Glen Ivy Senior Community

Determination of Biologically Equivalent or Superior Preservation Report

February 18, 2022 | 00821.00016.001

Prepared for:

County of Riverside
Case Number: CUP200011
CEQA Case Number: CEQ200037
County Staff Contact: Russell Brady

Prepared for:

T&B Planning
Joel Morse
3200 El Camino Real, Suite 100
Irvine, CA 92602

Applicant/Owner:

Glen Ivy Properties, LLC
Benjamin Day
34145 Pacific Coast Highway, Suite 621
Dana Point, CA 92629

Prepared by:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

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ACRONYMS AND ABBREVIATIONS

APN	Assessor's Parcel Number
AFSS	alluvial fan scrub
BMP	Best Management Practices
BUOW	burrowing owl
CASSA	Criteria Area Species Survey Area
CDFW	California Department of Fish and Wildlife
CNPS	California Native Plant Society
County	County of Riverside
DSFLF	Delhi Sands flower-loving fly
HELIX	HELIX Environmental Planning, Inc.
LBVI	least Bell's vireo
MSHCP	Multiple Species Habitat Conservation Plan
NEPS	Narrow Endemic Plant Species
project	Glen Ivy Senior Community
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service

Report Date:	October 8, 2021
Title:	Determination of Biologically Equivalent or Superior Preservation for the Glen Ivy Senior Community Project
Project Location:	The approximately 13.63-acre study area is located southwest of the intersection of Trilogy Parkway and Temescal Canyon Road, in the community of Glen Ivy, unincorporated Riverside County, California. The site is located within the U.S. Geological Survey 7.5-minute Lake Matthews quadrangle map in Section 3, Township 5 South, Range 6 West.
Assessor's Parcel Numbers:	290-190-083, 290-190-084, and 290-190-027
Owner/Applicant:	Mr. Joel Morse T&B Planning, Inc. 3200 El Camino Real, Ste 100 Irvine, CA 92602
Principal Investigator:	HELIX Environmental Planning, Inc. 7578 El Cajon Blvd. La Mesa, CA 91942 (619) 462-1515
Report Summary:	The approximately 13.63 acre study area was surveyed for burrowing owl (*Athene cunicularia*), MSHCP Riparian/Riverine and Vernal Pools resources, rare plants, and jurisdictional features. No burrowing owls, or rare plants were observed on the study area. Approximately 0.14 acre of impacts to Riparian/Riverine habitats is proposed. Mitigation is proposed to be purchase of credits at Riverpark Mitigation Bank or other approved bank along with recontour and a onetime seeding of temporary impacts.
Report Preparers:	Robert Hogenauer (562) 537-2426 Amy Mattson (619) 462-1515 Beth Martinez (619) 462-1515
Field Personnel:	Robert Hogenauer (562) 537-2426

EXECUTIVE SUMMARY

The Glen Ivy Senior Community development is located within the Temescal Canyon Area Plan of the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) but is not with a criteria cell or subunit. Proposed or existing MSHCP Cores and Linkages do not occur within the Study Area. Surveys conducted within the study area include an aquatic resource delineation, Riparian/Riverine and Vernal Pools habitat assessment, rare plant surveys, burrowing owl (*Athene cunicularia*) survey, and an oak tree survey. A small, isolated drainage occurs in the southwest quarter of the property, but no MSHCP Riparian/Riverine species were observed. The pipeline alignment would result in a 0.14 acre of impacts to alluvial fan sage scrub and Coldwater Creek.

Proposed impacts are to 0.14 acre (rounded up from 0.135 acre) MSHCP Riparian/Riverine resources. Mitigation is proposed to occur via the purchase of credits at the Riverpark Mitigation Bank or similar bank as approved by the agencies, for permanent impacts. Temporary impacted areas will be restored to pre-project contours with a one-time seed application installed, along with a 1:1 purchase of restoration credits at the Riverpark Mitigation Bank or similar bank as approved by the agencies to account for temporal loss.

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1.0 INTRODUCTION

1.1 PROJECT AREA

The study area (Figure 1, *Regional Location*; Figure 2, *Aerial Vicinity*; and Figure 3, *Aerial Photograph*) includes three Assessor's Parcel Numbers (APNs) (290-190-083, 290-190-084, and 290-190-027). The study area covers 13.63 acres and includes:

- Two on-site APNs of the Glen Ivy Senior Community Project (project);
- the undeveloped land between the APN property line and adjacent roads (Trilogy Parkway and Temescal Canyon Road);
- land south of the APN where recent grading was done by the Riverside Flood Control District; and
- One APN for the land on the east side of Temescal Canyon Road adjacent to Coldwater Creek.

- Required improvements necessary for the project include grading within the right of way of the adjacent roads, grading of ingress and egress access points to the development, and installation of underground pipe and associated outfall structure and maintenance access road for the water quality basin discharge.
- The proposed project does not require off-site staging areas.
- Minor permanent and temporary impacts to Multiple Species Habitat Conservation Plan (MSHCP) Riparian/Riverine habitat are proposed along the edge of Coldwater Creek.

1.2 PROJECT DESCRIPTION

The project proposes to develop a Senior Care Facility (Figure 4, *Site Plan*). The facility consists of approximately 184 independent living and assisted living units, 32 Memory Care units, parking, storage, and other associated infrastructure. The project also includes a 16,000 square foot water quality basin and an approximately 125-foot long flood wall adjacent to the southeast corner of the project. The basin out flow is situated on the edge of Coldwater Creek. The project does not include fuel modification zones as the property is surrounded by developments or existing roadways.

