

**FINAL HABITAT MITIGATION AND  
MONITORING PLAN**

**LONG POTRERO MITIGATION SITE**

**SUNRISE POWERLINK**

**CORPS FILE NO. 2007-00704-SAS  
SWRCB 401 CERTIFICATION FILE NO. SB090151N  
CDFG STREAMBED ALTERATION AGREEMENT NO. 1600-2009-0365-R5**

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### List of Acronyms

AA(s)	Assessment Area(s)
BMPs	Best Management Practices
BO	Biological Opinion
Cal-IPC	California Invasive Plant Council
CDFG	California Department of Fish and Game
CNF	Cleveland National Forest
Corps	U.S. Army Corps of Engineers
CRAM	California Rapid Assessment Method
CWA	Clean Water Act
EPA	Environmental Protection Agency
GIS	Geographic Information System
HAP/HMP	Habitat Acquisition Plan and Habitat Management Plan
HMMP	Habitat Mitigation and Monitoring Plan
HSA	Hydrologic Subarea
MSCP	Multiple Species Conservation Plan
OHV	Off-highway Vehicle
PAR	Property Analysis Record
PJD	Preliminary Jurisdictional Determination
ROW	Right-of-Way
SCCWRP	Southern California Coastal Water Research Project
SDG&E	San Diego Gas and Electric
SDRWQCB	San Diego Regional Water Quality Control Board
SRPL	Sunrise Powerlink
SWRCB	State Water Resources Control Board
USFWS	United States Fish and Wildlife Service
WOS	Waters of the State
WOUS	Waters of the United States

## 1.0 INTRODUCTION AND PURPOSE

San Diego Gas and Electric (SDG&E) is constructing a new 500/230 kilovolt electric transmission line that would traverse approximately 120 miles between the El Centro area of Imperial County and southwestern San Diego County, in southern California (Figure 1). Construction of this transmission line, along with associated roads, facilities, and maintenance areas, will result in impacts to areas under the jurisdiction of the U.S. Army Corps of Engineers (Corps), the State Water Resources Control Board (SWRCB), and the California Department of Fish and Game (CDFG). State and federal regulations require mitigation for impacts to “waters of the United States” (WOUS) and “waters of the State” (WOS).

Mitigation for permanent impacts to WOUS and WOS is being accomplished through preservation, restoration, and enhancement of wetlands and waters within five mitigation sites, as described in the approved Conceptual Habitat Mitigation and Monitoring Plan (Conceptual HMMP; WRA 2010b). A Final HMMP for each site is a requirement of the authorizations issued by the Corps, SWRCB, and CDFG. The Final HMMP describes the specific and detailed mitigation activities and plans, performance criteria to measure success, initial monitoring and management actions, long-term management activities, and estimated costs for the Long Potrero Mitigation Site in San Diego County, California. The Long Potrero Mitigation Site is one component of the overall mitigation program for unavoidable impacts to wetlands and waters from the Sunrise Powerlink (SRPL) Project.

This Final HMMP has been prepared and formatted to meet the permit conditions of the Corps (Clean Water Act [CWA] Section 404), the SWRCB (CWA Section 401), and the CDFG (Fish and Game Code 1602).

### 1.1 Responsible Parties and Easement Holders

SDG&E is responsible for implementing mitigation for the SRPL Project. WRA, Inc. is the applicant's authorized agent and preparer of this Final HMMP for mitigation to WOUS and WOS.

Primary contact information for these parties is below:

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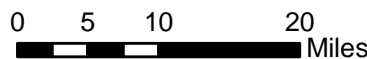
*Entity Responsible for Long Term Management:* Conservancy, County of San Diego, or other governmental entity to be approved by Corps and resource agencies





**Figure 1. Project Area Location Map**

Sunrise Powerlink  
San Diego/Imperial County, California



Map Date: June 2010  
Map By: Derek Chan  
Base Source: ESRI  
Filepath: L:\Acad 2000 Files\17000\17128-3\GIS\ArcMap\Mitigation\  
Fig1\_LocMap\_20100630.mxd

SDG&E will be responsible for implementing the project mitigation through completion of the initial monitoring period. SDG&E will convey the lands to a conservancy, County of San Diego, or otherwise approved entity (to be determined and approved by the Corps of Engineers, United States Fish and Wildlife Service [USFWS], CDFG, BLM and California Public Utilities Commission). This process is detailed in G-CM-17 of the project Biological Opinion (BO) FWS-08B04233-11F0047 (USFWS 2010) and included in Section 4.0.

The Agency-approved management entity will be responsible for long-term management of the Long Potrero Mitigation Site. The description of the long-term management for this mitigation site, the restrictions to be placed on the site, and the financial commitments are summarized in Sections 10.0 and 12.0 and within the Habitat Acquisition Plan/Habitat Management Plan (HAP/HMP) prepared for this mitigation site (SDG&E 2010).

## 1.2 Document Overview and Purpose

The purpose of the Final HMMP is to describe the mitigation, monitoring, and management of wetlands and waters provided as mitigation within the Long Potrero Mitigation Site. Restoration of temporary impacts to streams, wetlands, and desert dry washes within the construction footprint is described as part of the Restoration Plan for Temporary Impacts to Waters contained in Appendix A of the Conceptual HMMP (WRA 2010b) and is therefore not addressed here.

