emerge in the spring. In central and southern California, some hatchlings emerge from nests in the fall while others overwinter. Upland areas are also used for overwintering by adults. Some adults also overwinter underwater.

The primary threat facing the species is habitat loss and fragmentation. Competition and predation from introduced species including non-native turtle species, American bullfrogs, and fish is another threat facing the species.

WRA observed a western pond turtle in the on-site pond during a site visit on June 18, 2004. In 2004 a partially submerged snag and abandoned shopping cart provided suitable basking sites. Suitable basking habitat was also seen in 2017 in the form of a tree snag. The uplands around the pond contain suitable sites for egg-laying and overwintering. The on-site pond, preserve pond, and the surrounding uplands within 250 feet of the ponds are considered habitat for the western pond turtle.

It is likely that feral cats, raccoons, and other urban-adapted mammalian predators are currently present in the project area, as was also the case in 2011, and these existing predators likely adversely affect western pond turtle populations on the site, to some degree.

White-tailed Kite. The white-tailed kite is a California Fully Protected Species. This species nests in trees or large shrubs with dense foliage located near suitable foraging habitat (e.g., grasslands, marshes, agricultural fields). Preferred prey items include California voles and mice. Although no white-tailed kites were observed on the site during the surveys conducted by either WRA or LSA, the numerous trees and large shrubs provide suitable nest sites, and foraging habitat is available along the margins of the causeway, in the grassland openings of the site, and along the edge of US 101. As such, and as identified in 2011, this species may currently nest on the site.

Loggerhead Shrike. The loggerhead shrike is a California Species of Special Concern. Shrikes occur in open habitats with scattered shrubs, trees, posts, fences, utility lines, and other perches. They primarily nest in the lower branches of dense shrubs and trees. They feed primarily on large insects, small birds, and small mammals. Although no shrikes were observed on the site during the surveys conducted by either WRA or LSA, the numerous trees and shrubs provide suitable nest and perch sites. As such, and as identified in 2011, this species may currently nest on the site.

San Pablo song sparrow. The San Pablo song sparrow is a California Species of Special Concern. The CNDDDB contains six occurrences within 5 miles of the site. The nearest occurrence is approximately 370 feet from the edge of the project site. This subspecies of the song sparrow forages on bare ground and in sparse vegetation in tidal salt marshes along the fringes of San Pablo Bay. It nests in taller plants, such as coyote brush and gumplant (*Grindelia stricta*), which provide cover from predators. San Pablo song sparrows could nest in the coyote brush shrubs which surround much of the on-site pond. This species may nest on the site.

Saltmarsh common yellowthroat. The saltmarsh common yellowthroat is a California Species of Special Concern. The CNDDDB contains six occurrences within 5 miles of the site. This species breeds in brackish marshes, riparian woodlands and swamps, freshwater marshes, and occasionally in upland areas. It builds a well-concealed nest near the ground in grasses, herbaceous plants, cattails (*Typha* sp.) and coyote brush. These types of plant occur on the site, which is adjacent to protected saltmarsh.

Jurisdictional Features

WRA conducted a formal delineation of jurisdictional waters (i.e., wetlands and “non-wetland other waters” of the U.S.) on the site on July 12, 2004. This wetland delineation was re-verified on September 2, 2010, by the Army Corps of Engineers (USACE). Jurisdictional waters identified included 0.40 acre of “other waters” of the U.S. and Section 10 waters, consisting of an unvegetated pond and 0.02 acre of freshwater marsh wetlands that occur along the pond bank. Isolated seasonal wetlands (0.06 acre) were also identified on-site, along the northeastern project boundary and just south of the preserve. These isolated wetlands are not subject to Corps jurisdiction but are potentially subject to Regional Water Quality Control Board (RWQCB) jurisdiction because they are “waters of the State.”

A formal wetland delineation was not performed in 2017 but a wetland specialist did visit the site and identified the previously delineated jurisdictional and isolated areas. Because it has been more than 5 years since the verification, the USACE will have to re-verify the delineation. Permits from the USACE and RWQCB will likely also be required based on the proximity of work to jurisdictional water features.

The 2017 site reconnaissance observed the on-site pond relatively unchanged, but that portions of the perimeter brackish marsh wetland no longer existed. The site at the northeastern project boundary appeared relatively unchanged, but the areas just south of the preserve were not observed, likely due to damage from recreational off-road vehicles. Tire-rut puddles observed in the northern portion of the site were likely created by the off-road vehicles and were not previously identified as wetlands. Potential seasonal wetlands not identified in 2004 or 2010 were observed on the southern side of the southern hill near the project boundary during the 2017 survey, likely inadvertently created by recent fill placement on the adjacent property.

The wetlands that were identified in 2004 and verified in 2010, and which are still present, likely maintain the same jurisdictional status in 2017. Ultimately, a formal wetland delineation would be required and either the USACE or RWQCB may claim jurisdiction.

SUMMARY OF IMPACTS, MITIGATION MEASURES AND RECOMMENDATIONS

Changes to the proposed project are not expected to substantially alter the potential temporary impacts to biological resources during construction of the project. Minor changes to permanent impacts include the changes in the building footprints and uses as previously described, as well as the following:

- There would not be permanent encroachment on the 50-foot-wide buffer around the Beverly Ehreth Ecological Preserve;
- There would not be a Class 1 bicycle and pedestrian path, which would have impacted jurisdictional wetlands; and
- The addition of the fueling station and 48 residential units could increase vehicle traffic adjacent to and between the on-site pond and the Beverly Ehreth Ecological Preserve.

Adverse effects of the 2017 project on biological resources and their significance are detailed below. Minor modifications to the impacts and mitigation measures identified in the 2011 EIR are discussed and also provided in Table 5 at the end of this memorandum.

Adverse Effects on Special-Status Species

Similar to the 2011 project, the 2017 project may impact purple needlegrass grassland, a special-status plant species. Specific impacts to this plant species and mitigation measures recommended to reduce the impact to a less-than-significant level is unchanged from the 2011 project, as shown in Table 5.

Similar to the 2011 project, construction of the proposed 2017 project could adversely affect the following special-status animal species: western pond turtles, loggerhead shrike, and white-tailed kite. With the 2017 project, impacts to western pond turtles could also occur during project operation. The 2017 project could also adversely affect the San Pablo song sparrow and saltmarsh common yellowthroat during both project construction and operation, which were not identified as potentially occurring on site in the 2011 EIR. These impacts are further discussed below.

Western pond turtle. After the project is completed, the addition of 48 residential units may cause an increase in the number of pets and urban-adapted animals in the area. This condition could lead to greater predation pressure on native wildlife on and near the site, including the nests of special-status species such as the western pond turtle (as well as other special-status bird species, as discussed below). Special-status wildlife species that are not killed by pets may be harassed, altering their normal behavior.