The outfall for the water quality basin is required to occur at an elevation of 1,080 feet above mean sea level. Due to the numerous underground utilities already occurring within Temescal Canyon Road, the pipeline for the outfall structure is required to cross Temescal Canyon Road south of the property. Several alternatives were considered for the proposed location of the outfall structure with the preferred location resulting in the least impacts to sensitive biological resources. The Riverside Flood Control District and the Riverside County Transportation Department have specific requirements regarding the placement of the outfall structure and associated maintenance access road that have severely limited the size and location of the facility.

1.3 EXISTING CONDITIONS

The project site is located on a parcel historically used for spoils piles, resulting in a rolling terrain and a significant amount of disturbed habitat. The majority of the trees on-site are non-native. The project is bordered by a recently constructed flood control facility to the south, an RV Park to the west, a golf course and a lot proposed for construction of a church to the north, and a narrow strip of undeveloped land associated with Coldwater Creek and residential development to the east. The project includes off-site work on the east side of Temescal Canyon Road related to the installation of a pipeline, outfall structure, and associated maintenance access road. The pipeline will carry overflows from the on-site water quality basin to Coldwater Creek.

Vegetation in the project site is dominated by non-native vegetation/non-native grassland mosaic, disturbed habitat, and coast live oak woodland. Other vegetation communities within the project site are Riversidean alluvial fan sage scrub, alluvial fan sage scrub – disturbed, streambed/alluvial fan sage scrub, southern willow scrub, mule fat scrub – disturbed, non-native woodland, and developed land. Soils in the vicinity of the project are comprised of four types of sandy loam. These soils are Cortina gravelly coarse sandy loam, Garretson gravelly very fine sandy loam, Garretson very fine sandy loam, and Cortina gravelly loamy sand. Additionally, terrace escarpments occur along Coldwater Creek.

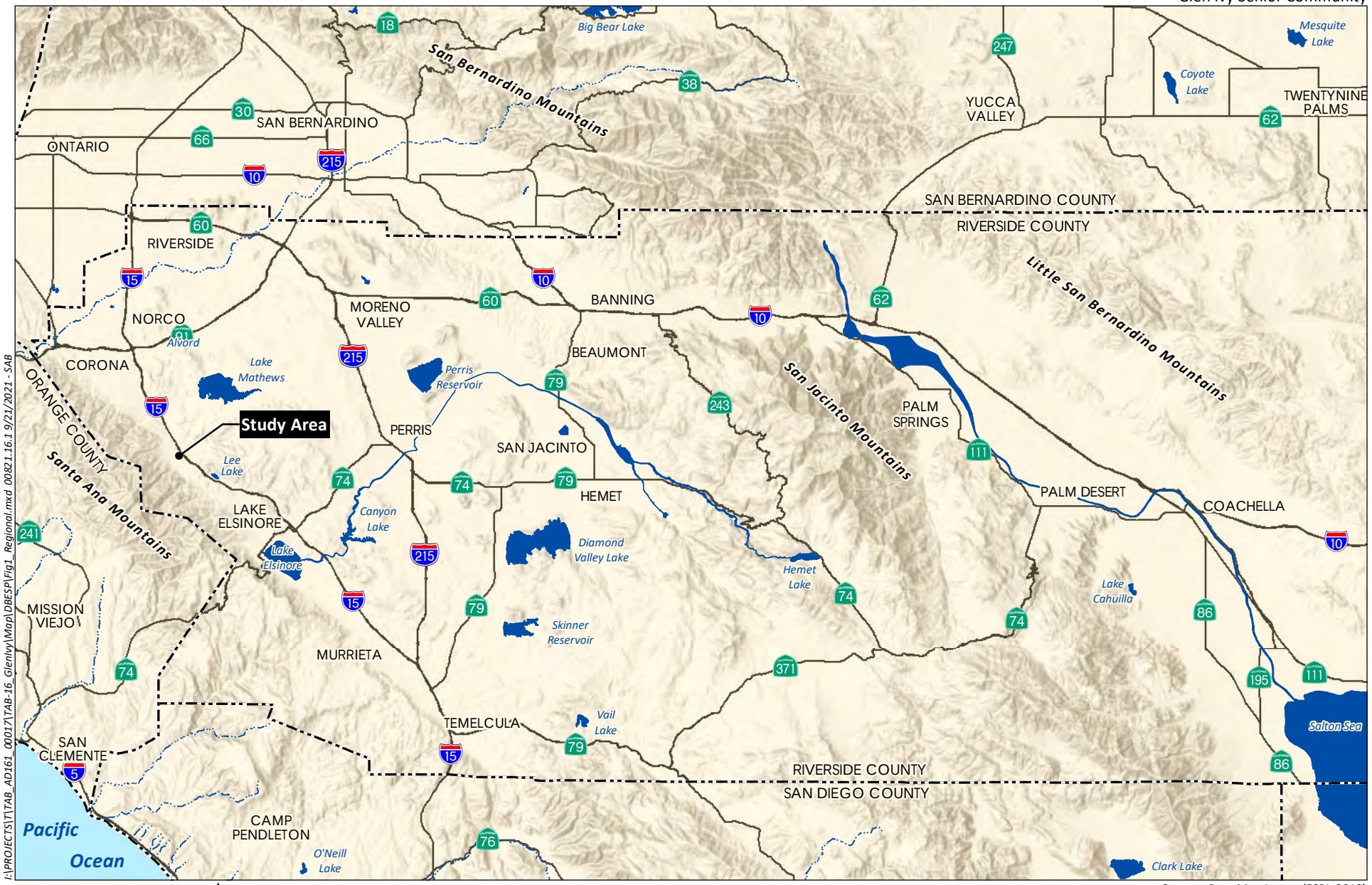
2.0 RIPARIAN/RIVERINE MITIGATION (SECTION 6.1.2)

The Western Riverside MSHCP requires that all projects be assessed for Section 6.1.2 resources, including Riparian/Riverine resources, vernal pools, fairy shrimp, and riparian birds. The goal is to protect resources used by MSHCP-covered species, as well as existing and future downstream conservation areas.

