Phase 1 Mitigation Site As-Built Report

Devil's Gate Reservoir Restoration Project

City of Pasadena
Los Angeles County, California

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August 17, 2020

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ENVIRONMENTAL CONSULTANTS

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LIST OF ACRONYMS AND ABBREVIATIONS

CDFW	California Department of Fish and Wildlife
HRP	Habitat Restoration Plan
LACPW	Los Angeles County Public Works
LSAA	Lake and Streambed Alteration Agreement
N/A	Not Applicable
PLS	Pure Live Seed
PMA	Permanent Maintenance Area
Project	Devil's Gate Reservoir Restoration Project
RE	Restoration Ecologist

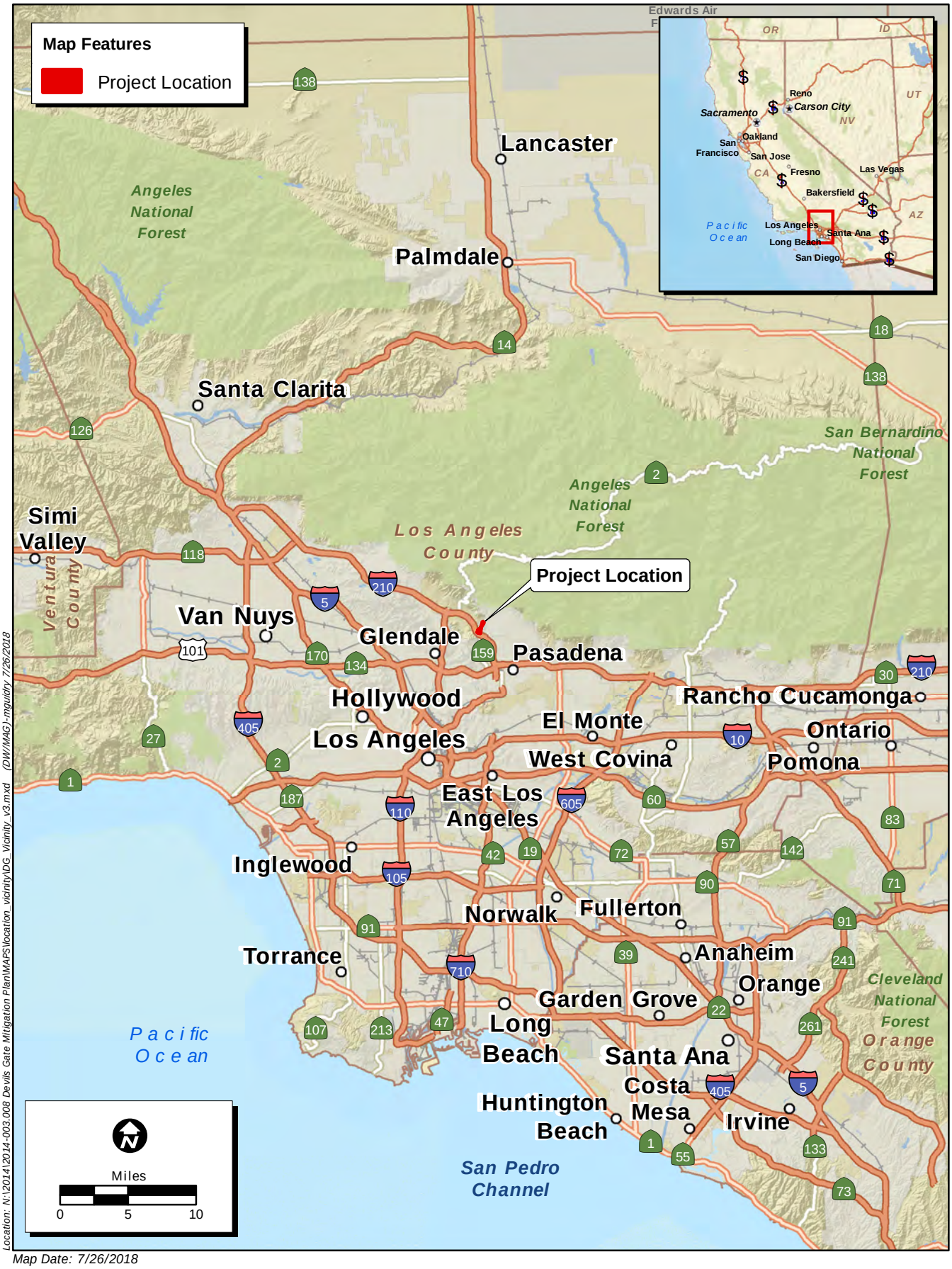
1.0 INTRODUCTION

The Los Angeles County Public Works (LACPW) completed Phase 1 of habitat restoration implementation for the Devil's Gate Reservoir Restoration Project (Project) on February 13, 2020. Habitat restoration is being implemented to comply with the compensatory mitigation requirements in Conditions 3.1, 3.2, and 3.5 of the Lake or Streambed Alteration Agreement (LSAA) (Notification No. 1600-2015-0263-R5 dated March 21, 2017) executed between the California Department of Fish and Wildlife (CDFW) and the Los Angeles County Flood Control District (LACFCD). Two amendments to the LSAA were issued by the CDFW in response to modifications to the boundaries of the Project (dated July 17, 2018) and to address the proposed offsite mitigation component (dated July 16, 2018). Implementation of habitat mitigation for Phase 1 was conducted in mitigation areas DG-1, DG-1 WOUS, DG-2A, DG-2B, DG-3A, DG-4, DG-4B, DG-4C, and DG-5. A small portion of Phase 1 mitigation areas DG-1, DG-3A, and DG-4 were included in the temporary impacts around the perimeter of the Project and will be restored following the completion of the side slopes configuration. A small portion of DG-3A is being used for staging construction equipment and will be restored following the completion of the Project. Implementation of habitat mitigation was conducted according to the Final Habitat Restoration Plan (HRP) for the Project (dated November 2018) which addresses the impact areas associated with the Project and the on-site compensatory mitigation areas at the Project site (ECORP 2018). According to the HRP, onsite compensatory mitigation will include the creation, restoration, and enhancement of native habitats with the purpose of providing quality habitat for an abundance of wildlife including the least Bell's vireo (*Vireo bellii pusillus*), which is listed as endangered under the Federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA) (CDFW 2018). Per Condition 4.5 of the LSAA (Appendix A), a Mitigation Site As-Built Report shall be submitted to CDFW within 60 days of completing the initial restoration activities. This *Post-Implementation Mitigation Site As-Built Report* only addresses the Phase 1 restoration areas. Separate as-built reports will be prepared for the subsequent restoration phases for the Project.

The Project, which includes an initial removal of 1.7 million cubic yards (cy) of sediment to establish a Permanent Maintenance Area (PMA), will restore flood capacity and establish a reservoir management system to maintain the flood control capacity of the reservoir. Subsequently, annual maintenance and episodic maintenance will be conducted in the established PMA to remove accumulated sediment and to ensure continued flood control capacity. Removal of sediment will not occur outside of the boundaries of the PMA.

1.1 Project Location

The Project is located in the City of Pasadena (City) in Los Angeles County on the Pasadena United States Geological Survey (USGS) California 7.5' topographic quadrangle (Figure 1). More specifically, the Project is located within the upper portion of the Arroyo Seco Watershed within the City's Hahamongna Watershed Park (Figure 2). The Project site is located along an approximately 4,754-feet linear section of the Arroyo Seco drainage and alluvial fan, which is an area subject to change and disturbance due to erosion, runoff, and sediment movement. The elevation of the Project site ranges from approximately 985-feet above mean sea level (msl) behind the dam, to approximately 1,100-feet above msl at the northern end of the project.



