
Appendix E

**BIOLOGICAL RESOURCES ANALYSIS
OAKS BUSINESS PARK
CITY OF LIVERMORE, CALIFORNIA**

February 15, 2023

Prepared for

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Attachment A. Preliminary Grading and Drainage Plan prepared by Kier & Wright August 2021

Attachment B. Isabel/State Route Trail Crossing prepared by Kier & Wright May 2022

Attachment C. Isabel/State Route Trail Crossing Options 1-3 prepared by M&A February 2023

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1. INTRODUCTION

Monk & Associates, Inc. (M&A) has prepared this biological resources analysis for the proposed Oaks Business Park development site located in Livermore, Alameda County, California (herein referred to as the project site) (Figures 1 and 2). The purpose of our analysis is to provide a description of existing biological resources on the project site and to identify potentially significant impacts that could occur to sensitive biological resources from the construction of a proposed industrial development.

Biological resources include common plant and animal species, and special-status plants and animals as designated by the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), National Marine Fisheries Service (NMFS), and other resource organizations including the California Native Plant Society. Biological resources also include waters of the United States and State, as regulated by the U.S. Army Corps of Engineers (Corps), California Regional Water Quality Control Board (RWQCB), and CDFW. It is important to note that our analysis includes an assessment of the potential for impacts to regulated waters but does not provide the level of detail required for a formal delineation of “waters of the U.S.” suitable for submittal to the Corps, the regulatory agency that defines waters of the U.S.

This biological resources analysis also provides mitigation measures for “potentially significant” and “significant” impacts that could occur to biological resources. Whenever possible, upon implementation, the prescribed mitigation measures would reduce impacts to levels considered less than significant pursuant to the California Environmental Quality Act (CEQA) (Pub. Resources Code §§ 21000 et seq.; 14 Cal. Code Regs §§ 15000 et seq). Accordingly, this report is suitable for review and inclusion in any review being conducted by the City of Livermore for the proposed project pursuant to the CEQA.

2. PROPERTY LOCATION, HISTORY AND SETTING

This 39.70-acre project site is located within the County of Alameda but will be annexed into the City of Livermore prior to development. This project site is located at the northwestern corner of Stanley Boulevard and Isabel Avenue (Figure 3). It is currently vacant. Arroyo Mocho runs east to west along the southern project site boundary (further discussion on Arroyo Mocho provided in the hydrology section below). There is a walking path along the north side of Arroyo Mocho, just outside of the tree drip line; this path will remain and will be paved as part of the project. No work is planned south of this walking path (that is, along the bank of Arroyo Mocho). The project site is disked annually and periodically dry-land farmed. At the time of M&A’s June 2019 site visit it was under hay production and the hay had been recently cut. In September 2021, the project site appeared to have been recently disked, but there was no clear evidence of recent hay production, and no equipment or vehicles were on site.

The property south of the arroyo (outside the project site boundaries) is currently undisturbed; however, over 25-plus years ago, this property was excavated down to the gravel (the clay and topsoils were removed) for the purpose of creating a pit where water could be stored during the drought years. Water was then piped off of the adjacent quarry to the south into this pit (a percolation pond). Since that time, water storage areas have become more readily available in the

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region, and this southern property is no longer used for that purpose. The former percolation pond, largely silted in, now consists of a depression 5 to 10 feet below the surrounding ground. Most of property south of the arroyo is vegetated with ruderal vegetation and scattered eucalyptus trees.

To the north of the project site is industrial development. To the east of Isabel Avenue is a tract housing development. To the west is an active quarry. South is the Union Pacific Railroad tracks and Stanley Boulevard, with another quarry pit located south of Stanley Boulevard.

3. PROPOSED PROJECT

The applicant proposes to build an industrial business center. This would include two industrial buildings and associated parking areas. In addition, a paved, at-grade, on-site trail is proposed to run along the boundaries of the project site, consistent with the City of Livermore's Active Transportation Plan (ATP). Specifically, the on-site trail would extend from the northeastern corner of the site, along the project site's eastern, southern, and western boundaries, before connecting to an off-site existing paved shared-use path at the northwestern corner of site. In addition, the proposed project would include a new off-site trail connection to the existing Arroyo Mocho Trail, located on the east side of Isabel Avenue and State Route 84 (SR 84). For the purposes of this analysis, four alternatives for the proposed off-site Isabel Avenue/SR 84 crossing to the existing Arroyo Mocho Trail are being considered and evaluated in the CEQA document (Attachments B and C show these options), including the following:

Trail Connection Option 1 – At Grade Crossing at Discovery Drive

Off-site trail connection Option 1 would include the extension of the proposed on-site trail from the northeastern-most point of the project site, off-site and north along the western side of Isabel Avenue/SR 84 to Discovery Drive, where a new pedestrian crossing with a traffic signal would be added across Isabel Avenue/SR 84 to connect to the existing Arroyo Mocho Trail on the eastern side of Isabel Avenue/SR 84. Off-site trail connection Option 1 would require either the relocation an existing 18-inch recycled water line or the use of retaining walls on either side of the trail near the connection point to the existing Arroyo Mocho Trail on the east side of the crossing.

Trail Connection Option 2a – Undercrossing at Isabel Bridge below Top of Bank (TOB)

Off-site trail connection Option 2a would include the extension of the proposed on-site trail from the northeastern-most point of the project site, off-site to a grade-separated undercrossing of Isabel Avenue/SR 84 at the existing Isabel Bridge, where the trail would connect to the existing Arroyo Mocho Trail on the eastern side of Isabel Avenue/SR 84. The Option 2a trail undercrossing would be constructed above the ordinary high water mark (OHWM) of the Arroyo Mocho, be approximately 14 feet wide, and provide a minimum of seven feet of clearance under the bridge. It should be noted that the City's ATP identifies an undercrossing as the preferred crossing of Isabel Avenue/SR 84. This option would impact below top of bank (TOB) of the Arroyo Mocho, located to the south of the project site.

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Trail Connection Option 2b – Undercrossing at Isabel Bridge below Ordinary High Water Mark (OHWM)

Off-site trail connection Option 2b would be extremely similar to Option 2a, the main difference being that trail connection Option 2b would impact Arroyo Mocho below the OHWM. This option is considered to be less preferable to Option 2a because of the impacts below OHWM and the federal agency permitting and mitigation requirements that would be associated with this option.

Trail Connection Option 3 – Overcrossing of Isabel Avenue/SR 84

Off-site trail connection Option 3 would include the extension of the proposed on-site trail from the northeastern-most point of the project site within a Zone 7 easement, off-site and south to just north of the existing railroad tracks and associated crossing (north of Stanley Boulevard), where a new above-grade crossing over Isabel Avenue/SR 84 is proposed to connect to the existing Arroyo Mocho Trail at the northeast corner of Stanley Boulevard and Isabel Avenue/SR 84. The trail overcrossing is anticipated to be an approximately 170-foot bike/pedestrian metal fabricated clear span bridge that would run parallel to the existing bridge for the railroad tracks.

4. ANALYSIS METHODS

Prior to preparing this biological resource analysis report, M&A researched the most recent version of CDFW's Natural Diversity Database (CNDDDB) (RareFind 5 application) for historic and recent records of special-status plant and animal species (that is, threatened, endangered, rare) known to occur in the region of the project site (CNDDDB 2021). All special-status species records were compiled in tables. M&A examined all known record locations for special-status species to determine if special-status species could occur on the project site or within an area of affect.

M&A has a long history with this project site, first surveying it in 2000, with follow-up surveys over the years for various development proposals. However, since CEQA requires an assessment of the existing conditions, M&A biologists Ms. Sarah Lynch and Ms. Hope Kingma conducted a general survey of the project site on June 10, 2019 to record biological resources and to assess the likelihood of resource agency regulated areas occurring on the project site. Ms. Lynch returned to the project site on June 21, 2019 to flag the Arroyo Mocho's riparian drip line so that the engineers could survey the limits of the riparian vegetation and overlay it on the project site plan. M&A biologist Mr. Mark Jasper conducted another general survey of the project site on September 10, 2021. Each site survey involved searching all habitats on the site and recording all plant and wildlife species observed. M&A cross-referenced the habitats found on the project site against the habitat requirements of local or regionally known special-status species to determine if the proposed project could directly or indirectly impact such species.

Most recently, on June 15, 2022, Ms. Lynch conducted a wetland delineation along the Arroyo Mocho located to the south of the project site as part of the proposed on-site trail plan. The results of our literature research and field surveys are provided in the sections below.

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5. RESULTS OF RESEARCH AND PROJECT SITE ANALYSES

5.1 Topography

The relatively flat site has a gentle downward slope from east to west. Elevation on the site ranges from 417 to 395 feet above mean sea level.

5.2 Hydrology

Arroyo Mocho flows east to west along the southern boundary of the project site. Although historically it sank into the area between Livermore and Pleasanton, now the site of multiple gravel pits and the chain of lakes, there is an engineered channel connecting it to Arroyo de la Laguna. Immediately east of the project site Arroyo Mocho originates at a flood control basin that was constructed in recent years. From this basin the arroyo flows west along the southern perimeter of the project site. Roughly 0.6 mile southwest of the project site the arroyo turns northwest and follows an engineered channel which eventually connects it to the Arroyo de la Laguna, which in turn flows to Alameda Creek and then to San Francisco Bay.

5.3 Plant Communities and Associated Wildlife Habitats

A complete list of plant species observed on the project site is presented in Table 1. Nomenclature used for plant names follows *The Jepson Manual* Second Edition (Baldwin 2012) and changes made to this manual as published on the Jepson Interchange Project website (<http://ucjeps.berkeley.edu/interchange/index.html>). Table 2 is a list of wildlife species observed on the project site. Nomenclature for wildlife follows CDFW's *Complete list of amphibian, reptile, bird, and mammal species in California* (2016) and any changes made to species nomenclature as published in scientific journals since the publication of CDFW's list.

Past land use activities have disturbed the entire project site. The project site has been used for many years to grow crops. During each of M&A's field surveys, the site had been recently mowed.

5.3.1 RUDERAL HERBACEOUS

Ruderal (weedy) communities are assemblages of plants that thrive in waste areas, roadsides and other sites that have been disturbed by human activity. Typically, hard-packed soils of roadsides, parking lots, industrial areas and construction sites support communities of ruderal species. Ruderal vegetation is adapted to high levels of disturbance and persists almost indefinitely in areas with continuous disturbance. At the time of M&A's June 2019 survey, the project site had piles of cut hay onsite and around these piles the area was dominated by ruderal herbaceous vegetation such as yellow star thistle (*Centaurea solstitialis*) and wild radish (*Raphanus raphanistrum*). During the September 2021 survey, the site appeared to have been recently mowed, but no hay bales or other evidence of recent use was observed.

Animals observed or expected to occur in ruderal habitats are typically those species adapted to human disturbance such as the American Crow (*Corvus brachyrhynchos*), Northern Mockingbird (*Mimus polyglottos*), Brewer's Blackbird (*Euphagus cyanocephalus*), Mourning Dove (*Zenaida macroura*), and Eurasian Collared Dove (*Streptopelia decaocto*). Other species observed in the ruderal vegetation onsite were those species that were moving between the adjacent eucalyptus

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grove and the ruderal vegetation. These species were the Lesser Goldfinch (*Carduelis psaltria*), Wild Turkey (*Meleagris gallopavo*), Red-tailed Hawk (*Buteo jamaicensis*), and California Towhee (*Pipilo crissalis*). Some of the common mammal species that would use this ruderal herbaceous habitat include striped skunk (*Mephitis mephitis*), California ground squirrel (*Otospermophilus beechyi*),

5.3.2 EUCALYPTUS GROVE

Blue gum eucalyptus trees grow along Arroyo Mocho's banks at the southern end of the project site. They also extend out from the arroyo banks south of the project site. A few black walnut trees (*Juglans hindsii*) are also mixed in with the eucalyptus. The eucalyptus grove provides foraging and nesting opportunities for a variety of passerine bird species. Being in proximity to water, the eucalyptus grove is even more inviting for local and migratory bird species. Large flocks of European Starlings (*Sturnus vulgaris*) and House Finches (*Haemorhous mexicanus*) were observed perching in the eucalyptus branches during the June 2019 surveys. Other birds observed in the eucalyptus trees included Western Tanager (*Piranga ludoviciana*), Red-winged Blackbird (*Agelaius phoeniceus*), nesting Bullock's Oriole (*Icterus bullockii*), Pacific-slope Flycatcher (*Empidonax difficilis*), Bewick's Wren (*Thryomanes bewickii*), Brown-headed Cowbird (*Molothrus ater*), Lesser Goldfinch (*Spinus psaltria*), and Mourning Dove. Eucalyptus trees are typically favored nest trees for larger raptors such as the Red-tailed Hawk, which was observed onsite, and the Red-shouldered Hawk (*Buteo lineatus*). Several stick nests were observed in the eucalyptus trees during the June 2019 and September 2021 site surveys, but they were all inactive. Fox squirrels (*Sciurus niger*) and their leafy nests were also observed in the eucalyptus grove.

5.3.3 ARROYO MOCHO

The Arroyo Mocho is a cobbly, channelized remnant creek that flows east to west along the southern boundary of the project site into an engineered channel connecting it to Arroyo de la Laguna. Arroyo Mocho within the project site boundaries is vegetated with tall blue gum eucalyptus trees. Where the arroyo leaves the project site at its eastern boundary, where the proposed trail extends, this reach of the arroyo is dominated by juvenile and mature Fremont cottonwoods (*Populus fremontii fremontii*), red willow (*Salix laevigata*), mule fat (*Baccharis salicifolia salicifolia*), poison hemlock (*Conium maculatum*), and invasive pepperweed (*Lepidium latifolium*). Subdominants include cocklebur (*Xanthium strumarium*), spearmint (*Mentha spicata*), dog fennel (*Anthemis cotula*), umbrella sedge (*Cyperus eragrostis*) and Himalayan blackberry (*Rubus armeniacus*). The rocky substrate in this offsite location is mixed with blocky, angular rip-rap along the lower channel banks. The arroyo only flows seasonally and during each one of M&A's site visits it was dry.

Wildlife observed in the shrubby willow and cottonwood vegetation included insectivores such as Black Phoebes (*Sayornis nigricans*) and Nuttall's Woodpeckers (*Dryobates nuttallii*). The heavy brush provides habitat for other species such as California Quail (*Callipepla californica*) and cottontail rabbits (*Sylvilagus audubonii*), as well as transient predators such as coyotes (*Canis latrans*).

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5.4 Wildlife Corridors

Wildlife corridors are linear and/or regional habitats that provide connectivity to other natural vegetation communities within a landscape fractured by urbanization and other development. Wildlife corridors have several functions: 1) they provide avenues along which wide-ranging animals can travel, migrate, and breed, allowing genetic interchange to occur; 2) populations can move in response to environmental changes and natural disasters; and 3) individuals can recolonize habitats from which populations have been locally extirpated (Beier and Loe 1992). All three of these functions can be met if both regional and local wildlife corridors are accessible to wildlife. Regional wildlife corridors provide foraging, breeding, and retreat areas for migrating, dispersing, immigrating, and emigrating wildlife populations. Local wildlife corridors also provide access routes to food, cover, and water resources within restricted habitats.

The project site is undeveloped and is used for dry land agriculture being regularly disked, planted and cut. North of the project site is an industrial development, east of the project site is a heavily trafficked road, and south is an active railroad track and heavily trafficked road. West of the project site are quarry lakes. Thus, this project site is isolated from regional open spaces and as such has no regional wildlife corridor value to terrestrial mammals and minimal habitat that could be used by some migrating avian species.

Arroyo Mocho runs along the southern project site boundary. Arroyo Mocho may serve as a local movement corridor for mammals, amphibians, and reptiles to move unobtrusively through the general geographic area. Animals moving along Arroyo Mocho could leave the Arroyo and enter the project site to move across the landscape. Those animals expected to migrate along the Arroyo and possibly enter the upland areas of the project site are common species such as raccoons, skunks, deer, and rodents. These mammals would be able to navigate their way around the project site even after it was developed. The Arroyo Mocho would remain unchanged by the proposed project and as such, the wildlife corridor values of this channel would remain intact.

6. SPECIAL-STATUS SPECIES DEFINITION

6.1 Definitions

For purposes of this analysis, special-status species are plants and animals that are legally protected under the California and Federal Endangered Species Acts (CESA and FESA, respectively) or other regulations, and species that are considered rare by the scientific community (for example, the CNPS). Special-status species are defined as:

- plants and animals that are listed or proposed for listing as threatened or endangered under the CESA (Fish and Game Code §2050 *et seq.*; 14 CCR §670.1 *et seq.*) or the FESA (50 CFR 17.12 for plants; 50 CFR 17.11 for animals; various notices in the Federal Register [FR] for proposed species);
- plants and animals that are candidates for possible future listing as threatened or endangered under the FESA (50 CFR 17; FR Vol. 64, No. 205, pages 57533-57547, October 25, 1999); and under the CESA (California Fish and Game Code §2068);

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- plants and animals that meet the definition of endangered, rare, or threatened under the California Environmental Quality Act (CEQA) (14 CCR §15380) that may include species not found on either State or Federal Endangered Species lists;
- Plants occurring on Ranks 1A, 1B, 2A, 2B, 3, and 4 of CNPS' electronic *Inventory* (CNPS 2001). The CDFW recognizes that Ranks 1A, 1B, 2A and 2B of the CNPS inventory contain plants that, in the majority of cases, would qualify for State listing, and CDFW requests their inclusion in EIRs. Plants occurring on CNPS Ranks 3 and 4 are "plants about which more information is necessary," and "plants of limited distribution," respectively (CNPS 2001). Such plants may be included as special-status species on a case by case basis due to local significance or recent biological information (more on CNPS Rank species below);
- animals that are designated as "species of special concern" by CDFW (2023);
- Animal species that are "fully protected" in California (Fish and Game Codes 3511, 4700, 5050, and 5515).
- Bat Species that are designated on the Western Bat Working Group's (WBWG) Regional Bat Species Priority Matrix as: "RED OR HIGH." This priority is justified by the WBWG as follows: "Based on available information on distribution, status, ecology, and known threats, this designation should result in these bat species being considered the highest priority for funding, planning, and conservation actions. Information about status and threats to most species could result in effective conservation actions being implemented should a commitment to management exist. These species are imperiled or are at high risk of imperilment."

In the paragraphs below we provide further definitions of legal status as they pertain to the special-status species discussed in this report or in the attached tables.

Federal Endangered or Threatened Species. A species listed as Endangered or Threatened under the FESA is protected from unauthorized "take" (that is, harass, harm, pursue, hunt, shoot, trap) of that species. If it is necessary to take a Federal listed Endangered or Threatened species as part of an otherwise lawful activity, it would be necessary to receive permission from the USFWS prior to initiating the take.

State Threatened Species. A species listed as Threatened under the state Endangered Species Act (§2050 of California Fish and Game Code) is protected from unauthorized "take" (that is, harass, pursue, hunt, shoot, trap) of that species. If it is necessary to "take" a state listed Threatened species as part of an otherwise lawful activity, it would be necessary to receive permission from CDFW prior to initiating the "take."

California Species of Special Concern. These are species in which their California breeding populations are seriously declining and extirpation from all or a portion of their range is possible. This designation affords no legally mandated protection; however, pursuant to the CEQA

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Guidelines (14 CCR §15380), some species of special concern could be considered “rare.” Pursuant to its rarity status, any unmitigated impacts to rare species could be considered a “significant effect on the environment” (§15382). Thus, species of special concern must be considered in any project that will, or is currently, undergoing CEQA review, and/or that must obtain an environmental permit(s) from a public agency.

CNPS Rank Species. The CNPS maintains an “Inventory” of special status plant species. This inventory has four lists of plants with varying rarity. These lists are: Rank 1, Rank 2, Rank 3, and Rank 4. Although plants on these lists have no formal legal protection (unless they are also state or federal listed species), CDFW requests the inclusion of Rank 1 species in environmental documents. In addition, other state and local agencies may request the inclusion of species on other lists as well. The Rank 1 and 2 species are defined below:

- Rank 1A: Presumed extinct in California;
- Rank 1B: Rare, threatened, or endangered in California and elsewhere;
- Rank 2A: Plants presumed extirpated in California, but more common elsewhere;
- Rank 2B: Rare, threatened, or endangered in California, but more common elsewhere.

All of the plants constituting Rank 1B meet the definitions of Section 1901, Chapter 10 (Native Plant Protection Act) or Sections 2062 and 2067 (California Endangered Species Act) of the Fish and Game Code, and are eligible for state listing (CNPS 2001). Rank 2 species are rare in California, but more common elsewhere. Ranks 3 and 4 contain species about which there is some concern, and are reviewed by CDFW and maintained on “watch lists.”

Additionally, in 2006 CNPS updated their lists to include “threat code extensions” for each list. For example, Rank 1B species would now be categorized as Rank 1B.1, Rank 1B.2, or Rank 1B.3. These threat codes are defined as follows:

- .1 is considered “seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)”;
- .2 is “fairly endangered in California (20-80% of occurrences threatened)”;
- .3 is “not very endangered in California (less than 20% of occurrences threatened or no current threats known).”

Under the CEQA review process only CNPS Rank 1 and 2 species are considered since these are the only CNPS species that meet CEQA’s definition of “rare” or “endangered.” Impacts to Rank 3 and 4 species are not regarded as significant pursuant to CEQA.

Fully Protected Birds. Fully protected birds, such as the white-tailed kite and golden eagle, are protected under California Fish and Game Code (§3511). Fully protected birds may not be “taken” or possessed (i.e., kept in captivity) at any time.