As identified in the 2011 EIR (Impact BIO-1), construction of the 2011 project could have directly harmed or killed western pond turtles. This is true of the 2017 project as well. Turtles could travel from the on-site pond and/or the Beverly Ehreth Ecological Preserve pond into the construction area to lay eggs. Grading operations and equipment traffic adjacent to the ponds could harm or kill adult turtles and destroy such nesting sites, if present. Installation of silt fences around the ponds could block the movements of females attempting to move to nest sites. The silt fence could also trap overwintering adults and hatchlings inside of the construction area. Construction of the proposed

project could result in an increase in urban-adapted nest predators (e.g., ravens, crows, raccoons, skunks, possums) that would reduce survival and recruitment of western pond turtles. The project may also cause an increase in vehicle traffic in the area, which increases the chances that female western pond turtles would be killed when moving overland to and from nesting sites. Hatchling turtles could also be killed by vehicles after leaving the nest and moving toward water.

Implementation of Mitigation Measure BIO-1, which was recommended in the 2011 EIR, would be applicable to the 2017 project and would ensure that impacts to western pond turtles associated with construction activities would be less than significant. As previously discussed, it is likely that feral cats, raccoons, and other urban-adapted mammalian predators are currently present in the project area. After the 2017 project is completed, the addition of 48 residential units may cause an incremental increase in the number of pets and urban-adapted animals in the area. This condition could lead to greater predation pressure of western pond turtles than what was assumed for the 2011 project during project operation. Since 2011, several studies have been published showing that free-roaming cats in particular can cause losses to wildlife (Doherty et. al, 2016; Loss et. al. 2013). Special-status wildlife species such as western pond turtles that are not killed by pets may be harassed, altering their normal behavior.

To further ensure that potential impacts to western pond turtles would be less than significant and that the 2017 project would not substantially increase the severity of the impact identified for the 2011 project, the following additional measure shall be required for the 2017 project, in addition to Mitigation Measure BIO-1 (now referred to as Mitigation Measure BIO-1a) which was required for the 2011 project:

Mitigation Measure BIO-1b: Pets shall be prohibited on site during project construction, to reduce harassment and predation of western pond turtles. After construction, project residents shall be prohibited from feeding pets outdoors, to prevent attracting or subsidizing the diets of nuisance species. The property management company shall include in all residential leases or rental agreements a prohibition against free-roaming outdoor cats and off-leash dogs. In addition, the applicant shall devise and implement a plan to control invasive and/or feral pets in the project area that outlines these restrictions. Information on the detrimental effects of feral and domestic cats and dogs on common, migratory, and/or special-status wildlife, as well as the hazards to domestic animals, shall be supplied to each renter who purchases or leases residential units. The plan is to be reviewed by a qualified biologist and approved by the City of Novato's Planning Division prior to issuance of occupancy permits. Service animals should be excluded from this restriction.

In addition, food-related trash (e.g., food scraps, wrappers, cans) deposited on the site during and after construction could also attract predators and increase their population, leading to greater predation pressure on native wildlife, including western pond turtles. To prevent an increase in predators, it is recommended that the following additional measures be implemented:

Mitigation Measure BIO-1c: Construction personnel shall not feed or otherwise attract fish or wildlife in the project area. All food-related trash and garbage shall be placed in animal-proof containers which shall be emptied or removed from the construction site weekly. After the project is complete, the operator shall use fully covered trash receptacles that are animal-proof and weather-proof to contain all food, food scraps, food wrappers, beverage containers, and

other miscellaneous trash. The signs that shall be placed stating that dogs must be on-leash (see Mitigation Measures BIO-10d and BIO-11f) shall also indicate that feeding of wildlife is prohibited by law.

The use of anticoagulant rodenticides to control rodents around residences and restaurants after the project is built may also impact native wildlife. There has been increased awareness in recent years of the negative effects of rodenticides on wildlife. In 2012 the Marin County Board of Supervisors passed Resolution No. 2012-38, opposing the sale and purchase of rat and mouse poisons deemed an unacceptable risk to children, pets, and wildlife. In 2014, California restricted the use of second-generation anticoagulant rodenticides (products containing the active ingredients brodifacoum, bromadiolone, difethialone and difenacoum) to licensed applicators. In 2015 the Environmental Protection Agency cancelled 12 products that did not meet current safety standards. Eight of these twelve products contained second-generation anticoagulants pesticides that posed unacceptable risks to non-target wildlife. The adjacent Costco has several rodenticide bait stations placed along its wall. Rodents that eat poisoned bait may be scavenged or preyed upon by native wildlife living on the site and in the adjacent Novato Creek Unit of the Petaluma Marsh Wildlife Area, and in the Beverly Ehreth Preserve. Wildlife that consume the poisoned rodents could then be sickened or killed from non-target/secondary poisoning. To prevent the poisoning of non-target wildlife the following additional measure shall be implemented:

Mitigation Measure BIO-1d: Second-generation anticoagulant rodenticide bait stations shall not be used outdoors on the project site before, during, or after construction. This prohibition shall be detailed by the property management company in all commercial and residential leases or rental agreements.

In addition, the 2011 EIR determined that the permanent loss of nesting habitat on the site would not result in a significant impact to nesting habitat for western pond turtles because relatively large amounts of upland areas adjacent to the ponds and undeveloped areas on the site would remain. Although this condition remains generally the same with the 2017 project, the permanent loss of upland potential western pond turtle nesting habitat that could occur with the proposed development could adversely affect the population of western pond turtles, which are now currently under review by the USFWS for listing as an endangered species. The permanent loss of upland habitat could also reduce the availability of overwintering sites for western pond turtles, which overwinter both on land and underwater. The following measure shall be implemented to further ensure that impacts to western pond turtle nesting habitat would be less than significant.

Mitigation Measure BIO-1e: The applicant shall enhance existing western pond turtle habitat after project construction. One trunk from a tree that is removed on the site shall be placed in the on-site pond to create a basking area that is secure from predators. The basking area should be located in an area with access to sunlight and away from areas that would be shadowed by buildings on the project site. Non-native vegetation including Himalayan blackberry shall be eradicated from the banks of the Beverly Ehreth Ecological Preserve pond and the onsite pond, as described in Mitigation Measures BIO-10e and BIO-11e. The Stream and Wetland Management Plan that shall be developed as described in Mitigation Measure BIO-10f shall also include actions to enhance upland western pond turtle nesting habitat (e.g., planting of native short grasses and/or forbs that in friable soils free of rocks in an area with exposure to direct sunlight.) If red-

eared sliders or other non-native turtles are seen in the on-site pond or preserve pond, they should be removed.

San Pablo song sparrow. The proposed residential development associated with the 2017 project could have the potential to introduce incrementally higher numbers of dogs and cats into the restored habitats, wetlands, the adjacent Beverly Ehreth Ecological Preserve, and the Petaluma Marsh Wildlife Area. Domestic and feral cats have been shown to have a detrimental effect on bird populations. Bird species that are particularly vulnerable are those that nest on or near the ground, such as the San Pablo song sparrow. Dogs, when not on a leash, can also disturbance nesting birds, causing nest abandonment and failure.