Location: N:\2014\2014-003.008 Devils Gate Mitigation Plan\MAPS\location_vicinity\DG_Vicinity_v3.mxd (DW/MAG)-mguidry 7/26/2018

Map Date: 7/26/2018

Service Layer Credits: Sources: Esri, USGS, NOAA

Figure 1. Project Vicinity

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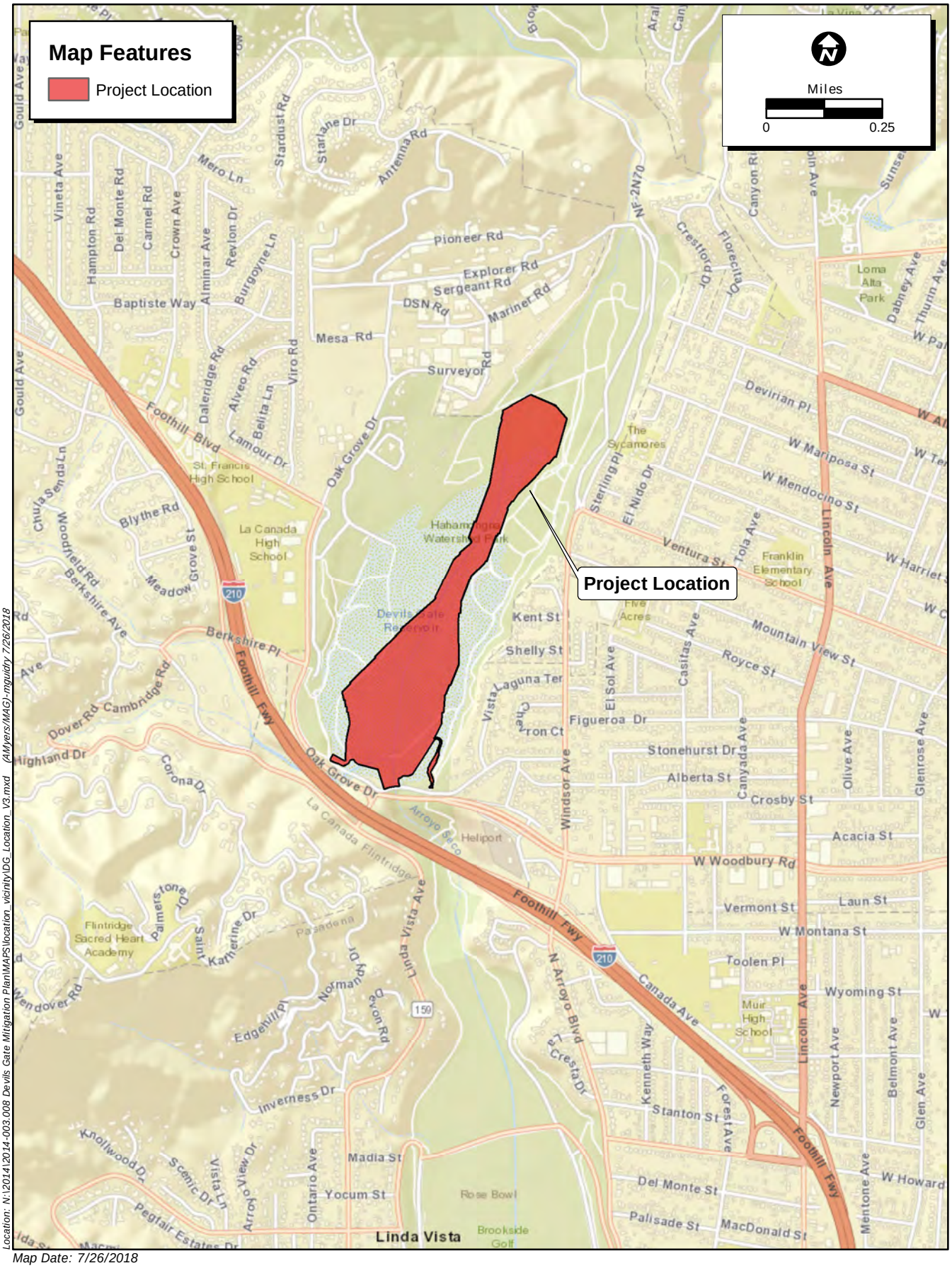
2014-003.008 Devil's Gate Sediment Removal Project



Map Date: 7/26/2018
Source: ESRI

Figure 2. Project Location

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2014-003.013 Devil's Gate Sediment Removal Project

2.0 MITIGATION REQUIREMENTS

The LSAA issued by the CDFW for the Project on March 21, 2017 provided a breakdown of the required onsite and offsite compensatory mitigation for permanent impacts (Condition 3.1) as well as the mitigation required for the temporary impacts of the Project (Condition 3.2). The LSAA amendment issued on July 17, 2018 provided a revision to the Project impacts that were based on a revised Project boundary and also revised Condition 3.1 to reflect modifications to the required onsite mitigation. LACPW is currently in the process of preparing an LSAA amendment application that will account for changes to the permitted Project boundary. The changes are a result of clearing that occurred outside of the permitted project boundary and are in response to a legal settlement that has yet to be finalized. The results of the legal settlement will likely be additional changes to the Project boundary and as a result, changes to the mitigation requirements, which will be addressed in future as-built reports.

The original design of the onsite mitigation for the Project, which is what this as-built report is based upon, included the creation, restoration, and enhancement of 69.94 acres subject to CDFW jurisdiction located outside of the PMA. The 69.94 acres of mitigation is required to compensate for permanent impacts to 41.98 acres of CDFW jurisdiction. The LSAA also requires mitigation for temporary impacts to 16.17 acres by delaying the impacts to these areas until the third year of sediment removal and replanting them within 24 months of the impacts. In addition, the Episodic Maintenance Area, or side slopes of the PMA, which encompasses 7.34 acres according to the original design, will be replanted with native vegetation, including shrub and annual species associated with riparian scrub and alluvial scrub vegetation communities. Allowing the side slopes of the Annual Maintenance Area to support native vegetation will provide additional compensatory mitigation by creating a riparian scrub buffer habitat between the areas that are actively managed in the annual maintenance area and the compensatory mitigation areas. The side slopes may be periodically affected by re-contouring if large sediment deposits bury portions of the side slopes. In this case, the sediment will be removed, and the side slopes will be re-contoured and allowed to naturally revegetate. Onsite compensatory mitigation will include invasive and nonnative weed abatement, planting with native container stock, planting pole cuttings for specific species, seeding with native seed material, and maintaining and monitoring each mitigation area for a period of five years for riparian areas and ten years for upland areas, or until all success criteria have been met.

3.0 SUMMARY OF HABITAT RESTORATION IMPLEMENTATION

Habitat restoration implementation was conducted by Nature's Image, with oversight by Carley Lancaster (Restoration Ecologist, ECORP Consulting, Inc. [ECORP]), Josh Corona-Bennett (Senior Restoration Ecologist, ECORP) and Mari Quillman (Biological Resources Program Manager, ECORP). Nature's Image is a subcontractor to ECORP. ECORP is the prime contractor to LACPW. Implementation of habitat restoration for Phase 1 was conducted in mitigation areas DG-1, DG-1 WOUS, DG-2A, DG-2B, DG-3A, DG-4, DG-4B, DG-4C, and DG-5. A total of six vegetation communities were included in the Phase 1 habitat restoration effort including Mulefat Thickets (*Baccharis salicifolia* Shrubland Alliance), Black Willow Thickets (*Salix gooddingii* Woodland Alliance), Coast Live Oak Woodland (*Quercus agrifolia* Woodland Alliance), California Buckwheat Scrub (*Eriogonum fasciculatum* Shrubland Alliance), Scale Broom Scrub

(*Lepidospartum squamatum* Shrubland Alliance), and California Sagebrush – California Buckwheat Scrub (*Artemisia californica-Eriogonum fasciculatum* Shrubland Alliance). Habitat restoration implementation commenced on November 19, 2018, and included nonnative and invasive plant removal and follow-up weed abatement efforts. Following the weed abatement efforts, soil ripping was conducted for mitigation area DG-5 to decompact the soil and prepare the area for container plant installation and seed application. Following initial weed abatement efforts and soil ripping, container plant installation and seed application commenced. Implementation for Phase 1 was completed on February 13, 2020. A description of the habitat restoration implementation is provided in the following sections.