6.2 Potential Special-Status Plants on the Project Site

Figure 4 provides a graphical illustration of the closest known records for special-status species within 3 miles of the project site and helps readers visually understand the number of sensitive species that occur in the vicinity of the project site. No special-status plants have been mapped on or adjacent to the project site. However, according to the CDFW’s CNDDDB (RareFind), a

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total of seven special-status plant species are known to occur in the region of the project site (Table 3). Most of these plants occur in specialized habitats such as alkaline flats and hills or vernal pools/mesic grasslands. None of the seven special-status plant species listed in Table 3 are expected to occur on the project site due to intensive past agricultural activities that have been practiced for decades on this project site. These activities have removed all native plant communities. Hence, this project site does not provide suitable special-status plant habitats, and no special-status plants have been observed onsite during years of surveys in different months of the year. Accordingly, *no impacts to special-status plants are expected from implementation of the development project.*

6.3 Potential Special-Status Animals on the Project Site

Figure 4 provides a graphical illustration of the closest known records for special-status species within 3 miles of the project site and helps readers visually understand the number of sensitive species that occur in the vicinity of the project site. No special-status animal records have ever been mapped on the project site. However, a total of five special-status animal species are known to occur within three miles of the project site (Table 4). Two special-status species of greatest concern in this part of the county are the federally and state listed California tiger salamander (CTS) and the federally listed California red-legged frog. We discuss these two species in this section.

6.3.1 CALIFORNIA TIGER SALAMANDER (CTS)

The Central California Distinct Population Segment (DPS) of the CTS (*Ambystoma californiense*) was federally listed as threatened on August 4, 2004. The USFWS designated critical habitat for the Central California DPS in 2005; the project site is located *outside* designated critical habitat. On August 19, 2010, the CTS was state listed as a threatened species under the California Endangered Species Act (CESA). Hence, it is protected under the Federal and State Endangered Species Acts.

This salamander occurs in grasslands and open oak woodland that provide suitable over-summering habitats and that support aquatic habitats where CTS reproduce. CTS spend the majority of their lives underground in California ground squirrel burrows, Botta's pocket gopher (*Thomomys bottae*) burrows, and other subterranean refugia. This salamander has also been found in areas with no apparent underground retreats. In these areas it may utilize cracks in the ground or may burrow into loose soil, or seek refuge in and under rotting logs or fallen branches. The CTS emerges from its over-summering sites for only a few weeks each year during the rainy season to migrate to its breeding ponds. Seasonal wetlands, vernal pools, or artificial impoundments such as stock ponds that typically hold water until the month of May allow enough time for larvae to fully metamorphose. CTS rarely successfully breed in ponds supporting non-native species such as bullfrogs (*Rana catesbeiana*), Centrarchid fish species (such as sunfish, blue gill, or large-mouth bass), and signal and red swamp crayfish (*Pacifastacus leniusculus* and *Procambarus clarkii*, respectively), all of which readily prey on CTS eggs and larvae. Adult California tiger salamanders have been observed up to 2,092 meters (1.3 miles) from breeding ponds (USFWS 2004). As such, unobstructed migration corridors are an important component of CTS habitat.

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M&A reviewed the CTS records in the CDFW's CNDDDB and found that the three closest known records for CTS are located south of the project site and are no longer extant populations, as the record locations have been converted to residential development or vineyards (Occurrence Nos. 168, 169, and 530). These sightings were all located between 1.2 and 1.6 miles in all cardinal directions around the project site. To the north of the project site is Interstate 580 (I-580); this freeway is an obvious barrier to CTS migration. There are no records for CTS in the CNDDDB for the land lying between the project site and I-580. Between the project site and I-580 are the Livermore Municipal Airport, the Las Positas Golf Course, and other development.

There are no seasonal wetlands on the project site that pond or pool water that CTS could breed in. Additionally, there are no suitable breeding habitats within 1.3 miles of the project site on the south side of Interstate 580 where the project site is located. Any CTS north of Interstate 580 would be unable to migrate across this interstate to the south side of this 10 lane freeway and thus it is an effective geographic barrier between lands north of Interstate 580 and lands south of this major commuter freeway. The quarry "lakes" to the west of the project site are large, permanent, man-made water features that were excavated in uplands. The water in quarry lakes typically supports a low percentage of dissolved oxygen. The quarry lakes near the project site are known to support large numbers of non-native bullfrogs and Centrarchid fish (CTS predators). Finally, the side slopes on all the quarry lakes are typically near vertical making egress in or out of the lakes by migrating/metamorphosing CTS impossible or prohibitively difficult. Thus, for all of these reasons, it is extremely unlikely that CTS would breed in these lakes.

Other aquatic habitat within 1.3 miles of the project site is Arroyo Mocho which flows along the project site's southern boundary. This tributary is mostly channelized in the vicinity of the project site; it serves as a flood control channel for the area and receives high winter flows. Channels that exhibit high or flashy flows do not provide suitable breeding conditions for CTS. Eggs readily detach from vegetation in flowing water (S. Lynch pers. observation), and thus, CTS reproduction in flowing streams/ditches typically does not occur. Rather, this salamander almost always breeds in temporary pools such as vernal pools or isolated wetlands that provide calm conditions for the eggs and larvae to develop. The high flows that pass through Arroyo Mocho in the winter and early spring months would not be conducive for egg laying or larval development. Accordingly, M&A concluded that the Arroyo Mocho in the vicinity of the project site would not provide suitable California tiger salamander habitat.

Finally, the project site is included in the East Alameda Conservation Strategy's Conservation Zone 2 which is: "highly urbanized Livermore Valley." This Conservation Zone is not an area designated for protection and preservation of CTS habitat. This is likely due to the absence of CTS records and suitable habitats within this Conservation Zone and the fact that the area is outside USFWS designated CTS critical habitat. The project site has been intensively farmed for at least the last 50 years. There is a long history of disking, grazing, hay farming, ground squirrel control, and mowing. These areas do not provide suitable CTS over-summering habitat. The majority of known sightings for over-summering tiger salamanders have been in grassland habitats that are either undisturbed or only disturbed by grazing. Disking, hay planting, and rodent control are all activities that are not conducive for maintaining underground retreat

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habitats that could be used by the CTS. *Therefore, it is M&A's conclusion that the proposed project will not impact the CTS or its habitat. No mitigation should be warranted.*

6.3.2 CALIFORNIA RED-LEGGED FROG

The California red-legged frog (*Rana draytonii*) is a federally listed threatened species and a State “species of special concern.” This frog is typically found in ponds, slow-flowing portions of perennial streams, and in intermittent streams that maintain water in the summer months. This frog is also found in hillside seeps that maintain pool environments or saturated soils throughout the summer months, based on M&A personal observations. Populations probably cannot be maintained if all surface water disappears (i.e., no available surface water for egg laying and larval development habitat) (Jennings and Hayes 1994). Larval California red-legged frogs require 11 to 20 weeks of permanent water to reach metamorphosis (i.e., to change from a tadpole into a frog). Riparian vegetation such as willows and emergent vegetation such as cattails (*Typha* spp.) are preferred California red-legged frog habitats, though not necessary for this species to be present. Populations of California red-legged frog will be reduced in size or eliminated from ponds supporting non-native species such as bullfrogs, Centrarchid fish species (such as sunfish, blue gill, or large-mouth bass), and signal and red swamp crayfish, all of which are known California red-legged frog predators. However, the presence of these non-native species does not necessarily preclude the presence of the California red-legged frog.

The closest known record of California red-legged frog to the project site is 0.4-mile north of the site (CNDDDB Occurrence No. 227). At this record location in 1997, one adult California red-legged frog was observed in small pools in Arroyo Las Positas south of Interstate-580, between Las Positas Golf Course and the west end of Livermore Municipal Airport.

The project site has been farmed for over 50 years. It has been routinely and highly disturbed over many decades due to a long history of grazing, hay farming, disking, and mowing. Hence, it is unlikely that red-legged frogs, if they are present in the area, would use the project site as upland retreat habitat. The reach of Arroyo Mocho on the project site is flashy with large, short duration flows in the winter months followed by relatively quick drawdown and drying. It does not support water through the summer months which is critical to California red-legged frog larval development and metamorphosis which requires inundated pools that are large enough and deep enough to evade predators. This pool habitat is not present in this channelized section of the Arroyo Mocho. Thus, it is not suitable for larval development.

M&A does not believe the project site supports the California red-legged frog. The project site does not constitute a likely migration corridor for the California red-legged frog. Farming activities on the project site would certainly deter this frog from migrating overland through the project site, while Stanley Boulevard, a heavily trafficked four-lane road with a concrete island, would potentially deter this frog from migrating onto the project site from habitats to the south. In addition, there is no realistically viable habitat for this frog outside of the Arroyo Mocho, which conceivably could be used by this frog as a dispersal corridor, but adjacent lands that have been farmed or quarried for decades would not be used. Risking overland migration in highly open, farmed land would not be an evolutionary strategy that would promote continuation of the species. More simply, this frog would be highly susceptible to predation and other forms of harm if it ventured from the protected environs of the Arroyo Mocho onto and across farmed lands or

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the disturbed lands south of the arroyo and south of the project site. As the Arroyo Mocho will not be impacted in any way by the proposed project, its value as a migration corridor, if used, will not be affected by the proposed project.

When M&A originally studied this project site associated with a mining proposal in the year 2000, M&A contacted the USFWS' Sacramento Endangered Species Office and spoke with their biologist in charge of California red-legged frog issues at that time, Mr. Curtis McCasland. Mr. McCasland stated that the project site is not within an area that the USFWS was concerned with; that is, *it is not within an area designated by the USFWS as California red-legged frog "critical habitat."* Mr. McCasland further stated that farmed land does not likely constitute habitats that would be used by the California red-legged frog. As such, Mr. McCasland stated that the USFWS would have no further interest in the proposed project¹. While a lot of time has gone by since M&A worked on this project site in 2000, site conditions in the area have only become more densely developed, reducing habitat value to California red-legged frogs such that the USFWS' conclusion in 2000 remains even more valid today.

In 2002, M&A conducted four California red-legged frog surveys in the Arroyo Mocho adjacent to the project site. These surveys were conducted using field survey methods provided in the USFWS' 1997 survey protocol (the then current protocol). M&A biologists Geoff Monk and Sarah Lynch conducted these surveys. Both Mr. Monk and Ms. Lynch are "[U.S. Fish and Wildlife] Service approved" California red-legged frog biologists. Additionally, both are authorized by the USFWS under a federal 10(a)(1)(A) permit to survey for and handle the California red-legged frog. Finally, both Mr. Monk and Ms. Lynch hold valid state Scientific Collector's Permits to survey for this frog species.

In accordance with the field survey methods provided in the USFWS' survey protocol valid in 2002 (which remain valid today), Geoff Monk and Sarah Lynch conducted two nocturnal (night-time) surveys. These surveys were conducted on May 29 and June 3, 2002. The weather conditions on the survey nights were favorable for seeing and/or hearing California red-legged frogs (that is, it was warm and calm; it was not windy). During the nocturnal surveys, M&A biologists walked the length of Arroyo Mocho using medium-powered lights to illuminate the vegetation and water column in the search for frogs. Following the nocturnal surveys, Ms. Lynch conducted diurnal (day-time) surveys. The diurnal surveys were conducted on June 14 and 25, 2002. At the time of M&A's May and June surveys, the water in Arroyo Mocho was approximately 20 to 24 inches deep and rapidly flowing. Weather conditions on these days were appropriate conditions for observing frogs: warm, calm, and clear. These surveys entailed walking the length of Arroyo Mocho, glassing the reaches of the channel for frogs, and dip-netting the water randomly. All wildlife observed during the surveys (including invertebrates) was recorded in project notes, along with the weather and other pertinent information.

No California red-legged frogs were observed during either the nocturnal or the diurnal surveys. Only adult Sierran tree frogs (*Pseudacris sierra*) were observed. Arroyo Mocho adjacent to the project site does not provide suitable habitat for the California red-legged frog. Under normal

¹ Curt McCasland, Biologist, U.S. Fish and Wildlife Service, personal communication with Sarah Lynch, Monk & Associates, October 12, 2000.

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conditions, this reach of Arroyo Mocho dries up completely by April, not providing hydrated conditions over long enough periods for California red-legged frog eggs or developing red-legged frog larvae to survive. Under the current management regime, Zone 7 water releases from upstream sources in the spring and summer months may rehydrate the channel but do not last for a long enough period to create long-term wetted conditions, or conditions that would allow for successful California red-legged frog reproduction. Nor do these conditions support non-native crayfish, fish, or bullfrogs (species that would be expected in a perennial stream). Hence, when flows are released into the dry arroyo, little aquatic life is present in the fast-flowing water. M&A did not observe or dip-net any fish or amphibians in the channel (a few adult Sierran tree frogs were on the banks; no larvae were observed). Only amphipods and flat worms were identified in the channel during our surveys. When M&A surveyed the project site in June 2019, the time of year when California red-legged frog larvae are living in the water and entering metamorphosis (that is, the transition from a tadpole into a terrestrial frog), the Arroyo Mocho was completely dry. Thus, it was not suitable habitat for tadpoles (larvae).

Based on all the above factors, and the results of California red-legged frog surveys that M&A completed in the Arroyo, M&A concludes that the Arroyo Mocho does not likely provide habitat where the California red-legged frog would reside. *Thus, the project would not impact the California red-legged frog, since it is not onsite nor in the Arroyo Mocho, and no mitigation is warranted for the California red-legged frog.*

6.3.3 WESTERN BURROWING OWL

The western burrowing owl (*Athene cunicularia*) is a California designated “species of special concern.” The “species of special concern” status designation does not provide any special legally mandated protection for this owl species. However, this status designation likely meets the definition of “rare” pursuant to the California Environmental Quality Act (CEQA) (14 CCR §15380(2)(A)). As such, potential impacts to the burrowing owl should be considered during any CEQA review. Any unmitigated impacts to this species would likely be regarded by the State resource agency (the CDFW) as a significant adverse impact pursuant to CEQA (§21068). Its nest, eggs, and young are also protected under California Fish and Game Code (§3503 and §3503.5).

Burrowing owl habitat can be found in annual and perennial grasslands, characterized by low-growing vegetation. Typically, the burrowing owl utilizes rodent burrows, most frequently ground squirrel burrows, for nesting and cover. They may also on occasion dig their own burrows. They exhibit high site fidelity, reusing burrows year after year. Occupancy of suitable burrowing owl habitat can be verified at a site by observation of a pair of burrowing owls during the spring and summer months or, alternatively, its molted feathers, cast pellets, prey remains, eggshell fragments, or excrement at or near a burrow.

A series of four surveys is required to satisfy the CDFW’s survey guidelines (CDFG 2012). The same survey requirement was prescribed in the CDFW’s earlier versions of their Staff Report (CDFG 1995). No burrowing owls have been observed by M&A on the project site during past surveys in 2003 and 2004 conducted following these survey guidelines. Similarly, no signs of burrowing owl occupation were observed at any burrow or suitable artificial structure (e.g.,

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pipes) on the project site during two site surveys conducted in June 2019. Despite the California ground squirrel burrows on the site, there was no evidence of current or previous use of California ground squirrel burrows by burrowing owls. Areas adjacent to the project site were also visually surveyed for burrowing owl. No burrowing owls or their sign were observed in adjacent areas.

Since the burrowing owl is a highly mobile species that has nested within one mile of the project site next to the airport on Jack London Boulevard (CNDDDB Occurrence No. 457), nesting surveys following the CDFW's current guidelines (2012 or newer, if one is written) should be repeated the year site grading/earth-moving is proposed to commence. If no owls are found during these surveys, no further regard for the burrowing owl would be necessary. If burrowing owls are observed during surveys, a fenced protective buffer around the nest burrow would be required in accordance with the CDFW's Staff Report. Please see the Impacts and Mitigations section for details.

6.3.4 LOGGERHEAD SHRIKE

Loggerhead Shrike (*Lanius ludovicianus*) is a California "species of special concern." It is also protected under California Fish and Game Code. This small, predaceous bird of open and often arid habitats prefers areas with scattered shrubs, trees, posts, fences, utility lines, and other acceptable perching locations. This shrike preys mostly upon large insects, but also takes small birds, mammals, amphibians, reptiles, fish, carrion, and various invertebrates. It typically constructs a stick nest on a stable branch in a densely foliated tree or shrub. Blackberry (*Rubus* spp.), rose (*Rosa* spp.) and willows provide nest sites. Site selection is apparently based on the degree of protective cover rather than on a particular plant species (Shuford 1993). Although nest height varies from 1.5 to 30 feet above ground, it is rarely less than three feet. The pastures, hay field, and ruderal habitats on the project site provide Loggerhead Shrikes with suitable hunting habitat.

Loggerhead Shrikes were observed hunting in the project site vicinity. The eucalyptus trees along the Arroyo Mocho provide suitable nesting habitat. The possibility of this bird nesting on the project site cannot be ruled out without conducting a preconstruction nesting survey. Until nesting surveys are conducted that confirm or negate this species' presence, impacts to the loggerhead shrike from the proposed project are considered potentially significant. See the recommended mitigation measures for nesting birds in the "Impacts and Mitigations" section for details.

7. REGULATORY FRAMEWORK FOR NATIVE WILDLIFE, FISH, AND PLANTS

This section provides a discussion of those laws and regulations that are in place to protect native wildlife, fish, and plants. Under each law we discuss its relevance to the proposed project.

7.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) forms the basis for the federal protection of threatened or endangered plants, insects, fish and wildlife. FESA contains four main elements, they are as follows:

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Section 4 (16 USCA §1533): Species listing, Critical Habitat Designation, and Recovery Planning: outlines the procedure for listing endangered plants and wildlife.

Section 7 (§1536): Federal Consultation Requirement: imposes limits on the actions of federal agencies that might impact listed species.

Section 9 (§1538): Prohibition on Take: prohibits the "taking" of a listed species by anyone, including private individuals, and State and local agencies.

Section 10: Exceptions to the Take Prohibition: non-federal agencies can obtain an incidental take permit through approval of a Habitat Conservation Plan.

In the case of salt water fish and other marine organisms, the requirements of FESA are enforced by the National Marine Fisheries Service (NMFS). The USFWS enforces all other cases. Below, Sections 9, 7, and 10 of FESA are discussed since they are the sections most relevant to the proposed project.

Section 9 of FESA as amended, prohibits the "take" of any fish or wildlife species listed under FESA as endangered. Under Federal regulation, "take" of fish or wildlife species listed as threatened is also prohibited unless otherwise specifically authorized by regulation. "Take," as defined by FESA, means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." "Harm" includes not only the direct taking of a species itself, but the destruction or modification of the species' habitat resulting in the potential injury of the species. As such, "harm" is further defined to mean "an act which actually kills or injures wildlife; such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" (50 CFR 17.3). A December 2001 decision by the 9th Circuit Court of Appeals (*Arizona Cattle Growers' Association, Jeff Menges, vs. the U.S. Fish and Wildlife Service and Bureau of Land Management, and the Southwest Center for Biological Diversity*) ruled that the USFWS must show that a threatened or endangered species is present on a project site and that it would be taken by the project activities. According to this ruling, the USFWS can no longer require mitigation based on the probability that the species could use the site. Rather they must show that it is "reasonably certain to occur."

Section 9 applies to any person, corporation, federal agency, or any local or State agency. If "take" of a listed species (other than a plant species) is necessary to complete an otherwise lawful activity, this triggers the need to obtain an "incidental take permit" either through a Section 7 Consultation as discussed further below (for federal actions or private actions that are permitted or funded by a federal agency such as the Corps), or through Section 10 of FESA which requires preparation of a Habitat Conservation Plan (HCP) (for state and local agencies, or individuals, and projects without a federal "nexus"; for example, projects that do not need a Corps permit).

Section 7(a)(2) of the Act requires that each federal agency consult with the USFWS to ensure that any action authorized, funded or carried out by such agency is not likely to jeopardize the continued existence of an endangered or threatened species or result in the destruction or adverse modification of critical habitat for listed species. Critical habitat designations mean: (1) specific

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areas within a geographic region currently occupied by a listed species, on which are found those physical or biological features that are essential to the conservation of a listed species and that may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by a listed species that are determined essential for the conservation of the species.

The Section 7 consultation process only applies to actions taken by federal agencies that are considering authorizing discretionary projects. Section 7 is by and between the NMFS and/or the USFWS and the federal agency contemplating a discretionary approval (that is, the federal “action agency,” for example, the Corps or the Federal Highway Administration). Private parties, cities, counties, etc. (i.e., applicants) may participate in the Section 7 consultation *at the discretion of the federal agencies conducting the Section 7 consultation*. The Section 7 consultation process is triggered by a determination of the “action agency” – that is, the federal agency that is carrying out, funding, or approving a project - that the project “may affect” a listed species or critical habitat. If an action is likely to adversely affect a listed species or designated critical habitat, formal consultation between the nexus agency and the USFWS/NMFS is required. As part of the formal consultation, the USFWS/NMFS may resolve any issues informally with the nexus agency or may prepare a formal Biological Opinion assessing whether the proposed action would be likely to result in “jeopardy” to a listed species or if it could adversely modify designated critical habitat. If the USFWS/NMFS prepares a Biological Opinion it will contain either a “jeopardy” or “non-jeopardy” decision. If the USFWS/NMFS concludes that a proposed project would result in adverse modification of critical habitat or would jeopardize the continued existence of a federal listed species (that is, it will issue a jeopardy decision), the nexus federal agency would be most unlikely to authorize its discretionary permit. If the USFWS/NMFS prepares a “non-jeopardy” Biological Opinion, the nexus federal agency may authorize the discretionary permit making all conditions of the Biological Opinion conditions of its discretionary permit. A non-jeopardy Biological Opinion constitutes an “incidental take” permit that allows applicants to “take” federally listed species while otherwise carrying out legally sanctioned projects.