The intention of this document is to follow the regulation set forth in the 2008 CWA Section 404 Final Compensatory Mitigation Rule. As such, language and requirements may differ from that of the 2004 Los Angeles District Final Mitigation Guidelines and Monitoring Requirements. In addition, we provide information requested by the Los Angeles District Corps office and the SWRCB related to the functional assessment of the impact and mitigation sites using the California Rapid Assessment Method (CRAM).

Mitigation for the impacts associated with “single and complete projects” will be implemented at five mitigation sites. Four of these sites are located along the SRPL project alignment, and one (Desert Cahuilla) is located in the desert area north of the alignment (see Figure 2). These locations are also part of an overall mitigation program addressing a variety of habitat and special status species requirements for the SRPL. The mitigation sites that are proposed to address impacts to WOUS and WOS are:

- Desert Cahuilla Mitigation Site
- Suckle Mitigation Site
- Long Potrero Mitigation Site
- Lightner Mitigation Site
- Chocolate Canyon Mitigation Site

This Final HMMP addresses only the Long Potrero Mitigation Site. The remaining properties are addressed in separate HMMP documents by Mitigation Site. The mitigation, monitoring, and management activities described in this Final HMMP are intended to meet the permit requirements of the Corps, CDFG, and SWRCB, as well as the Corps regulatory requirements for preparation of mitigation plans set forth in 33 CFR 332.4(c). The regulatory requirements contained in 33 CFR 332.4(c), as issued by the Corps in 2008, generally encompass the requirements of mitigation and monitoring plans for all of the resource agencies (Corps 2008b). We have included additional information described in the 2004 Los Angeles District final Mitigation Guidelines and Monitoring Requirements and information required in the forthcoming mitigation guidelines, as feasible.





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San Diego/Imperial County,  
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**Figure 2.**

Overview of Mitigation  
Area Locations

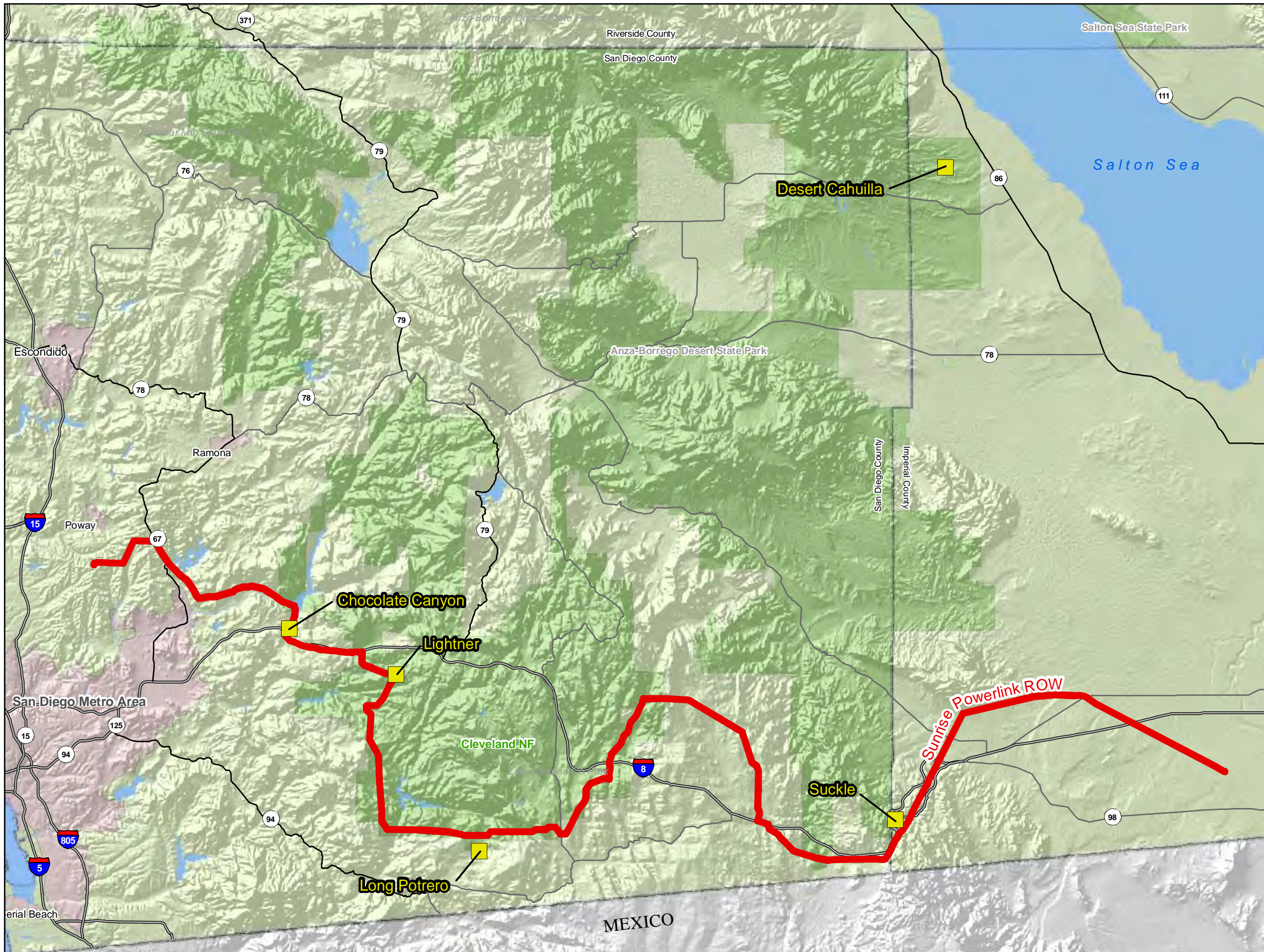
**Legend**

 Mitigation Area



0 5 10  
Miles

Map Date: June 2010  
Map By: Derek Chan  
Base Source: ESRI  
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The 2008 regulations require an HMMP to include:

- *Mitigation Objectives, including resource type, amounts, and methods of compensation (see Section 2.0)*
- *Site Selection, including key factors for providing mitigation at a site (see Section 3.0)*
- *Site Protection Instrument (see Section 4.0)*
- *Baseline Information, including ecological characteristics of impacted and mitigation sites (see Section 5.0)*
- *Determination of Credits, including a description of how the mitigation will provide compensatory mitigation for impacts (see Section 6.0)*
- *Mitigation Work Plan, including detailed descriptions of the work to be performed in implementing mitigation (see Section 7.0)*
- *Maintenance Plan, including maintenance activities to ensure continued viability of the mitigation site (see Section 8.0)*
- *Ecologically-based Performance Standards (see Section 9.0)*
- *Monitoring Requirements and Methods (see Section 9.0)*
- *Long-term Management Plan, (see Section 10.0)*
- *Adaptive Management Plan (see Section 11.0)*
- *Financial Assurances to ensure project mitigation will be effectively implemented and maintained (see Section 12.0)*

Project impacts were described in the Pre-Construction Notification prepared for the Corps, as part of the Lake and Streambed Alteration Agreement Notification Package prepared for the CDFG, as part of the Water Quality Certification Application prepared for the SWRCB, and as modified by subsequent submittals. All permit application documents contain a complete project description. Project modifications have been made throughout the permit process to further reduce environmental impacts, including those to streams, wetlands, and desert dry washes.

## **2.0 MITIGATION GOALS AND OBJECTIVES FOR THE LIGHTNER MITIGATION SITE**

The goals of mitigation at the Long Potrero Mitigation Site are to:

- Preserve and manage aquatic resources and associated uplands in perpetuity as a “watershed” approach to mitigation
- Enhance stream and wetland functions, including buffer and wildlife habitat functions
- Provide the legal structure and funding for long-term management of weeds, trash, vandalism, trespassing and any other human-induced disturbances in perpetuity through a non-wasting endowment

Mitigation activities include preservation and enhancement of 2.35 acres of mountain ephemeral, intermittent, and perennial streams, as well as 16.57 acres of riparian habitat. Activities will also include preservation and enhancement of 15.91 acres of wetland habitat. Mitigation actions being implemented at the Long Potrero Mitigation Site are defined in the Corps 2008 Mitigation Rule (Corps 2008b) and described below:

- **Preservation:** The permanent protection of ecologically important wetlands or other aquatic resources through the implementation of appropriate legal and physical mechanisms (i.e. conservation easements, title transfers). Preservation may include protection of upland areas adjacent to wetlands as necessary to ensure protection or enhancement of the aquatic ecosystem. Preservation does not result in net gain of wetland acres and may only be used in certain circumstances, including when the resources to be preserved contribute significantly to the ecological sustainability of the watershed.
- **Enhancement:** Activities conducted within existing wetlands that heighten, intensify, or improve one or more wetland functions. Enhancement is often undertaken for a specific purpose such as to improve water quality, flood water retention or wildlife habitat. Enhancement results in a gain in wetland function but does not result in a net gain in wetland acres.

## 2.1 Resource Functions of the Mitigation Project

The Long Potrero Mitigation Site supports a mixture of ephemeral, intermittent, and perennial streams along with riparian and wetland habitat (Figure 3). Most of the site, as well as the private lands to the south, are rural agriculture or natural upland habitat. Historically, open-range cattle ranching has been practiced on this site, though currently there are no grazing or agricultural activities practiced on this site.

The acquisition of this site ensures that the headwaters on site are preserved for continued natural resource function and value. Section 3.0 describes the rationale for selecting this site to be included in the SRPL mitigation project, and it includes a description of the site's watershed context. Section 5.0 provides further discussion of the functions and values of this site based on CRAM evaluations, and projected CRAM scores estimate how these values are expected to change after 5 years of preservation. An overview of habitat values is also provided in the HAP/HMP (SDG&E 2010).

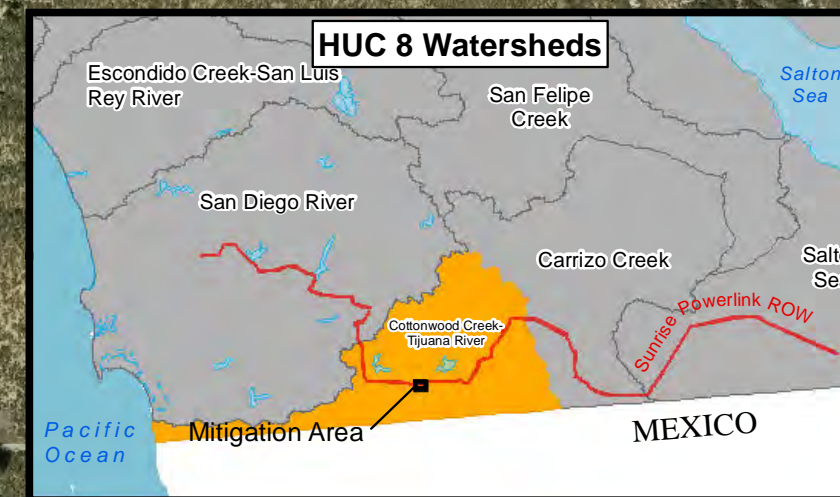
## 2.2 Basis for Request to Include Preservation as Part of Compensatory Mitigation