Although impacts to this specific species were not identified in the 2011 EIR, implementation of Mitigation Measure BIO-2, as required in the 2011 EIR, would ensure that this impact is reduced to a less-than-significant level during construction. During operation of the project, Mitigation Measure BIO-1b would also reduce impacts to this species due to feral or domestic pets to a less-than-significant level.

Saltmarsh common yellowthroat. Although impacts to this specific species were not identified in the 2011 EIR, implementation of Mitigation Measure BIO-2, as required in the 2011 EIR, would ensure that this impact is reduced to a less-than-significant level during construction. During operation of the project, Mitigation Measure BIO-1b would reduce impacts to this species due to feral or domestic pets to a less-than-significant level.

Adverse Effects on Riparian Habitat or other Sensitive Natural Communities

Similar to the 2011 project, the 2017 project could result in the introduction of invasive plant species to the open space areas of the project site. This could result in an adverse effect to sensitive natural communities (riparian habitat within the Beverly Ehreth Ecological Preserve and oak woodland and purple needlegrass grassland) within the project site. The 2017 project would also remove stands of purple needlegrass grassland, a sensitive natural community. These potential impacts and mitigation measures to reduce the impact to a less-than-significant level are unchanged from the 2011 EIR.

Adverse Effects on Protected Wetlands

Similar to the 2011 project, the 2017 project could have a substantial adverse effect on federally-protected wetlands as defined by Section 404 of the Clean Water Act as well as waters of the State as defined through the Porter-Cologne Water Quality Control Act. Because more than 5 years has passed since the wetland delineation was verified, the delineation must be re-verified. All waters of the U.S. and waters of the State impacted by the proposed project shall be mitigated at a 3:1 mitigation ratio, as described in Table 5. Although the final mitigation acreage is yet to be determined, this will be identified through the permitting process with the applicable agencies, as required in Mitigation Measure BIO-5.

Interfere with Wildlife Movement of Use of Nursery Sites

Construction of the proposed project could interfere with native wildlife movement between the Beverly Ehreth Ecological Preserve and nearby natural areas. Potential impacts to native wildlife movement are similar to those described in the 2011 EIR. Mitigation measures to reduce this impact are provided in Table 5.

Conflict with Local Biological Resource Policies or Ordinances

Similar to the 2011 project, the 2017 project could conflict with the City of Novato's tree protection policies as well as the City's Woodland and Tree Preservation Ordinance. The final circulation and development plan would be required to specify the total number of trees to be removed. All of the measures, including mitigation ratios, in the 2011 EIR regarding this impact are required to be implemented, adjusted to the total type and number of trees impacted. Certain elements of the proposed project may also intrude within the 50-foot buffer areas surrounding the preserve and on-site pond, which are established and regulated by the City's Municipal Code. The 2017 plans were not precise enough to determine the extent to which the 2017 project would intrude into the 50-foot buffer surrounding the Beverly Ehreth Ecological Preserve pond. Because a wetland delineation was not performed for the preserve pond, the exact location of the buffer cannot be determined. Based on the City of Novato's Municipal Code Section 19.35: *A stream protection zone shall be established, which shall include the stream bed, the stream banks, all riparian vegetation and an upland buffer zone at least 50 feet wide, measured from the top of the channel bank.* The 2017 plan does not include observation decks or an amphitheater, but it appears that during construction of the road and associated shoulder would enter the buffer. Potential impacts associated with these policies and ordinance conflicts, and mitigation measures are recommended to reduce these potential impacts to a less-than-significant level are provided in Table 5.

Table 5: 2011 and 2017 Impacts and Mitigation Measures

2011 Impacts	2011 Mitigation Measures	2017 Impacts	2017 Mitigation Measures
1. Adverse Effects on Special-Status Species			
<p><u>BIO-1</u>: Construction and operation of the proposed project may harm or kill western pond turtles, a California Species of Special Concern.</p>	<p><u>BIO-1a</u>: To prevent western pond turtles from entering the work area, the contractor shall install temporary exclusion fencing along the perimeter of any work areas that are located within 100 feet of the two ponds. The placement of the fencing shall be directed by a qualified biologist. The fencing shall consist of silt fabric (or similar material) at least 3 feet high. The lower 6 inches of the fabric shall be buried in the ground to prevent these animals from crawling or burrowing under the fence. Fencing shall be left in place and maintained in good condition throughout the construction period.</p>	<p>Unchanged</p>	<p>Mitigation Measure BIO-1 is unchanged. The following additional measures are recommended to further ensure that impacts to western pond turtles remain less than significant:</p> <p><u>BIO-1b: Pets shall be prohibited on site during project construction, to reduce harassment and predation of western pond turtles. After construction, project residents shall be prohibited from feeding pets outdoors, to prevent attracting or subsidizing the diets of nuisance species. The property management company shall include in all residential leases or rental agreements a prohibition against free-roaming outdoor cats and off-leash dogs. In addition, the applicant shall devise and implement a plan to control invasive and/or feral pets in the project area that outlines these restrictions. Information on the detrimental effects of feral and domestic cats and dogs on common, migratory, and/or special-status wildlife, as well as the hazards to domestic animals, shall be supplied to each renter who purchases or leases residential units. The plan is to be reviewed by a qualified biologist and approved by the City of Novato's Planning Division prior to issuance of occupancy permits. Service animals should be excluded from this restriction.</u></p> <p><u>BIO-1c: Construction personnel shall not feed or otherwise attract fish or wildlife in the project area. All food-related trash and garbage shall be placed in animal-proof containers which shall be emptied or removed from the construction site weekly. After the project is complete, the operator shall use fully covered trash receptacles that are animal-proof and weather-proof to contain all food, food scraps, food wrappers, beverage containers, and other miscellaneous trash. The signs that shall be placed stating that dogs must be on-leash (see Mitigation</u></p>

Table 5: 2011 and 2017 Impacts and Mitigation Measures

2011 Impacts	2011 Mitigation Measures	2017 Impacts	2017 Mitigation Measures
			<p><u>Measures BIO-10d and BIO-11f) shall also indicate that feeding of wildlife is prohibited by law.</u></p> <p><u>BIO-1d: Second-generation anticoagulant rodenticide bait stations shall not be used outdoors on the project site before, during, or after construction. This prohibition shall be detailed by the property management company in all commercial and residential leases or rental agreements.</u></p> <p><u>BIO-1e: The applicant shall enhance existing western pond turtle habitat after project construction. One trunk from a tree that is removed on the site shall be placed in the on-site pond to create a basking area that is secure from predators. The basking area should be located in an area with access to sunlight and away from areas that would be shadowed by buildings on the project site. Non-native vegetation including Himalayan blackberry shall be eradicated from the banks of the Beverly Ehreth Ecological Preserve pond and the onsite pond, as described in Mitigation Measures BIO-10e and BIO-11e. The Stream and Wetland Management Plan that shall be developed as described in Mitigation Measure BIO-10f shall also include actions to enhance upland western pond turtle nesting habitat (e.g., planting of native short grasses and/or forbs that in friable soils free of rocks in an area with exposure to direct sunlight.) If red-eared sliders or other non-native turtles are seen in the on-site pond or preserve pond, they should be removed.</u></p>