For non-federal entities, for example private parties, cities, and counties that are proposing a project that might result in incidental take, Section 10 provides the mechanism for obtaining that take authorization. Under Section 10 of FESA, for the applicant to obtain an "incidental take permit," the applicant is required to submit a "conservation plan" to the USFWS or NMFS that specifies the impacts that are likely to result to federally listed species, and the measures the applicant will undertake to minimize and mitigate such impacts, and the funding that will be available to implement those steps. Conservation plans under FESA have come to be known as "habitat conservation plans" or "HCPs" for short. The terms incidental take permit, Section 10 permit, and Section 10(a)(1)(B) permit are used interchangeably by the USFWS. Section 10(a)(2)(B) of FESA provides statutory criteria that must be satisfied before an incidental take permit can be issued.

7.1.1 RESPONSIBLE AGENCY

FESA gives regulatory authority to the USFWS for federally listed terrestrial species and non-anadromous fish. The NMFS has regulatory authority over federally listed marine mammals and anadromous fish.

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7.1.2 APPLICABILITY TO THE PROPOSED PROJECT

There are no federally listed species expected to occur on the project site. None of the special-status birds such as Western Burrowing Owls or Loggerhead Shrikes are expected to occur on the project site are protected under FESA. No FESA Incidental Take Permit is warranted for the proposed project.

7.2 California Endangered Species Act

7.2.1 SECTION 2081 OF THE CALIFORNIA ENDANGERED SPECIES ACT

In 1984, the state legislated the California Endangered Species Act (CESA) (Fish and Game Code §2050). The basic policy of CESA is to conserve and enhance endangered species and their habitats. State agencies will not approve private or public projects under their jurisdiction that would impact threatened or endangered species if reasonable and prudent alternatives are available. Because CESA does not have a provision for "harm" (see discussion of FESA, above), CDFW considerations pursuant to CESA are limited to those actions that would result in the direct take of a listed species.

If CDFW determines that a proposed project could impact a State listed threatened or endangered species, CDFW will provide recommendations for "reasonable and prudent" project alternatives. The CEQA lead agency can only approve a project if these alternatives are implemented, unless it finds that the project's benefits clearly outweigh the costs, reasonable mitigation measures are adopted, there has been no "irreversible or irretrievable" commitment of resources made in the interim, and the resulting project would not result in the extinction of the species. In addition, if there would be impacts to threatened or endangered species, the lead agency typically requires project applicants to demonstrate that they have acquired "incidental take" permits from CDFW and/or USFWS (if it is a Federal listed species) prior to allowing/permitting impacts to such species.

If proposed projects would result in impacts to a State listed species, an "incidental take" permit pursuant to §2081 of the Fish and Game Code would be necessary (versus a Federal incidental take permit for Federal listed species). CDFW will issue an incidental take permit only if:

- 1) The authorized take is incidental to an otherwise lawful activity;
- 2) the impacts of the authorized take are minimized and fully mitigated;
- 3) measures required to minimize and fully mitigate the impacts of the authorized take:
 - a) are roughly proportional in extent to the impact of the taking on the species;
 - b) maintain the project applicant's objectives to the greatest extent possible; and,
 - c) capable of successful implementation; and,
- 4) adequate funding is provided to implement the required minimization and mitigation measures and to monitor compliance with, and the effectiveness of, the measures.

If an applicant is preparing a habitat conservation plan (HCP) as part of the federal 10(a) permit process, the HCP might be incorporated into the §2081 permit if it meets the substantive criteria of §2081(b). To ensure that an HCP meets the mitigation and monitoring standards in Section 2081(b), an applicant should involve CDFW staff in development of the HCP. If a final Biological Opinion (federal action) has been issued for the project pursuant to Section 7 of the

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federal Endangered Species Act, it might also be incorporated into the §2081 permit if it meets the standards of §2081(b).

No §2081 permit may authorize the take of a species for which the Legislature has imposed strict prohibitions on all forms of “take.” These species are listed in several statutes that identify “fully protected” species and “specified birds.” See Fish and Game Code §§ 3505, 3511, 4700, 5050, 5515, and 5517. If a project is planned in an area where a “fully protected” species or a “specified bird” occurs, an applicant must design the project to avoid all take.

Fish and Game Code §2080.1 allows an applicant who has obtained a “non-jeopardy” federal Biological Opinion pursuant to Section 7 of the FESA, or who has received a federal 10(a) permit (federal incidental take permit) pursuant to the FESA, to submit the federal opinion or permit to CDFW for a determination as to whether the federal document is “consistent” with CESA. If after 30 days CDFW determines that the federal incidental take permit is consistent with state law, and that all state listed species under consideration have been considered in the federal Biological Opinion, then no further permit or consultation is required under CESA for the project. However, if CDFW determines that the federal opinion or permit is not consistent with CESA, or that there are state listed species that were not considered in the federal Biological Opinion, then the applicant must apply for a state CESA permit under Section 2081(b). Section 2081(b) is of no use if an affected species is state-listed, but not federally listed.

State and federal incidental take permits are issued on a discretionary basis and are typically only authorized if applicants are able to demonstrate that impacts to the listed species in question are unavoidable, and can be mitigated to an extent that the reviewing agency can conclude that the proposed impacts would not jeopardize the continued existence of the listed species under review. Typically, if there would be impacts to a listed species, mitigation that includes habitat avoidance, preservation, and creation of endangered species habitat is necessary to demonstrate that projects would not threaten the continued existence of a species. In addition, management endowment fees are usually collected as part of the agreement for the incidental take permit(s). The endowment is used to manage any lands set-aside to protect listed species, and for biological mitigation monitoring of these lands over (typically) a five-year period.

7.2.2 APPLICABILITY TO THE PROPOSED PROJECT

No state listed plant or animal species (Tables 3 and 4 respectively) are expected to occur on the project site. Consequently, no impacts are expected to occur to plant or animal species protected pursuant to the CESA. As such, no CESA (2081b) Incidental Take Permit is warranted for the proposed project.

7.3 California Fish and Game Code § 3503, 3503.5, 3511, and 3513

California Fish and Game Code §3503, 3503.5, 3511, and 3513 prohibit the “take, possession, or destruction of birds, their nests or eggs.” Disturbance that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) is considered “take.”

All raptors (that is, hawks, eagles, owls) their nests, eggs, and young are protected under California Fish and Game Code (§3503.5). Additionally, “fully protected” birds, such as the white-tailed kite

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(*Elanus leucurus*) and golden eagle (*Aquila chrysaetos*), are protected under California Fish and Game Code (§3511). “Fully protected” birds may not be taken or possessed (that is, kept in captivity) at any time.

7.3.1 APPLICABILITY TO THE PROPOSED PROJECT

Nesting birds, including raptors such as Red-tailed Hawks (*Buteo jamaicensis*) and Red-shouldered Hawks (*Buteo lineatus*), and common passerine birds could be impacted by grading activities associated with initial clearing of surface soils. Preconstruction surveys would have to be conducted for nesting birds to ensure that there is no direct take of these birds including their eggs, or young. Any active nests that were found during preconstruction surveys would have to be avoided by the project. Suitable non-disturbance buffers would have to be established around nest sites until the nesting cycle is complete. More specifics on the size of buffers are provided below in the Impacts and Mitigations section.

8. EAST ALAMEDA COUNTY CONSERVATION STRATEGY

The East Alameda County Conservation Strategy (hereafter referred to as “Conservation Strategy”) was deemed final in December 2010. It has been approved and accepted by the City of Dublin, Zone 7 Water Agency, and the City of Livermore. It has not been adopted by the City of Pleasanton or Alameda County (S. Stewart, Principal Planner, City of Livermore, email communication with S. Lynch, November 19, 2014). The City of Livermore is the Lead Agency who will review this development project pursuant to the CEQA. Since the City of Livermore is a participant in the East Alameda County Conservation Strategy it is expected that they will follow the recommendations of the Conservation Strategy.

The Conservation Strategy is intended to provide an effective framework to protect, enhance, and restore natural resources in eastern Alameda County, while improving and streamlining the environmental permitting process for impacts resulting from infrastructure and development projects. The Conservation Strategy focuses on impacts to biological resources such as endangered and other special-status species as well as sensitive habitat types (e.g., wetlands, riparian corridors, rare upland communities).

To support the project permitting process, the Conservation Strategy identifies a set of mitigation standards. These standards include avoidance and minimization measures and a compensation program to offset impacts expected from projects in the study area. It also includes a set of specific management prescriptions to benefit natural communities and focal species. The Conservation Strategy sets long-range conservation goals for preservation of all natural communities in the study area. It is designed to contribute to listed species recovery and to prevent the listing of non-listed focal species through the protection, restoration, and enhancement of natural communities and species habitat. By focusing on conservation at the natural community level as well as at the focal species level, the Conservation Strategy will also ensure that common habitats and common species continue to be common in the study area.

The mitigation compensation ratios in the Conservation Strategy vary depending on the quality of habitat being lost. The ratio also varies depending on the total acreage and quality of the natural community in any given Conservation Zone. In other words, if the project will affect a

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rare, natural community the ratio could be higher. If the community is fairly common or heavily impacted already, the ratio could be lower. The mitigation ratios presented in the Conservation Strategy are only valid if a project application is in compliance with all other parts of the Conservation Strategy (i.e., avoidance and minimization measures).

The Conservation Strategy also requires project applicants to demonstrate habitat enhancement, not just permanent protection, on properties used for mitigation. In addition to mitigating the loss of species habitat on the basis of acreage, it is the intent of the Conservation Strategy to ensure that species' habitat quality is preserved. For some species, habitat restoration can be used in lieu of some habitat preservation. If habitat restoration can be provided, less habitat preservation may be required. Project applicants will also be required to demonstrate that more species habitat will be preserved or restored at a mitigation site than will be lost at the impact site.

8.1 Applicable Goals:

- Protect and enhance natural and semi-natural landscapes that are large enough to accommodate natural processes beneficial to populations of native species.
- Maintain and enhance the effective movement and genetic exchange of native organisms within and between natural communities inside and outside the study area.

8.2 Applicable Objectives:

- Avoid or minimize direct impacts on streams during project construction and indirect impacts that result from post-project activities by implementing avoidance measures.

8.3 Applicability to the Proposed Project

The project site is located within Conservation Zone 2 (CZ 2) of the Conservation Strategy; this is the largely urbanized Livermore Valley. This CZ includes the intersections of I-580 and I-680 and the intersection of State Route 84 and I-580. I-580 forms the northeast boundary.

Conservation priorities for CZ-2 are listed below.

- Protection of Western Burrowing Owl nesting and foraging habitat.
- Protection of and restoration opportunities in mixed willow riparian scrub along Arroyo Valle and Arroyo Mocho.
- Protection of and restoration opportunities along Arroyo Seco and Arroyo Mocho to support California red-legged frog and future central California coast steelhead habitat.
- Surveys for San Joaquin spearscale (*Extriplex joaquiniana*) and protection of extant populations.
- Surveys for Congdon's tarplant (*Centromadia parryi congdonii*) and protection of extant populations.
- Protection of vernal pool habitat.

As stated earlier in this report, the project site is farmed and has been farmed, or used for some type of agricultural practices, over many decades. The project site is annually disked and maintained and as such does not provide native plant or wildlife habitat. There are no vernal pools nor are there alkaline soils that would support Congdon's tarplant.

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The project site does not provide suitable habitat for Federal or State listed plant or animal species and none have been observed during numerous surveys conducted onsite. The applicant will follow the standard CEQA avoidance and mitigation prescriptions for those species listed in this document (for example, the Western Burrowing Owl). These mitigations are provided at the end of this document and follow agency-imposed mitigation requirements. The proposed project will also implement the general avoidance and minimization measures presented in the Conservation Strategy as applicable to the proposed project to ensure that the proposed project will not impact special-status species.

9. CITY OF LIVERMORE TREE ORDINANCE

The City of Livermore has a Tree Preservation Ordinance which was adopted November 21, 2007. If a tree on private property falls under the parameters of the Tree Ordinance as a protected tree (Section 12.20.130-12.20.311), then a “tree removal permit” is necessary.

Below we provide the pertinent sections of the City’s tree ordinance.

12.20.160 Definitions “Protected Tree” means a single-trunk tree, a multi-trunk tree, or a stand of multiple trees dependent upon each other for survival and meets any one or more of the following criteria:

1. Any tree located on private property occupied by single-family residential development that meets the following criteria:
 - a. Any tree with a circumference (CBH) of 60 inches or more; or
 - b. Any California native tree having a circumference (CBH) of 24 inches or more;
2. Any tree located on private property occupied by commercial, industrial, institutional (i.e., religious, public agency, hospital, care facilities, etc.), mixed-use or multifamily residential (two or more units) development with a circumference (CBH) of 24 inches or more; or
3. Any tree located on an undeveloped or underdeveloped property, regardless of zoning district, use, or development status, for which new development is proposed, with a circumference (CBH) of 18 inches or more; or
4. Any tree located in an open space, riparian, or habitat area with a circumference (CBH) of 18 inches or more; or
5. Any tree approved as part of a site plan approval, or required as a condition of approval for a development project, zoning use permit, use permit or other site development review; or
6. Any tree designated by the City Council as determined to be an ancestral tree; and/or
7. Any tree listed on the City’s ancestral tree inventory; or
8. Any tree required to be planted as mitigation for unlawfully removed trees.

List of “California Native” Protected Trees

1. Alder, White (*Alnus rhombifolia*)
2. Bay, California (*Umbellularia californica*)
3. Buckeye, California (*Aesculus californica*)
4. Madrone (*Arbutus menziesii*)
5. Maple, Big Leaf (*Acer macrophyllum*)
6. Oak, Blue (*Quercus douglasii*)

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7. Oak, California Black (*Quercus kelloggii*)
8. Oak, Canyon Live (*Quercus chrysolepis*)
9. Oak, Coast Live (*Quercus agrifolia*)
10. Oak, Interior Live (*Quercus wislizenii*)
11. Oak, Scrub (*Quercus berberidifolia*)
12. Oak, Valley (*Quercus lobata*)
13. Grey Pine (*Pinus sabiniana*)
14. Sycamore, California (*Platanus racemosa*)
15. Walnut, California Black (*Juglans hindsii californica*)

12.20.190 Tree Permit Required

- A. Permit Required. No person shall remove or encroach into the protected zone of any protected tree or trees upon a property within the City unless a tree permit has been issued by the City pursuant to the provisions of this article. (Ord. 2065 §1(A), 2018; Ord. 1830 §3, 2007)

12.20.220 Preservation of Protected Trees.

If the Director or deciding body has reason to believe that construction or development activities may endanger a protected tree, the Director or deciding body may, during development project review or as a condition of development project approval, seek professional consultation at the expense of the person seeking to perform the construction or development of the property in order to determine the measures necessary to safeguard the tree. Such measures may include but are not limited to:

- A. If encroachment into the protected zone of any protected tree occurs, special construction to allow the roots to breathe and obtain water shall be required.
- B. The protection zone shall be clearly marked by a three-foot high fence of a highly visible material. Tree wells may be used when advisable. Excavation adjacent to any protected tree shall not be permitted where material damage to the root system will result. The existing ground surface within the protection zone shall not be cut, filled, compacted or paved.
- C. Oil, gasoline, chemicals and other construction materials or equipment that might be harmful shall not be stored within the protection zone or upslope of the protected tree. (Ord. 2065 § 1(A), 2018; Ord. 1830 § 3, 2007)

12.20.230 Conditions of Approval.

- A. The Director or deciding body may attach reasonable conditions to the tree permit to ensure compliance with the stated purposes of this chapter.
- B. The issuance of a tree permit for the removal of a protected tree may be conditioned upon mitigation consisting of the planting of replacement trees on or off site at the sole expense of the applicant, and/or by payment to the urban forestry maintenance fund by the applicant, as determined by the Director or deciding body consistent with the following:

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1. Single-Family Residential Property.

a. The number and type of replacement trees or the amount of funds paid in mitigation may be based on the diminution of economic, aesthetic, environmental and property values, and in relation to the size, age relative to average lifespan, and location of existing trees to be removed, as determined by the Director. In no case shall the replacement value be less than two trees of a minimum 15-gallon size for each tree removed, or one tree of a minimum 15-gallon size, if a California native (as identified under LMC 12.20.160(B)) species is planted.

b. There shall be no mitigation required for protected trees that are determined by the City to be unhealthy or pose a hazard, and where such condition is not the result of an action by the property owner to directly or indirectly damage or remove the tree, or where an invasive species (i.e., privet or sumac) is removed.

2. Multifamily Residential (Two or More Units), Commercial, Industrial, Institutional, Mixed-Use, Open Space, Riparian or Habitat Property.

a. The number and type of replacement trees or the amount of funds paid in mitigation shall be provided corresponding to the value (see LMC 12.20.290) of the loss or diminution of economic, aesthetic, environmental, and property values, and in relation to the size, age relative to average lifespan, and location of existing trees to be removed, as determined by the Director. Depending on the size and number of trees to be removed, the City may require the preparation of a report by a certified arborist at the expense of the applicant and in compliance with this chapter to the satisfaction of the Director. In no case shall replacement value be less than three trees of a minimum 15-gallon size, or two trees of a minimum 24-inch box size, or one tree of 48-inch box size for each tree removed. To the extent possible, the type of replacement trees shall be of a species identified under LMC 12.20.160(B) as a California native.

b. For protected trees that are determined by the City to be unhealthy or pose a hazard and where such condition is not the result of an action by the property owner to directly or indirectly damage or remove the tree, replacement shall be required on a one-to-one basis at a minimum of 15-gallon size.

C. Tree Maintenance Provisions. Applications for multifamily (two or more units), commercial, industrial, institutional, open space, riparian or habitat properties shall be required to prepare an objectively observable maintenance and care program designed to ensure the continued health and care of relocated, replacement, or preserved trees. The applicant may also be required to post a bond or other adequate security to ensure that relocated or replacement trees are properly established and maintained, and that preserved trees are protected from the potential impacts of development. Bonding or surety shall be based upon the following, to be provided at the property owner's expense:

1. Replacement Trees. A written estimate from a landscape professional based on the value of the replacement trees, irrigation improvements, and planting/installation costs.

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2. Preserved Trees. A written valuation of the trees to be preserved (pursuant to subsection (B)(2)(a) of this section) as determined by a certified arborist. If the value of the protected tree cannot be determined, surety equal to \$5,000 per tree shall be required.

3. Relocated Trees. A written valuation of the trees to be relocated (pursuant to subsection (B)(2)(a) of this section) as determined by a certified arborist, and a written estimate from a landscape professional based on the value of irrigation improvements and planting/installation costs. If the value of the tree cannot be determined, surety equal to \$5,000 per tree shall be required.

Said bond or security shall be held for a period of time not to exceed two years from the issuance of a certificate of final occupancy for development on the subject site and shall be released upon the satisfaction of the Director that the trees to have been relocated, preserved or replaced are in good health and have not been endangered or damaged during the development of the property.

D. Damage to any protected tree that is due to the development of a property shall be immediately reported to the Director by the person causing the damage, the responsible contractor, or the owner of the site.

E. When any development permit is applied for and such proposed activity would require the destruction, removal, relocation, or encroachment into the protected zone of a protected tree, said permit shall not be issued until all the requirements of this article are met.

F. In the event a permit to remove, relocate, or encroach into the protected zone of a protected tree is issued in order to enable the applicant to carry out a development project, such tree permit shall be valid and effective only in connection with the actual accomplishment of such development project. Otherwise, no protected tree shall be removed, relocated, or encroached upon.

G. A development permit, issued for the construction of any new residential, commercial, industrial, institutional or mixed-use building, or issued for the improvement or expansion of such, shall not be issued unless the applicant causes street trees to be planted within the public right-of-way adjacent to the property upon which the proposed building is located in accordance with the adopted street tree plan and the provisions of Article I of this chapter. (Ord. 2065 § 1(A), 2018; Ord. 1830 § 3, 2007)

9.1 Applicability to the Proposed Project

The only protected tree species that occurs on the project site is the black walnut. A few black walnut trees occur along the Arroyo Mocho interspersed among the blue gum eucalyptus. All construction activity associated with the industrial development will remain over 25 feet away from the arroyo's top of bank.-Additionally, all grading and construction activities will occur outside of the Arroyo Mocho's tree dripline. Thus, the black walnut trees occurring along the north side of the arroyo would not be impacted.

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10. REGULATORY REQUIREMENTS PERTAINING TO WATERS OF THE UNITED STATES AND STATE

This section presents an overview of the criteria used by the Corps, the RWQCB, the State Water Resources Control Board (SWRCB), and the CDFW to determine those areas within a project area that would be subject to their regulation.

10.1 U.S. Army Corps of Engineers Jurisdiction and General Permitting

Congress enacted the Clean Water Act “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters” (33 U.S.C. §1251(a)). Pursuant to Section 404 of the Clean Water Act (CWA) (33 U.S.C. 1344), the Corps regulates the disposal of dredged or fill material into "waters of the United States" (33 CFR Parts 328 through 330). This requires project applicants to obtain authorization from the Corps prior to discharging dredged or fill materials into any water of the United States.

On November 18, 2021, the agencies announced the signing of a proposed rule to revise the definition of “waters of the United States.” On December 7, 2021, the proposed rule was published in the Federal Register. The agencies propose to put back into place the pre-2015 definition of “waters of the United States,” (40 CFR 230.3(s)). This proposal redefining wetlands is still under public review and not final at this time. The agencies are interpreting “waters of the United States” consistent with the pre-2015 regulatory regime until further notice.