The basis for preservation to be included for each mitigation site is based upon requirements from the Corps 2008 Mitigation Rule 332.3(h): (h) Preservation (Corps 2008b):

*(1) Preservation may be used to provide compensatory mitigation for activities authorized by [Corps] permits when all the following criteria are met:*

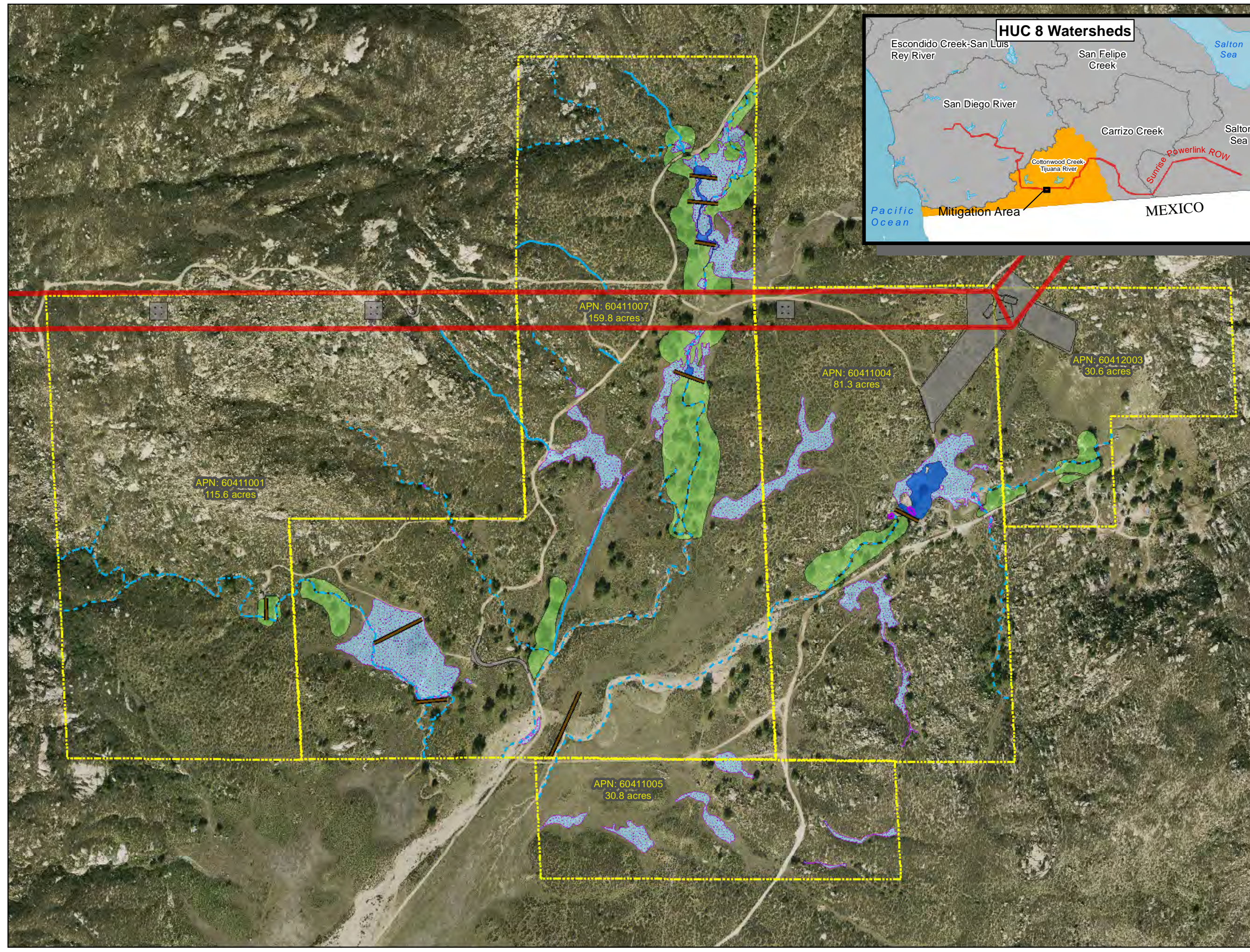
- (i) The resources to be preserved provide important physical, chemical, or biological functions for the watershed;*
- (ii) The resources to be preserved contribute significantly to the ecological sustainability of the watershed. In determining the contribution of those resources to the ecological sustainability of the watershed, the district engineer must use appropriate quantitative assessment tools, where available;*
- (iii) Preservation is determined by the district engineer to be appropriate and practicable;*
- (iv) The resources are under threat of destruction or adverse modifications; and*