3.1 Weed Abatement

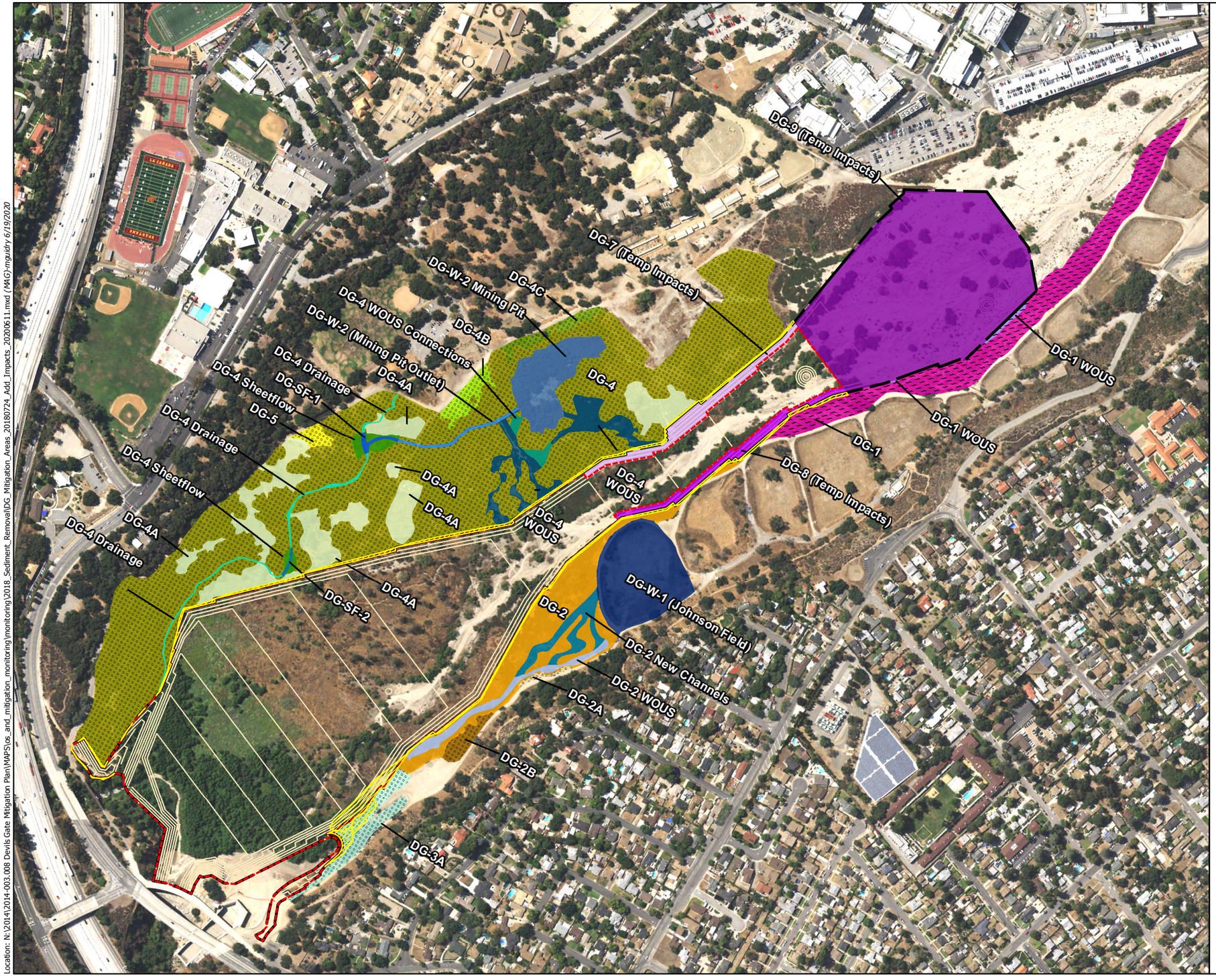
Initial weed abatement activities commenced on November 19, 2018 and were completed on February 20, 2019. Follow-up weed abatement efforts commenced immediately following the completion of the initial weed abatement effort and have been ongoing for the Phase 1 mitigation areas. Pre-planting nonnative and invasive plant removal was conducted using a combination of hand-pulling, weed whips, and hula hoes. During the pre-planting weed removal efforts, all nonnative and invasive plant species that had gone to flower or seed were removed by hand or by using hand tools, placed on tarps, and disposed of in an onsite dumpster. Onsite dumpsters were picked up regularly and the nonnative and invasive plant materials were disposed of at an appropriate facility located outside of the Project site.

Herbicide application was employed for a brief period from February 22, 2019 to March 18, 2019; however, herbicide application was suspended due to public concerns and restrictions put in place by LACPW. The Los Angeles County Board of Supervisors placed a moratorium on use of glyphosate at all County facilities until further notice and the moratorium is currently still in place. During the brief period of herbicide application, only herbicide registered for aquatic use and approved for use in wetland habitat restoration by the regulatory agencies (i.e. Roundup Custom) was used. A blue marking dye was added to allow for the identification of areas sprayed. Species targeted during nonnative and invasive plant removal included wild oat (*Avena fatua*), black mustard (*Brassica nigra*) red brome (*Bromus madritensis ssp. rubens*), poison hemlock (*Conium maculatum*), red-stemmed filaree (*Erodium cicutarium*), foxtail barely (*Hordeum murinum*), perennial pepperweed (*Lepidium latifolium*), and horehound (*Marrubium vulgare*).

3.2 Seeding

Upon completion of the initial weed abatement effort, the seeding process, which consisted of broadcast seeding, commenced on April 4, 2019. Seed used for the Project was procured from S&S Seeds Inc. and only seed materials collected within the acceptable geographic regions described in Section 4.9 of the HRP was used. Broadcast seeding was completed using hand-crank spreaders or simply by-hand. Seed was applied evenly throughout each mitigation area and incorporated into the soil to a depth of approximately 0.5 inches using metal hand rakes. To the extent possible, seed was applied during the fall, winter, or other periods when sufficient rainfall was expected to occur. Approximately 713 pounds of seed was applied during Phase 1. Figure 3 shows the Phase 1 mitigation areas where seeding occurred. Table 1 provides a summary of the species and amounts of seed applied during Phase 1.

Figure 3
Devil's Gate Mitigation Areas



Map Features

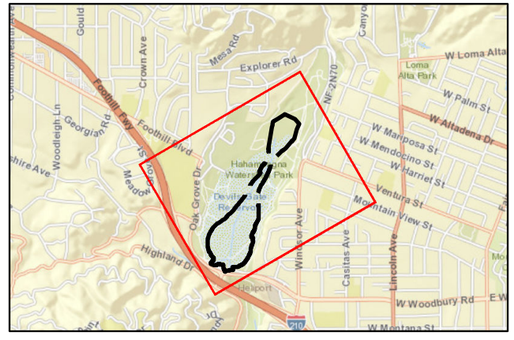
- Initial Sediment Removal Footprint [1]
- Permanent Maintenance Footprint [1]
- Temporary Impact Area
- Sediment Removal Excavation Contours [1]

Phase 1 Planting Areas

- Seeding and Container Plants
- Seeding Only

Mitigation Areas

- DG-1
- DG-1 WOUS
- DG-2
- DG-2 New Channels
- DG-2 WOUS
- DG-2A
- DG-2B
- DG-3A
- DG-4
- DG-4 Drainage
- DG-4 Sheetflow
- DG-4 WOUS
- DG-4 WOUS Connections
- DG-4A
- DG-4B
- DG-4C
- DG-5
- DG-7 (Temp Impacts)
- DG-8 (Temp Impacts)
- DG-9 (Temp Impacts)
- DG-SF-1
- DG-SF-2
- DG-W-1 (Johnson Field)
- DG-W-2 (Mining Pit)
- DG-W-2 (Mining Pit Outlet)



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2014-003.008 Devils Gate Mitigation Plan

Scale in Feet
0 600

Photo Source: NAIP 2016
[1] LADPW

Map Date: 6/11/2020

Location: N:\2014\2014-003.008 Devils Gate Mitigation Plan\MAPS\os_and_mitigation_monitoring\monitoring\2018_Sediment_Removal\DG_Mitigation_Areas_20180724_Add_Impacts_20200611.mxd (MAG)-mguidry 6/19/2020