According to Section 6.1.2 of the MSHCP:

“Riparian/Riverine Areas are lands which contain Habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year.”

“Vernal pools are seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetlands plant species are normally dominant during the wetter portion of the growing season, while upland species (annuals) may be dominant during the drier portion of the growing season. The determination that an area exhibits vernal pool characteristics, and the definition of the watershed supporting vernal pool hydrology, must be made on a case-by-case basis. Such determinations should consider the length of the time the area exhibits upland and wetland characteristics and the manner in which the area fits into the overall ecological system as a wetland. Evidence concerning the persistence of an area's wetness can be obtained from its history, vegetation, soils, and drainage characteristics, uses to which it has been subjected, and weather and hydrologic records.”



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0 10 Miles

Source: Base Map Layers (ESRI, 2013)

HELIX Environmental Planning

Regional Location

Figure 1

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0 1,000 Feet

Source: Aerial (RCIT, 2019)

HELIX Environmental Planning

Aerial Vicinity

Figure 2

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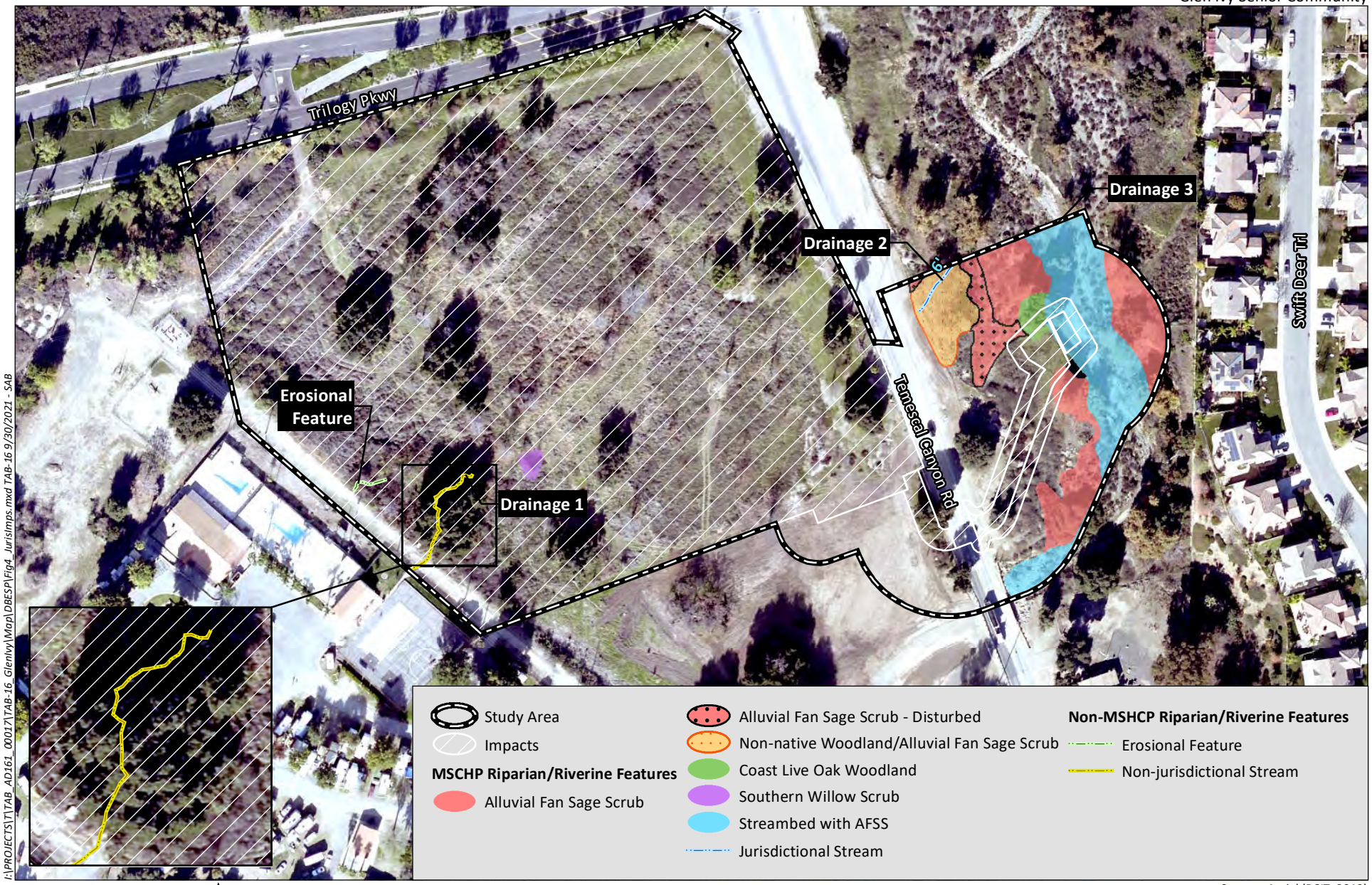
0 150 Feet

Source: Aerial (RCIT, 2019)

HELIX Environmental Planning

Aerial Photograph

Figure 3



Source: Aerial (RCIT, 2019)

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MSHCP Riparian/Riverine Impacts

Figure 4

"Fairy Shrimp. For Riverside, vernal pool and Santa Rosa fairy shrimp, mapping of stock ponds, ephemeral pools and other features shall also be undertaken as determined appropriate by a qualified biologist.