In the published proposed rule from the Federal Register, the term “waters of the United States” is defined as:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds:
 - (i) That are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (1), (2), (5)(i), or (6) of this section; or
 - (ii) That either alone or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of waters identified in paragraph (1), (2), or (6) of this section;
4. All impoundments of waters otherwise defined as waters of the United States under the definition, other than impoundments of waters identified under 3 of this section;
5. Tributaries of waters identified in (1), (2), (4), or (6) of this section;
 - (i) That are relatively permanent, standing or continuously flowing bodies of water; or

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- (ii) That either alone or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of waters identified in (1), (2), or (6) of this section;
- 6. The territorial seas;
- 7. Wetlands adjacent to the following waters (other than waters that are themselves wetlands):
 - (i) Waters identified in (1), (2), or (6) of this section; or
 - (ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (4) or (5)(i) of this section and with a continuous surface connection to such waters; or
 - (iii) Waters identified in (4) or (5)(ii) of this section when the wetlands either alone or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of waters identified in paragraph (1), (2), or (6) of this section.

Waters of the United States do not include:

- 8. Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States.
- 9. Prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

Limits of Corps' jurisdiction:

(a) Territorial Seas. The limit of jurisdiction in the territorial seas is measured from the baseline in a seaward direction a distance of three nautical miles. (See 33 CFR 329.12)

(b) Tidal Waters of the United States. The landward limits of jurisdiction in tidal waters:

- (1) Extends to the high tide line, or
- (2) When adjacent non-tidal waters of the United States are present, the jurisdiction extends to the limits identified in paragraph (c) of this section.

(c) Non-Tidal Waters of the United States. The limits of jurisdiction in non-tidal waters:

- (1) In the absence of adjacent wetlands, the jurisdiction extends to the ordinary high water mark ("OHWM"), or
- (2) When adjacent wetlands are present, the jurisdiction extends beyond the ordinary high water mark to the limit of the adjacent wetlands.
- (3) When the water of the United States consists only of wetlands the jurisdiction extends to the limit of the wetland.

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Section 404 jurisdiction in "other waters" such as lakes, ponds, and streams, extends to the upward limit of the OHWM or the upward extent of any adjacent wetland. The OHWM on a non-tidal water is:

- the "line on shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas" (33 CFR Section 328.3[e]).

Wetlands are defined as: "...those areas that are inundated or saturated by surface or ground water at a frequency and duration to support a prevalence of vegetation adapted for life in saturated soil conditions" (33 CFR Section 328.8 [b]). Wetlands usually must possess hydrophytic vegetation (i.e., plants adapted to inundated or saturated conditions), wetland hydrology (e.g., topographic low areas, exposed water tables, stream channels), and hydric soils (i.e., soils that are periodically or permanently saturated, inundated or flooded) to be regulated by the Corps pursuant to Section 404 of the Clean Water Act.

One of the Supreme Court rulings that will likely remain under the new rule, once it is finalized, was established in 2001 in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*. In this case, the U.S. Supreme Court [148 L. Ed. 2d 576 (2001) (SWANCC)] ruled that the Corps exceeded its authority under the Clean Water Act when it regulated discharges of fill material into "isolated" waters used as habitat by migratory birds. Accordingly, waters (including wetlands) that are not connected hydrologically to navigable waters are not subject to regulation by the Corps.

Another Supreme Court decision also significantly changes how the Corps defines waters of the United States. On June 19, 2006 the United States Supreme Court, in a "four-one-four" decision, addressed the extent of Clean Water Act jurisdiction over wetlands adjacent to tributaries of navigable waters. In two consolidated cases, *Rapanos v. United States* and *Carabell v. U.S. Army Corps of Engineers*, a five-Justice majority of the Court remanded the case to the Sixth circuit for further consideration. The Court was unable to produce a majority vote in favor of any one jurisdictional standard for the Sixth Circuit to apply (or for the regulated community to follow). Instead, Justice Scalia authored a plurality opinion that would significantly narrow the reach of federal wetlands jurisdiction, while Justice Kennedy, concurring in the judgment only, concluded that the appropriate test for jurisdiction over wetlands was the presence of a "significant nexus" between wetlands and "navigable waters" in the traditional sense. The remaining four Justices, in a dissenting opinion by Justice Stevens, would have upheld the Corps of Engineers' assertion of jurisdiction and would have affirmed the Sixth Circuit's decision. When no opinion garners at least five votes, lower courts follow the concurrence that reached the result on the narrowest grounds. Here, that is Justice Kennedy's opinion. Unfortunately, Justice Kennedy did not provide specific guidance about the extent of federal jurisdiction over wetlands that are adjacent to tributaries of navigable waters.

Justice Kennedy concluded that the Clean Water Act applies only to those wetlands with a "significant nexus" to "navigable waters in the traditional sense." A significant nexus exists when

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a wetland, "either alone or in combination with similarly situated lands in the region, significantly affect[s] the chemical, physical, and biological integrity" of factually navigable waters. Under Supreme Court precedent, wetlands adjacent to navigable waters meet this test. For wetlands located near tributaries of navigable waters, however, each wetland demands a case-by-case jurisdictional inquiry. We know that a "mere hydrological connection" is not enough in all cases, and that "speculative or insubstantial" effects on water quality will not suffice to satisfy the test. [Preceding text excerpted from a newsletter prepared by Briscoe, Ivester, and Bazel LLP]. The Corps of Engineers and the Environmental Protection Agency jointly prepared an Instructional Guidebook to aid Corps field staff in completing the new "Approved Jurisdictional Determination Form," and is intended to be used as the U.S. Army Corps of Engineers Regulatory National Standard Operating Procedures for conducting an approved jurisdictional determination.

10.1.1 PERMITTING CORPS JURISDICTIONAL AREAS

To remain in compliance with Section 404 of the Clean Water Act, project proponents and property owners (applicants) are required to be permitted by the Corps prior to discharging or otherwise impacting waters of the United States. In many cases, the Corps must visit a proposed project area (to conduct a "jurisdictional determination") to confirm the extent of area falling under their jurisdiction prior to authorizing any permit for that project area. Typically, at the time the jurisdictional determination is conducted, applicants (or their representative) will discuss the appropriate permit application that would be filed with the Corps for permitting the proposed impact(s) to "waters of the United States."

Pursuant to Section 404, the Corps normally provides two alternatives for permitting impacts to the type of waters of the United States found in the project area. The first alternative would be to use Nationwide Permit(s) (NWP). The second alternative is to apply to the Corps for an Individual Permit (33 CFR Section 235.5(2)(b)). The application process for Individual Permits is extensive and includes public interest review procedures (i.e., public notice and receipt of public comments) and must contain an "alternatives analysis" that is prepared pursuant to Section 404(b) of the Clean Water Act (33 U.S.C. 1344(b)). The alternatives analysis is also typically reviewed by the federal EPA and thus brings another resource agency into the permitting framework. Both the Corps and EPA take the initial viewpoint that there are practical alternatives to the proposed project if there would be impacts to waters of the U.S., and the proposed permitted action is not a water dependent project (e.g., a pier or a dredging project). Alternative analyses therefore must provide convincing reasons that the proposed permitted impacts are unavoidable. Individual Permits may be available for use in the event that discharges into regulated waters fail to meet conditions of NWP(s).

NWPs are a type of general permit administered by the Corps and issued on a nationwide basis that authorize minor activities that affect Corps regulated waters. Under NWP, if certain conditions are met, the specified activities can take place without the need for an individual or regional permit from the Corps (33 CFR, Section 235.5[c][2]). In order to use NWP(s), a project must meet 27 general nationwide permit conditions, and all specific conditions pertaining to the NWP being used (as presented at 33 CFR Section 330, Appendices A and C). It is also important to note that pursuant to 33 CFR Section 330.4(e), there may be special regional conditions or modifications to NWPs that could have relevance to individual proposed projects. Finally,

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pursuant to 33 CFR Section 330.6(a), Nationwide permittees may, and in some cases must, request from the Corps confirmation that an activity complies with the terms and conditions of the NWP intended for use (*i.e.*, must receive “verification” from the Corps).

Prior to finalizing design plans, the applicant needs to be aware that the Corps maintains a policy of “no net loss” of wetlands (waters of the United States) from project area development. Therefore, it is incumbent upon applicants that propose to impact Corps regulated areas to submit a mitigation plan that demonstrates that impacted regulated areas would be recreated (*i.e.*, impacts would be mitigated). Typically, the Corps requires mitigation to be “in-kind” (*i.e.*, seasonal wetlands would be filled, mitigation would include seasonal wetland mitigation), and at a minimum of a 1:1 replacement ratio (*i.e.*, one acre or fraction thereof of recreated for each acre or fraction thereof lost). Often a 2:1 replacement ratio is required if the Permittee is responsible for the mitigation. In some cases, the Corps allows “out-of-kind” mitigation if the compensation site has greater value than the impacted site. Finally, there are many Corps approved wetland mitigation banks where wetland mitigation credits can be purchased by applicants to meet mitigation compensation requirements. Mitigation banks have defined service areas and the Corps may only allow their use when a project would have minimal impacts to wetlands.

10.1.2 APPLICABILITY TO THE PROPOSED PROJECT

A wetland delineation of Arroyo Mocho within the proposed trail alignment was conducted by M&A Principal Biologist Ms. Sarah Lynch on June 15, 2022 according to the 1987 Corps Wetland Delineation Manual (Corps 1987) and the Regional Supplement to the Corps’ Wetland Delineation Manual: Arid West Region (Corps 2008). A request for a jurisdictional determination and a Draft Aquatic Resources Delineation Map has not been submitted to the Corps but would be submitted prior to or concurrently with any permit application submitted to this agency. Though this acreage has not been confirmed by the Corps, the Draft Aquatic Resources Map M&A prepared shows 0.073-acre of wetland along Arroyo Mocho just east of the Isabel Avenue overcrossing. To the west of the Isabel Avenue overcrossing, the Arroyo Mocho is mapped as an unvegetated “other waters.” Arroyo Mocho’s other waters and wetlands would likely fall under the Corps’ jurisdiction as waters of the United States pursuant to Section 404 of the Clean Water Act. Any proposal to fill these waters of the United States would require prior authorization from the Corps.

Under the currently proposed trail options 1 and 3, there would not be any impacts to waters of the United States. These two options are for a trail that would be built at-grade in the case of Option 1, and as an overcrossing (clearspan bridge) for Option 3.

However, trail connection options 2a and 2b both propose an undercrossing of the existing Isabel Avenue bridge that crosses the Arroyo Mocho. Option 2a proposes an undercrossing that would impact the Arroyo below the top of bank but above the ordinary high water mark (OHWM). Trail connection Option 2b would impact the Arroyo below the OHWM (see Attachment C). Trail Option 2b would be subject to review by the U.S. Army Corps of Engineers pursuant to Section 404 of the Clean Water Act.

Given that the total acreage of waters of the U.S. in the vicinity of the proposed project impact area is less than 0.5 acre (based on the preliminary delineation field work), any impacts below

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the OHWM should remain less than 0.5-acre and should qualify for use of a Nationwide Permit pursuant to Section 404 of the Clean Water Act. In accordance with any Nationwide Permit issued by the Corps for the proposed project, the applicant will be required to mitigate for the impacts to waters of the US. This is further discussed in the Impacts and Mitigation Measures section.

10.2 California Regional Water Quality Control Board (RWQCB)

10.2.1 SECTION 401 OF THE CLEAN WATER ACT

The State Water Resources Control Board (SWRCB) and RWQCB regulate activities in "waters of the State" (which includes wetlands) through Section 401 of the Clean Water Act. While the Corps administers a permitting program that authorizes impacts to waters of the United States, including wetlands and other waters, any Corps permit authorized for a proposed project would be inoperative unless it is a NWP that has been certified for use in California by the SWRCB, or if the RWQCB has issued a project specific certification of water quality. Certification of NWPs requires a finding by the SWRCB that the activities permitted by the NWP will not violate water quality standards individually or cumulatively over the term of the permit (the term is typically for five years). Certification must be consistent with the requirements of the federal Clean Water Act, the California Environmental Quality Act, the California Endangered Species Act, and the SWRCB's mandate to protect beneficial uses of waters of the State. Any denied (i.e., not certified) NWPs, and all Individual Corps permits, would require a project specific RWQCB certification of water quality. Where a project will result in dredge or fill of non-federal waters of the State, the RWQCB will authorize those fills through waste discharge requirements issued under the Porter Cologne Water Quality Control Act.

On April 2, 2019, the SWRCB adopted a state-level definition of "wetlands," which is broader than the federal definition in that *unvegetated areas* may be considered a wetland water of the State. As a part of the same policy, the Water Board adopted permit procedures and standards governing the discharge of dredged or fill material into wetlands and other waters of the State. The policy includes, among other things, requirements for analyses to identify the least environmentally damaging practicable alternative (LEDPA) and compensatory mitigation standards including a minimum 1:1 ratio for wetlands and streams, and full functional replacement of all waters on top of this minimum where applicable. The policy became effective May 28, 2020 and it governs both Section 401 certifications and WDRs.

Any proposal (i.e., application) to impact waters of the State would have to include a mitigation plan that would mitigate impacts to the satisfaction of the RWQCB prior to the time this resource agency would issue a permit for impacts to such features. The RWQCB requirements for issuance of a "401 Certification" typically parallel the Corps requirements for permitting impacts to Corps regulated waters pursuant to Section 404 of the Clean Water Act.

In addition to requiring a permit for impacts to waters of the State *below* the OHWM, representatives of the RWQCB have recently told M&A that this agency has informally expanded their jurisdiction to encompass areas at or immediately below top of bank (i.e., areas above the OHWM) of any river, creek, stream or other drainage. Thus, any impacts to a stream, creek, river or drainage at or below top of bank would require a permit from the RWQCB even if

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it does not require a permit from the Corps. This would not be a Section 401 Certification but a different type of RWQCB permit in accordance with the Porter-Cologne Water Quality Control Act (discussed in the sections below). The RWQCB has a Water Quality Order (Water Quality Order No. 2004-0004-DWQ) that provides coverage for “threats to waters of the State when there is no Clean Water Act (Section 401 or 404) jurisdiction.” This permit is also known as a Notice of Applicability (NOA).

10.2.2 APPLICABILITY TO THE PROPOSED PROJECT

Since the RWQCB does not have a formal method for technically defining what constitutes waters of the State, M&A expects that the RWQCB should remain consistent with the Corps’ determination. Any Section 404 permit authorized by the Corps for the project would be inoperative without also obtaining authorization from the RWQCB pursuant to Section 401 of the Clean Water Act (i.e., without obtaining a certification of water quality).

The Section 401 certification named above is only available for a project if the proposed impacts would occur below the OHWM, which is within the Corps’ jurisdiction as well as the RWQCB’s jurisdiction. In the case of trail Option 2b, this option requires that the proposed undercrossing impact the arroyo below the OHWM; thus, a certification of water quality (Section 401 Certification) would be necessary. However, if the project remains *outside of federal jurisdiction* (above the OHWM) such as in Option 2a, and thus, does not require a permit from the Corps, a different permitting pathway is required. This is further discussed in Section 10.2.4, below, as well as in the Impacts and Mitigations section.

10.2.3 PORTER-COLOGNE WATER QUALITY CONTROL ACT

The uncontrolled discharge of pollutants into impaired water bodies is considered particularly detrimental. According to the U.S. Environmental Protection Agency (USEPA), **sediment is one of the most widespread pollutants contaminating U.S. rivers and streams**. Sediment runoff from construction sites is 10 to 20 times greater than from agricultural lands and 1,000 to 2,000 times greater than from forest lands (EPA 2005). Consequently, the discharge of stormwater from large construction sites is regulated by the RWQCB under the federal CWA and California’s Porter-Cologne Water Quality Control Act.

The Porter-Cologne Water Quality Control Act, Water Code § 13260, requires that “any person discharging waste, or proposing to discharge waste, that could affect the waters of the State to file a report of discharge” with the RWQCB through an application for waste discharge (Water Code Section 13260(a)(1). The term “waters of the State” is defined as any surface water or groundwater, including saline waters, within the boundaries of the State (Water Code § 13050(e)). It should be noted that pursuant to the Porter-Cologne Water Quality Control Act, the RWQCB also regulates “isolated wetlands,” or those wetlands considered to be outside of the Corps’ jurisdiction pursuant to the SWANCC decision (see Corps Section above).

The RWQCB generally considers filling in waters of the State to constitute “pollution.” Pollution is defined as an alteration of the quality of the waters of the state by waste that unreasonably affects its beneficial uses (Water Code §13050(1)). The RWQCB litmus test for determining if a project should be regulated pursuant to the Porter-Cologne Water Quality Control Act is if the action could result in any “threat” to water quality.

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The RWQCB requires complete pre- and post-development Best Management Practices (BMPs) of any portion of the project site that is developed. This means that a water quality treatment plan for the pre- and post-developed project site must be prepared and implemented. Preconstruction requirements must be consistent with the requirements of the National Pollutant Discharge Elimination System (NPDES). That is, a *Stormwater Pollution Prevention Plan* (SWPPP) must be developed prior to the time that a site is graded (see NPDES section below). In addition, a post construction BMPs plan, or a Stormwater Management Plan (SWMP) must be developed and incorporated into any site development plan.

10.2.4 APPLICABILITY TO THE PROPOSED PROJECT

Arroyo Mocho is a water of the State that runs east to west just outside the project site's southern boundary. Of the four trail options proposed for this project, only Options 2a and 2b are likely to impact waters of the State (Attachment C). More specifically, Option 2a would impact the Arroyo Mocho below the top of bank but not below the OHWM. This trail Option 2a would fall under the RWQCB's jurisdiction pursuant to the Porter-Cologne Water Quality Control Act. If it is necessary to place the trail below the Arroyo's top of bank (Option 2a), which would be considered "fill," as part of the proposed project, the RWQCB has a Water Quality Order (Water Quality Order No. 2004-0004-DWQ) that provides coverage for "threats to waters of the State when there is no Clean Water Act jurisdiction (i.e., for projects that do not require a Corps permit)." To be eligible for coverage under Water Quality Order No. 2004-0004-DWQ, Finding 9 of the General WDRs specifies that projects regulated be restricted to not more than **two-tenths of an acre (0.20-acre) and 400 linear feet**. The proposed trail option would meet these criteria. To obtain this coverage the applicant would need to submit a formal "Request for Concurrence of Applicability of Proposed Project with SWRCB Water Quality Order No. 2004-0004-DWQ" to the RWQCB. Prior to the RWQCB issuing a Notice of Applicability (NOA) and WDRs, the project would have to be reviewed pursuant to CEQA and a Notice of Determination (NOD) issued.

Finally, since any "threat" to water quality could conceivably be regulated pursuant to the Porter-Cologne Water Quality Control Act, care will be required when constructing the proposed project to ensure that adequate pre-and post-construction Best Management Practices (BMPs) are incorporated into the project implementation plans. The project has been designed so that all surface runoff is directed north to bio-planters and an existing flood control channel such that all surface runoff will be treated prior to entering the City's storm drain system. No discharge from the project either while under construction or after the project is constructed would be discharged into the Arroyo Mocho. Since a full Storm Water Pollution Prevention Plan (SWPPP) would be implemented prior to constructing the project and would be maintained throughout the duration of the construction project, there would not be deleterious receiving water discharges from the project. Also, since the City of Livermore will enforce development of a post-construction Storm Water Management Plan that will treat and hydromodify all stormwater falling on impervious surfaces, the project would not impact downstream water quality in any way. Thus, the project will remain in compliance with the Porter-Cologne Water Quality Control Act.

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11. STATE WATER RESOURCES CONTROL BOARD (SWRCB)/RWQCB – STORM WATER MANAGEMENT

11.1 Construction General Permit

While federal Clean Water Act NPDES regulations allow two permitting options for construction related stormwater discharges (individual permits and General Permits), the State Water Resources Control Board (SWRCB) has elected to adopt only one statewide Construction General Permit at this time that will apply to all stormwater discharges associated with construction activity, except from those on Tribal Lands, in the Lake Tahoe Hydrologic Unit, and those performed by the California Department of Transportation (CalTrans).

The Construction General Permit requires all dischargers where construction activity disturbs greater than one acre of land or those sites less than one acre that are part of a common plan of development or sale that disturbs more than one acre of land surface to:

1. Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting stormwater with the intent of keeping all products of erosion from moving off site into receiving waters.
2. Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the nation. Achieve quantitatively-defined (i.e., numeric) pollutant-specific discharge standards, and conduct much more rigorous monitoring based on the project's projected risk level.
3. Perform inspections of all BMPs.

This Construction General Permit is implemented and enforced by the nine RWQCBs. It is also enforceable through citizens' suits and represents a dramatic shift in the State Water Board's approach to regulating new and redevelopment sites, imposing new affirmative duties and fixed standards on builders and developers.

Types of Construction Activity Covered by the Construction General Permit

- clearing,
- grading,
- disturbances to the ground such as stockpiling, or excavation that results in soil disturbances of at least one acre or more of total land area.

Construction activity that results in soil disturbances to a smaller area would still be subject to this General Permit if the construction activity is part of a larger common plan of development that encompasses greater than one acre of soil disturbance, or if there is significant water quality impairment resulting from the activity.

Construction activity does not include:

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- routine maintenance to maintain original line and grade,
- hydraulic capacity, or original purpose of the facility,
- nor does it include emergency construction activities required to protect public health and safety.