Table 5: 2011 and 2017 Impacts and Mitigation Measures

2011 Impacts	2011 Mitigation Measures	2017 Impacts	2017 Mitigation Measures
<p><u>BIO-2: Construction and operation</u> of the proposed project could result in impacts to nesting birds protected under the federal Migratory Bird Treaty Act and California Fish and Game Code.</p>	<p><u>BIO-2:</u> To the extent feasible, vegetation removal activities shall occur during the non-nesting season (September 1 to January 31). For any construction activities conducted during the nesting season, a qualified biologist (i.e., experienced in searching for passerine nests in oak woodland and other habitats) shall conduct a preconstruction nest survey of all trees or other suitable nesting habitat in and within 250 feet of the limits of work. The survey shall be conducted no more than 15 days prior to the start of work. If the survey indicates the presence of nesting birds, the biologist shall determine an appropriately sized buffer around the nest in which no work shall be allowed until the young have successfully fledged. The size of the nest buffer shall be determined by the biologist and shall be based on the nesting species and its sensitivity to disturbance. In general, buffer sizes of up to 250 feet for raptors and 50 feet for other birds should suffice to prevent substantial disturbance to nesting birds, but these buffers may be increased or decreased, as appropriate, depending on the bird species and the level of disturbance anticipated near the nest.</p>	<p>Unchanged</p>	<p>BIO-2 is unchanged; Mitigation Measure BIO-1b is also applicable.</p>

Table 5: 2011 and 2017 Impacts and Mitigation Measures

2011 Impacts	2011 Mitigation Measures	2017 Impacts	2017 Mitigation Measures
1. Adverse Effects on Riparian Habitat or other Sensitive Natural Communities			
<p><u>BIO-3:</u> Landscape plants installed on the project site may invade the oak woodland and displace native habitat.</p>	<p><u>BIO-3:</u> The species listed in Table IV.I-4 are particularly invasive ornamental plants and shall be prohibited from being planted on the project site. Prior to approval of the final landscape plan, the plant palette for the project site shall be reviewed by a biologist to ensure that the species in Table IV.I-4 and species listed in the California Invasive Plant Council's <i>Invasive Plant Inventory</i> are not included in the landscaping for the site.</p>	<p>Unchanged</p>	<p>Unchanged</p>
<p><u>BIO-4:</u> The proposed project would remove stands of purple needlegrass grassland, a sensitive natural community.</p>	<p><u>BIO-4:</u> Impacts to the purple needlegrass grassland shall be mitigated by creating purple needlegrass grassland at suitable locations elsewhere on the site, on a 1:1 acreage basis. The project proposes enhancement of the valley oak woodland by removing non-native trees and landscaping and replacing them with native or naturalized seasonal grasses. These "seasonal grasses" can be a component of the mitigation for the purple needlegrass grassland. These "seasonal grasses" shall be composed entirely of native species and have a major component of purple needlegrass. Furthermore, graded areas shall be seeded with native grasses including purple needlegrass.</p> <p>These "seasonal grass" areas and the graded areas that will be sown with native grassland seed shall be addressed in a restoration, monitoring, and maintenance plan. This plan shall be approved by the City of Novato and shall discuss site preparation, species composition, planting/sowing methods, performance standards, monitoring methods, maintenance and annual reports. This plan shall be approved by the City of Novato prior to the approval of the Final Map. The performance standard shall include cover of native grasses to be at least 30 percent of the relative cover and no more than 5 percent cover of invasive species. The planted areas shall be monitored for 5 years.</p>	<p>Unchanged</p>	<p>Unchanged</p>

Table 5: 2011 and 2017 Impacts and Mitigation Measures

2011 Impacts	2011 Mitigation Measures	2017 Impacts	2017 Mitigation Measures
2. Adverse Effects on Protected Wetlands.			
<p><u>BIO-5</u>: Construction of the proposed project would directly impact 0.05 acre of isolated seasonal wetlands subject to RWQCB jurisdiction under the Porter-Cologne Water Quality Control Act.</p>	<p><u>BIO-5a</u>: As required by the Porter-Cologne Water Quality Control Act, the project applicant shall file a Report of Waste Discharge (ROWD) with the San Francisco Bay RWQCB and comply with all project-specific Waste Discharge Requirements (WDR) issued by the RWQCB during the ROWD approval process.</p> <p><u>BIO-5b</u>: All waters of the State filled by the project shall be mitigated at a minimum 2:1 ratio according to City of Novato and RWQCB policy (i.e., mitigation shall be 0.1 acre or greater). City of Novato policy requires that off-site mitigation for impacts to wetlands occur at a 3:1 ratio. Mitigation may be accomplished by (1) on- or off-site creation of new seasonal wetlands at an appropriate mitigation site or (2) purchase of 0.15 acre of credits (assuming impacts are to 0.05 acre of wetland and use of the 3:1 mitigation ratio) at a RWQCB-approved off-site mitigation bank. A credit purchase agreement or receipt shall be provided prior to approval of the grading plan.</p> <p>If the mitigation is to be accomplished by creating new wetlands on-site (or at an off-site location owned or otherwise controlled by the applicant), the applicant shall prepare and implement a wetland mitigation and monitoring plan (MMP) detailing the mitigation design, wetland planting design, maintenance and monitoring requirements, reporting requirements, and success criteria.</p> <p>Mitigation wetlands shall be monitored for a minimum of five years to verify that the success criteria have been achieved. The MMP shall be approved by the RWQCB and the City prior to approval of the Final Map.</p>	<p>Unchanged, with the exception that the total acreage of isolated seasonal wetlands could not be verified and is thus approximate.</p>	<p>Unchanged</p>