"With the exception of wetlands created for the purpose of providing wetlands Habitat or resulting from human actions to create open waters or from the alteration of natural stream courses, areas demonstrating characteristics as described above which are artificially created are not included in these definitions."

Note that the MSHCP states that "areas demonstrating characteristics [of Riparian/Riverine habitat] which are artificially created are not included in these definitions" of Riparian/Riverine habitat. The identification of Riparian/Riverine and Vernal Pools habitats is based on the potential for the habitat to support Riparian/Riverine and Vernal Pools Covered Species, which are identified in Section 6.1.2 of the MSHCP. These species include least Bell's vireo (*Vireo bellii pusillus*; LBVI) and a suite of other animals and plants outlined in Section 6.1.2 of the MSHCP. During the field survey, the study area was evaluated for habitat that could support animals and/or plants identified by the MSHCP as Riparian/Riverine and Vernal Pools species.

2.1 METHODS

2.1.1 Riparian/Riverine

A Riparian/Riverine and Vernal Pools habitat assessment was conducted by Mr. Hogenauer during site visits on January 28, March 24, and April 13, 2020. Additional information was collected by Mr. Hogenauer for the portion of the study area east of Temescal Canyon Road on October 29, 2020. The assessment was conducted concurrently in the field with the jurisdictional delineation and Narrow Endemic Plant Species Survey Area plant surveys. The initial evaluation on January 28 consisted of a directed search for field characteristics indicative of Riparian/Riverine habitats. Field indicators include the presence of certain plant species, drainage courses, drainage patterns, ponded water, changes in soil character, changes in vegetation character, and deposits of water-borne debris. The March 24 visit consisted of a focused survey for Riparian/Riverine and Vernal Pools plant species, along with mapping potential Riparian/Riverine resources in the study area. The additional survey on April 13 was conducted to assess Riparian/Riverine resources associated with the proposed impacts east of Temescal Canyon Road in and adjacent to Coldwater Creek.

A review of historic aerials was performed to aid in determining the origin of the drainage. Historic aerials were reviewed dating back to 1967 (NETRonline 2021).

The MSHCP has a separate definition for "Riparian" and for "Riverine." Riverine features include those that are natural in origin as well as part natural features that have been modified and/or redirected and can include features indirectly created through manipulation of the landscape, including channelization of a historic riverine feature. If these features connect to nearby downstream resources that are either existing or described conservation lands, they would be considered riverine. Riverine features are typically unvegetated or include vegetation similar to surrounding uplands. Riparian features are those with vegetation dependent upon a water source such as a stream, drainage, pond, or similar.

Data collection was targeted in areas that were deemed to have the potential to support jurisdictional resources, such as the presence of an ordinary high water mark, the presence of a bed/bank and

streambed associated vegetation, and/or other surface indications of streambed hydrology. Potential Riparian/Riverine features were mapped at a scale of one-hundredth of an acre (0.01 acre) except for areas less than one-hundredth of an acre that were mapped to a scale of one-thousandth of an acre (0.001).

2.1.2 Vernal Pools

The study area was surveyed by Mr. Hogenauer on January 28, March 24, April 13, and October 29, 2020, for signs of vernal pools, ephemeral ponds, or similar habitat. Vernal pool indicators searched for include standing water, cracked soil, presence of certain plant species, and changes in soil or vegetation characteristics. Soils information was gathered from the U.S. Department of Agriculture online database (U.S. Department of Agriculture [USDA] 2021).

2.1.3 Riparian Birds

The vegetation in the study area was mapped and assessed during multiple site visits in January, March, April, and October 2020. The on-site study area was determined to include a single willow tree that does not comprise potential habitat for MSHCP riparian bird species (including LBVI, southwestern willow flycatcher [*Empidonax traillii extimus*], or yellow-billed cuckoo [*Coccyzus americanus*]). The riparian habitats present in the study area east of Temescal Canyon Road primarily consist of alluvial fan sage scrub habitats and small patches of coast live oak woodland. Trees in the riparian habitat include tree of heaven (*Ailanthus altissima*), coast live oak (*Quercus agrifolia*), and western sycamore (*Platanus racemosa*). These habitats do not constitute potential habitat for MSHCP Riparian bird species. The aforementioned riparian bird species utilize willow riparian or similar woodland or forest habitats that are layered. The preferred habitat for the riparian bird species does not occur in the study area.

Other MSHCP riparian bird species are bald eagle (*Haliaeetus leucocephalus*) and peregrine falcon (*Falco peregrinus*). These species primarily occur adjacent to open water habitats, with the peregrine falcon possibly occurring in riparian woodland and forest habitats. Suitable nesting habitat for these species does not occur in the study area.