The Construction General Permit includes several “post-construction” requirements. These requirements entail that site designs provide no net increase in overall site runoff and match pre-project hydrology by maintaining runoff volume and drainage concentrations. To achieve the required results where impervious surfaces such as roofs and paved surfaces are being increased, developers must implement non-structural off-setting BMPs, such as landform grading, site design BMPs, and distributed structural BMPs (bioretention cells, rain gardens, and rain cisterns). This “runoff reduction” approach is essentially a State Water Board-imposed regulatory requirement to implement Low Impact Development (“LID”) design features. Volume that cannot be addressed using non-structural BMPs must be captured in structural BMPs that are approved by the RWQCB.

Improving the quality of site runoff is necessary to improve water quality in impaired and threatened streams, rivers, and lakes (that is, water bodies on the EPA’s 303(d) list). The RWQCB prioritizes the water bodies on the 303(d) list according to potential impacts to beneficial uses. Beneficial uses can include a wide range of uses, such as nautical navigation; wildlife habitat; fish spawning and migration; commercial fishing, including shellfish harvesting; recreation, including swimming, surfing, fishing, boating, beachcombing, and more; water supply for domestic consumption or industrial processes; and groundwater recharge, among other uses. The State is required to develop action plans and establish Total Maximum Daily Loads (TMDLs) to improve water quality within these impaired water bodies. The TMDL is the quantity of a pollutant that can be safely assimilated by a water body without violating the applicable water quality standards.

Pursuant to the CWA, the RWQCB regulates construction discharges under the National Pollutant Discharge Elimination System (NPDES). The project sponsor of construction or other activities that disturb more than 1 acre of land must obtain coverage under NPDES Construction General Permit Order 2009-0009-DWQ, administered by the RWQCB².

11.1.1 APPLICABILITY TO THE PROPOSED PROJECT

To obtain coverage under the SWRCB administered Construction General Permit, the applicant (typically through its civil engineer) must electronically file a number of permit-related compliance documents (Permit Registration Documents (PRDs), including a Notice of Intent (NOI), a risk assessment, site map, signed certification, Stormwater Pollution Prevention Plan (SWPPP), Notice of Termination (NOT), NAL exceedance reports, and other site-specific PRDs that may be required. The PRDs must be prepared by a Qualified SWPPP Practitioner (QSP) or

² CGP Order 2009-0009-DWQ remains in effect, but has been amended by CGP Order 2009-0014-DWQ, effective February 14, 2011, and CGP Order 2009-0016-DWQ, effective July 17, 2012. The first amendment merely provided additional clarification to Order 2009-0009-DWQ, while Order 2009-0016-DWQ eliminated numeric effluent limits on pH and turbidity (except in the case of active treatment systems), in response to a legal challenge to the original order.

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Qualified SWPPP Developer (QSD) and filed by a Legally Responsible Person (LRP) on the RWQCB's Stormwater Multi-Application Report Tracking System (SMARTS). (QSDs are typically civil engineers, professional hydrologists, engineering geologists, or landscape architects). Once filed, these documents become immediately available to the public for review and comment. At a minimum, the SWPPP shall identify BMPs for implementation during project construction that are in accordance with the applicable guidance and procedures contained in the California Stormwater Quality Association's *California Stormwater Best Management Practices Handbook* (2015).

11.2 RWQCB Municipal Storm Water Permitting Programs

The federal Clean Water Act (CWA) was amended in 1987 to address urban stormwater runoff pollution of the nation's waters. In 1990, the U.S. Environmental Protection Agency (USEPA) promulgated rules establishing Phase 1 of the National Pollutant Discharge Elimination System (NPDES) stormwater program. The Phase 1 program for Municipal Separate Storm Sewer System (MS4s) requires operators that serve populations of 100,000 or greater to implement a stormwater management program to control polluted discharges from these MS4s. While Phase 1 of the municipal stormwater program has focused on large urban areas, Phase 2 of the municipal stormwater program was promulgated by the USEPA for smaller urban areas including non-traditional Small MS4s, which are governmental facilities such as military bases, public campuses, and prison and hospital complexes.

MS4 permits require the discharger (or dischargers that are permitted by the MS4 permittees) to develop and implement a Storm Water Management Plan/Program (SWMP) with the goal of reducing the discharge of pollutants to the maximum extent practicable (MEP). MEP is the performance standard specified in Section 402(p) of the Clean Water Act. The management programs specify what best management practices (BMPs) will be used to address certain program areas. The program areas include public education and outreach; illicit discharge detection and elimination; construction and post-construction; and good housekeeping for municipal operations. In general, medium and large municipalities are required to conduct chemical monitoring, though small municipalities are not.

11.2.1 NPDES C.3 REQUIREMENTS

The NPDES C.3 requirements went into effect for any project (public or private) that is "deemed complete" by the City or County (Lead Agency) on or after February 15, 2005, and which will result in the creation or replacement (other than normal maintenance) of at least 10,000 square feet of impervious surface area (roofs, streets, patios, parking lots, etc. Provision C.3 requires the onsite treatment of stormwater prior to its discharge into downstream receiving waters. Note that these requirements are in addition to the existing NPDES requirements for erosion and sedimentation controls during project construction that are typically addressed through acquisition of coverage under the SWRCB administered Construction General Permit. The C.3 requirements are typically required to be implemented by MS4 permittees (and their constituencies).

Projects subject to Provision C3 must include the capture and onsite treatment of all stormwater from the site prior to its discharge, including rainwater falling on building rooftops. Project

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applicants are required to implement appropriate source control and site design measures and to design and implement stormwater treatment measures in order to reduce the discharge of stormwater pollutants to the *maximum extent practicable*. While the Clean Water Act does not define “maximum extent practicable,” the Stormwater Quality Management Plans required as a condition of the municipal NPDES permits identify control measures (known as Best Management Plans, or BMPs) and, where applicable, performance standards, to establish the level of effort required to satisfy the maximum extent practicable criterion. It is ultimately up to the professional judgment of the reviewing municipal staff in the individual jurisdictions to determine whether a project’s proposed stormwater controls will satisfy the maximum extent practicable criterion. However, there are numeric criteria used to ensure that treatment BMPs have been adequately sized to accommodate and treat a site’s stormwater. The C3 requirements are quite extensive, and their complete explanation is not provided here. However, the following are minimums that should be understood and adhered to:

- The applicant must provide a detailed and realistic site design *and impervious surface area calculations*. This site design *and calculations* will be used by the Lead Agency (County or City) to determine/*verify* the amount of impervious surface area that is being created or replaced. It should include all proposed buildings, roads, walkways, parking lots, landscape areas, etc., that are being created or redeveloped. If large (greater than 10,000 square feet) lots are being created an effort will need to be made to determine the total impervious surface area that could be created on that parcel. For example if only a portion of the lot is shown as a “building envelope” then the lead agency will need to consider that a driveway will have to be constructed to access the envelope and that the envelope will then be developed as shown. If the C.3 thresholds are met (creation/redevelopment of 10,000 square feet of impervious surface area), a Stormwater Control Plan (SWCP) (if required by the Lead Agency, or whatever steps for compliance with Provision C3 are required locally) must accompany the application.
- If a SWCP is required by the Lead Agency for the project it must be stamped by a Licensed Civil Engineer, Architect, or Landscape Architect.

11.2.2 APPLICABILITY TO THE PROPOSED PROJECT

The RWQCB issued county-wide municipal stormwater permits in the early 1990s to operators of MS4s. On November 19, 2015, the RWQCB re-issued these county-wide municipal stormwater permits as one Municipal Regional Stormwater NPDES Permit to regulate stormwater discharges from municipalities and local agencies. Permittees in the San Francisco Bay area are included in a Municipal Regional Permit (MRP), issued to 76 cities, counties and flood control districts in 2009 and revised in 2015. The City of Livermore is an MS4 permittee. Each of the Permittee’s must file an Annual Report that is comprised of three parts: regional, countywide, and individual. Some requirements of the MRP are being implemented by the Bay Area Stormwater Management Agencies Association (BASMAA) on behalf of all the MRP Permittees. Other elements are being implemented collaboratively by the Permittees through their respective countywide programs. As such, BASMAA and the countywide programs have submitted Annual Report elements on the regional and countywide collaborative tasks,

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respectively, on behalf of the MRP Permittees and the individual MRP Permittees have also submitted Annual Report elements on the Permit Provisions they have implemented individually.

It is the applicant's responsibility to ensure that the project civil engineer prepares all required Storm Water Planning documents (i.e., a Storm Water Management Plan) for submittal to the City of Livermore to comply with its MS4 permit requirements.

11.3 California Department of Fish and Wildlife Protections

11.3.1 SECTION 1602 OF CALIFORNIA FISH AND GAME CODE

Pursuant to Section 1602 of the California Fish and Game Code: "An entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, unless all of the following occur:

- (1) CDFW receives written notification regarding the activity in the manner prescribed by CDFW. The notification shall include, but is not limited to, all of the following:
 - (A) A detailed description of the project's location and a map.
 - (B) The name, if any, of the river, stream, or lake affected.
 - (C) A detailed project description, including, but not limited to, construction plans and drawings, if applicable.
 - (D) A copy of any document prepared pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code.
 - (E) A copy of any other applicable local, state, or federal permit or agreement already issued.
 - (F) Any other information required by CDFW" (Fish & Game Code 2014).

Please see Section 1602 of the current California Fish and Game Code for further details.

Please also note that while not stated in the regulations above, CDFW typically considers its jurisdiction to include riparian vegetation (that is, the trees and bushes growing along the stream). Thus, any proposed activity in a natural stream channel that would substantially adversely affect an existing fish and/or wildlife resource, including its riparian vegetation, would require entering into a Streambed Alteration Agreement (SBAA) with CDFW prior to commencing with work in the stream. However, prior to authorizing such permits, CDFW typically reviews an analysis of the expected biological impacts, any proposed mitigation plans that would be implemented to offset biological impacts and engineering and erosion control plans.

11.3.2 APPLICABILITY TO THE PROPOSED PROJECT

Any modifications to the Arroyo Mocho and/or its associated "riparian" tree canopy would fall under the CDFW's jurisdiction pursuant to Section 1602 of California Fish and Game Code. All construction activity associated with the industrial development will remain over 25 feet away from the arroyo's top of bank.-Additionally, all grading and construction activities will occur outside of the Arroyo Mocho's tree dripline. However, as discussed previously, trail connection

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options 2a and 2b both propose the construction of an undercrossing perpendicular to the existing Isabel Avenue bridge that crosses the Arroyo Mocho. Prior to initiating construction of this undercrossing, it will be necessary to apply to the CDFW for a Section 1602 Streambed Alteration Agreement.

It should also be noted that prior to issuance of any permit from the CDFW this agency will require submittal of a Notice of Determination with proof that the Fish and Game Filing Fee was paid, indicating that the City of Livermore completed a review of the proposed project pursuant to CEQA.

12. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) REGULATIONS

A CEQA lead agency must determine if a proposed activity constitutes a project requiring further review pursuant to the CEQA. Pursuant to CEQA, a lead agency would have to determine if there could be significant adverse impacts to the environment from a proposed project. Typically, if within the city limits, the city would be the CEQA lead agency. If a discretionary permit (i.e., conditional use permit) would be required for a project (e.g. an occupancy permit must be issued), the lead agency typically must determine if there could be significant environmental impacts. This is usually accomplished by an “Initial Study.” If there could be significant environmental impacts, the lead agency must determine an appropriate level of environmental review prior to approving and/or otherwise permitting the impacts. In some cases, there are “Categorical Exemptions” that apply to the proposed activity; thus the activity is exempt from CEQA. The Categorical Exemptions are provided in CEQA. There are also Statutory Exemptions in CEQA that must be investigated for any proposed project. If the project is not exempt from CEQA, the lowest level of review typically reserved for projects with no significant effects on the environment would be for the lead agency to prepare a “Negative Declaration.” If a proposed project would have only minimal impacts that can be mitigated to a level of no significance pursuant to the CEQA, then a “Mitigated Negative Declaration” is typically prepared by the lead agency. Finally, those projects that may have significant effects on the environment, or that have impacts that can’t be mitigated to a level considered less than significant pursuant to the CEQA, typically must be reviewed via an Environmental Impact Report (EIR). All CEQA review documents are subject to public circulation, and comment periods.

Section 15380 of CEQA defines “endangered” species as those whose survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors. “Rare” species are defined by CEQA as those who are in such low numbers that they could become endangered if their environment worsens; or the species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered “threatened” as that term is used in FESA. The CEQA Guidelines also state that a project will normally have a significant effect on the environment if it will “substantially affect a rare or endangered species of animal or plant or the habitat of the species.” The significance of impacts to a species under CEQA, therefore, must be based on analyzing actual rarity and threat of extinction to that species despite its legal status or lack thereof.

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12.1.1 APPLICABILITY TO THE PROPOSED PROJECT

This report has been prepared as a Biology section that is suitable for incorporation by the CEQA lead agency (in this case the City of Livermore) into a CEQA review document such as a Mitigated Negative Declaration or an Environmental Impact Report. This document addresses potential impacts to species that would be defined as endangered or rare pursuant to Section 15380 of the CEQA.

13. IMPACTS ANALYSIS

Below the criteria used in assessing impacts to Biological Resources is presented.

13.1 Significance Criteria

A significant impact or significant effect is determined using CEQA and CEQA Guidelines. Pursuant to CEQA §21068, a significant effect on the environment means a substantial, or potentially substantial, adverse change in the environment. Pursuant to CEQA Guideline §15382, a significant effect on the environment is further defined as a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. This impact analysis identifies significant and potentially significant impacts to flora, fauna and waters from the implementation of the proposed project. Other Federal, State, and local agencies' considerations and regulations are also used in the evaluation of significance of proposed actions.

Direct and indirect adverse impacts to biological resources are classified as “significant,” “potentially significant,” or “less than significant.” Biological resources are broken down into four categories: vegetation, wildlife, threatened and endangered species, and regulated “waters of the United States” and/or stream channels.

13.1.1 THRESHOLDS OF SIGNIFICANCE

13.1.1.1 Plants, Wildlife, Waters

In accordance with Appendix G (Environmental Checklist Form) of the CEQA Guidelines, implementing the project would have a significant biological impact if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS.
- Have a substantial adverse effect on federally protected “wetlands” as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

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- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

13.1.1.2 Waters of the United States and State.

Pursuant to Section 404 of the CWA (33 U.S.C. 1344), the Corps regulates the discharge of dredged or fill material into waters of the United States, which includes wetlands, as discussed in the bulleted item above, and also includes “other waters” (stream channels, rivers) (33 CFR Parts 328 through 330). Substantial impacts to Corps regulated areas on a project site would be considered a significant adverse impact. Similarly, pursuant to Section 401 of the Clean Water Act, and to the Porter-Cologne Water Quality Control Act, the RWQCB regulates impacts to waters of the state. Thus, substantial impacts to RWQCB regulated areas on a project site would also be considered a significant adverse impact.

13.1.1.3 Stream Channels

Pursuant to Section 1602 of the California Fish and Game Code, CDFW regulates activities that divert, obstruct, or alter stream flow, or substantially modify the bed, channel, or bank of a stream which CDFW typically considers to include riparian vegetation. Any proposed activity that would result in substantial modifications to a natural stream channel would be considered a significant adverse impact.

14. IMPACT ASSESSMENT AND PROPOSED MITIGATION

In this section we discuss potential impacts to sensitive biological resources from the proposed project. We follow each impact with a mitigation prescription that when implemented would reduce impacts to the greatest extent possible. This impact analysis is based on the preliminary site grading and drainage plan prepared by Kier + Wright Civil Engineering on August 27, 2021 (Attachment A) and the four trail options that are shown in Attachments B and C, prepared by Kier + Wright on May 2022 and by M&A on February 9, 2023.

14.1 Impact BIO-1. Development of The Project Would Have a Potentially Significant Adverse Impact on Nesting Birds (Potentially Significant)

Red-tailed Hawk and Red-shouldered Hawk are known from the area and could nest on the project site. Common song birds (passerine birds) could also nest on the project site. All of these birds and their eggs and young are protected under California Fish and Game Code Sections 3503, 3503.5. Any project-related impacts to these species would be considered a significant adverse impact. Potential impacts to these species from the proposed project include disturbance to nesting birds and possibly death of adults and/or young. In the absence of survey results, it must be concluded that impacts to nesting raptors and song birds from the proposed project would be

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potentially significant pursuant to CEQA. This impact could be mitigated to a level considered less than significant.

14.2 Mitigation Measure BIO-1. Nesting Birds Excluding the Western Burrowing Owl

To avoid impacts to nesting birds, a nesting survey shall be conducted within 15 days of commencing with earth-work (site grubbing, clearing, grading) or construction if this work would commence between February 1st and August 31st (the nesting season). The nesting survey should include walking transects to search for ground nesting birds, and an examination of all trees onsite and within 200 feet of the entire project site (i.e., within a zone of influence of nesting birds). The zone of influence includes those areas outside the project site where birds could be disturbed by earth- moving vibrations and/or other construction-related noise.

If birds are identified nesting on or within the zone of influence of the construction project, a qualified biologist shall establish a temporary protective nest buffer around the nest(s). The nest buffer should be staked with orange construction fencing. The buffer must be of sufficient size to protect the nesting site from construction-related disturbance and shall be established by a qualified ornithologist or biologist with extensive experience working with nesting birds near and on construction sites. Typically, adequate nesting buffers are 75 feet from the nest site or nest tree dripline for small birds and up to 300 feet for sensitive nesting birds that include several raptor species known the region of the project site but that are not expected to occur on the project site. Upon completion of nesting surveys, if nesting birds are identified on or within a zone of influence of the project site, a qualified ornithologist/biologist that frequently works with nesting birds shall prescribe adequate nesting buffers to protect the nesting birds from harm while the project is constructed.

No construction or earth-moving activity shall occur within any established nest protection buffer prior to September 1 unless it is determined by a qualified ornithologist/biologist that the young have fledged (that is, left the nest) and have attained sufficient flight skills to avoid project construction zones, or that the nesting cycle is otherwise completed. In the region of the project site, most species complete nesting by mid-July. This date can be significantly earlier or later, and would have to be determined by the qualified biologist. At the end of the nesting cycle, and fledging from the nest by its occupants, as determined by a qualified biologist, temporary nesting buffers may be removed and construction may commence in established nesting buffers without further regard for the nest site. If active nesting buffers are established and a biologist does not confirm that the nesting cycle is completed, then the nesting buffers must be maintained until the end of the CDFW recognized nesting season (September 1). ***Implementation of these mitigation measures would reduce impacts to nesting birds to a level regarded as less than significant pursuant to CEQA.***

14.3 Impact BIO-2. Development of the Project Could Have a Potentially Significant Adverse Impact on Western Burrowing Owl (Potentially Significant)

While Western Burrowing Owls have not been observed on the project site and their likelihood of presence is low, suitable nesting and foraging habitat (e.g., California ground squirrel burrows) occur on the project site. Since the western burrowing owl is a mobile species, impact avoidance measures are warranted. The closest known record is 1-mile northwest of the project site

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(Occurrence No. 2062). The Western Burrowing Owl is a California Species of Special Concern. This raptor (that is, bird of prey), its nest, eggs, and young are protected under California Fish and Game Code Sections 3503, 3503.5. As such, the project may result in impacts to the Western Burrowing Owl that would be **potentially significant**. This impact could be mitigated to a level considered less than significant pursuant to CEQA.

14.4 Mitigation Measure BIO-2. Western Burrowing Owl

Based on the presence of this species in the project vicinity and the potential habitat found on the project site, a survey for burrowing owls should be conducted.

CDFW's Staff Report 2012 states that take avoidance (preconstruction) surveys should be conducted 14 days prior or less to initiating ground disturbance. As burrowing owls may recolonize a site after only a few days, time lapses between project activities trigger subsequent take avoidance surveys including but not limited to a final survey conducted within 24 hours prior to ground disturbance to ensure absence. If no owls are found during these surveys, no further regard for the burrowing owl would be necessary.

a. Burrowing owl surveys should be conducted by walking the entire project site and (where possible) in areas within 150 meters (approx. 500 feet) of the project impact zone. The 150-meter buffer zone is surveyed to identify burrows and owls outside of the project area which may be impacted by factors such as noise and vibration (heavy equipment) during project construction.

Pedestrian survey transects should be spaced to allow 100 percent visual coverage of the ground surface. The distance between transect center lines should be 7 meters to 20 meters and should be reduced to account for differences in terrain, vegetation density, and ground surface visibility. Poor weather may affect the surveyor's ability to detect burrowing owls thus, avoid conducting surveys when wind speed is greater than 20 kilometers per hour and there is precipitation or dense fog. To avoid impacts to owls from surveyors, owls and/or occupied burrows should be avoided by a minimum of 50 meters (approx. 160 ft.) wherever practical to avoid flushing occupied burrows. Disturbance to occupied burrows should be avoided during all seasons.

b. If Western Burrowing Owls are detected on the site, the following restricted activity dates and setback distances are recommended per CDFW's Staff Report (2012).

- From April 1 through October 15, low disturbance activities should have a 200 meter buffer while high disturbance activities should have a 500 meter buffer from occupied nests.
- From April 1 through August 15, however, medium disturbance activities should have a 500 meter buffer from occupied nests. Medium disturbance activities can have a reduced buffer of 200 meters starting August 16 through October 15.
- From October 16 through March 31, low disturbance activities should have a 50 meter buffer, medium disturbance activities should have a 100 meter buffer, and high disturbance activities should have a 500 meter buffer from occupied nests.
- No earth-moving activities or other disturbance should occur within the aforementioned buffer zones of occupied burrows unless monitoring of the nest site by

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a qualified biologist determines that the owls are acclimated to the disturbance and would not be disturbed by a smaller buffer. These buffer zones should be fenced as well. If burrowing owls were found in the project area, a qualified biologist would also need to delineate the extent of burrowing owl habitat on the site.