**Figure 3.**

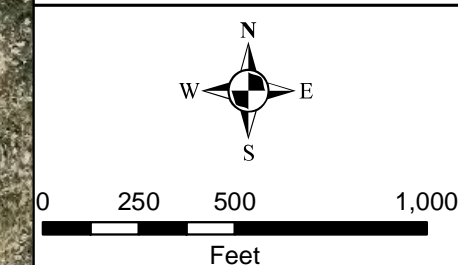
**Existing Conditions at the Long Potrero Mitigation Site**



**Legend**

- Parcel Boundary
  - Sunrise Powerlink ROW
  - Construction Impact Area
  - Earthen Dams/Berms
  - Salt cedar (0.03 acres)
  - Mapped Riparian Habitat (16.57 acres)
  - Man-made Ponds (1.28 acres)
  - Wetlands (15.91 acres)
- Streams**
- Ephemeral (0.25 ac.; 3,400 ln. ft.)
  - Intermittent (1.67 ac.; 15,603 ln.ft.)
  - Perennial (0.43 ac.; 3,908 ln. ft.)

*Note: Stream and Riparian acreage calculations do not include areas within the Sunrise Powerlink ROW or Construction Impact Areas. Stream acreages are based on OHWM width. Riparian areas are based on CDFG riparian dripline.*





- (v) *The preserved site will be permanently protected through an appropriate real estate or other legal instrument (e.g., easement, title transfer to state resource agency or land trust).*

*(2) Where preservation is used to provide compensatory mitigation, to the extent appropriate and practicable the preservation shall be done in conjunction with aquatic resource restoration, establishment, and/or enhancement activities.*

Corps criteria i through v (above) are satisfied by the habitat and mitigation activities planned for the Long Potrero Mitigation Site. Specifically, the Long Potrero Mitigation Site:

- (i) Ensures that the top of watershed is preserved. Preserves arroyo toad (*Bufo californicus*) and spadefoot toad (*Spea hammondi*)-occupied habitat, Tecate tarplant (*Deinandra floribunda*)-occupied habitat, potential southwestern pond turtle (*Clemmys marmorata pallida*) habitat, and raptor foraging habitat.
- (ii) Site is privately owned; numerous existing roadways and some dumping and littering occurs on the site. County, USFWS and CDFG designated this site as highest priority for special status species protection and for inclusion in the Multiple Species Conservation Plan (MSCP) habitat preservation area. Wildlife corridor is protected.
- (iii) Stream features on the site will be enhanced through invasive species removal and revegetation with native species.
- (iv) Private property exists within the site that has existing roads, dumping, and littering. Not subject to management for natural resource values.
- (v) Will be protected under title transfer or conservation easement.

### 3.0 SITE SELECTION

The Long Potrero Mitigation Site provides an opportunity to provide a variety of habitat protection for wetlands, riparian areas, and endangered species and to protect the headwaters of the watershed. Mountainous terrain to the north of the site is protected through the Cleveland National Forest (CNF), and the additional protection of this section of the watershed will help maintain watershed health for sensitive species. This area is extremely valuable in terms of a high mountain meadow area and supports emergent wetland (in the form of wet meadows), riparian areas, and streams. San Diego County, the USFWS, and the CDFG have designated this property as the highest priority for special status species protection and for inclusion in the MSCP habitat preservation area and currently support a wildlife corridor between open space areas. In addition, preservation of the site ensures that the upper portion of the watershed is preserved. The site is currently privately owned and is not managed for natural resource values. Dumping and littering along numerous existing roadways threaten existing vegetation and wildlife habitat. The property will be managed by a conservancy, the County of San Diego, or the BLM. A title transfer or conservation easement will ensure preservation of natural resources of the site, including arroyo toad and spadefoot toad habitat, potential southwestern pond turtle habitat, raptor foraging habitat, and corridors for other wildlife.

The site is known to support the arroyo toad and is within Quino checkerspot butterfly (*Euphydryas editha quino*) critical habitat. To avoid impacts to sensitive habitat and individuals of these species, work in and around some of the earthen dams may be limited. However, removal of non-native, invasive plant species would further increase the overall functions and services of the site. The property is adjacent to the CNF, and BLM lands lie to the east,

southeast, and west. Therefore, protection of this site would increase the overall amount of protected open space lands associated with National Forest.

Stream features on the site will be enhanced through invasive species removal, which will improve natural features downstream, in the lower watershed. This site is composed of a series of ephemeral, intermittent, and perennial streams, along with several freshwater marshes and emergent wetlands. There are a total of 22 wetlands and 18 streams present on this site; five streams are ephemeral, 12 are intermittent, and one is perennial.

### 3.1 Watershed Setting and Context

The site abuts CNF, BLM lands, and privately owned lands. It is within close proximity to the Hauser Mountain Wilderness Area. Most of the northern border is shared with CNF. BLM lands lie to the east, southeast, and west. The western half of the southern border is shared with private lands. The BLM lands are within the California Desert Conservation Area. As part of its land management activities, the BLM has designated some lands as sensitive. These designations do not necessarily preclude recreational use. Land uses on adjacent properties include any public access allowed by BLM which includes: target shooting, camping, biking, hiking, rock hounding (collecting), off-highway vehicle (OHV) use, and hunting. CNF has similar recreational uses including target shooting, camping, biking, hiking, designated OHV areas, and hunting (SDG&E 2010).