Table 1. Summary of Seeding					
Scientific Name	**Common Name**	**PLS Lbs./Acre per HRP[1]**	**PLS Lbs./Acre Applied**	**Percent Purity**	**Percent Germination**
Mulefat Thickets Seed Mix					
Ambrosia psilostachya	western ragweed	4	4	5	39
Artemisia douglasiana	mugwort	4	4	92	74
Elymus triticoides	beardless wild rye	4	4	95	67
Urtica dioica ssp. *holosericea*	hoary nettle	4	4	53	71
Achillea millefolium	yarrow	1	1	99	90
Artemisia dracunculus	tarragon	1	1	7	62
Bromus carinatus	California brome	1	1	98	94
Calystegia macrostegia ssp. *intermedia*	south coast morning glory	0.5	0.5	99	91
Cirsium occidentale	western thistle	1	1	No Test	No Test
Elymus condensatus	giant wild rye	1	1	93	90
Epilobium canum	California fuchsia	0.5	Not Available[2]	N/A	N/A
Eriodictyon parryi	poodle-dog bush	0.5	0.5	48	10
Eschscholzia californica	California poppy	0.5	0.5	99	96
Galium aparine	Cleavers	0.5	0.5	98	28
Gutierrezia californica[4]	matchweed	0.5	Source not Acceptible[3]	N/A	N/A
Lupinus bicolor	bicolored lupine	0.5	0.5	99	94
Lupinus truncata	blunt-leaved lupine	0.5	Not Available[2]	N/A	N/A
Monardella breweri ssp. *lanceolata*	mustang mint	0.5	Not Available[2]	N/A	N/A
Phacelia cicutaria	caterpillar phacelia	0.5	0.5	99	51
Phacelia distans	common phacelia	0.5	0.5	99	78
Phacelia minor	wild Canterbury bells	0.5	0.5	99	53
Phacelia parryi	Parry's phacelia	0.5	Not Available[2]	N/A	N/A
Marah macrocarpa	chilicothe	0.5	0.5	99	81
Pseudognaphalium californicum[4]	California everlasting	0.5	Source not Acceptible[3]	N/A	N/A
Rumex hymenosepalus	wild rhubarb	0.5	Not Available[2]	N/A	N/A
Vitis girdiana	Southern wild grape	1	Not Available[2]	N/A	N/A
Primary Seed Mix Total		**30.0**	**25.5**		

Table 1. Summary of Seeding					
Scientific Name	**Common Name**	**PLS Lbs./Acre per HRP[1]**	**PLS Lbs./Acre Applied**	**Percent Purity**	**Percent Germination**
Black Willow Thickets Seed Mix					
Anemopsis californica	yerba mansa	3	Not Available[2]	N/A	N/A
Artemisia douglasiana	mugwort	5	Not Available[2]	N/A	N/A
Cyperus eragrostis	tall flatsedge	3	3	83	60
Elymus triticoides	beardless wild rye	2	2	95	67
Urtica dioica ssp. *holosericea*	hoary nettle	3	3	53	71
Achillea millefolium	yarrow	1	1	99	90
Artemisia dracunculus	tarragon	1	1	7	62
Bromus carinatus	California brome	1	1	98	94
Calystegia macrostegia ssp. *intermedia*	south coast morning glory	0.5	0.5	99	91
Cirsium occidentale	western thistle	1	1	No Test	No Test
Elymus condensatus	giant wild rye	1	1	93	90
Epilobium canum	California fuchsia	0.5	Not Available[2]	N/A	N/A
Eriodictyon parryi	poodle-dog bush	0.5	0.5	48	10
Eschscholzia californica	California poppy	0.5	0.5	99	96
Galium aparine	Cleavers	0.5	0.5	98	28
Gutierrezia californica	matchweed	0.5	Source not Acceptible[3]	N/A	N/A
Lupinus bicolor	bicolored lupine	0.5	1.0	99	94
Lupinus truncata	blunt-leaved lupine	0.5	Not Available[2]	N/A	N/A
Monardella breweri ssp. *lanceolata*	mustang mint	0.5	Not Available[2]	N/A	N/A
Phacelia cicutaria	caterpillar phacelia	0.5	0.5	99	51
Phacelia distans	common phacelia	0.5	0.5	99	78
Phacelia minor	wild Canterbury bells	0.5	0.5	99	53
Phacelia parryi	Parry's phacelia	0.5	Not Available[2]	N/A	N/A
Marah macrocarpa	chilicothe	0.5	0.5	99	81
Pseudognaphalium californicum	California everlasting	0.5	Source not Acceptible[3]	N/A	N/A
Rumex hymenosepalus	wild rhubarb	0.5	Not Available[2]	N/A	N/A
Vitis girdiana	Southern wild grape	1	Not Available[2]	N/A	N/A
Black Willow Thickets Seed Mix Total		**30.0**	**18.0**		

Table 1. Summary of Seeding					
Scientific Name	**Common Name**	**PLS Lbs./Acre per HRP[1]**	**PLS Lbs./Acre Applied**	**Percent Purity**	**Percent Germination**
California Buckwheat Scrub/Scale Broom Scrub Seed Mix					
Acmispon glaber	deerweed	2	Not Available[2]	N/A	N/A
Artemisia californica	California sagebrush	3	Source not Acceptible[3]	N/A	N/A
Eriogonum gracile	slender buckwheat	3	Source not Acceptible[3]	N/A	N/A
Gutierrezia microcephala	threadleaf snakeweed	2	Not Available[2]	N/A	N/A
Leymus condensatus	giant wildrye	5	5	93	90
Lupinus bicolor	miniature lupine	4	4	99	94
Nassella lepida	foothill needlegrass	3	3	97	77
Eriodictyon trichocalyx	hairy yerba santa	2	Source not Acceptible[3]	N/A	N/A
Eriogonum fasciculatum	California buckwheat	4	4	72	6
Lepidospartum squamatum	scale broom	2	2	18	65
California Buckwheat Scrub/Scale Broom Scrub Seed Mix Total		**30.0**	**18.0**		
Scale Broom Scrub/Mulefat Thickets Seed Mix					
Acmispon glaber	deerweed	2	Not Available[2]	N/A	N/A
Artemisia californica	California sagebrush	2	Source not Acceptible[3]	N/A	N/A
Baccharis salicifolia	mulefat	2	Not Available[2]	N/A	N/A
Croton californicus	California croton	2	Not Available[2]	N/A	N/A
Eriodictyon trichocalyx	hairy yerba santa	2	Source not Acceptible[3]	N/A	N/A
Eriogonum fasciculatum	California buckwheat	4	4	72	6
Eriogonum gracile	slender buckwheat	5	Source not Acceptible[3]	N/A	N/A
Gutierrezia microcephala	threadleaf snakeweed	3	Not Available[2]	N/A	N/A
Lepidospartum squamatum	scale broom	3	3	18	65
Senecio flaccidus	threadleaf ragwort	2	Not Available[2]	N/A	N/A
Salvia mellifera	black sage	3	Not Available[2]	N/A	N/A
Scale Broom Scrub/Mulefat Thickets Seed Mix Total		**31.0**	**7.0**		

Table 1. Summary of Seeding					
Scientific Name	**Common Name**	**PLS Lbs./Acre per HRP[1]**	**PLS Lbs./Acre Applied**	**Percent Purity**	**Percent Germination**
California Sagebrush-California Buckwheat Scrub Seed Mix					
Acmispon glaber	deerweed	8	8	98	67
Artemisia californica	California sagebrush	3	Source not Acceptible[3]	N/A	N/A
Eriogonum gracile	slender buckwheat	5	Source not Acceptible[3]	N/A	N/A
Gutierrezia microcephala	threadleaf snakeweed	2	Not Available[2]	N/A	N/A
Leymus condensatus	giant wildrye	6	6	93	90
Lupinus bicolor	miniature lupine	4	4	99	94
Nassella lepida	foothill needlegrass	3	3	97	77
California Sagebrush-California Buckwheat Seed Mix Total		**31.0**	**21.0**		

[1]HRP – Habitat Restoration Plan
[2]Not Available – Was not available for purchase from seed vendor.
[3]Source not Acceptable – The collection location for specified seed was not ecologically appropriate for use.
[4]Approximately .25 lbs of seed sourced from San Diego County applied to mitigation area DG-3A
PLS – Pure Live Seed
Lbs. – Pounds
N/A – Not Applicable

3.3 Container Plant Installation

The container plant installation process commenced on August 8, 2019 after completion of the initial weed abatement effort. Container plants used for the Project were procured from Tree of Life Nursery and Rancho Santa Ana Botanic Garden and only container plants grown from seed collected within the acceptable geographic regions described in Section 4.9 of the HRP were used. Prior to installation, all plant material was inspected by the Restoration Ecologist (RE) to ensure that container stock was healthy and did not show signs of having pests or disease. Container stock determined to be in poor condition was rejected by the RE.

Container plant installation followed the methods described in Section 4.11 of the HRP. Container plants were planted using standard horticultural practices. Planting holes for all container plants, except oak trees, were dug to a width twice the size of the root ball and to a depth slightly deeper than the depth of root ball so that the root crown was one inch below grade following installation. Oak trees were planted in a manner that the root crown was 0.5 to one inch above grade following installation (after soil settled following watering). Prior to installation, all plants were thoroughly watered in their containers and the soil in each of the planting holes was wetted with a minimum of one gallon of water. Planting holes were backfilled with native soil and irrigation basins were formed around the base of each planting. Basins were constructed to be a minimum of two feet wide and with a ridge no less than four inches. Rocks greater than two inches in diameter were removed to the extent possible from the backfill soil. Fertilizer was not added to backfill. Soil was tamped-in by hand to collapse air pockets in the backfill. All container plants

were irrigated with a minimum of one gallon of water immediately following installation and basin creation. Container plants were planted in ecologically appropriate locations throughout the site and as directed by the RE. Table 2 provides a summary of the species and numbers of container plants installed during Phase 1.