Table 5: 2011 and 2017 Impacts and Mitigation Measures

2011 Impacts	2011 Mitigation Measures	2017 Impacts	2017 Mitigation Measures
<p><u>BIO-6</u>: Construction of the proposed project may indirectly impact the on-site pond, the preserve pond and associated wetlands by adversely affecting water quality.</p>	<p><u>BIO-6a</u>: The contractor shall install a silt barrier, such as a filter- fabric silt fence or other structure that is appropriate for the soil texture and slope, that prevents excess sediments from entering the ponds. The silt barrier shall be maintained on a regular basis and accumulated silt shall be removed and disposed of in a location where it would not flow back into a wetland, stream, or pond. The barriers must also be firm enough to prevent side casts from entering the ponds.</p> <p><u>BIO-6b</u>: The applicant shall comply with National Pollution Discharge Elimination System (NPDES) requirements set forth by the Marin County Stormwater Pollution Prevention Program (MCSTOPPP) and described in the Stormwater Quality Manual for Development Projects in Marin County. Included in these requirements is the preparation of a Stormwater Control Plan. Refer to Mitigation Measure HYD-1b for a description of the Stormwater Control Plan requirements.</p>	<p>Unchanged</p>	<p>Unchanged</p>
<p>3. Interfere with Wildlife Movement or Use of Nursery Sites.</p>			
<p><u>BIO-7</u>: Construction of the proposed project would result in reduced habitat connectivity between the Beverly Ehreth Ecological Preserve and nearby natural areas.</p>	<p><u>BIO-7</u>: The design of the road and parking spaces between Buildings B and C shall be modified to facilitate continued wildlife movement between the two ponds. The modifications shall be approved by the City. Such design modifications include the following:</p> <ul style="list-style-type: none"> Install an arched culvert, approximately 1.5 feet tall, beneath the road that connects the pond and the Beverly Ehreth Ecological Preserve to facilitate the movement of wildlife between the preserve and the on-site pond. This would reduce the potential for road-kill and allow for safer driving. 	<p>Unchanged</p>	<p><u>BIO-7</u>: The design of the road and parking spaces between Buildings B and C <u>the proposed fueling station</u> and Building C shall be modified to facilitate continued wildlife movement between the two ponds. The modifications shall be approved by the City. Such design modifications include the following:</p> <ul style="list-style-type: none"> Install an arched culvert, approximately 1.5 feet tall, beneath the road that connects <u>located between</u> the pond and the Beverly Ehreth Ecological Preserve to facilitate the movement of wildlife between the preserve and the on-site pond. This would reduce the potential for road-kill and allow for safer driving.

Table 5: 2011 and 2017 Impacts and Mitigation Measures

2011 Impacts	2011 Mitigation Measures	2017 Impacts	2017 Mitigation Measures
	<ul style="list-style-type: none"> The fence surrounding the Beverly Ehreth Ecological Preserve shall be modified in the location of the culvert to include spaces 6 inches high at the ground surface for the passage of small animals. A 4-inch square welded wire mesh is a suitable fencing material if the fence needs replacing. Signs shall be posted at accessible points along the fence surrounding the Beverly Ehreth Ecological Preserve describing the sensitive resources present and indicating that people and dogs should stay out. Signs should also indicate that dogs are to be on a leash throughout the project site. Plant additional native shrubs along both sides of the road to provide cover for wild animals. 		<ul style="list-style-type: none"> The fence surrounding the Beverly Ehreth Ecological Preserve shall be modified in the location of the culvert to include spaces 6 inches high at the ground surface for the passage of small animals. A 4-inch square welded wire mesh is a suitable fencing material if the fence needs replacing. Signs shall be posted at accessible points along the fence surrounding the Beverly Ehreth Ecological Preserve describing the sensitive resources present and indicating that people and dogs should stay out. Signs should also indicate that dogs are to be on a leash throughout the project site. Plant additional native shrubs along both sides of the road to provide cover for wild animals.
<p>4. Conflict with Local Biological Resource Policies or Ordinances</p>			
<p>BIO-8: The proposed project would result in the removal of at least 57 trees, including 18 heritage eucalyptus trees, 9 heritage valley oak trees, one heritage coast live oak tree, one heritage Monterey pine tree, and 28 other trees (2 valley oaks, 1 coast live oak, 1 black oak, and 24 eucalyptus and acacias) that are protected under the City of Novato’s Municipal Code. In addition, a heritage valley oak and 2 smaller valley oaks could be damaged by work within the drip line.</p>	<p>BIO-8a: The non-native, heritage eucalyptus trees on the site have been neglected and would present a hazard if they were to remain as part of the site’s landscaping. These trees are planned to be removed along with one heritage Monterey pine and a number of small acacia and eucalyptus trees (43 total non-native trees). To reduce the potential hazardous conditions presented by these trees, mitigate their loss, and improve the site’s overall aesthetic value, they shall be removed from the site and replaced by incorporating native oaks into the landscape plan and maintaining these oaks per the standards outlined in the City’s Municipal Code. At least 22 native trees (black oak, valley oak, coast live oak, and buckeye) shall be planted to mitigate the removal of 43 non-native trees (0.5:1 mitigation ratio).</p>	<p>Unchanged, with the exception that the total number of trees to be removed could not be verified because the revised plans were not precise enough therefore, the total number of trees to be removed is approximate.</p>	<p>Unchanged with the exception that the number of trees to be removed is approximate and the scientific name of Himalayan blackberry is now <i>Rubus armeniacus</i>.</p>

Table 5: 2011 and 2017 Impacts and Mitigation Measures

2011 Impacts	2011 Mitigation Measures	2017 Impacts	2017 Mitigation Measures
	<p><u>BIO-8b</u>: To further enhance the wildlife values of the remaining oak woodland, all non-native trees, shrubs, and invasive species, shall be removed from the portion of the project site that is outside of the grading envelope. These species have the potential to colonize the remaining oak woodland on the project site. These species include acacia, eucalyptus, French broom, yellow star-thistle, Harding grass (<i>Phalaris aquatica</i>), Himalayan blackberry (<i>Rubus discolor</i>), fennel (<i>Foeniculum vulgare</i>), mayweed (<i>Anthemus cotula</i>), Klamath weed (<i>Hypericum perforatum</i>) or other invasive species of St. John’s wort (<i>Hypericum</i> spp.), milk thistle (<i>Silybum marianum</i>), and pampas grass (<i>Cortaderia</i> spp.). The removal of invasive species from the on-site oak woodland shall be in perpetuity according to a management plan prepared according to Mitigation Measure BIO-8c.</p> <p><u>BIO-8c</u>: In accordance with Chapter 17 of the City’s municipal code, the removal of native trees shall be avoided by design where possible. The development plan has avoided native trees with the exception of 9 heritage-size valley oaks, 1 heritage-size coast live oak, 2 valley oaks, 1 coast live oak, and 1 black oak. Each of these native trees shall be replaced on-site with three trees (mitigation ratio of 3:1) of the same species as the removed tree and derived from local stock. These trees shall be incorporated into the project’s landscape plan and/or planted adjacent to the existing woodland. A mitigation plan shall be developed by a biologist or professional arborist in order to ensure the long-term survival of the native plantings. The mitigation plan shall include the location of planting, planting techniques, need for irrigation, monitoring, maintenance, performance standards, and annual reporting. Size of replacement trees shall be 5-gallons pots. Monitoring shall be done for at least 5 years after planting.</p>		