**Table 1. Long Potrero Mitigation Site Location Details**

Mitigation Site Location	11 miles south of Interstate 8 off of Potrero Valley Road
Mitigation Site Latitude/Longitude	116° 34' 41" W 32° 39' 17" N
Name of Watershed and Hydrologic Unit	Potrero Creek (911.25)
Mitigation Site City and County	Mountain Empire, San Diego County

### 3.2 Beneficial Uses Provided

Beneficial uses and water quality objectives are required to be established for all WOS, including both surface and ground waters. Beneficial uses of the surface and ground waters of the San Diego Region are discussed in the Water Quality Control Plan for the San Diego Basin 9 (SDRWQCB 1994). Beneficial uses for surface waters are designated under section 303 of the CWA (40 CFR 131) and under the Porter-Cologne Act (California Water Code section 13050[f]). The State is required to specify appropriate water uses to be achieved and protected. Definitions and abbreviations for beneficial uses provided by WOS are summarized in Table 2. Waters located within the Long Potrero Mitigation Site are part of the Potrero Creek Hydrologic Subarea (HSA) watershed and are considered inland surface waters as defined by the San Diego Regional Water Quality Control Board (SDRWQCB 1994). According to this document:

*Beneficial uses of inland surface waters generally include REC-1 (swimmable) and WARM or COLD. Additionally, inland waters are usually designated as IND, PRO, REC-2, WILD, and are sometimes designated as BIOL and RARE. Inland surface waters that meet the criteria mandated by the Sources of Drinking Water Policy are designated MUN. Unless otherwise designated by the SDRWQCB, all inland surface waters in the Region are considered suitable or potentially suitable as a municipal and domestic water supply.*

For the Potrero Creek HSA watershed in which the Long Potrero Mitigation Site occurs, the SDRWQCB has designated the following beneficial uses (see Table 3): Water Contact Recreation (REC1), Noncontact Water Recreation (REC2), Warm Fresh Water Habitat (WARM), and Wildlife Habitat (WILD). The Long Potrero Mitigation Site primarily contains headwaters of larger water bodies within its watershed, and the watershed as a whole provides the four above-mentioned beneficial uses. Table 2 contains definitions of additional beneficial uses which have not been designated for this mitigation site, but they are included in the table as references for Table 3.

**Table 2. Definitions for Beneficial Uses of WOS.**

State Recognized Beneficial Uses	Description
Municipal and Domestic Supply (MUN)	Uses of water for community, military, or individual water supply systems, including, but not limited to, drinking water supply.
Agricultural Supply (AGR)	Uses of water for farming, horticulture, or ranching, including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.
Industrial Service Supply (IND)	Includes uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well re-pressurization.
Industrial Process Supply (PROC)	Uses of water for industrial activities that depend primarily on water quality.
Hydropower Generation (POW)	Uses of water for hydropower generation.
Freshwater Replenishment (FRSH)	Uses of water for natural or artificial maintenance of surface water quantity or quality.
Ground Water Recharge (GWR)	Uses of water for natural or artificial recharge of ground water for purposes of future extraction, maintenance of water quality, or halting salt water intrusion into fresh water aquifers.
Water Contact Recreation (REC1)	Uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and uses of natural hot springs.
Noncontact Water Recreation (REC2)	Uses of water for recreational activities involving proximity to water, but not normally involving contact with water where water ingestion is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tide pool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.
Preservation of Biological Habitats of Special Significance (BIOL)	Includes uses of water that support designated areas or habitats, such as established refuges, parks, sanctuaries, ecological reserves, or Areas of Special Biological Significance (ASBS), where the preservation or enhancement of natural resources requires special protection.
Wildlife Habitat (WILD)	Uses of waters that support wildlife habitats, including, but not limited to, the preservation and enhancement of vegetation and prey species used by wildlife, such as waterfowl.
Cold Freshwater Habitat (COLD)	Uses of water that support cold water ecosystems, including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
Warm Freshwater Habitat (WARM)	Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.



**Table 2. Definitions for Beneficial Uses of WOS.**

State Recognized Beneficial Uses	Description
Aquaculture (AQUA)	Includes the uses of water for aquaculture or mariculture operations including, but not limited to, propagation, cultivation, maintenance, or harvesting of aquatic plants and animals for human consumption or bait purposes.
Inland Saline Water Habitat (SAL)	Includes uses of water that support inland saline water ecosystems including, but not limited to, preservation or enhancement of aquatic saline habitats, vegetation, fish, or wildlife, including invertebrates.
Estuarine Habitat (EST)	Includes uses of water that support estuarine ecosystems including, but not limited to, preservation or enhancement of estuarine habitats, vegetation, fish, shellfish, or wildlife (e.g., estuarine mammals, waterfowl, shorebirds).
Marine Habitat (MAR)	Includes uses of water that support marine ecosystems including, but not limited to, preservation or enhancement of marine habitats, vegetation such as kelp, fish, shellfish, or wildlife (e.g., marine mammals, shorebirds).
Rare, Threatened, or Endangered Species (RARE)	Includes uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened or endangered.
Migration of Aquatic Organisms (MIGR)	Includes uses of water that support habitats necessary for migration, acclimatization between fresh and salt water, or other temporary activities by aquatic organisms, such as anadromous fish.
Spawning, Reproduction, and/or Early Development (SPWN)	Includes uses of water that support high quality aquatic habitats suitable for reproduction and early development of fish. This use is applicable only for the protection of anadromous fish.
Shellfish Harvesting (SHELL)	Includes uses of water that support habitats suitable for the collection of filter-feeding shellfish (e.g., clams, oysters and mussels) for human consumption, commercial, or sport purposes.