2.1.4 Riparian Plants

The MSHCP lists 23 sensitive plant species that have potential to occur in Riparian/Riverine and Vernal Pools habitats. These species are:

- California black walnut (*Juglans californica* var. *californica*),
- Engelmann oak (*Quercus engelmannii*),
- Coulter's matilija poppy (*Romneya coulteri*),
- San Miguel savory (*Clinopodium chandleri*),
- spreading navarretia (*Navarretia fossalis*),
- graceful tarplant (*Holocarpha virgata* ssp. *elongata*),
- California Orcutt grass (*Orcuttia californica*),

- prostrate navarretia (*Navarretia prostrata*),
- San Diego button-celery (*Eryngium aristulatum* var. *parishii*),
- Orcutt's brodiaea (*Brodiaea orcuttii*),
- thread-leaved brodiaea (*Brodiaea filifolia*),
- Fish's milkwort (*Polygala cornuta* var. *fishiae*),
- lemon lily (*Lilium parryi*),
- San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*),
- ocellated Humboldt lily (*L. humboldtii ssp. ocellatum*),
- Mojave tarplant (*Deinandra mohavensis*),
- vernal barley (*Hordeum intercedens*),
- Parish's meadowfoam (*Limnanthes gracilis* var. *parishii*),
- slender-horned spineflower (*Dodecahema leptoceras*),
- Santa Ana River woolly-star (*Eriastrum densifolium* ssp. *sanctorum*),
- Brand's phacelia (*Phacelia stellaris*),
- mud nama (*Nama stenocarpum*), and
- smooth tarplant (*Centromadia pungens* ssp. *laevis*)

A focused plant survey of the study area was conducted on March 24, 2020, by HELIX Environmental Planning, Inc. (HELIX) biologists Rob Hogenauer and Dan Torres. A second focused plant survey was conducted by Mr. Hogenauer on May 22, 2020. The surveys included searching for the Riparian/Riverine and Vernal Pools plant species listed in Section 6.1.2 of the MSHCP.

2.2 RESULTS/IMPACTS

2.2.1 Riparian/Riverine

Potential Riverine habitat in the on-site portion (west of Temescal Canyon Road) of the study area consists of a small drainage (Drainage 1) and an erosional feature in the southwest portion of the study area. These two features, which resemble ephemeral streams (Drainage 1 and an erosional feature), originate as runoff from the parking lot and road from the adjacent development (RV park) to the west. Both Drainage 1 and the erosional feature more closely resemble erosional features than natural streams. Although both of these features occur under a canopy of vegetation, there is no vegetation within the banks of the features other than a few sparse annuals (Appendix A, *Representative Site Photos)*. A review of historical aerial photographs shows the streams did not exist prior to the creation

of the impermeable surfaces created by the adjacent development to the west (NETRonline 2021). The features are not the result of a redirection of a previous existing natural stream.

Drainage 1 is 0.02 acre and 172 linear feet long and dissipates on-site. The erosional feature originates from road runoff, totals less than 0.01 acre, and dissipates on-site after 49 feet. Drainage 1 and the erosional feature have no connection to downstream resources or upstream resources. The nearest downstream Riparian/Riverine resource is Coldwater Creek, which is more than 500 feet from point of dissipation of Drainage 1 and slightly farther from the erosional feature. Structures associated with the adjacent RV park were constructed between 1967 and 1980 according to historic aerials (NETRonline 2021). The historic aerial review indicates that the stream is not naturally occurring and not the redirection or modification of a naturally occurring stream.

Drainage 1 occurs primarily under the canopy of one of the many coast live oak trees that occur in the study area. The erosional feature occurs within non-native woodland habitat. As Drainage 1 and the erosional feature are not of natural origin and do not have a connection to downstream resources, they have been determined by HELIX to not be classified as a Riverine under the MSHCP.

Potential riparian habitat on-site within the study area is comprised of a single Goodding's black willow (*Salix gooddingii*). The single willow is in poor health, as evident by multiple broken branches and a split trunk with a limited number of live branches producing leaves. This single willow occurs near but is not connected to the east end of the Drainage 1. This single willow does not have potential to support animals associated with the MSHCP Riparian/Riverine habitat. The willow comprises 0.02 acre of southern willow scrub habitat that is an MSHCP Riparian resource.

The functions and services of the on-site features are minimal, consisting of conveying small amounts of water, sediment trapping, toxicant trapping, and nutrient trapping. The linear feet and acreage of Drainage 1 and the erosional feature are provided for information purposes. The functions and services of this drainage are limited due to the small size, lack of downstream connection, and artificial origin as runoff from the adjacent development. This drainage is not hydrologically connected to any downstream resources with the potential to support species shown in Section 6.1.2 of the MSHCP. The functions and services of the single willow tree (southern willow scrub) consist of minimal potential for wildlife support and toxicant trapping.

The off-site area east of Temescal Canyon Road includes alluvial fan sage scrub (AFSS) in several habitat configurations, including AFSS, AFSS-disturbed, non-native woodland- AFSS, and streambed with AFSS. The large streambed at Coldwater Creek (Drainage 3), where the proposed outfall structure is located, includes patches of AFSS habitat. There is also coast live oak woodland along Drainage 3 that is considered jurisdictional. A small drainage (Drainage 2) originates as road runoff and travels through the non-native woodland- AFSS habitat and into the AFSS habitat and ultimately connects to Coldwater Creek outside the study area.

Riverside County Flood Control District installed a flood control facility to the south and upstream of the of the project study area. This flood control facility will result in a reduction of the regular bank overflow of Coldwater Creek at the project location and is believed to serve the purpose of protecting Temescal Canyon Road. The reduction of the bank overflow will reduce the frequency of the periodic flooding that the AFSS habitat adjacent to Coldwater Creek within the study area is dependent upon. Over time, the reduction of the periodic flooding would potentially result in the reduction of the quality of the AFSS habitat in the study area.