- If Western Burrowing Owls are found occupying the project site they may be passively relocated from the project site between October 1 and February 1. Passive removal shall be conducted by a qualified biologist with demonstrated experience with passive relocation.

c. Finally, in accordance with the 2012 Staff Report or any subsequent burrowing owl Staff Report, if burrowing owls were found nesting onsite, credits would have to be purchased from a mitigation bank to offset the project's habitat loss on the burrowing owl. This would be developed in coordination with CDFW and the City of Livermore.

These mitigation measures would reduce impacts to western burrowing owl to a level considered less than significant.

14.5 Impact BIO-3. Development of the Proposed Project Could Have a Significant Impact on Waters of the United States and/or State (Potentially Significant)

At this time, the Oaks Business Park project site does not have a confirmed Corps' map, and only the Corps can confirm the extent of area that falls within their jurisdiction. However, per the wetland delineation map that M&A prepared on June 15, 2022, and that has not been submitted to the Corps, the Arroyo Mocho is a "water of the U.S. and State." The proposed building development would avoid all impacts to waters of the U.S. and State; however, the project proposes four options for an on-site trail connection, and two of these, options 2a and 2b, could impact waters of the State and/or U.S. Trail options 1 and 3 propose to remain outside of any waters of the U.S. and/or State. Trail Options 2a and 2b both propose an undercrossing of the Isabel Avenue bridge. In the case of Option 2a, this crossing would be constructed below the Arroyo's top of bank and above the ordinary high water marks (OHWM) and thus, would be subject to review of the RWQCB. In the case of Option 2b, the project would impact the Arroyo below the top of bank and below the OHWM and thus would be subject to review of both the Corps and the RWQCB. At this time it is unknown which trail option will be chosen for this project; thus, at this time impacts to waters of the State, and possibly the U.S. if there would be impacts below the OHWM, are considered **potentially significant pursuant to CEQA**. Such impacts could be mitigated to a level considered less than significant.

14.6 Mitigation Measure BIO-3. Impacts to Waters of the U.S./State

If trail connection Option 2a is chosen which would impact waters of the State but *not* waters of the U.S. (i.e., impacts below the Arroyo's top of bank but above the OHWM) the following would need to be completed to mitigate the impact:

1. Pursuant to the Porter-Cologne Water Quality Control Act, submit a formal "Request for Concurrence of Applicability of Proposed Project with SWRCB Water Quality Order No. 2004-0004-DWQ" to the RWQCB.

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2. Include in the formal application request a mitigation plan for how the project would mitigate for impacts to the Arroyo's top of bank.
3. Obtain a CEQA Notice of Determination to submit to the RWQCB with the application package.

Under trail Option 2a, impacts to jurisdictional waters (that is, impacts below the OHWM) will be avoided by the project. Impacts to waters of the State below the top of bank but above the OHWM will be mitigated for by implementing a riparian enhancement planting plan along Arroyo Mocho which will enhance the existing habitat. Since most of the impacts to the Arroyo Mocho under trail connection Option 2a are occurring along an existing concrete apron and top of bank impacts will be minimal, riparian enhancement as mitigation should reduce this impact to a less than significant level pursuant to CEQA. Tree planting mitigation will be at a 1:1 ratio or as otherwise prescribed by the RWQCB at the time a Notice of Applicability for Water Quality Order No. 2004-0004-DWQ, Finding 9 of the General WDRs is issued for the project.

For trail connection Option 2b, where avoidance of jurisdictional waters is not practicable and impacts must occur below the OHWM in order to have a viable project, the following would need to be completed to mitigate the impact:

1. Apply to the Corps for authorization of the project under the Nationwide Permit program.
2. Apply to the RWQCB for a certification of water quality pursuant to Section 401 of the Clean Water Act.
3. Obtain a CEQA Notice of Determination to submit to the RWQCB with the application package.
4. Include in the formal application request a mitigation plan for how the project would mitigate for impacts to waters of the U.S. and State.

If trail connection Option 2b is the only viable design for the proposed trail connection, and jurisdictional areas below the OHWM cannot be avoided and must be filled, a Nationwide Permit from the Corps and a Certification of Water Quality (Section 401 Certification) from the RWQCB will need to be acquired that allows for impacts to waters of the US and State below the OHWM. Proof of a Section 404 permit from the Corps and a Section 401 water quality certification (permit) from the RWQCB will need to be provided to the City. Any conditions or stipulations in the Section 404 and 401 permits issued for this project will become conditions of project approval. For impacts below the OHWM, the Corps and the RWQCB would require mitigation at a minimum 1:1 ratio, this mitigation could be the purchase of credits from a Corps and RWQCB approved mitigation bank. Proof of mitigation would need to be provided to the City prior to construction; for the purchase of mitigation credits this could be a receipt for down payment of the mitigation bank credits and the submittal of the final Bill of Sale once the mitigation credit purchase is finalized.

Finally, the RWQCB will require a complete pre- and post-development Best Management Practices Plan (BMPs) for any portion of the project site that is graded. This means that a water quality treatment plan for the pre- and post-developed project site must be prepared and implemented. Preconstruction requirements must be consistent with the requirements of the National Pollutant Discharge Elimination System (NPDES). That is, a *Stormwater Pollution Prevention Plan* (SWPPP) will need to be developed prior to the time that the site is graded. In

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addition, a post-construction BMPs plan, or a Stormwater Management Plan (SWMP) will need to be developed and incorporated into the project plans to ensure that there are no impacts to downstream receiving waters. The SWMP will need to be submitted to RWQCB for approval.

Implementation of the measures described above would reduce significant impacts to waters of the United States/State to a level considered **less than significant pursuant to the CEQA**.

14.7 Impact BIO-4. Development of the Proposed Project Would Have a Potentially Significant Impact to CDFW Section 1602 Jurisdictional Areas (Potentially Significant)

Arroyo Mocho has a bed, channel, and bank, and as such is within the CDFW's jurisdiction pursuant to Section 1602 of the California Fish and Game Code. The development has been sited outside of CDFW's jurisdiction as all grading and building would remain 25 feet from the Arroyo Mocho's top of bank and outside of the riparian tree canopy. However, at this time four onsite trail connection options are proposed for the project and one has not been chosen. The Arroyo Mocho undercrossing proposed within the trail connection options 2a and 2b would impact the Arroyo Mocho below the top of bank. The impacts associated with this undercrossing would be subject to CDFW regulation. Since it is unknown at this time which trail option would be chosen, impacts to CDFW Section 1602 jurisdiction would be regarded as a **potentially significant impact pursuant to CEQA**. This impact could be mitigated to a level considered less than significant.

14.6 Mitigation Measure BIO-4. Impacts to CDFW Section 1602 Jurisdictional Areas

If either trail connection Option 2a or 2b is chosen for the project, the applicant shall secure an SBAA from the CDFW and implement all measures identified in the SBAA including but not limited to the following:

- To avoid fuels, lubricants, soils and other pollutants from entering Arroyo Mocho, wildlife friendly hay wattles (that is, no mono-filament netting) and silt fending shall be installed at the top of bank. The use of mulch or any other substitute that may enter into the creek shall be prohibited.
- Staging, operation and maintenance of heavy duty construction equipment shall be located away from Arroyo Mocho at all times and well outside of the riparian corridor unless the equipment is needed to specifically work on the realignment of Arroyo Mocho or the outfalls for the project.
- To mitigate for any impacts to the riparian corridor of Arroyo Mocho, disturbed areas shall be revegetated with native riparian plant species. Replacement of riparian trees to be removed shall be planted near the creek as feasible and/or adjacent to the existing limits of the riparian corridor to contribute to the existing riparian canopy. Riparian plantings shall be maintained for a minimum of 5 years to ensure that the canopy is enhanced and the understory restored.

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- Non-native and invasive ornamental landscaping shall be precluded from use proximate to Arroyo Mocho.
- To avoid debris from entering Arroyo Mocho, the final roadway design shall provide for enclosed and accessible trash receptacles (located outside of the riparian corridor).
- New lighting introduced by the project shall be downcast and precluded from spilling over to the riparian corridor as direct lighting along creek corridors has a negative impact on nocturnal wildlife.

Any further requirements set forth in the Streambed Alteration Agreement (SBAA) issued for the project from the CDFW, such as specific erosion control measures near the creek, shall also be implemented.

Implementation of these measures would reduce significant impacts to Section 1602 jurisdictional areas to a level considered **less than significant pursuant to CEQA**.

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15. LITERATURE CITED

- Baldwin D.H., Goldman D.H., Keil D.J., Patterson R., Rosatti T.J., Wilken D.H. (ed.). 2012. The Jepson Manual Vascular Plants of California: Second Edition. University of California Press, Berkeley. 1568 pps.
- CDFW (California Department of Fish and Wildlife). 2016. Complete list of amphibian, reptile, bird and mammal species in California. Published September 2008; updated May 2016.
- CDFW. 2018. Protocols for surveying and evaluating impacts to special-status native plant populations and sensitive natural communities. State of California. California Natural Resources Agency. Department of Fish and Wildlife. March 20, 2018. 12 pps.
- CNDDDB (California Natural Diversity Data Base). 2023. RareFind 5. Computer printout for special-status species within a 3-mile radius of the project site. California Natural Heritage Division, California Department of Fish and Wildlife, Sacramento, CA.
- CNPS (California Native Plant Society). 2001. Inventory of rare and endangered plants of California (sixth edition). Rare plant scientific advisory committee, David P. Tibor, convening editor. California Native Plant Society. Sacramento, CA. x+338 pps.
- Corps (Department of the Army, Corps of Engineers, Department of Defense) and Environmental Protection Agency. 2020. The Navigable Waters Protection Rule: Definition of “Waters of the United States;” Final Rule. Federal Register 40 CFR Parts 110, 112, 116, 117, 120, 122, 230, 232, 300, 302, and 401. April 21, 2020 (Vol. 85, No. 77) Pages 22250-22342.
- Environmental Laboratory. 1987. U.S. Army Corps of Engineers Wetlands Delineation Manual. Department of the Army, Waterways Experiment Station, Vicksburg, MS.
- Hickman, J. (ed.). 1993. The Jepson manual: higher plants of California. University of California Press, Berkeley. 1400 pp.
- Holland, V.L. & D.J. Keil. 1995. California vegetation. Kendall/Hunt Publishing Company.
- USFWS (U.S. Fish & Wildlife Service). 2000. Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed Proposed and Candidate Plants. January 2000.



Figure 1. Oaks Business Park Project Site
Regional Map
Livermore, California

Monk & Associates
Environmental Consultants
1136 Saranap Avenue, Suite Q
Walnut Creek, California 94595
(925) 947-4867

County: Alameda
Map Preparation Date: September 7, 2021



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0 0.1 0.2 0.4 0.6 0.8 1 Miles

Figure 2. Oaks Business Park Project Site
 Location Map
 Livermore, California

37.678144 -121.811743
 Land Grant
 7.5-Minute Livernire quadrangle
 Aerial Photograph Source: ESRI
 Map Preparation Date: September 7, 2021

 Project Site (~39.7 Acres)

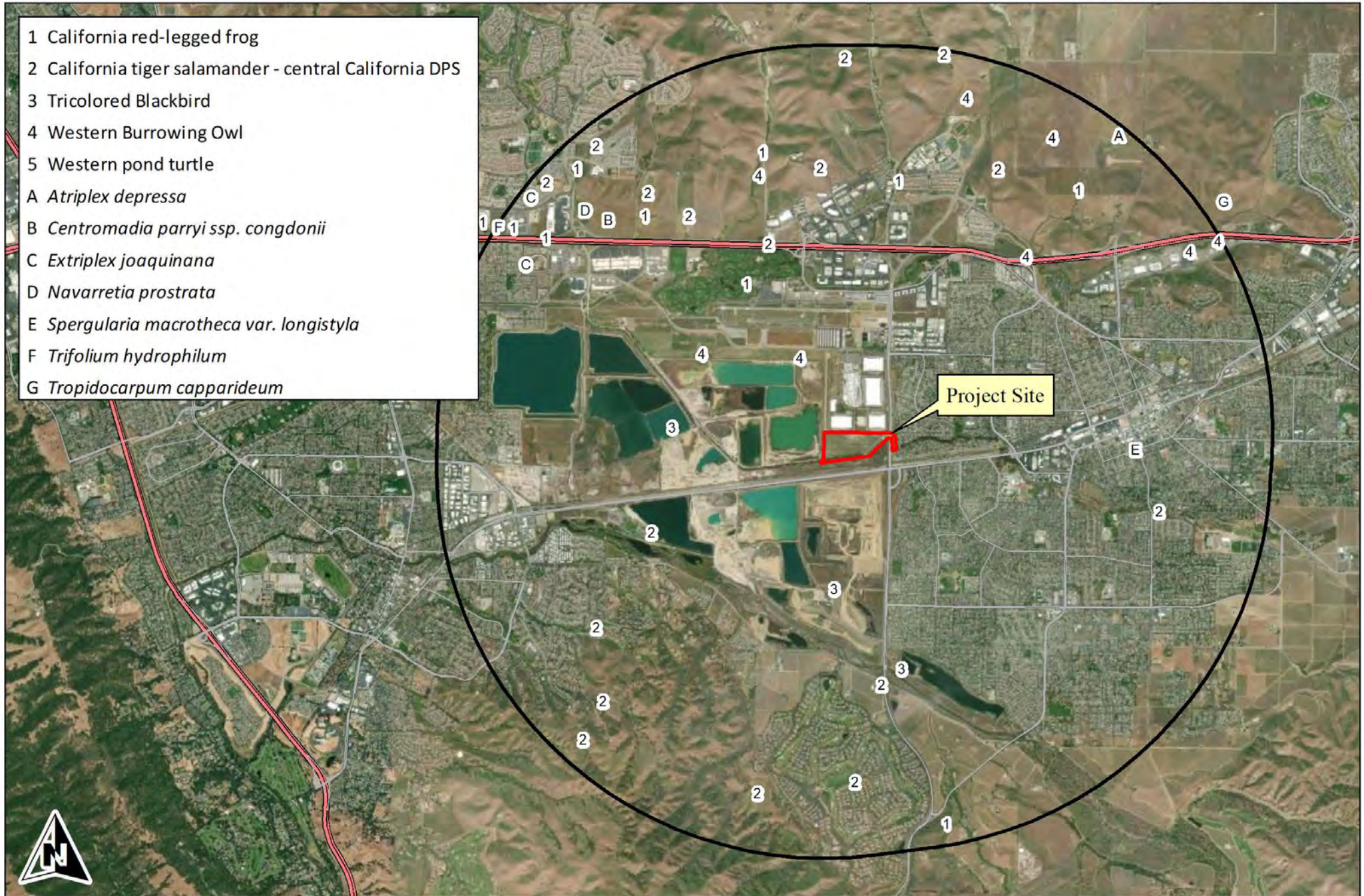


0 100 200 400 600 800 1,000 Feet

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Figure 3. Aerial Photograph of the
Oaks Business Park Project Site
Livermore, California

Aerial Photograph Source: ESRI
Map Preparation Date: September 7, 2021



- 1 California red-legged frog
- 2 California tiger salamander - central California DPS
- 3 Tricolored Blackbird
- 4 Western Burrowing Owl
- 5 Western pond turtle
- A *Atriplex depressa*
- B *Centromadia parryi ssp. congdonii*
- C *Extriplex joaquinana*
- D *Navarretia prostrata*
- E *Spergularia macrotheca var. longistyla*
- F *Trifolium hydrophilum*
- G *Tropicocarpum capparideum*

Project Site



0 0.5 1 2 3 Miles

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Figure 4. Known Special-Status Species Records
 Within 3 Miles of the
 Oaks Business Park Project Site

Map Preparation Date:
 January 23, 2023
 — 3-Mile Radius
 Source: CDFW, California
 Natural Diversity Data Base, 2023

Tabel 1

Plant Species Observed on the Oak Business Park Project Site

Angiosperms - Dicots

Apiaceae

* <i>Conium maculatum</i>	Poison hemlock
* <i>Foeniculum vulgare</i>	Sweet fennel

Asteraceae

* <i>Anthemis cotula</i>	Mayweed
<i>Artemisia californica</i>	California sagebrush
<i>Baccharis pilularis</i> subsp. <i>consanguinea</i>	Coyote brush
<i>Baccharis salicifolia</i> subsp. <i>salicifolia</i>	Mule fat
* <i>Carduus pycnocephalus</i> subsp. <i>pycnocephalus</i>	Italian thistle
* <i>Centaurea solstitialis</i>	Yellow starthistle
* <i>Dittrichia graveolens</i>	Stinkwort
<i>Xanthium strumarium</i>	Cocklebur

Boraginaceae

<i>Amsinckia intermedia</i>	Common fiddleneck
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Brassicaceae

* <i>Hirschfeldia incana</i>	Short-podded mustard
* <i>Lepidium latifolium</i>	Broadleaf pepperweed
* <i>Raphanus raphanistrum</i>	Jointed charlock

Convolvulaceae

* <i>Convolvulus arvensis</i>	Bindweed
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Fabaceae

* <i>Melilotus indicus</i>	Annual yellow sweetclover
* <i>Trifolium hirtum</i>	Rose clover

Juglandaceae

<i>Juglans hindsii</i>	Northern California black walnut
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Lamiaceae

* <i>Marrubium vulgare</i>	Horehound
* <i>Mentha spicata</i>	Spearmint

Lythraceae

* <i>Lythrum hyssopifolia</i>	Hyssop loosestrife
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Myrsinaceae

* <i>Lysimachia arvensis</i>	Scarlet pimpernel
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Myrtaceae

* <i>Eucalyptus</i> sp.	Eucalyptus
* <i>Eucalyptus tereticornis</i>	Forest red gum

Onagraceae

<i>Epilobium brachycarpum</i>	Summer cottonweed
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Papaveraceae

<i>Eschscholzia californica</i>	California poppy
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* Indicates a non-native species

Tabel 1
Plant Species Observed on the Oak Business Park Project Site

Polygonaceae

<i>Eriogonum fasciculatum</i>	California buckwheat
<i>Persicaria sp.</i>	Smartweed
* <i>Rumex crispus</i>	Curly dock

Rosaceae

* <i>Rubus armeniacus</i>	Himalayan blackberry
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Salicaceae

<i>Populus fremontii subsp. fremontii</i>	Fremont cottonwood
<i>Salix laevigata</i>	Red willow

Angiosperms -Monocots**Cyperaceae**

<i>Cyperus eragrostis</i>	Tall flatsedge
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Poaceae

* <i>Avena barbata</i>	Slender wild oat
* <i>Bromus hordeaceus</i>	Soft chess
<i>Elymus triticoides</i>	Creeping wildrye
* <i>Festuca perennis</i>	perennial ryegrass
* <i>Hordeum marinum subsp. gussoneanum</i>	Mediterranean barley
* <i>Paspalum dilatatum</i>	Dallis grass
* <i>Stipa miliacea var. miliacea</i>	Smilo grass

Table 2
Wildlife Species Observed on the Oaks Business Park Project Site

Reptiles

Western fence lizard	<i>Sceloporus occidentalis</i>
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Birds

Turkey vulture	<i>Streptopelia decaocto</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Wild turkey	<i>Meleagris gallopavo</i>
Mourning dove	<i>Zenaida macroura</i>
Nuttall's woodpecker	<i>Picoides nuttallii</i>
Black phoebe	<i>Sayornis nigricans</i>
Western kingbird	<i>Tyrannus verticalis</i>
Tree swallow	<i>Tachycineta bicolor</i>
Bushtit	<i>Psaltriparus minimus</i>
Bewick's wren	<i>Thryomanes bewickii</i>
Western tanager	<i>Piranga ludoviciana</i>
Red-winged blackbird	<i>Agelaius phoeniceus</i>
Bullock's oriole	<i>Icterus bullockii</i>
House finch	<i>Haemorhous mexicanus</i>
Lesser goldfinch	<i>Spinus psaltria</i>

Mammals

Coyote (scat)	<i>Canis latrans</i>
Fox squirrel	<i>Sciurus niger</i>
Broad-footed mole	<i>Scapanus latimanus</i>
California ground squirrel	<i>Otospermophilus beecheyi</i>
Columbian black-tailed deer	<i>Odocoileus hemionus ssp. columbianus</i>
California meadow vole	<i>Microtus californicus</i>

Table 3

Special Status Plant Species Known to Occur Within 3 Miles of the Oaks Business Park Project Site

Family Taxon Common Name	Status*	Flowering Period	Habitat	Area Locations	Probability on Project Site
Asteraceae					
<i>Centromadia parryi condonii</i> Congdon's tarplant	Fed: - State: - CNPS: Rank 1B.2	May-November	Valley and foothill grassland (alkaline).	The closest known occurrence of this species is located 2.0 miles northwest of the project site (CNDDDB Occurrence Number 11).	None. No alkaline habitat onsite. Not expected to occur. No impacts expected.
Brassicaceae					
<i>Tropidocarpum capparideum</i> Caper-fruited tropidocarpum	Fed: - State: - CNPS: Rank 1B.1	March-April	Valley and foothill grassland (alkaline hills).	The closest known occurrence of this species is located 0.1 miles east of the project site (CNDDDB Occurrence Number 11).	None. No suitable habitat on this site which is farmed and that has had its topsoils removed from past quarrying. No impact expected.
Caryophyllaceae					
<i>Spergularia macrotheca longistyla</i> Long-styled sand-spurrey	Fed: - State: - CNPS: Rank 1B.2	February-May	Alkaline marshes, mud flats, meadows, hot springs. Occurs at elevations less than 200 M.	The closest known occurrence of this species is located 0.9 miles east of the project site (CNDDDB Occurrence Number 2).	None. No alkaline habitat onsite; no marshes, no hot springs, no vernal pool habitats. Not expected to occur. No impacts expected.
Chenopodiaceae					
<i>Atriplex depressa</i> Brittlescale	Fed: - State: - CNPS: Rank 1B.2	May-October	Chenopod scrub; playas; valley and foothill grassland; [alkaline or clay].	The closest known occurrence of this species is located 2.8 miles northeast of the project site (CNDDDB Occurrence Number 65).	None. No alkaline habitats onsite. Not expected to occur. No impacts expected.
<i>Extriplex joaquinana</i> San Joaquin spearscale	Fed: - State: - CNPS: Rank 1B.2	April-October	Chenopod scrub; meadows; valley and foothill grassland; [alkaline].	The closest known occurrence of this species is located 2.5 miles northwest of the project site (CNDDDB Occurrence Number 35).	None. No alkaline habitat onsite. Not expected to occur. No impacts expected.