One goal of the overall SRPL mitigation program is to compensate for SRPL-related impacts to WOS and their beneficial uses. Beneficial uses of WOS within the Long Potrero Mitigation Site will be preserved and/or enhanced to mitigate a portion of the beneficial uses affected by SRPL project activities; mitigation activities on the other four mitigation sites are intended to compensate for any remaining beneficial uses not provided by the Long Potrero Mitigation Site (i.e., there will be no net loss of beneficial use from any project activity). All designated beneficial uses of WOS potentially impacted by SRPL activities are summarized in Table 3; however, not all uses listed in Table 3 are necessarily affected by the SRPL Project. Only those that are marked as such have the potential to be affected.

**Table 3. Beneficial Uses of WOS That May Be Affected by the SRPL Project.**

<b>SAN DIEGO REGION INLAND SURFACE WATERS</b>	<b>Hydrologic Unit Basin Number</b>	<b>M U N</b>	<b>A G R</b>	<b>I N D</b>	<b>P R O C</b>	<b>G W R</b>	<b>F R S H</b>	<b>P O W</b>	<b>R E C 1</b>	<b>R E C 2</b>	<b>B I O L</b>	<b>W A R M</b>	<b>C O L D</b>	<b>W I L D</b>	<b>R A R E</b>	<b>S P W N</b>
<b>San Diego River Watershed</b>	907.31	X	X	X	X				X	X		X	X	X		
Conejos Creek 7.31	907.31	X	X	X	X				X	X		X	X	X		
Alpine Creek	907.31	X	X	X	X				X	X		X	X	X		
Chocolate Canyon	907.33	X	X	X	X				X	X		X	X	X		
Chocolate Canyon	907.31	X	X	X	X				X	X		X	X	X		
Sweetwater River	909.31	X	X	X	X				X	X		X	X	X		X
Viejas Creek	909.31	X	X	X	X				X	X		X	X	X		
Viejas Creek	909.33	X	X	X	X				X	X		X	X	X		
Taylor Creek	909.31	X	X	X	X				X	X		X	X	X		
<b>Tijuana Hydroloigic Unit</b>	911															
Cottonwood Creek	911.23	+							X	X		X		X		
Dry Valley	911.23	+							X	X		X		X		
Bob Owens Canyon	911.23	+							X	X		X		X		
McAlmond Canyon	911.24	+							X	X		X		X		
McAlmond Canyon	911.23	+							X	X		X		X		
Rattlesnake Canyon	911.23	+							X	X		X		X		
Potrero Creek	911.25	+							X	X		X		X		
Potrero Creek	911.23	+							X	X		X		X		
Bee Creek	911.23	+							X	X		X		X		
Cottonwood Creek	911.30	X	X	X	X		X		X	X		X	X	X	X	X
Hauser Creek	911.30	X	X	X	X		X		X	X		X	X	X	X	X
Pine Valley Creek	911.30	X	X	X	X		X		X	X		X	X	X	X	X
Wilson Creek	911.30															
Pats Canyon	911.30															
La Posta Creek	911.70	X	X	X	X		X		O	X		X	X	X		
Simmons Canyon	911.70	X	X	X	X		X		O	X		X	X	X		
Diablo Canyon	911.84	+														
<b>Reservoirs &amp; Lakes</b>																
El Capitan Reservoir	907.31	X	X	X	X			X <sup>1</sup>	X	X	X	X				
Loveland Reservoir	909.31	X	X	X	X		X	X	X	X	X					
Barrett Lake	911.30	X	X	X	X		X	X	X	X	X	X	X			
San Vicente Reservoir	907.20	X	X	X	X		X	X	X	X	X	X				

COLORADO RIVER BASIN REGION	Water Board Hydrologic Unit Code	M U N	A G R	A Q U A	F R S H	I N D	G W R	R E C I	R E C II	W A R M	C O L D	W I L D	P O W	R A R E
Tule Creek	22.71, 22.72	P	X				X	X	X	X		X		
Unlisted Perennial and Intermittent Streams		P <sub>11</sub>			I X <sub>12</sub>		I X	I P X	I X	I X		I X		I X <sub>13</sub>
Washes (Ephemeral Streams)					I <sub>12</sub>		I		I	see note 7		I		

**Key:**

X = Existing Beneficial Use

0 = Potential Beneficial Use

I = Intermittent Uses

+ = Exempted from MUN. The water body has been exempted by the Regional Board from the municipal use designation under the terms and conditions of State Board Resolution No. 88-63, *Sources of Drinking Water Policy*.)

Note 1: Waterbodies are listed multiple times if they cross hydrologic area or sub area boundaries.)

Note 2: Beneficial use designations apply to all tributaries to the indicated waterbody, if not listed separately.

FOOTNOTES: Footnotes are numbered as found in the Basin Plan.

7. Use, if any, to be determined on a case-by-case basis.

11. Potential use designations will be determined on a case-by-case basis as necessary in accordance with the "Sources of Drinking Water Policy".