The project proposed to install an outfall structure at the western bank of Coldwater Creek that would result in a mix of temporary and permanent impacts to the Riparian/Riverine habitat. The impacts include work within a drip line of one coast live oak tree and the possible trimming of branches to complete the work. The proposed impacts to the oak are included in the riparian habitat mitigation proposed below, and the coast live oak tree impact will be mitigated by replacing the oak as discussed in the oak tree mitigation plan under separate documentation.

The off-site work also includes impacts to alluvial fan sage scrub and disturbed alluvial fan sage scrub that are sparsely vegetated but still considered to be riparian habitat. The vegetation in these habitats includes some native species, along with a significant cover from non-native grasses and short-podded mustard (*Hirschfeldia incana*). The habitat along Coldwater Creek is shown as streambed/alluvial fan sage scrub (AFSS) due to the scattered AFSS that occurs in patches throughout the creek. The location of the proposed outfall structure lacks vegetation except for non-native annuals. As a result, this location is classified as Riverine.

The project would result in unavoidable permanent impacts to 0.061 acre of potential Riparian/Riverine habitat and 0.074 acre of temporary impacts to potential Riparian/Riverine habitat (Table 1, *MSCHP Riparian/Riverine Impacts*, and Table 2, *MSHCP Riparian/Riverine Impacts*). Most impacts would occur off-site for the outfall structure, pipeline, and associated maintenance access road. Off-site permanent impacts to the riparian habitat include 0.006 acre of alluvial fan sage scrub and 0.005 acre to a coast live oak tree. Permanent impacts to 0.02 acre of southern willow scrub (i.e., the single willow) would occur on-site.

Table 1
MSHCP RIPARIAN/RIVERINE IMPACTS (acres)

Habitat Type	Permanent	Temporary
Riparian		
Southern willow scrub	0.02	
Coast live oak woodland	0.005	0.011
Alluvial fan sage scrub	0.006	0.01
Alluvial fan sage scrub-disturbed		0.003
Subtotal	0.031	0.024
Riverine		
Streambed/alluvial fan sage scrub	0.03	0.05
Subtotal	***0.03***	***0.05***
TOTALs	**0.061**	**0.074**

Table 2
MSHCP RIPARIAN/RIVERINE MITIGATION *

Habitat Type	Impact Acres	Ratio	Mitigation
Permanent - Riparian	*0.03*	*3:1*	*0.09*
Permanent-Riverine	*0.03*	*2:1*	*0.06*
Temporary-Riparian	*0.03*	*2:1*	*0.05*
Temporary-Riverine	*0.05*	*1:1*	*0.05*
TOTALs	**0.14**	**--**	**0.25**

* all impacts rounded to nearest 0.01 acre.

2.2.2 Vernal Pools

The vernal pool assessment revealed that the project does include two large road ruts in the northwest corner of the site. The ruts occur along the driveway that starts at Trilogy Parkway and ends at the fencing for the off-site back flow valve. These areas around the ruts have been used as a dumping ground for spoil piles and landscaping debris, as evident by the piles of cut vegetation on both sides of the driveway in which the ruts occur. During the March 24, 2020 assessment, these ruts were observed to be holding water as a result of rain received on March 22 and 23, 2020. These ruts were inspected 10 days later and were no longer holding water. The road ruts were inspected again on April 13, 2020, following the site receiving three inches of rainfall between April 6 and 10, 2020, with over two inches of the rainfall occurring on April 9th and 10th. The April 13th inspection occurred less than 10 days following the rainfall. The road ruts were saturated but were not holding water. The road ruts lack vegetation and do not have wetland soils. Additionally, the soils mapped at the location of the ruts are Cortina gravelly coarse sandy loam, which is not a typical soil type for vernal pools. The soils are also highly disturbed in this area from the previous deposition of spoils. The road ruts do not meet the MSHCP definition of vernal pools since they lack two of the three criteria (soils and vegetation). No other potential pools occur in the study area.

2.2.3 Riparian Birds

The study area does not include habitat with potential to support MSHCP riparian birds, given the mapped southern willow scrub consists of a single willow in poor health. No impacts are proposed to occur to riparian bird habitat therefore no surveys or mitigation is required.

2.2.4 Riparian Plants

The study area has limited habitat with potential to support Riparian/Riverine and Vernal pool plant species. The plant species associated with Riparian/Riverine and Vernal Pools areas were confirmed to be absent from the study area. A number of the species, including California Orcutt grass, spreading navarretia, thread-leaved brodiaea, San Miguel savory, graceful tarplant, prostrate navarretia, San Diego button-celery, Orcutt's brodiaea, Fish's milkwort, lemon lily, San Jacinto Valley crownscale, Mojave tarplant, Brand's phacelia, Santa Ana River woolly-star, vernal barley, and Parish's meadowfoam occur in habitats that do not occur in the study area (e.g., vernal pools) or have distributions well outside of the study area. The remaining species have a distribution that includes the study area or occurs in habitats found in the study area and are discussed in greater detail below.

Engelmann oak is a conspicuous tree species associated with alluvial fans and slopes with a mesic aspect. Coast live oak trees occur in the study area. No Engelmann oaks were observed, and this species is presumed to be absent from the study area.