In addition to container plants being installed in the Phase 1 areas, willow and mulefat stakes were also collected and installed in DG-3A and DG-4. Willow and mulefat stakes were collected from suitable donor sites in the Arroyo Seco north of the Project site. Additional willow and mulefat stakes were collected from the mitigation areas where existing vegetation was dense enough to withstand stake collection. Willow and mulefat stake collection followed the methods described in Section 4.10 of the HRP. To ensure establishment success, cuttings were harvested from live, dormant plants (i.e., willows) in late fall and early winter before the buds started to break. Willow and mulefat stakes were approximately three to four feet long and from one to two-inch diameter at their base. A diagonal cut was made at the base of each stake and the top was cut horizontally to differentiate the rooting end from the above ground end to aid in installation. Lateral branches were also removed during harvesting. The willow stakes were stored (no longer than two weeks) in buckets filled with water and in a cool shaded location until they were ready for planting. Immediately prior to installation, the stakes were dipped in a rooting hormone and then installed in pre-watered holes approximately two feet deep or with more than half of the cutting underground. The holes were backfilled and the soil around the stake tamped-in to ensure good soil to stem contact and no air pockets. The willow stakes were watered immediately following installation. All cuttings were provided with an emitter from the irrigation system. Table 2 provides a summary of the species and numbers of stakes installed during Phase 1.

In addition to the container plant and the stake installation for Phase 1, a total of 300 coast live oak (*Quercus agrifolia*) acorns were installed by ECORP in mitigation areas DG-2A and DG-3A. The coast live oak acorns were procured from Psomas and were collected within the Lower Arroyo Seco (between SR-134 and South Pasadena border) and public rights-of-way (i.e., streets/gutters) in the cities of Arcadia, Monrovia, Pasadena, and Sierra Madre. Acorns were planted approximately 2-inches below the surface of the soil and a small basin was formed around each planted acorn. Acorns were installed in November of 2018 when sufficient rainfall was expected to occur. Acorns were not provided with an emitter from the irrigation system. Table 2 provides a summary of the number of acorns installed during Phase 1.

Table 2. Summary of Container Planting

Scientific Name	Common Name	DG-									TOTAL
		2A	2B	3A (Oak Woodland)	3A (Mulefat Thickets)	4 (CSS[1])	4 (Riparian[2])	4B	4C	5	
Acmispon glaber	Deerweed					102					102
Artemisia californica	California Sagebrush	10	38			306					354
Artemisia douglasiana	Mugwort				33		617	54	45	26	775
Baccharis pilularis	Coyote brush	10	38		33		504	54	45	26	710
Baccharis salicifolia	mulefat	25	95				1113	135	114	64	1546
Baccharis salicifolia	mulefat (cuttings)				84		916				1000
Encelia californica	California brittlebush					102					102
Eriogonum fasciculatum	California buckwheat					306					306
Isocoma menziesii	Menzies goldenbush					41					41
Juncus rugulosus	Wrinkled rush						200				200
Juncus textilis	Basket rush						100				100
Malosma laurina	Laurel sumac					61					61
Melica imperfecta	California melic			20							20
Opuntia littoralis	Coastal prickly pear					41					41
Populus fremontii	Fremont's cottonwood	10	38		33		479	54	45	27	686
Quercus agrifolia	Coast live oak			174							174
Quercus agrifolia	Coast live oak (acorns)	25		275							300
Ribes californicum	California gooseberry			50							50
Rosa californica	California rose	10	38	44	33		725	54	45	26	975
Rubus ursinus	California blackberry	10	38		33		619	54	45	26	825
Salix gooddingii	Black willow	20	76				876	108	90	52	1222
Salix gooddingii	Black willow (cuttings)				67		933				1000
Salix laevigata	Red willow	10	38		33		439	54	45	26	645
Salix lasiolepis	Arroyo willow	10	38				438	54	45	26	611
Salix lasiolepis	Arroyo willow (cuttings)				33		967				1000
Salvia mellifera	Black sage					102					102
Sambucus nigra ssp. caerulea	Black elderberry	5	19		17		594	27	23	13	698
	Total	**145**	**456**	**563**	**399**	**1061**	**9520**	**648**	**542**	**312**	**13646**

[1]CSS = *Artemisia californica-Eriogonum fasciculatum* Shrubland Alliance
[2]Riparian = *Baccharis salicifolia* Shrubland Alliance and *Salix gooddingii* Woodland Alliance

3.4 Photo Documentation

Digital photographs were taken during key steps of the implementation process. Relevant photos are provided as Appendix C.

4.0 COMPLIANCE WITH HABITAT RESTORATION PLAN

During the implementation process, few deviations from the HRP were required. Minor deviations, including species additions to the planting palette and seeding outside of the fall and winter seasons, did occur during the implementation process. All additions to the planting palette were approved by CDFW prior to being used for the restoration effort and seeding outside of the fall and winter months only occurred when sufficient rainfall was forecasted. In addition, a small amount of seed from two species sourced from San Diego County, California everlasting (*Pseudognaphalium californicum)* and matchweed (*Gutierrezia californica*), was applied in DG-3A. The onsite RE recognized those two species as being sourced outside of the allowable geographic range noted in the HRP and immediately suspended the seeding activities until the seed mix was revised. Certain species were not available at the time the seed order was placed, or the collection source was unacceptable; however, the HRP discusses the fact that not all of the species may be available at the time of implementation. Table 3 provides a summary of the Phase 1 mitigation areas, associated acreages, and associated vegetation communities.

Table 3. Summary of Phase 1 Mitigation Areas

Restoration Area	Area Restored During Phase 1 (Acres)	Temporary Impacts Around Perimeter (Acres)[1]	Total Acres	Vegetation Communities
DG-1 (seeding only)	4.48	0.27	4.75	*Eriogonum fasciculatum* Shrubland Alliance /*Lepidospartum squamatum* Shrubland Alliance
DG-1 WOUS (seeding only)	0.11	0.00	0.11	*Lepidospartum squamatum* Shrubland Alliance/*Baccharis salicifolia* Shrubland Alliance
DG-2A	0.10	0.00	0.10	*Baccharis salicifolia* Shrubland Alliance
DG-2B	0.38	0.00	0.38	*Baccharis salicifolia* Shrubland Alliance
DG-3A	0.92	0.23[2]	1.15	*Quercus agrifolia* Woodland Alliance *Baccharis salicifolia* Shrubland Alliance
DG-4	26.64	0.37	27.01	*Salix gooddingii* Woodland Alliance *Baccharis salicifolia* Shrubland Alliance *Artemisia californica-Eriogonum fasciculatum* Shrubland Alliance
DG-4B	0.54	0.00	0.54	*Baccharis salicifolia* Shrubland Alliance
DG-4C	0.45	0.00	0.45	*Salix gooddingii* Woodland Alliance *Baccharis salicifolia* Shrubland Alliance
DG-5	0.26	0.00	0.26	*Salix gooddingii* Woodland Alliance
		Total Acres	**34.75**	

[1] These areas will be restored following the completion of the side slopes configuration

[2] This includes 0.03 acres of temporary impact areas around the perimeter and 0.20 acres of staging areas that will be restored following Project completion.

5.0 IMPLEMENTATION ACCEPTANCE

The Phase 1 mitigation sites will be maintained and monitored for a period of five years for the riparian areas and 10 years for the upland areas, or until the performance standards outlined in the HRP are achieved and CDFW determines the site is successful. Habitat restoration implementation for Phase 1 of the Project was completed on February 13, 2020; therefore, the five-year maintenance and monitoring period for Phase 1 commenced on February 13, 2020 and the assumed end dates will be February 13, 2025 for the riparian areas and February 13, 2030 for the upland areas. Per the HRP, a total of 34.64 acres of onsite mitigation has been installed and will be monitored until the areas meet the performance standards to achieve the mitigation requirement for the Phase 1 restoration areas.