Table 3

Special Status Plant Species Known to Occur Within 3 Miles of the Oaks Business Park Project Site

Family Taxon Common Name	Status*	Flowering Period	Habitat	Area Locations	Probability on Project Site
Fabaceae					
<i>Trifolium hydrophilum</i> Saline clover	Fed: - State: - CNPS: Rank 1B.2	April-June	Marshes and swamps; valley and foothill grassland (mesic, alkaline); vernal pools. 0-300 m.	The closest known occurrence of this species is located 2.5 miles northwest of the project site (CNDDDB Occurrence Number 7).	None. No alkaline habitat onsite; no vernal pool habitats. Not expected to occur. No impacts expected.
Polemoniaceae					
<i>Navarretia prostrata</i> Prostrate vernal pool navarretia	Fed: State: CNPS: Rank 1B.1	April-July	Coastal scrub, meadows and seeps, valley and foothill grassland (alkaline), and vernal pools (mesic). Elevation 15-1210 m.	The closest known occurrence of this species is located 2.3 miles northwest of the project site (CNDDDB Occurrence Number 61).	None. No alkaline habitat onsite. No vernal pool habitats. Not expected to occur. No impacts expected.

***Status**

- Federal:
 FE - Federal Endangered
 FT - Federal Threatened
 FPE - Federal Proposed Endangered
 FPT - Federal Proposed Threatened
 FC - Federal Candidate
- State:
 CE - California Endangered
 CT - California Threatened
 CR - California Rare
 CC - California Candidate
 CSC - California Species of Special Concern
- CNPS:
 Rank 1A - Presumed extinct in California
 Rank 1B - Plants rare, threatened, or endangered in California and elsewhere
 Rank 1B.1 - Seriously endangered in California (over 80% occurrences threatened/ high degree and immediacy of threat)
 Rank 1B.2 - Fairly endangered in California (20-80% occurrences threatened)
 Rank 1B.3 - Not very endangered in California (<20% of occurrences threatened or no current threats known)

- CNPS Continued:
 Rank 2 - Plants rare, threatened, or endangered in California, but more common elsewhere
 Rank 2A - Extirpated in California, common elsewhere
 Rank 2B.1 - Seriously endangered in California, but more common elsewhere
 Rank 2B.2 - Fairly endangered in California, but more common elsewhere
 Rank 2B.3 - Not very endangered in California, but more common elsewhere
 Rank 3 - Plants about which we need more information (Review List)
 Rank 3.1 - Plants about which we need more information (Review List)
 Seriously endangered in California
 Rank 3.2 - Plants about which we need more information (Review List)
 Fairly endangered in California
 Rank 4 - Plants of limited distribution - a watch list

Table 4

Special Status Wildlife Species Known to Occur Within 3 Miles of the Oaks Business Park Project Site

Species	*Status	Habitat	Closest Locations	Probability on Project Site
Amphibians				
California tiger salamander (Cntrl CA DPS) <i>Ambystoma californiense</i>	Fed: FT State: CT Other:	Found in grassland habitats of the valleys and foothills. Requires burrows for aestivation and standing water until late spring (May) for larvae to metamorphose.	The closest recorded occurrence of this species was recorded in 1994 and is located 1.0 mile west of the project site (Occurrence No. 530).	None. No suitable aquatic habitat onsite and not suitable upland retreat habitat. See text.
California red-legged frog <i>Rana draytonii</i>	Fed: FT State: CSC Other:	Occurs in lowlands and foothills in deeper pools and streams, usually with emergent wetland vegetation. Requires 11-20 weeks of permanent water for larvae development.	The closest recorded occurrence of this species was recorded in 1997 and is located 1.3 miles northwest of the project site (Occurrence No. 227).	None. Arroyo Mocho within the project site does not provide suitable habitat conditions. Uplands are farmed or separated from known frog records by busy streets. Not expected onsite. No impact expected.
Reptiles				
Western pond turtle <i>Emys marmorata</i>	Fed: - State: CSC Other:	Uncommon to common in suitable aquatic habitat throughout CA, west of the Sierra-Cascade crest and absent from desert regions, except the Mojave River. Associated with permanent or nearly permanent water in a wide variety of habitat types.	The closest recorded occurrence of this species is located 2.1 miles northeast of the project site (Occurrence No. 1494).	None. The only aquatic habitat is the Arroyo Mocho which is subject to releases from Zone 7 so its flows are high and fast and of short duration. Not habitat. No impact expected.
Birds				
Western burrowing owl <i>Athene cunicularia hypugaea</i>	Fed: -- State: CSC Other:	Found in open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	The closest recorded occurrence of this species is located 1.0 miles northwest of the project site (Occurrence No. 2062).	Low. Few burrows onsite. Most of site is farmed and the other portion has very few burrows and tall vegetation. Surveys necessary to dismiss. See text.
Loggerhead shrike <i>Lanius ludovicianus</i>	Fed: -- State: CSC Other:	Found in broken woodlands, shrubland, and other habitats. Prefers open country with scattered perches for hunting and fairly dense brush for nesting.	No records within 3 miles in the CNDDDB.	Low to moderate. Eucalyptus trees provide nesting habitat. This bird has been seen in the project area. Preconstruction nesting surveys necessary. See text.

Table 4

Special Status Wildlife Species Known to Occur Within 3 Miles of the Oaks Business Park Project Site

Species	*Status	Habitat	Closest Locations	Probability on Project Site
Tricolored blackbird <i>Agelaius tricolor</i>	Fed: - State: CT Other: -	Colonial nester in dense cattails, tules, brambles or other dense vegetation. Requires open water, dense vegetation, and open grassy areas for foraging.	The closest recorded occurrence of this species was recorded in 1980 and is located just west of the project site (Occurrence No. 254) (mapped by CNDDDB as a polygon covering several properties).	Low to none. Typically nests in emergent marsh vegetation. Eucalyptus is the only nesting substrate which has low value. No impact expected.

***Status**

Federal:

- FE - Federal Endangered
- FT - Federal Threatened
- FPE - Federal Proposed Endangered
- FPT - Federal Proposed Threatened
- FC - Federal Candidate
- FPD - Federally Proposed for delisting

State:

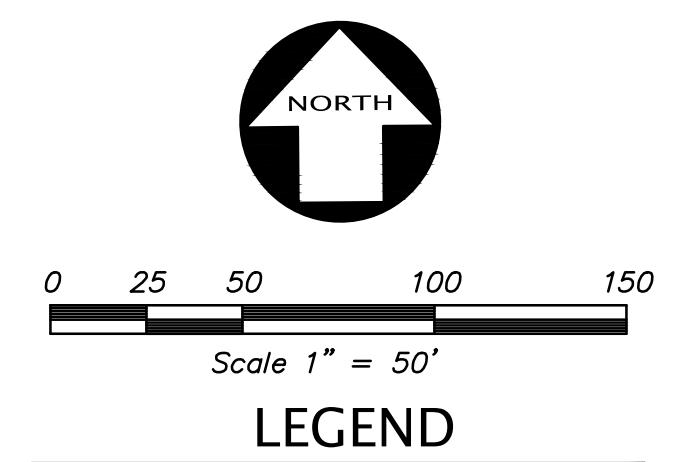
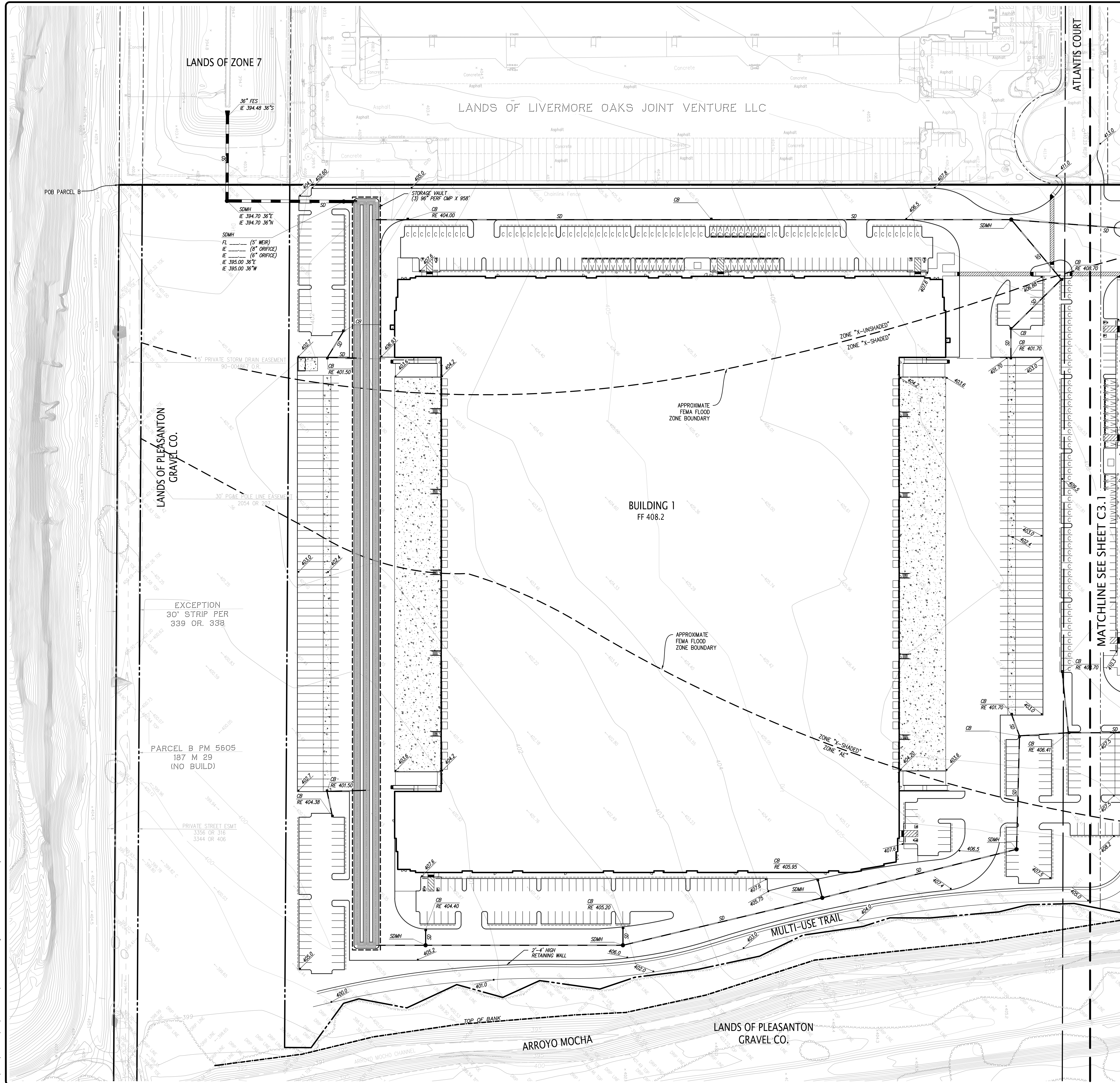
- CE - California Endangered
- CT - California Threatened
- CR - California Rare
- CC - California Candidate

State:

- CSC - California Species of Special Concern
- FP - Fully Protected
- WL - Watch List. Not protected pursuant to CEQA

** This frog is listed as "endangered" in the Southern Sierra, central, and southern California coasts and "threatened" in the Northern Sierra and Feather River. This frog is not protected pursuant to CESA on the northern coast of California (all counties north of Marin and Solano Counties north to Oregon boarder).

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LEGEND

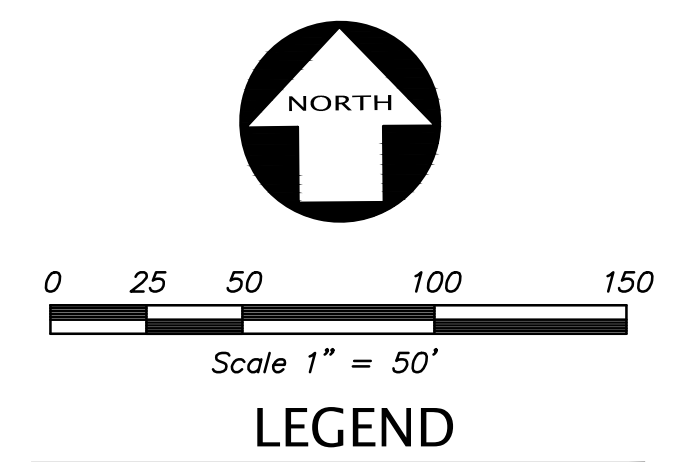
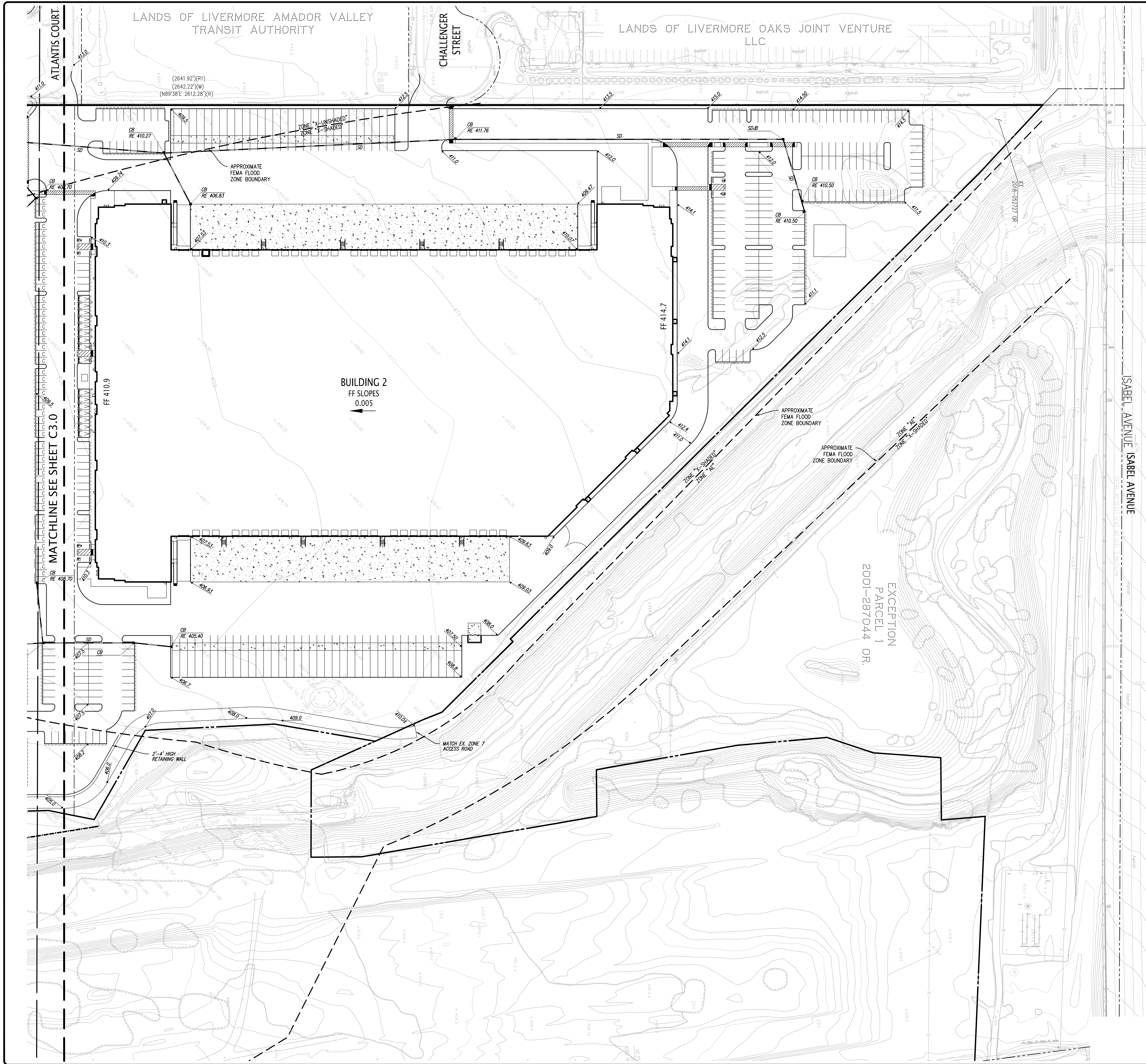
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■	STORM DRAIN CATCH BASIN
●	STORM DRAIN JUNCTION BOX
○	STORM DRAIN MANHOLE
FL	FLOW LINE
FF	FINISH FLOOR
PV	PAVEMENT
RE	RIM ELEVATION
23.8	SPOT ELEVATION
X-SD	STORM DRAIN LINE
TC	TOP OF CURB

NO.	REVISION	BY
1	08.27.2021 - 1ST TENTATIVE MAP SUBMITTAL	JTQ
2		
3		

KIER+WRIGHT 2850 Collins Canyon Road Livermore, CA 94551 Phone: (925) 945-9788 www.kierwright.com	
PRELIMINARY GRADING AND DRAINAGE PLAN OF SMP 40 FOR OVERTON MOORE PROPERTIES LIVERMORE, CALIFORNIA	
DATE	MARCH, 2021
SCALE	AS SHOWN
DESIGNER	SV
DRAWN BY	JTQ
JOB NO.	96562-54
SHEET	C3.0
OF	9 SHEETS



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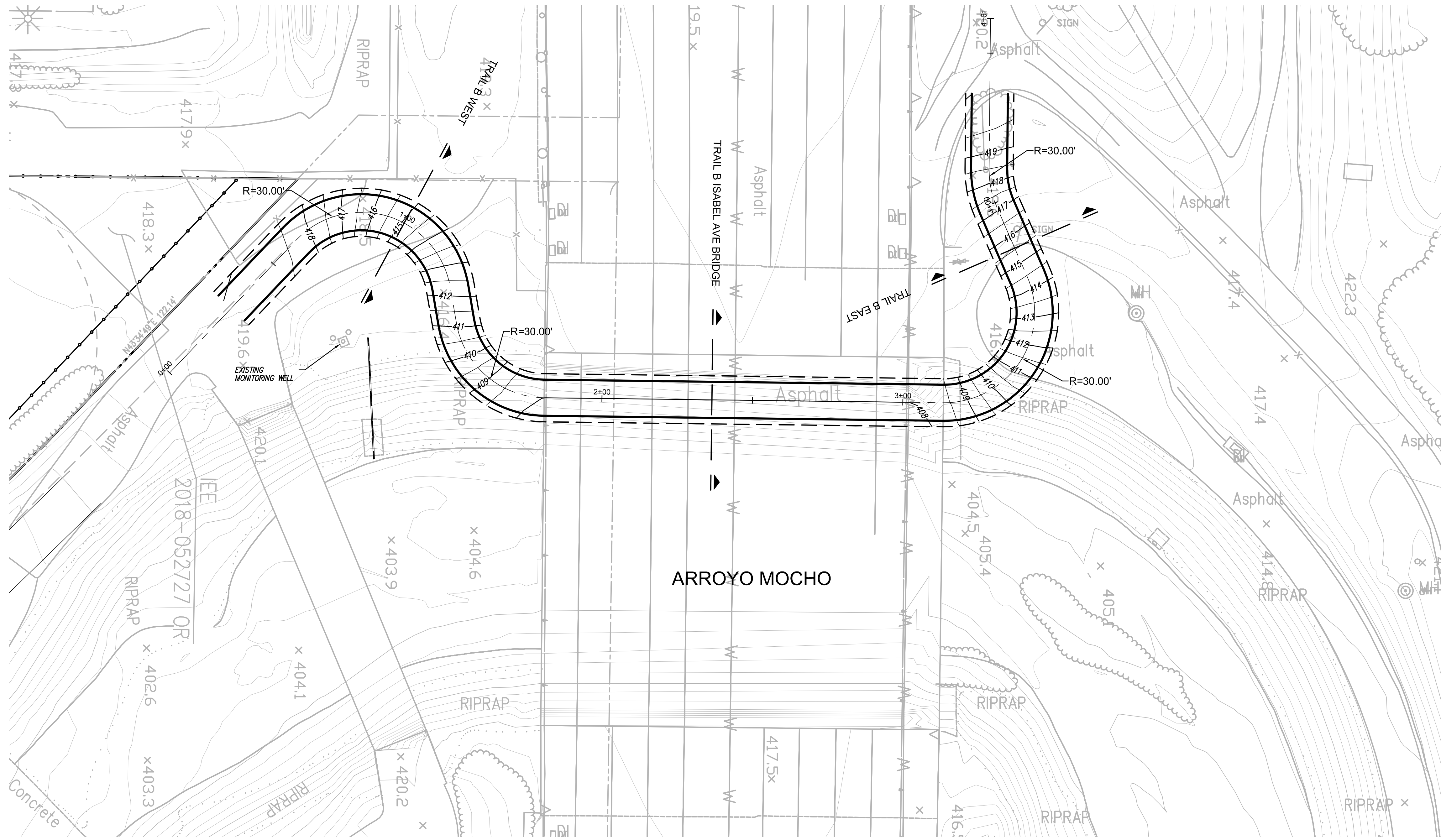
LEGEND