Mud nama is restricted to muddy embankments of marshes and swamps and within lake margins and riverbanks (California Native Plant Society [CNPS] 2021). Three populations are known from Riverside County (County), with two occurring along the San Jacinto River (Dudek 2003). This species was not observed and is presumed to be absent from the study area.

Smooth tarplant is found in southwestern California and northwestern Baja California, Mexico (Baja), and occurs in San Bernardino, Riverside, and San Diego counties. This species occurs in open spaces within a variety of habitats, including alkali scrub and playas, riparian woodland, watercourses, and

grasslands with alkaline affinities (Dudek 2003; CNPS 2021). This species was assessed as having low potential to occur but was not observed and is presumed to be absent from the study area.

Coulter's Matilija poppy occurs in dry washes and canyons below 3,600 feet. It often occurs within sage scrub and chaparral habitats. Dense shrub cover may limit the expansion of this species (Dudek 2003). This species is easily detected when present. It was not observed and is presumed absent from the study area.

Ocellated Humboldt lily is associated with riparian corridors in coniferous forest and chaparral habitats. Within Western Riverside County, ocellated Humboldt lily is restricted to canyons along the east slope of the Santa Ana Mountains and the north slope of the Palomar Mountains. The riparian habitat on-site is not associated with coniferous forest. This species was not observed and is presumed to be absent from the study area.

Slender-horned spineflower is typically found in mature alluvial scrub with sandy soils but is also found in rocky soils and open chamise chaparral. Ideal habitat is thought to be benches or terraces that receive overbank flow every 50 to 100 years. Habitat for this species does not occur on the study area. This species was not observed and is presumed to be absent from the study area.

None of the 23 MSHCP Riparian/Riverine and Vernal pools plant species were observed in the study area, and none are expected to occur within the study area.

2.3 MITIGATION AND EQUIVALENCY

The project proposes 0.13 acre of impacts to Riparian/Riverine habitat. The impact area and the adjacent habitat do not support MSHCP Riparian/Riverine birds or plant species. No impacts to vernal pool habitat are proposed. Based on these observations, mitigation is only required for impacts to Riparian/Riverine habitat.

2.3.1 Direct Effects

The project proposes to mitigate direct impacts to MSHCP Riparian/Riverine resources via the purchase of in-lieu fee credits at Riverpark Mitigation Bank or a similar approved mitigation bank. Mitigation for permanent impacts to 0.03 acre riparian habitat is proposed to occur at a 3:1 ratio consisting of 1:1 re-establishment and 2:1 restoration credit. Mitigation for permanent impacts to 0.03 acre riverine habitat is to occur at a 2:1 ratio consisting of 1:1 re-establishment and 1:1 restoration credits. Temporary impacts to 0.02 acre riparian habitat are proposed to occur at a ratio of 2:1 and temporary impacts to 0.05 acre riverine habitat is proposed to occur at a ratio of 1:1 via restoration credits. This results in a proposed total mitigation credit purchase of 0.06 acre re-establishment credits and 0.18 acre restoration credits at the Riverpark Mitigation Bank or a similar bank. (Table 1).

The proposed impacts do not occur within or adjacent to conserved land or on land proposed to be conserved under the MSCHP. The impacts will occur to the edge of Coldwater Creek from the installation of an outfall structure and associated pipeline and maintenance access road. Following the installation, the temporarily disturbed habitat will be restored to pre-project contours to the extent feasible. In addition, the temporary impacts to approximately 0.07 acre of MSHCP Riparian/Riverine and 0.33 acres of adjacent disturbed upland habitats will then be seeded with a native seed mix comprised of species observed in and around the disturbed habitat (Table 3, *Seed Mixture for Temporary Disturbed*

Habitat). This seed mix is a guideline and is subject to change based on seed availability. Species may be adjusted as needed and should include those species typical of sage scrub and alluvial fan sage scrub habitats.

Table 3
SEED MIXTURE FOR TEMPORARY DISTURBED HABITAT (0.4 acre)

Scientific Name	Common Name	Lbs.*/Acre	Lbs. Required
Ambrosia psilostachya	western ragweed	3	1.2
Artemisia dracunculus	tarragon	4	1.6
Baccharis salicifolia	mule fat	2	0.8
Baccharis sarothroides	broom baccharis	2	0.8
Croton setiger	doveweed	2	0.8
Croton californicus	California croton	2	0.8
Artemisia californica	California sagebrush	2	0.8
Acmispon glaber	deerweed	2	0.8
Eriogonum fasciculatum	California buckwheat	7	2.8
Heliotropium curassavicum	salt heliotrope	2	0.8
Amsinckia intermedia	fiddleneck	2	0.8
	TOTAL	**30**	**12.0**

* Lbs. = pounds

The majority of the 0.40 acre area proposed for temporary disturbance from the installation of the underground pipeline is comprised of disturbed habitat that is dominated by the invasive non-native species short-podded mustard (*Hirschfeldia incana*) or has minimal vegetation cover. The 0.40 acre area to be seeded is estimated to currently have a native cover of less than 20 percent with a non-native cover of over 50 percent. Seeding this temporarily disturbed area with a native seed mix will ultimately improve the native species cover of the area. Monitoring and reporting of the seeded temporary impact area is not proposed as this area is primarily comprised of disturbed upland habitat that is mitigated via the payment of the MSHCP local development mitigation fee, and the temporary impacts to 0.074 acre Riparian/Riverine habitat are being mitigated via purchase of 0.10 acre mitigation credits. The seeding will act as erosion control and hopefully be a positive improvement from the existing disturbed habitat.