Table 5: 2011 and 2017 Impacts and Mitigation Measures

2011 Impacts	2011 Mitigation Measures	2017 Impacts	2017 Mitigation Measures
	<p><u>BIO-8d</u>: To mitigate potential damage to native trees on the site during construction, a tree protection zone (TPZ) shall be established on the site adjacent to the work area. Usually a tree protection zone encompasses the edge of canopy. A professional arborist shall be consulted prior to construction regarding the specifications of the TPZ and the appropriate care for trees before, during, and after construction. Native trees whose roots are damaged by the project (including construction of the bike and pedestrian path) shall be monitored for 5 years after the end of construction. Those trees that die within the 5-year monitoring period shall be replaced with 3 trees of the same species of locally-collected stock. These new replacement trees shall be covered by the mitigation plan described in Mitigation Measure BIO-8b.</p>		
<p><u>BIO-9</u>: The proposed project may result in long-term impacts to the habitat quality of the valley oak woodland, a resource that is protected under the City of Novato’s Municipal Code, Chapter XIX, Woodland and Tree Preservation.</p>	<p><u>BIO-9</u>: As required by the Novato Municipal Code to reduce development-related impacts to the valley oak woodland, a qualified biologist shall prepare a Woodland Conservation and Management Plan based on the following principles (as defined in the City’s municipal code):</p> <ul style="list-style-type: none"> • Preservation of stands or groups of native trees shall be given priority over individual specimens, provided that heritage trees shall be protected whenever feasible. (See City of Novato Municipal Code for definition of heritage trees). • Representative species and age diversity (including ratios of age class populations within each represented species) shall be promoted. • Activities that fragment the forest or woodland into small units shall be minimized or restricted. • Components of forest and woodlands other than trees shall be considered in the plan, including lower story shrubs and grasses, all forms of animal life, soil conditions, and microclimate, including drainage, air and water quality, restrictions on human and domestic animal activity or any other activity that could potentially degrade the forest or woodland. 	<p>Unchanged</p>	<p>Unchanged with the exception that the scientific name of Himalayan blackberry is now <i>Rubus armeniacus</i>.</p>

Table 5: 2011 and 2017 Impacts and Mitigation Measures

2011 Impacts	2011 Mitigation Measures	2017 Impacts	2017 Mitigation Measures
	<ul style="list-style-type: none"> • Ecotones and habitat gradients (for example, woodlands to grasslands or wetlands or baylands) shall be preserved and buffered with preserved habitats on each side of the ecotone or habitat gradient. • Linkages and corridors shall be provided between forest areas, and other habitat areas and types on-site, and in similar fashion shall be designed to protect and sustain the natural use and movement of regional and migratory wildlife through and over the site. Linkages and corridors shall have a width of 300 feet where possible. • Provide for the sustainable regeneration of the native woodland through natural processes and, where appropriate, through human intervention. <p>The plan shall emphasize management of the existing oak woodlands and shall include the following site-specific components, at a minimum:</p> <ul style="list-style-type: none"> • A description of the existing oak woodland’s plant species composition, including a baseline cover estimate of invasive weeds not limited to acacia, eucalyptus, French broom, yellow star-thistle, Harding grass (<i>Phalaris aquatica</i>), Himalayan blackberry (<i>Rubus discolor</i>), fennel (<i>Foeniculum vulgare</i>), mayweed (<i>Anthemus cotula</i>), Klamath weed (<i>Hypericum perforatum</i>) or other invasive species of St. John’s wort (<i>Hypericum</i> spp.), milk thistle (<i>Silybum marianum</i>), and pampas grass (<i>Cortaderia</i> spp.); • Methods for removal of invasive species (including those listed above as they occur on-site) including criteria for initiating such removal; • Annual monitoring requirements, monitoring methods, and annual maintenance requirements; 		

Table 5: 2011 and 2017 Impacts and Mitigation Measures

2011 Impacts	2011 Mitigation Measures	2017 Impacts	2017 Mitigation Measures
	<ul style="list-style-type: none"> Long-term maintenance needs including maintaining the existing mosaic of open oak woodland and grassland, eradicating French broom, Pampas grass, Klamath weed and fennel from the site, maintaining other invasive species at an acceptable level, preventing the colonization of grassland areas by shrubs and trees, and maintaining or increasing the cover of native grasses and forbs; Discussion of the funding of the plan in perpetuity; A biological consultant shall review the plan prior to approval by the City. The Woodland Conservation and Management Plan shall be approved by the City prior to approval of the grading plan. Implementation of this plan shall be required as a condition of approval for the project prior to the issuance of a grading permit. 		
<p><u>BIO-10</u>: Elements of the proposed project would intrude into the 50-foot buffer surrounding the Beverly Ehreth Ecological Preserve. The proposed intrusions include:</p> <p>1) the observation decks near Buildings A and B and</p> <p>2) the amphitheater near Building C.</p>	<p><u>BIO-10a</u>: Project improvements such as buildings, parking lots and utility and drainage infrastructure shall not intrude within 50 feet of the preserve.</p> <p><u>BIO-10b</u>: The deck adjacent to Buildings A and B shall be at least 30 feet from the wetland edge at the preserve. The amphitheater adjacent to Building C shall also be at least 30 feet from the wetland edge. Such buffers would be sufficient to protect the wildlife values of the preserve because 1) those areas will be screened from the preserve and 2) those three areas are small in relation to the size of the entire preserve and any minor disturbance to wildlife would therefore be localized. Native shrubs and trees shall screen the boardwalk, observation areas, and amphitheater from the pond in the preserve.</p>	<p><u>Impact BIO-10</u>: Elements of the proposed project would intrude into the 50-foot buffer surrounding the Beverly Ehreth Ecological Preserve. The proposed intrusions include:</p> <p>1) the observation decks near Buildings A and B and</p> <p>2) the amphitheater near Building C.</p>	<p><u>BIO-10a</u>: Project improvements such as roads, buildings, parking lots and utility and drainage infrastructure shall not intrude within 50 feet of the preserve. <u>Prior to the initiation of grading, the 50-foot buffer shall be delineated and fenced off. Signs shall be placed on the fence indicating that construction equipment and personnel shall not enter the buffer.</u></p> <p><u>BIO-10b</u>: The deck adjacent to Buildings A and B shall be at least 30 feet from the wetland edge at the preserve. The amphitheater adjacent to Building C shall also be at least 30 feet from the wetland edge. Such buffers would be sufficient to protect the wildlife values of the preserve because 1) those areas will be screened from the preserve and 2) those three areas are small in relation to the size of the entire preserve and any minor disturbance to wildlife would therefore be localized. Native shrubs and trees shall screen the boardwalk, observation areas, and amphitheater from the pond in the preserve.</p>