The temporary impact areas around the perimeter of the Project site, associated with mitigation sites DG-1, DG-3A, and DG-4, will be restored following the completion of the side slopes configuration. The portion of DG-3A currently being used for staging construction equipment will be restored following Project completion. The remaining mitigation areas for the Project will be restored during Phases 2 and 3 of restoration implementation. These include mitigation areas that require earthwork and grading prior to planting and seeding (i.e., DG-W-1 and DG-W-2) and mitigation areas that require the implementation of a grow and kill program (i.e., DG-4A) as outlined in Section 4.4.1 of the HRP.

6.0 REFERENCES

CDFW. 2018. Amendment of Lake or Streambed Alteration Agreement for the Devil's Gate Sediment Removal and Management Project (Notification No. 1600-2015-0263-R5). Permittee: Los Angeles County Department of Public Works. July 17, 2018.

_____. 2017. Lake or Streambed Alteration Agreement for the Devil's Gate Sediment Removal and Management Project (Notification No. 1600-2015-0263-R5). Permittee: Los Angeles County Department of Public Works. March 21, 2017.

ECORP Consulting, Inc. 2018. *Devil's Gate Sediment Removal and Management Project Final Habitat Restoration Plan*.

LIST OF APPENDICES

APPENDIX A

Streambed Alteration Agreement No. 1600-2015-0263-R5

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

MARK PESTRELLA, Director

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (626) 458-5100
http://dpw.lacounty.gov

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

July 17, 2018

IN REPLY PLEASE
REFER TO FILE: SWE-5

Mr. Ed Pert, Regional Manager
Streambed Alteration Program
California Department of Fish and Wildlife, Region 5
4665 Lampson Avenue, Suite C
Los Alamitos, CA 90720

Attention Ms. Erinn Wilson

Dear Mr. Pert:

DEVIL'S GATE RESERVOIR SEDIMENT REMOVAL AND MANAGEMENT PROJECT
AMENDMENT OF STREAMBED ALTERATION AGREEMENT
NOTIFICATION NO. 1600-2015-0263-R5

Enclosed are two original signed copies of the Amendment of Lake or Streambed Alteration Agreement We appreciate your collaboration on this important project and look forward to continued work with you.

If you have any questions, please contact Mr. George De La O at (626) 458-7155 or gdelao@dpw.lacounty.gov.

Very truly yours,

MARK PESTRELLA
Director of Public Works

Christopher Stone

CHRISTOPHER STONE
Assistant Deputy Director
Stormwater Engineering Division

VM:vt
P:\wrd\SEDIMENT\PROJECTS\RESERVOIRS\DEVIL'S GATE\Permits\CDFW\DG CDFW SAA Amend 2 Letter 20180713.doc

Enc.

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
South Coast Region
3883 Ruffin Road
San Diego, CA 92123
(858) 636-3160
www.wildlife.ca.gov

EDMUND G. BROWN, Jr., Governor
CHARLTON H. BONHAM, Director

July 17, 2018

Christopher Stone
Los Angeles County Flood Control District
900 S. Fremont Ave.
Alhambra, CA 91803
CSTONE@dpw.lacounty.gov

Dear Mr. Stone:

Amendment of Lake or Streambed Alteration, Notification No. 1600-2015-0263-R5, Devil's Gate Dam Sediment Removal and Management Project

On March 21, 2017 the California Department of Fish and Wildlife (CDFW) executed the Final Streambed Alteration Agreement 1600-2015-0263-R5 (Agreement) for the Devil's Gate Sediment Removal and Management Project (Project). On May 17, 2017 a Peremptory Writ of Mandate was issued by the California Superior Court (Los Angeles County) regarding the environmental impact report relied upon by the Los Angeles County Flood Control District (Lead Agency) under California Environmental Quality Act (CEQA, SCH 2011091084) and a Recirculated Final Environmental Impact Report (RFEIR) was required by the court. CDFW, as a CEQA responsible agency, relied on the Lead Agency's environmental impact report to issue the Agreement. The Recirculated portions of the RFEIR was circulated for public and agency review and comment from July 24, 2017 to September 18, 2017 and recertified by Lead Agency on November 7, 2017. The CDFW received notice on December 6, 2017 of the Order Discharging Peremptory Writ of Mandate (Discharged Writ) for the matters before the Los Angeles County Superior Court related to the RFEIR.

The Discharged Writ was issued because the Court found that the RFEIR disclosure, analysis, and revision of mitigation measures complied with the Peremptory Writ of Mandate that the Final EIR for the Project, for Alternative 3, Configuration D (Approved Project), and for Alternative 5 (Haul Route Alternative) related to: 1) the 1:1 mitigation ratios in Mitigation Measures BIO-6, -7, and -8; 2) the imposition of Mitigation Measures BIO-1 through 8 on the proposed Devil's Gate Water Conservation Project, should such a project go forward, to reduce potential cumulative impacts for this Project; and 3) the requirement, in Mitigation Measure AQ-1, that sediment removal dump trucks meet Environmental Protection Agency's emission standards for Model Year 2010 or later.

The CDFW under its sole discretion has decided to amend the Agreement (see page 39 "Amendment") to reflect changes to the environmental impact report that appear in the RFEIR. CDFW hereby amends the Agreement with addition and revision of the

following conditions (insertions in **bold underline**, deletions in ~~red strikeout~~ type face). All other conditions in the Agreement remain in effect unless otherwise noted herein

Page 3 of 49

Initial Sediment Removal Area. The ~~68.63~~ **65.56** acre area where the initial excavation of sediment and debris will occur.

Permanent Maintenance Area. The ~~51.78~~ **49.39** acre area to be maintained for flood capacity. This includes the Routine Annual Maintenance Area and the Episodic Maintenance Area.

Routine Annual Maintenance Area. The ~~40.80~~ **42.05** acre area where annual maintenance of the facility will occur (see Exhibit B).

Episodic Maintenance Area. The ~~10.98~~ **7 34** acre area side slope proposed at 3:1 (V:H) grade (see Exhibit B). where occasional maintenance will occur. This area is within the Permanent Maintenance Area, abuts Routine Annual Maintenance Area and forms transitional habitat with Habitat Restoration Area.

Habitat Restoration Area. The 77.01 acre area in the reservoir subject to minor land alteration, vegetation management, and planting of native plants. This area is outside the Permanent Maintenance Area (See Exhibit E).

Sediment Removal Program

This phase of project is limited to the restoration of a public facility, through excavation within the ~~68.63~~ **65.56**-acre Initial Sediment Removal Area (see Exhibit B, Work Plan Map) and transition to long term Permanent Maintenance Area, composed of a total of ~~51.78~~ **49.39** acres that consists of ~~40.8~~ **42.05** acres for Routine Annual Maintenance, and ~~10.98~~**7 34** acres for Episodic Maintenance Areas for the term of this Agreement. Sediment removal will not involve expansion of use beyond that of the designed facility. The proposed initial excavation is to mechanically remove ~~2.4~~**1 7** Million Cubic Yards (MCY) of post-fire debris from the Initial Sediment Removal Area within Devil's Gate Reservoir. The location of the Initial Sediment Removal Area was selected to maximize the efficient removal of post-fire debris while at the same time, avoid and minimize sensitive habitats and sensitive species impacts. Sediment levels behind Devil's Gate Dam will be brought down to 986 feet above mean sea level (msl) to eliminate the threat to the dam outlet works and comply with standards as set by the State Water Resources Division of Safety of Dams (DSOD). The Initial Sediment Removal Area will then slope upwards to ~~995~~**1,000** feet above msl where the basin will constrict and increase in elevation to 1,040 feet above msl, and widen again to meet final elevation of 1,060 feet above msl approximately ~~4,700~~4,**788** linear feet upstream from the dam. Devil's Gate Reservoir is routinely drained after every storm; therefore, it will not be

necessary to drain the facility for non-routine activities.

Page 4 of 49, 4th paragraph

The ~~2-4~~ **1 7** MCY of sediment and debris in the ~~68-63~~**65.56**-acres Initial Sediment Removal Area includes established native and non-native vegetation that will be removed. Vegetation and organic debris will be separated from the sediment and hauled to Scholl Canyon Landfill in the City of Glendale. Project Start is estimated to take place in the Fall of ~~2017~~**2018**. In subsequent years of sediment removal, vegetation and organic debris will be hauled to Scholl Canyon Landfill.