The functions and values of the impacted resources will not be changed. The permanent above ground impacts are occurring in the form of an outlet structure on the bank of Coldwater Creek. The outfall will not impede the flow of the creek or create a significant change in topography. The Riparian/Riverine habitat proposed for impacts have minimal native vegetation. Seeding of the temporary impact areas will increase the function and values of the habitat by increasing the native cover and reducing the cover of invasive species.

Credits purchased at the Riverpark Bank, or another approved bank, will be for higher quality habitat than those resources being impacted. The resources proposed for impact are subject to edge effects from Temescal Canyon Road and developments to the west, along with residential development to the east. The Riverpark Bank is located on 600 acres with minimal edge effects. Mitigation banks are subject to specific criteria for the initial restoration of the bank followed by long term management plans to ensure the protection of the bank habitat. Banks are monitored by a long-term manager and resource agencies to ensure the protection documents are enforced.

2.3.2 Indirect Effects

The proposed impacts do not occur within or adjacent to conserved land or land proposed to be conserved under the MSCHP. The project could result in indirect impacts to Coldwater Creek from the installation of an outfall structure and associated pipeline and maintenance access road. The native seed mix to be installed in the temporary impact area, along with the initial removal of vegetation, will reduce the amount of non-native and invasive seeds that will be washed downstream. This will be a minor amount of seed compared to the seed produced by extensive amounts of non-native species in the surrounding habitats, but it should be a significant reduction in non-native and invasive species seed washing downstream from the impact area.

The outfall structure will release overflow flows from the project's water quality basin. During normal operation, little to no flow should be released from the outflow structure, and there would be little change in the amount of flow within Coldwater Creek. During heavy storm events in which the basin will overflow to the outfall structure, flows will be released to Coldwater Creek. As Coldwater Creek itself will already have increased flows from the same storm event that results in the flow in the outfall structure, the release will not have a significant effect on the flows in Coldwater Creek.

During construction, the project will implement Best Management Practices (BMPs) to reduce or eliminate indirect impacts to Coldwater Creek. These BMPs will include:

- Use of drip pans under equipment being maintained or parked overnight.
- No storage of petroleum products, chemicals, or similar pollutants within 50 feet of Coldwater Creek.
- No parking of equipment within 50 feet of Coldwater Creek.
- No use of equipment in Coldwater Creek when flows are present.
- Concrete washout stations will be employed.
- No direct untreated discharges adjacent to, or directly into Coldwater Creek.
- Erodible materials shall not be deposited into Coldwater Creek.

3.0 NARROW ENDEMIC PLANT SPECIES MITIGATION (SECTION 6.1.3)

The study area is within a survey area for Narrow Endemic Plant Species (NEPS). Surveys were completed in January and April of 2020 and no NEPS were observed. No NEPS occur in the study area therefore no impacts will occur and no mitigation is required.

4.0 ADDITIONAL SURVEY NEEDS (SECTION 6.3.2)

4.1 CRITERIA AREA SPECIES SURVEY AREA - PLANTS

The study area is not within a Criteria Area Plant Species Survey Area (CASSA). No surveys for CASSA species are required, and none were performed. No impacts to CASSA species will occur as a result of the Project; therefore, no mitigation is proposed.

4.2 BURROWING OWL

The study area is located within an MSHCP BUOW Survey Area; thus, MSHCP protocol surveys (County 2006) for burrowing owl (*Athene cunicularia*; BUOW) are required and were conducted in 2020. No burrowing owl or sign of burrowing owl occupation was observed. Burrowing owl do not occur in the study area therefore the project will not result in impacts to burrowing owl and mitigation is not required.

4.3 MAMMALS

The study area is not within a survey area for mammals. No mammal surveys are required, and none were conducted. No impacts to mammals will occur as a result of the Project; therefore, no mitigation is proposed.

4.4 AMPHIBIANS

The study area is not within an amphibian survey area. No surveys for amphibians are required and none were conducted. No impacts to amphibians will occur as a result of the Project; therefore, no mitigation is proposed.

5.0 DELHI SANDS FLOWER LOVING FLY

The study area does not fall within an area with Delhi soils mapped within the MSHCP baseline data. No surveys for the Delhi sands flower loving fly (DSFLF) are required, as the survey area does not contain suitable soils for this species. The study area was found to lack suitable habitat for DSFLF; therefore, the species is not likely to occur, and the project would result in no impacts on the species.

6.0 REFERENCES

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County of Riverside. 2006. Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area. March 29.

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Appendix A

Representative Site Photos

View of Drainage 1 looking east from western edge of project showing path of drainage under canopy of an oak with annual vegetation. Photo taken March 24, 2020.

Closeup view of Drainage 1 showing lack of riparian vegetation. Photo taken January 28, 2020.

View to west showing concrete lined development runoff that is source for Drainage 1. Photo taken January 28, 2020.

View looking south of Lone Willow that occurs on the property showing surrounding upland annual vegetation and low health of the willow. Photo taken March 24, 2020.

View looking east at disturbed habitat along outfall pipe install location. Pipe will follow along left edge of photo. Photo taken August 20, 2020.

View looking north across the offsite pipe path showing mostly non-native vegetation along pipe path with the oak tree visible to the right. Photo taken October 21, 2020.

View looking south at outfall location along edge of Cold Water Creek showing mostly non-native annuals in impact area. Photo taken August 20, 2020.

View looking north at outfall location showing an oak tree that is immediately adjacent to outfall location, and that the location is dominated by non-native annuals. Photo taken October 21, 2020.