▲	AREA DRAIN
■	STORM DRAIN CATCH BASIN
□	STORM DRAIN JUNCTION BOX
○	STORM DRAIN MANHOLE
—	FLOW LINE
—	FINISH FLOOR
—	PAVEMENT
RE	RIM ELEVATION
23.8	SPOT ELEVATION
X-SD	STORM DRAIN LINE
TC	TOP OF CURB

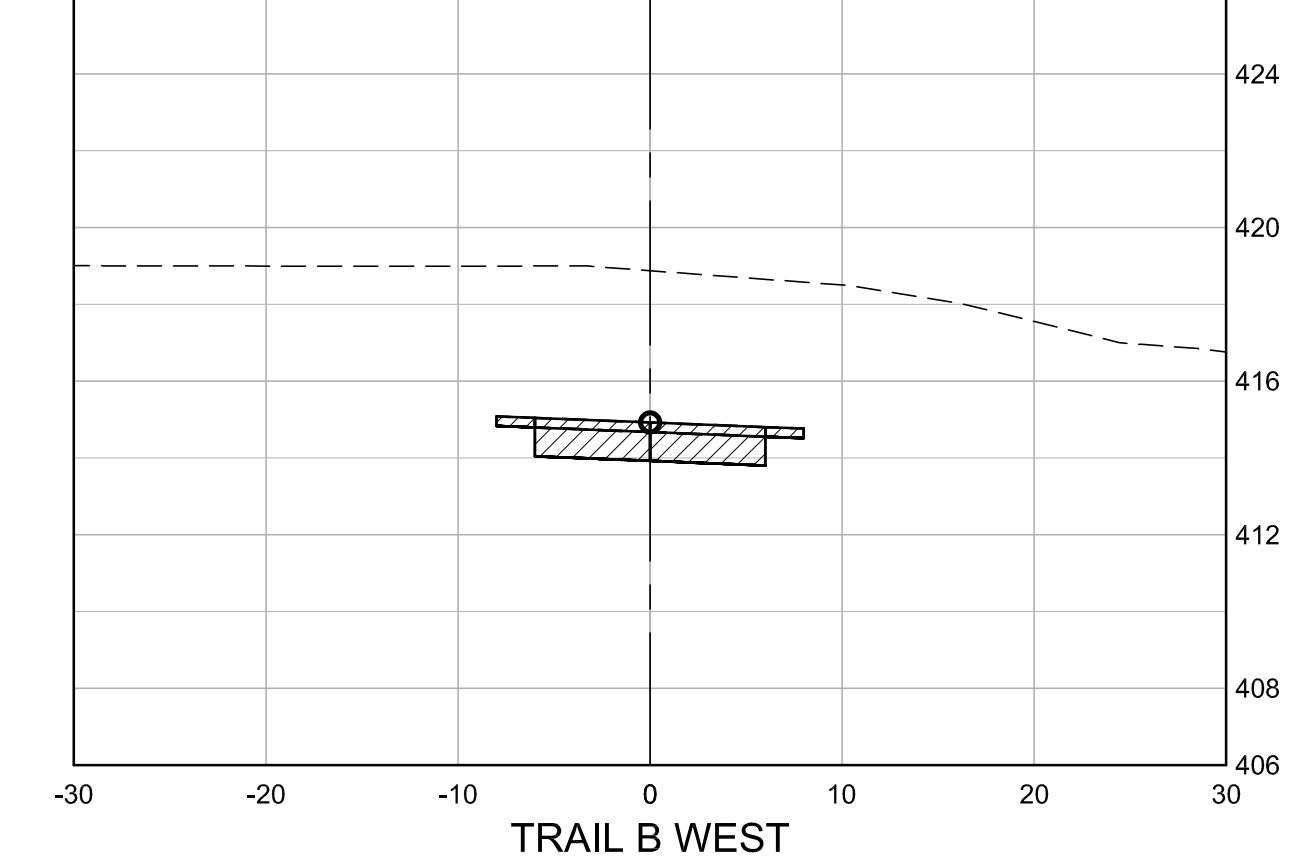
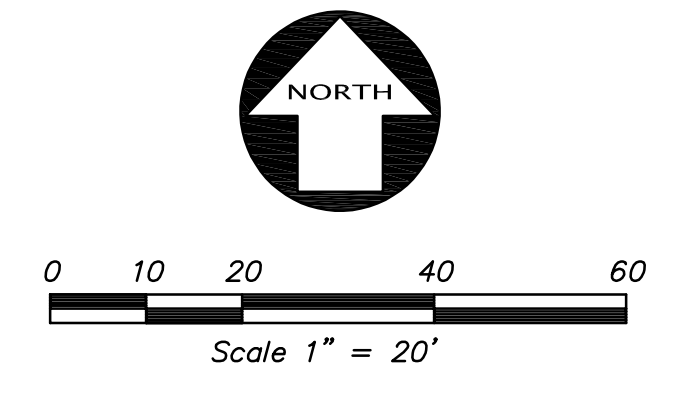
NO.	REVISION	BY
1	08.27.2021 - 1ST TENTATIVE MAP SUBMITTAL	
2		
3		

KIER+WRIGHT 2850 Collins Canyon Road Livermore, CA 94551 Phone: (925) 265-9788 www.kierwright.com	
PRELIMINARY GRADING AND DRAINAGE PLAN OF SMP 40 FOR OVERTON MOORE PROPERTIES LIVERMORE, CALIFORNIA	
DATE	MARCH, 2021
SCALE	AS SHOWN
DESIGNER	SV
DRAWN BY	JTQ
JOB NO.	96562-54
SHEET	C3.1
OF	9 SHEETS

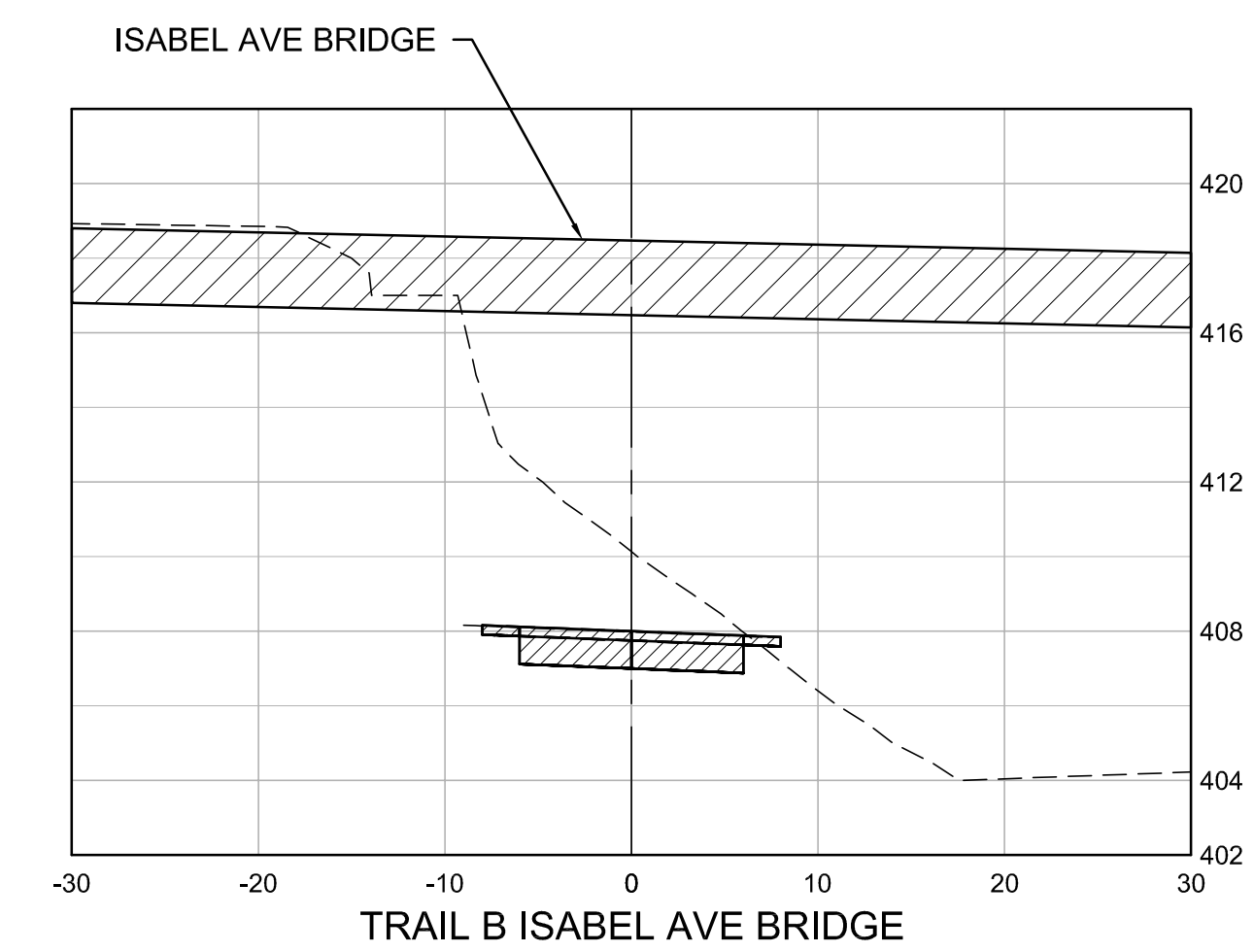




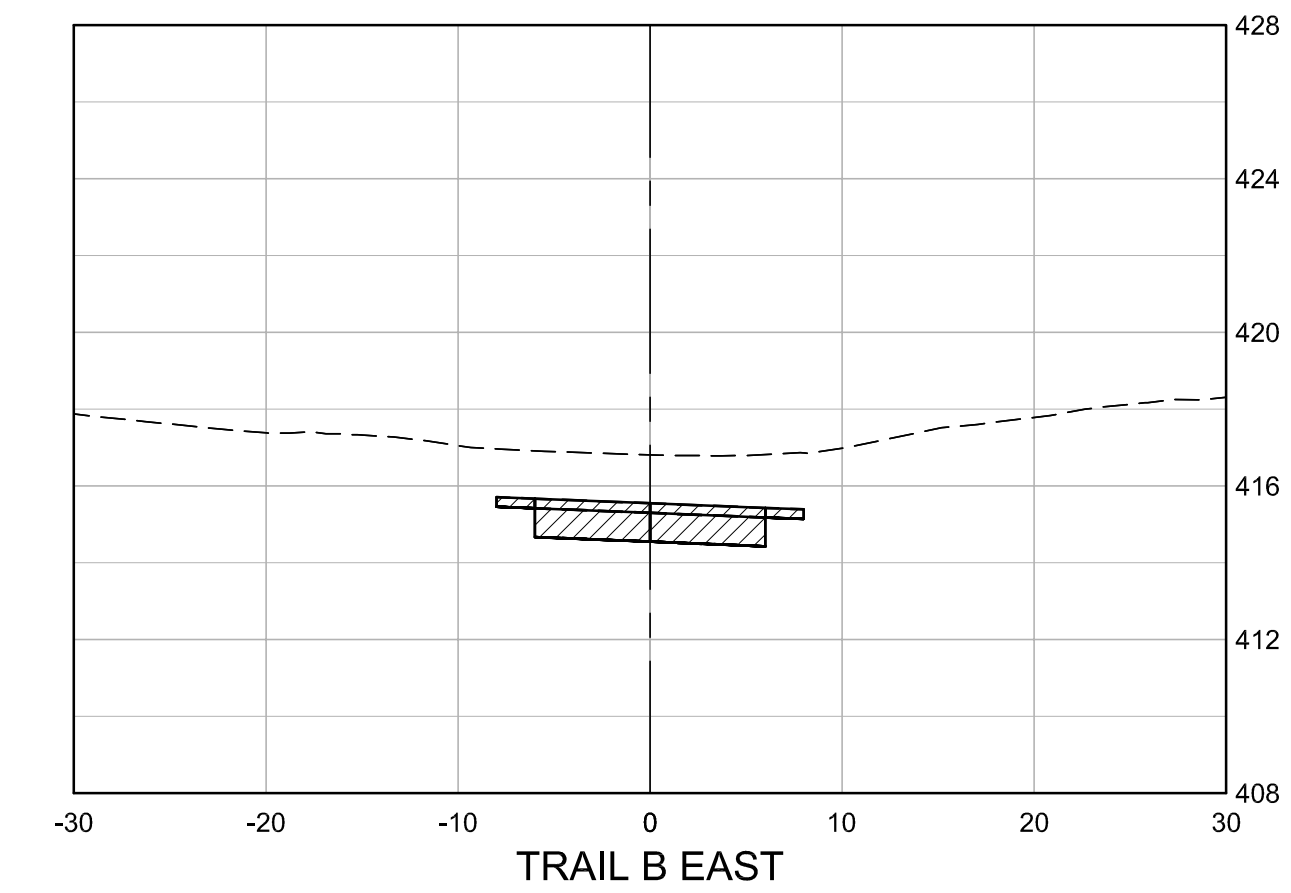
TRAIL B OPTION
SCALE: 1" = 20'



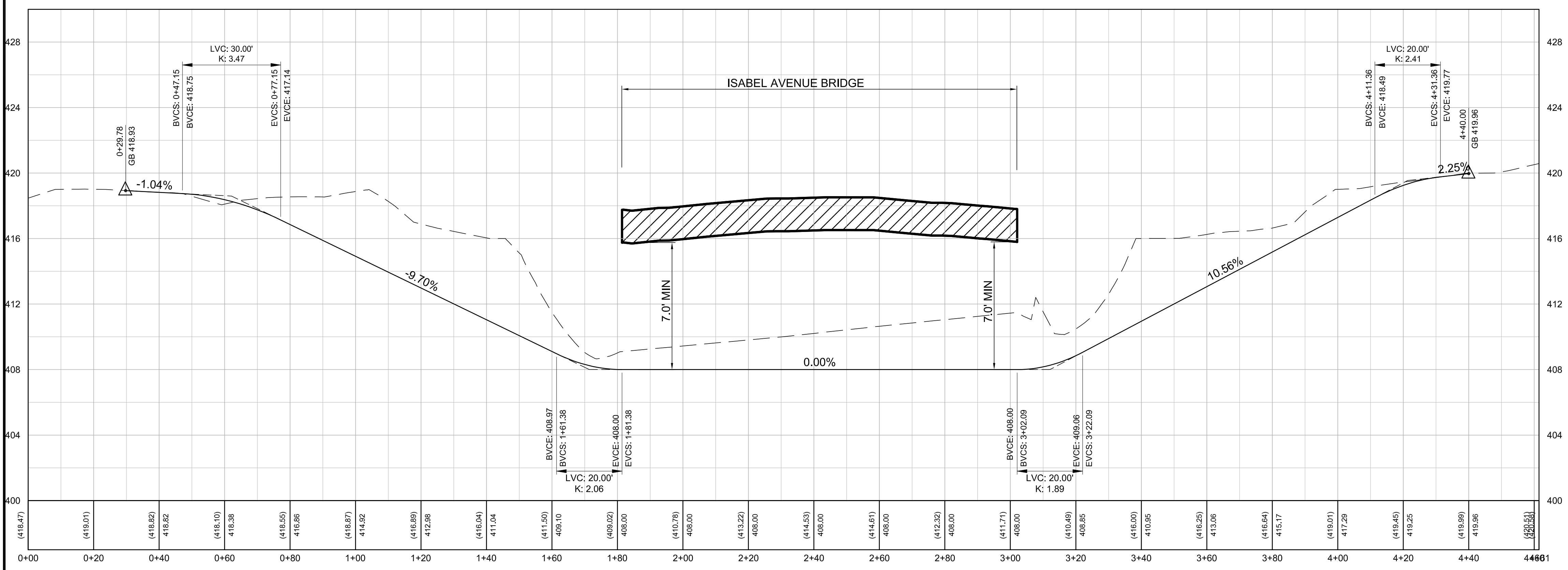
TRAIL B WEST



TRAIL B ISABEL AVE BRIDGE








TRAIL B EAST

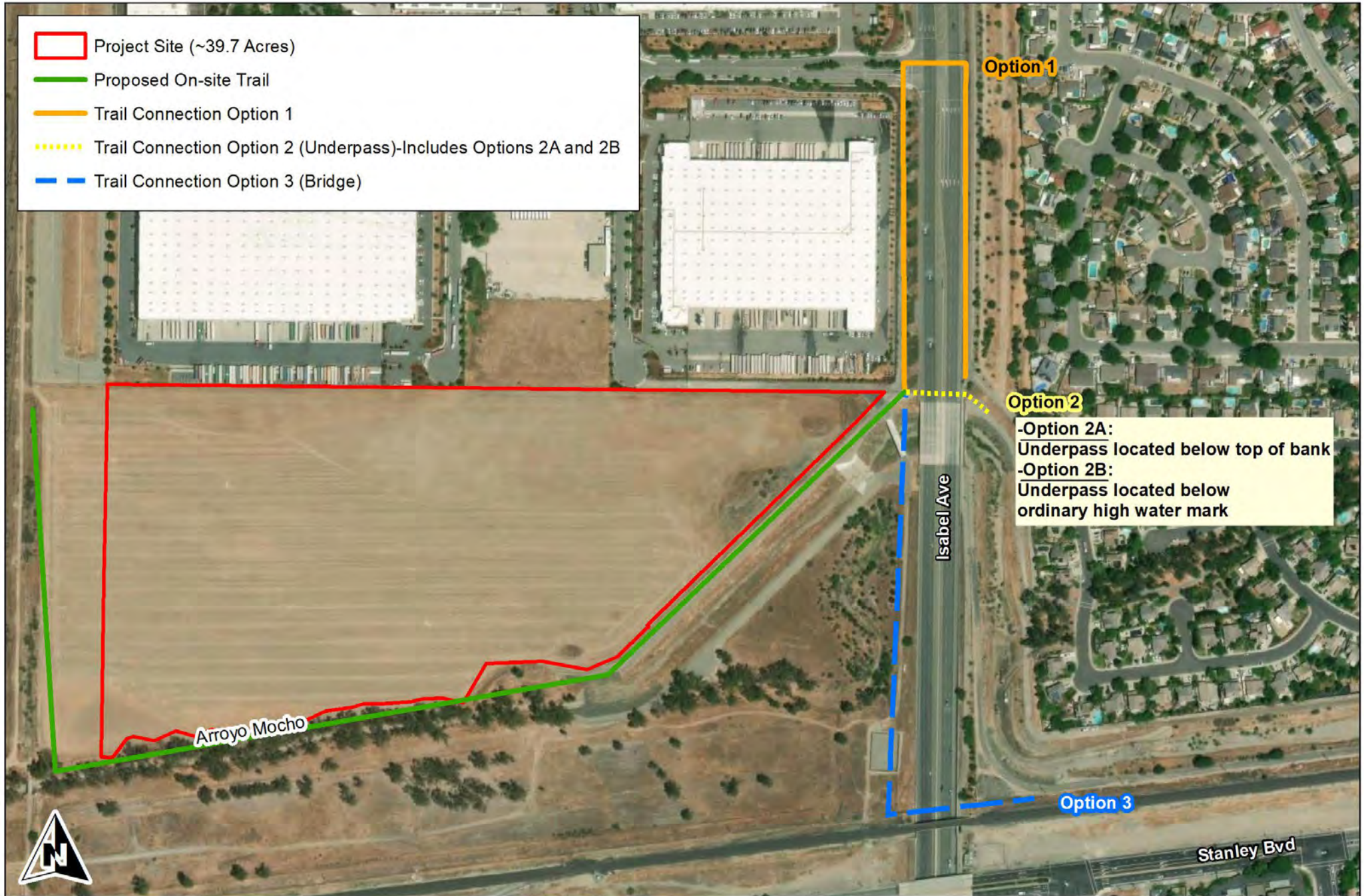


PROFILE
1" = 20' HORIZ.
1" = 4' VERT.

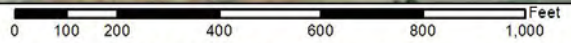
BY	NO.	REVISION
SBV	1	
SBV	2	
SBV	3	
NO.	NO.	REVISION
	1	
	2	
	3	
ISABEL/SR 84 UNDERPASS - OPTION B OF SMP 40 FOR LIVERMORE INDUSTRIAL PARTNERS 40 LLC LIVERMORE, CALIFORNIA		
DATE: MAY, 2022 SCALE: AS SHOWN DESIGNER: JAM DRAWN BY: CF JOB NO.: 96562-54 SHEET: 3 OF 3 SHEETS		

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-  Project Site (~39.7 Acres)
-  Proposed On-site Trail
-  Trail Connection Option 1
-  Trail Connection Option 2 (Underpass)-Includes Options 2A and 2B
-  Trail Connection Option 3 (Bridge)



Option 2
-Option 2A:
Underpass located below top of bank
-Option 2B:
Underpass located below ordinary high water mark



Monk & Associates
Environmental Consultants
1136 Saranap Avenue, Suite Q
Walnut Creek, California 94595
(925) 947-4867

Attachment C. Isabel/State Route Trail Crossing Options 1-3
Oaks Business Park Project Site
Livermore, California

Aerial Photograph Source: ESRI
Map Preparation Date: February 15, 2023