Page 4 of 49, 6th paragraph

Permanent Maintenance Program
Once excavation is complete for this project, annual maintenance of the facility will occur within the ~~40-80~~ **42.05** acre Routine Annual Maintenance Area (see Exhibit B). Vegetation management and sediment removal within the ~~40-80~~ **42.05** acre Routine Annual Maintenance Area will occur for the life of this Agreement. Excavation over the lifetime of the project within the ~~40-80~~ **42.05** acre Routine Annual Maintenance Area will be hauled to disposal sites previously authorized by Permittee (see Figures 2.5-2,-3-4 from Final Environmental Impact Report). Trucks hauling sediment will access the reservoir from an existing maintenance road east of Devil's Gate Dam and exit via a proposed upgraded access road on the western edge of Devil's Gate Dam that will exit on to Oak Grove Drive (see Exhibit A). Vegetation within the Routine Annual Maintenance Area will be mowed or grubbed annually over a 2 to 12 week period in late summer or early fall.

Page 5 of 49, 2nd paragraph

Episodic Maintenance within the ~~10-98~~ **7 34** acre (horizontal projection) Episodic Maintenance Area will initially include planting with appropriate native plants and thereafter annual undesirable plant control (using herbicides, hand tools, and mechanically operated hand tools (i.e., chainsaws and motor powered winches). In the event of a large debris flow or hyper concentrated flood[3] Episodic Maintenance would involve the need for sediment excavation/trucking off site. The types of equipment involved in excavation may include those similar to the initial sediment removal phase including, but not limited to, front loaders with four-yard buckets, bulldozers, excavator, grader, water truck, and tender trucks. Vehicles expected to be used for sediment

[3] **Debris flow:** A mix of water and debris, which may include particles ranging in size from clay to boulders and may contain woody debris and other materials, that flows down a stream channel or steep slope, sometimes at great velocity, and contains more than 60 percent debris (less than 40 percent water) by volume. **Hyper-concentrated flood:** A moving mixture of sediment and water containing between 20 and 60 percent sediment by volume.

hauling include double dump trucks with an 18 cubic yard (CY) capacity or equivalent.

Page 5 of 49, 3rd paragraph

After Episodic Maintenance the side slopes would be returned to the proposed 3:1 (V:H) grade, and the ~~10 98~~ **7 34** acre area will be subject to the continuing annual undesirable plant control. Because this area is restricted from a general right of public access, and will be subject to undesirable plant control, it is anticipated to be revegetated naturally after periodic large debris flow or hyper concentrated floods.

Page 6 of 49, 6th paragraph

Native Plants: Nevin's barberry *(Berberis nevinii),* Plummer's mariposa lily *(Calochortus plummerae),* Greata's aster (*Symphyotrichum gretae),* Parry's spineflower (*Chorizanthe parryi var. parryi),* slenderhorned spineflower (*Dodecahema ieptoceras),* mesa horkelia (*Horkelia cuneata ssp. puberula),* white rabbit-tobacco (*Pseudognaphalium leucocephalum),* Parish's gooseberry (*Ribes divaricatum var. parishii),* black willow thickets, mulefat thickets, riparian herbaceous, coast live oak woodland, scale broom scrub, and all other aquatic and wildlife resources in the area, including the riparian vegetation which provides habitat for such species in the area. These resources are further detailed and more particularly described in the document(s): "Devil's Gate Reservoir Sediment Removal and Management Project Final Environmental Impact Report " dated October 2014, prepared for Los Angeles County of Department of Public Works by Chambers Group; ~~,~~ **Biological Technical Report (November 2010), Final Sediment Transport Capacity Analysis (January 2013), and the Noise and Traffic Reports (September & October 2013, respectively), Recirculated EIR for the Project and response to comments (July and October 2017, respectively), Revised Board Motion (November 7, 2017), Notice of Determination for Recirculated Final Environmental Impact Report, Order Discharging Peremptory Writ of Mandate (December 5, 2017),** " Lake and Streambed Alteration Notification Package - Devil's Gate Dam and Reservoir Sediment Removal Project" dated December 11, 2015, prepared for CDFW by Permittee complete with all attachments and exhibits, Revised vegetation mapping and impact analysis for Devil's Gate Dam and Sediment Removal Project dated May 19, 2016 by ECORP Consulting, Inc., revised assessment of temporary impact areas and incorporation of Episodic Maintenance area dated May 5, 2016.

Page 7 of 49, 1st paragraph

Project Impacts
The adverse effects the project could have on the fish or wildlife resources identified above include a total of ~~68 63~~ **65.56** acres subject to Department jurisdiction to implement the Initial Sediment Removal After Initial Sediment Removal ~~51 78~~ **49.39** acres will be maintained for flood capacity through Routine Annual Maintenance and Episodic Maintenance (see above). Additionally, in order to implement compensatory

mitigation for the project, 77.01 acres subject to the Department's jurisdiction outside the Permanent Maintenance Area, will be subject to minor surface alteration of the land, vegetation management, and application of herbicides. The following impacts would occur to vegetation communities within the ~~68.63~~ **65.56** acres necessary for Initial Sediment Removal.

Page 7 of 49, 2nd paragraph

Total Permanent Project Impacts
Permanent impacts to ~~40 80~~ **42.05** acres of vegetation communities and land cover classifications from initial sediment removal include the removal of ~~16 27~~**15.64** acres of *Salix gooddingii* Alliance (black willow thickets), ~~1.82~~**1 97** acres *Lepidospartum squamatum* Alliance (Scalebroom scrub), ~~8.03~~**9 71** acres *Baccharis salicifolia* shrubland Alliance (mulefat thickets), ~~9.88~~**10.24** acre *Lepidium latifolium-Conium maculatum* herbaceous semi-natural stand, ~~2.45~~**2 61** acre *Conium maculatum* herbaceous semi-natural stand, ~~2.33~~**1 80** acres non-native or disturbed (including ~~1 0~~**0.67** acre *Xanthium strumarium* herbaceous stand, ~~1.33~~**1 13** acres disturbed (trails/barren/IMP Area)), ~~0.02~~**0 01** acre *Artemisia californica-Eriogonum fasciculatum* California sagebrush-California buckwheat scrub. Additionally, there are expected permanent impacts to individual California live oak trees (*Quercus agrifolia)* **in an area of approximately 0.06 acre. The impacts** ~~that~~vary from direct impacts, resulting in complete removal to a limited number of individual trees~~,~~ and indirect impacts to individual **trees that are located in close proximity to areas where direct impacts will occur. The** indirect impact**s** are undetermined at this time because the area's hilly topography may not result in any significant effect or project disturbance**s** may be avoided al~~l~~together based on project design modifications**.** ~~made from incorporating~~**Measures to** avoid~~ance~~ **impacts to**~~of~~ oak trees **will be** identified **following the completion of the** ~~in t~~tree ~~monitoring report~~**survey that is** required prior to **the start of the** Project~~start~~

Page 7 of 49, 3rd paragraph

Total Temporary Project Impacts
Temporary impacts to ~~27.83~~ **23.52** acres subject to Department jurisdiction consisting of vegetation communities and land cover classifications will occur from Initial Sediment Removal, worksite access, and installation of side-slopes in Episodic Maintenance Area. These areas contain ~~12 70~~ **13.16** acres *Lepidospartum squamatum* Alliance (Scalebroom scrub), ~~5.89~~ **4 65** acres of *Salix gooddingii* Alliance (black willow thickets), ~~3.41~~ **2 11** acres *Baccharis salicifolia* shrubland Alliance (mulefat thickets), ~~1.97~~ **0.06** acres disturbed (trails/barren/IMP Area), ~~1.24~~ **0 72** acre *Lepidium latifolium-Conium maculatum* herbaceous semi-natural stand, ~~1.70~~ **1 19** acres *Conium maculatum* herbaceous semi-natural stand, 0.5~~0~~**7** acre *Xanthium strumarium* herbaceous stand, 0.**2**~~0~~**7** acre *Quercus agrifolia* coast live oak (trees), ~~0 07 acre *Eucalyptus (globulus, camaldulensis)* Semi-natural stand~~, 0 ~~0~~**812** acre *Artemisia californica- Eriogonum fasciculatum* California sagebrush-California buckwheat scrub.

The following Conditions have been added or amended:

1.11 The Permittee shall fully implement all mitigation measures identified in the Final Environmental Impact Report (FEIR) and as revised by Recirculated FEIR (RFEIR). All Conditions, Studies, and mitigation measures relating to biological resources identified in the FEIR and RFEIR shall be enforceable by CDFW as terms of this Agreement.