Table 5: 2011 and 2017 Impacts and Mitigation Measures

2011 Impacts	2011 Mitigation Measures	2017 Impacts	2017 Mitigation Measures
	<p><u>BIO-10c</u>: Fencing shall be installed at the edge of the boardwalk, decks, observation area, amphitheater, and bike path or walkways that intrude within 50 feet of the preserve to prevent entry by people and dogs into the preserve. An intact fence surrounding the preserve shall also be maintained. The fence shall have openings at the bottom to allow passage of wildlife. See Mitigation Measure BIO-5 for a discussion of wildlife friendly fence.</p> <p><u>BIO-10d</u>: Signage shall be installed throughout the site and in the vicinity of the preserve in particular, alerting the public to the requirement for dogs to be on-leash. Appropriate signage shall be installed prior to issuance of a certificate of occupancy.</p> <p><u>BIO-10e</u>: The invasive species shall be removed from the preserve to replace the habitat removed by the observation platforms, amphitheater, and bike path. These species may include acacia, eucalyptus, French broom, yellow star-thistle, Harding grass, Himalayan blackberry, fennel, mayweed, Klamath weed or other invasive species of St. John’s wort, milk thistle, and pampas grass. The removal from the preserve shall be monitored for 5 years.</p> <p>The preserve is owned and managed by Marin County Flood Control District and is not within the project applicant’s control. If the Marin County Flood Control District does not grant the project applicant access to remove invasive species from the preserve, then no element of the project (including the observation platforms, amphitheater, and bike path) shall be allowed to intrude within the preserve’s 50 foot buffer area.</p>		<p><u>BIO-10c</u>: Fencing shall be installed at the edge of the boardwalk, decks, observation area, amphitheater, and bike path or walkways that intrude within 50 feet of the preserve to prevent entry by people and dogs into the preserve. An intact fence surrounding the preserve shall also be maintained. The fence shall have openings at the bottom to allow passage of wildlife. See Mitigation Measure BIO-5 for a discussion of wildlife friendly fence.</p> <p><u>BIO-10d</u>: Signage shall be installed throughout the site and in the vicinity of the preserve in particular, alerting the public to the requirement for dogs to be on-leash. Appropriate signage shall be installed prior to issuance of a certificate of occupancy.</p> <p><u>BIO-10e</u>: The invasive species shall be removed from the preserve to replace the habitat removed by the observation platforms, amphitheater, and bike path. Imp[acted] by the project. These species may include acacia, eucalyptus, French broom, yellow star-thistle, Harding grass, Himalayan blackberry, fennel, mayweed, Klamath weed or other invasive species of St. John’s wort, milk thistle, and pampas grass. The removal from the preserve shall be monitored for 5 years.</p> <p>The preserve is owned and managed by Marin County Flood Control District and is not within the project applicant’s control. If the Marin County Flood Control District does not grant the project applicant access to remove invasive species from the preserve, then no element of the project (including the observation platforms, amphitheater, and bike path) shall be allowed to intrude within the preserve’s 50 foot buffer area.</p>

Table 5: 2011 and 2017 Impacts and Mitigation Measures

2011 Impacts	2011 Mitigation Measures	2017 Impacts	2017 Mitigation Measures
	<p><u>BIO-10f</u>: A Stream and Wetland Management Plan shall be prepared as required by the Novato Municipal Code. This Wetland Management Plan shall emphasize control of run-off to the on-site pond and the preserve and control of non-native plant species surrounding these two areas. The Management Plan shall be prepared in consultation with and shall be approved by the City of Novato, County of Marin Flood Control District, Corps, and Regional Water Quality Control Board. Adequate funding for the management activities shall be ensured as part of the plan. Such activities shall occur in perpetuity. Additionally, the City of Novato Municipal Code sections 19.35 and 19.36 provide detailed requirements, development standards, and design criteria for the development of a Stream and Wetland Management Plan, and these requirements shall be adhered to in developing the Wetland Management Plan. A listing of the requirements of the plan includes: <i>Goals and Objectives, Site Plan (including boundaries), Proposed Techniques and Standards (including protection, enhancement and restoration of habitat), Mitigation Goals and Performance Standards, Implementation and Monitoring Plan, Cost Estimate, ongoing long-term Management Plan including flood, vegetation, fishery, and wildlife management, and Annual Reports</i>. A listing of the development standards and design criteria for Section 19.35 includes <i>Stream Buffer Zone, Alteration of Stream Channel or Banks, Slope Protection and Bank Stabilization, Alterations within Stream Buffer Zone, Mitigation Restoration and Enhancement, Erosion Control, Urban Runoff and Stormwater Discharges, and Long-term Maintenance and Management</i>. A listing of the development standards and design criteria for Section 19.36 includes <i>Wetland Buffer, Protective Measures, Landscaping, and Timing of Wetland Restoration or Creation</i>. The Management Plan shall address the topics as presented in sections 19.35 and 19.36 of the City of Novato’s Zoning Ordinance.</p>		<p><u>BIO-10f</u>: A Stream and Wetland Management Plan shall be prepared as required by the Novato Municipal Code. This Wetland Management Plan shall emphasize control of run-off to the on-site pond and the preserve and control of non-native plant species surrounding these two areas. The Management Plan shall be prepared in consultation with and shall be approved by the City of Novato, County of Marin Flood Control District, Corps, and Regional Water Quality Control Board. Adequate funding for the management activities shall be ensured as part of the plan. Such activities shall occur in perpetuity. Additionally, the City of Novato Municipal Code sections 19.35 and 19.36 provide detailed requirements, development standards, and design criteria for the development of a Stream and Wetland Management Plan, and these requirements shall be adhered to in developing the Wetland Management Plan. A listing of the requirements of the plan includes: <i>Goals and Objectives, Site Plan (including boundaries), Proposed Techniques and Standards (including protection, enhancement and restoration of habitat), Mitigation Goals and Performance Standards, Implementation and Monitoring Plan, Cost Estimate, ongoing long-term Management Plan including flood, vegetation, fishery, and wildlife management, and Annual Reports</i>. A listing of the development standards and design criteria for Section 19.35 includes <i>Stream Buffer Zone, Alteration of Stream Channel or Banks, Slope Protection and Bank Stabilization, Alterations within Stream Buffer Zone, Mitigation Restoration and Enhancement, Erosion Control, Urban Runoff and Stormwater Discharges, and Long-term Maintenance and Management</i>. A listing of the development standards and design criteria for Section 19.36 includes <i>Wetland Buffer, Protective Measures, Landscaping, and Timing of Wetland Restoration or Creation</i>. The Management Plan shall address the topics as presented in sections 19.35 and 19.36 of the City of Novato’s Zoning Ordinance.</p>