2.1 Work Period. Initial Vegetation Removal work within the Initial Sediment Removal Area shall be confined to the period starting September 15 to February 1, in the year(s) of ~~2017~~**2018** to ~~2019~~ **2020**, unless otherwise requested by Permittee and approved by CDFW in writing. Excavation shall be confined to April 15 to December 31 Monday through Friday from 0700 to 1800 hours Standard Time (1900 hours during Daylight Savings Time), and on Saturday between 0800 to 1700 hours during Standard and Daylight Savings Time. Routine Annual Maintenance or Episodic Maintenance work involving vegetation management and/or excavation is specifically addressed in Conditions 2.40 to 2.72 below.

2.41 Permittee shall implement Routine Annual and Episodic Maintenance in conformance with the Project Description and the following Conditions in this Agreement. The Permittee shall remove all human generated debris, such as cuttings, garbage and trash. The Permittee shall remove washed out culverts, and other construction materials, that the Permittee places within, or where they may enter the stream. Routine Annual Maintenance activities shall be limited to the inspection, routine maintenance (e.g., fence repair, minor maintenance of access roads, graffiti removal, trash removal, weed abatement, etc.) sediment removal, and vegetation management (annually) within the approved Routine Annual Maintenance Area (~~40.80~~ **42.05** acres) footprint. Vegetation may be mowed annually and when necessary for capacity reasons the root zone may be grubbed. Sediment removal may be implemented by: 1) sediment excavation and hauling off site; and 2) Flow-Assisted Sediment Transport (FAST). Episodic Maintenance within the ~~10.98~~ **7 34** acre (horizontal projection) side slope area may include annual undesirable plant control (including herbicides, hand tools, and mechanically operated hand tools (e.g., chainsaws and motor powered winches), and in the event of a large debris flow or hyper concentrated flood sediment excavation/trucking off site. If additional major maintenance/repair work is required a separate Agreement is required for said repairs.

2.42 Work Period. Vegetation Management work shall be confined to September 15 to February 1 starting approximately in ~~2023~~**2024** until ~~2037~~ **2038**. The general days and hours of the week that Permittee should conduct Routine Annual Maintenance is Monday through Friday from 0700 to 1800 hours Standard Time (1900 hours during Daylight Savings Time), and on Saturday between 0800 to 1700 hours during Standard and Daylight Savings Time.

Table 3.0 Compensatory Mitigation [Permanent] Requirements for Creation and Restoration

IMPACTS TO VEGETATION COMMUNITIES	COMPENSATORY MITIGATION REQUIREMENT			
	PERMANENT IMPACTS	Creation	Restoration	Total
Salix gooddingii Woodland Alliance	~~16.27~~15.64	~~16.27~~15.64	~~22.31~~21.44	~~38.58~~37.08
Baccharis saltifolia Shrubland Alliance	~~8.03~~9 71	~~8.03~~9 71	~~4.83~~5 84	~~12.86~~15.55
Lepidospartum squamatum Shrubland Alliance	~~1.82~~1 97	~~1.82~~1 97	~~7.28~~7 88	~~9.1~~9 85
Artemisia californica -Eriogonum fasciculatum Shrubland Alliance	~~0.02~~0 01	~~0.02~~0 01	~~0.04~~0.02	~~0.06~~0.03
Conium maculatum Herbaceous Semi-Natural Alliance*	~~2.45~~2.61	0.00	~~1.23~~1.31	~~1.23~~1.31
Lepidium latifolium - Conium maculatum Herbaceous Semi-Natural Alliance*	~~9.88~~10.24	0.00	~~4.94~~5 12	~~4.94~~5 12
Xanthium strumarium Herbaceous Alliance (Unofficial Alliance)	~~1.00~~0 67	0.00	~~1.50~~1.00	~~1.50~~1.00
Disturbed/Developed	~~1.33~~1 13	0.00	0.00	0.00
TOTAL COMPENSATORY MITIGATION REQUIRED		~~26.14~~27.33	~~42.13~~42.61	~~68.27~~69.94
TOTAL PERMANENT IMPACTS	~~40.80~~41.98			

3.2 Mitigation for Temporary Impacts. The total of ~~27 83~~ **23.52** acres of temporary impacts, described in detail in the Project Description, shall be established and maintained pursuant to the following requirements:

a. The Permittee shall mitigate the temporary impacts to 16.~~85~~**17** acres of vegetation and habitat communities located in restoration areas designated (DG3B, DG 7, DG 8, DG 9, See Exhibit E) by delaying impacts to temporary impact areas until 3rd year of sediment removal project and implement restoration pursuant to Habitat Restoration Plan (see Condition 3.9, below) with 24 months of impacts (see Condition 3.5), and maintained pursuant to Habitat Management Plan (see Condition 3.10).

b. The ~~10 98~~ **7 34** acre (horizontal projection, see Exhibit B) Episodic Maintenance Area will include initially planting with appropriate native plants and thereafter annual undesirable plant control (including herbicides, hand tools, and mechanically operated hand tools (i.e., chainsaws and motor powered winches), and in the event of a large debris flow or hyper concentrated flood Episodic Maintenance would involve the need for sediment excavation/trucking offsite. After Episodic Maintenance the side slopes would be returned to proposed 3:1 (V:H) grade, and the ~~10.98~~ **7 34** acre area will be subject to the continuing annual undesirable plant control.

3.4 Establish Permanent Cross-Section. Permittee shall establish single cross section, established by monument, at upstream limit of Permanent Maintenance Area to document condition and be comparable overtime. The annual monitoring of cross section should be conducted immediately following the high flow season

and include the physical measurements of the site, photos from a fixed photographic station, and if applicable results from interviews with local persons, Permittee, or Permittee's assignees that had important observations. The cross-section and photographic station shall be monitored and reported to CDFW according to the following sub-measures.

a. Initial Monitoring. Permittee shall monitor cross section annually for the first 5 years following Initial Sediment Removal, estimated at ~~2-4~~ **1 7** mcy plus any additional annual deposits, and as soon as feasible after the first major high flow event. If major high flow event occurs in the first 5 years of monitoring then frequency of future monitoring will be adjusted by CDFW based on consultation with Permittee. Monitoring frequency adjustments shall be based on results of annual monitoring and high flow observations.

b. Long-term Monitoring. Permittee shall monitor cross section every once every 5 years and immediately after a major high flow event for the duration of this Agreement.

Page 36 of 49

TERM

This Agreement shall expire on ~~March 31, 2037~~ **June 31, 2038**, unless it is terminated or extended before then. All provisions in the Agreement shall remain in force throughout its term. Permittee shall remain responsible for implementing any provisions specified herein to protect fish and wildlife resources after the Agreement expires or is terminated, as FGC section 1605(a)(2) requires.

Please sign and return two copies of this letter to acknowledge the amendment. The amendment becomes valid once the letter is signed by CDFW. Copies of the Agreement and this amendment must be readily available at project worksites and must be presented when requested by a CDFW representative or agency with inspection authority.

If you have any questions regarding this letter, please contact Steve Gibson, Senior Environmental Scientist (Specialist) at (562) 342-2106 or by email at steve.gibson@wildlife.ca.gov.

Sincerely,

Erinn Wilson, Environmental Program Manager

ec: Veronica Mardis, LACFCD vmardis@dpw.lacounty.gov

ACKNOWLEDGEMENT

I hereby agree to the above-referenced amendment.

Print Name: Christopher Stone Date: July 17, 2018

Signature: Christopher Stone

APPENDIX B

Photo Documentation

Photo 7. Overview Phase 1 Container Plant Installation, facing south.

Photo 8. Overview Phase 1 Container Plant Installation, facing east.

Photo 9. Overview Phase 1 Container Plant Installation, facing west.

Photo 10. Overview Phase 1 Container Plant Installation, facing southeast.

Photo 11. Overview Phase 1 Container Plant Installation, facing southeast.

Photo 12. Overview Phase 1 Container Plant Installation, facing north.

Photo 13. Overview Phase 1 Container Plant Installation, facing southeast.

Photo 14. Overview Phase 1 Container Plant Installation, facing northwest.

Photo 15. Overview Phase 1 Container Plant Installation, facing south.

Photo 16. Overview Phase 1 Cutting Collection, facing east.

Photo 17. Overview Phase 1 Cutting Collection.

Photo 18. Overview Phase 1 Cutting Installation, facing east.

Photo 19. Overview Phase 1 Cutting Installation, facing east.

Photo 20. Overview Phase 1 Hand Seeding, facing southeast.

Photo 21. Overview Phase 1 Hand Seeding, facing southeast.

Photo 22. Overview Phase 1 Hand Seeding, facing west.