Table 5: 2011 and 2017 Impacts and Mitigation Measures

2011 Impacts	2011 Mitigation Measures	2017 Impacts	2017 Mitigation Measures
<p><u>BIO-11</u>: Elements of the proposed project would intrude into the 50-foot buffer surrounding the on-site pond. The proposed intrusions include: 1) grading near Building C and the parking lot near Building B, 2) several landscaping areas near the pond shoreline, 3) the observation area near Building C; and 4) the first segment of the proposed Class I bike path (applicable to both Option A and B alignments).</p>	<p><u>BIO-11a</u>: Grading within the 50-foot buffer of the wetland adjacent to the on-site pond shall not change the elevation of the top of bank of the wetland, and the bank shall not be made steeper. A steeper bank would be more unstable and more susceptible to erosion than the existing bank. Project improvements such as buildings, parking lots and utility and drainage infrastructure shall not intrude within 50 feet of the preserve.</p> <p><u>BIO-11b</u>: Native shrubs and trees shall screen the observation area of Building C from the on-site pond.</p> <p><u>BIO-11c</u>: Signage shall be installed throughout the site and in the vicinity of the on-site pond in particular, alerting the public to the requirement for dogs to be on-leash. Appropriate signage shall be installed prior to issuance of a certificate of occupancy.</p> <p><u>BIO-11d</u>: The invasive species shall be removed from the buffer area of the on-site pond. The removal from the on-site pond shall be monitored in perpetuity as part of the Stream and Wetland Management Plan to prevent the invasive species from colonizing the buffer area and the oak woodland.</p> <p><u>BIO-11e</u>: Develop and implement the Stream and Wetland Management Plan as described under Mitigation Measure BIO-10f.</p>	<p><u>BIO-11</u>: Elements of the proposed project would intrude into the 50-foot buffer surrounding the on-site pond. The proposed intrusions include: 1) grading near Building C and the parking lot near Building B, 2) several landscaping areas near the pond shoreline, 3) the observation area near Building C; and 4) the first segment of the proposed Class I bike path (applicable to both Option A and B alignments), <u>grading near Building C and the parking lot or fueling station on Parcel 1. The realigned roadway may also intrude into the buffer, particularly during construction.</u></p>	<p><u>BIO-11a</u>: Grading within the 50-foot buffer of the wetland adjacent to the on-site pond shall not change the elevation of the top of bank of the wetland, and the bank shall not be made steeper. A steeper bank would be more unstable and more susceptible to erosion than the existing bank. Project improvements such as buildings, parking lots and utility and drainage infrastructure shall not intrude within 50 feet of the preserve.</p> <p><u>BIO-11b</u>: Native shrubs and trees shall <u>partially</u> screen the observation area of Building C from the on-site pond.</p> <p><u>BIO-11c</u>: Signage shall be installed throughout the site and in the vicinity of the on-site pond in particular, alerting the public to the requirement for dogs to be on-leash. Appropriate signage shall be installed prior to issuance of a certificate of occupancy.</p> <p><u>BIO-11d</u>: The invasive species shall be removed from the buffer area of the on-site pond. The removal from the on-site pond shall be monitored in perpetuity as part of the Stream and Wetland Management Plan to prevent the invasive species from colonizing the buffer area and the oak woodland.</p> <p><u>BIO-11e</u>: Develop and implement the Stream and Wetland Management Plan as described under Mitigation Measure BIO-10f.</p>

Table 5: 2011 and 2017 Impacts and Mitigation Measures

2011 Impacts	2011 Mitigation Measures	2017 Impacts	2017 Mitigation Measures
<p><u>BIO-12</u>: Construction of Option B for the Class I bike and pedestrian path alignment would directly impact approximately 0.07 acre of seasonal wetlands potentially subject to Corps and RWQCB jurisdiction.</p>	<p><u>BIO-12</u>: The project applicant shall apply to the Corps for a wetland fill permit and to the RWQCB for Water Quality Certification. The application for wetland fill shall require mitigation at a 2:1 ratio for on-site mitigation (i.e., 0.14 acre of mitigation) or 3:1 mitigation for off-site mitigation (i.e., 0.21 acre of mitigation). Mitigation may be accomplished by (1) on- or off-site creation of new seasonal wetlands at an appropriate mitigation site or (2) purchase of a 0.21 acre of credits (assuming impacts are to 0.07 acre of wetland impacts) at an off-site mitigation bank approved by the Corps. A credit purchase agreement or receipt shall be provided prior to approval of the grading plan.</p> <p>If the mitigation is to be accomplished by creating new wetlands on-site (or at an off-site location), the applicant shall prepare and implement a wetland mitigation and monitoring plan (MMP) detailing the mitigation design, wetland planting design, maintenance and monitoring requirements, reporting requirements, and success criteria. Mitigation wetlands shall be monitored for a minimum of five years to verify that the success criteria have been achieved. The MMP shall be approved by the RWQCB and the City prior to approval of the Final Map.</p>	<p><u>BIO-12</u>: Construction of Option B for the Class I bike and pedestrian path alignment would directly impact approximately the project may directly impact 0.07 acre of seasonal wetlands potentially subject to Corps and RWQCB jurisdiction.</p>	<p><u>BIO-12</u>: The project applicant shall apply to the Corps for a wetland fill permit and to the RWQCB for Water Quality Certification. The application for wetland fill shall require mitigation at a 2:1 ratio for on-site mitigation (i.e., 0.14 acre of mitigation) or 3:1 mitigation for off-site mitigation (i.e., 0.21 acre of mitigation). Mitigation may be accomplished by (1) on- or off-site creation of new seasonal wetlands at an appropriate mitigation site or (2) purchase of a 0.21 acre of credits (assuming impacts are to 0.07 acre of wetland impacts) at an off-site mitigation bank approved by the Corps. A credit purchase agreement or receipt shall be provided prior to approval of the grading plan.</p> <p>If the mitigation is to be accomplished by creating new wetlands on-site (or at an off-site location), the applicant shall prepare and implement a wetland mitigation and monitoring plan (MMP) detailing the mitigation design, wetland planting design, maintenance and monitoring requirements, reporting requirements, and success criteria. Mitigation wetlands shall be monitored for a minimum of five years to verify that the success criteria have been achieved. The MMP shall be approved by the RWQCB and the City prior to approval of the Final Map.</p>
<p><u>BIO-13</u>: Option A of the Class I bike and pedestrian path alignment would intrude into the 50-foot buffer surrounding the southern edge of the Beverly Ehreth Ecological Preserve.</p>	<p><u>BIO-13a</u>: The Option A alignment for the proposed Class I pathway shall be designed to avoid impacts to the natural hydrology of the preserve pond.</p> <p><u>BIO-13b</u>: Implement Mitigation Measures BIO-10c, 10d, 10e, and 10f.</p>	<p><u>BIO-13</u>: Option A of the Class I bike and pedestrian path alignment would intrude into the 50-foot buffer surrounding the southern edge of the Beverly Ehreth Ecological Preserve.</p>	<p>Not applicable</p>

Table 5: 2011 and 2017 Impacts and Mitigation Measures

2011 Impacts	2011 Mitigation Measures	2017 Impacts	2017 Mitigation Measures
<p><u>BIO-14</u>: Construction of Option B for the proposed bike and pedestrian path alignment would result in the removal of at least 2 valley oaks (greater than 36 inches).</p>	<p><u>BIO-14</u>: Implement Mitigation Measures 8b, 8c, and 8d.</p>	<p><u>BIO-14</u>: Construction of Option B for the proposed bike and pedestrian path alignment would result in the removal of at least 2 valley oaks (greater than 36 inches)</p>	<p>Not applicable</p>
<p><u>BIO-15</u>: Option B of the Class I bike and pedestrian path alignment would intrude into the 50-foot buffer surrounding the western and southern edges of the on-site pond.</p>	<p><u>BIO-15a</u>: The Option B alignment for the proposed Class I pathway shall be designed to avoid impacts to the natural hydrology of the on-site pond.</p> <p><u>BIO-15d</u>: Implement Mitigation Measures BIO-11c, 11d, and 11e.</p>	<p><u>BIO-15</u>: Option B of the Class I bike and pedestrian path alignment would intrude into the 50-foot buffer surrounding the western and southern edges of the on-site pond.</p>	<p>Not applicable</p>

References

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