12. Applies only to tributaries to Salton Sea.

13. Rare, endangered, or threatened wildlife exists in or utilizes some of these waterway(s). If the RARE beneficial use may be affected by a water quality control decision, responsibility for substantiation of the existence of rare, endangered, or threatened species on a case-by-case basis is upon the CDFG on its own initiative and/or at the request of the Regional Board; and such substantiation must be provided within a reasonable time frame as approved by the Regional Board.

#### 4.0 LONG-TERM SITE PROTECTION

Consistent with the Mitigation and Monitoring, Reporting, and Compliance Program and the BO (USFWS 2010), SDG&E will convey the entire Long Potrero Mitigation Site to a conservancy, the County of San Diego or other approved management entity. The timing and approval process is detailed in G-CM-17 of the project BO FWS-08B04233-11F0047 (USFWS 2010). This measure is as follows:

**G-CM-17:** *This conservation measure has been changed to reflect updated information and progress made in acquiring off-site conservation.*

*(a) Prior to initiating ground- or vegetation-disturbing project activities, SDG&E will provide and implement the following assurance:*

- Unless already acquired, SDG&E will provide assurances (e.g., performance bond, letter of credit, or escrow account) to fund the acquisitions listed below in (c).*

*(b) SDG&E will fully fund an endowment for in-perpetuity management of all parcels acquired in (c) within 3 months of the Wildlife Agencies' approval of the final endowment amounts.*

*(c) Unless otherwise authorized by the Wildlife Agencies, no later than 18 months from the date of the revised 2010 biological and conference opinion, SDG&E will acquire and permanently preserve the nine (9) parcels identified in the September 2010 Habitat Acquisition Plan and Habitat Management Plan (HAP/HMP; referenced by name as Nabi, Lakeside Ranch, Hamlet, El Capitan, Chocolate Canyon, Lightner, Long Potrero, Suckle, and Desert Cahuilla) in a manner consistent with the HAP/HMP and the following provisions:*

- The land-owner, land management entity, conservation easement grantee, and endowment fund manager for each property will be approved by the Wildlife Agencies. SDG&E will coordinate efforts with the Wildlife Agencies to identify potential candidates and review their qualifications to hold and manage lands and/or endowment funds. This task will be completed within 6 months of issuance of the 2010 revised biological and conference opinion.*
- SDG&E will conduct a revised Property Analysis Record (PAR) or PAR-like analysis for each property once the land management entity for individual properties has been identified and approved by the Wildlife Agencies. This revised PAR will be used to determine the final endowment amount SDG&E will provide for in-perpetuity habitat management of each property.*
- Conservation easement language, or its equivalent where an easement is not allowed by the land manager (State Parks), for all properties will be approved by the Wildlife Agencies prior to easement recordation; and*
- SDG&E will complete the required acquisition, protection, and transfer of all properties and record the required conservation easements in favor of DFG, or other entity approved by the Wildlife Agencies, no later than 18 months after the start of the ground- or vegetation-disturbing activities.*

The HAP/HMP (SDG&E 2010) provides a description of the long-term management activities at the Long Potrero Mitigation Site that will proceed after performance standards have been achieved. A summary of long-term management activities is provided in Section 10.0, below. Long-term financing mechanisms are also provided in the HAP/HMP (SDG&E 2010) and in Section 12.0, below.

## 5.0 BASELINE INFORMATION

### 5.1 Preliminary Jurisdictional Determination and Functional Assessment of Impact Sites

A preliminary jurisdictional determination (PJD) of the extent of wetlands and waters along the SRPL Right-of-Way (ROW) (WRA 2010a) has been approved by the Corps and is included in permit application packages for the SRPL project. The PJD was used during project planning to avoid unnecessary impacts to WOUS and WOS and to quantify unavoidable impacts to wetlands and waters. Impacts to unvegetated waters included perennial, intermittent, and ephemeral streams. Ephemeral streams were described using two subcategories, including desert dry washes and mountain ephemeral streams. Vegetated wetlands delineated using the Corps 3-parameter approach (Environmental Laboratory 1987) also occur at two impact sites along the margins of intermittent streams.

A functional assessment of 30 impact sites along the SRPL ROW was performed using CRAM methodology, covering both existing conditions and projected post-project conditions. The Conceptual HMMP (WRA, 2010b) describes the results of the CRAM functional assessment of impact sites in full detail. Combined average CRAM scores for impacted waters are summarized in Table 4. CRAM scores for existing conditions will be used as baseline data, while CRAM scores for post-project conditions were estimated as a means to predict the effects of impacts to wetland functions and services. An estimate of the reduction in functions and services provided by impacted WOUS and WOS was generated by comparing existing and projected post-project CRAM scores at impacted sites. All assessments of impact sites used the CRAM methodology for riverine wetlands, although ephemeral streams and Corps wetlands were also included in the assessments. Further detail on the assessments and CRAM methodology can be found in the Conceptual HMMP (WRA 2010b). Raw CRAM scores for all impact and mitigation assessment areas (AAs) are presented in Appendix A.

**Table 4. Combined Average CRAM Scores for Existing and Post-Project Conditions at Impact Sites along the SRPL ROW.**

CRAM Index and Attributes	Existing (Baseline) Mean Scores	Projected Post-Project Mean Scores	Decrease Between Existing and Projected Post-Project Conditions (percentage points)
Overall Index Score	72.3%	69.3%	3.0
Landscape Context	93.4%	89.0%	4.4
Hydrology	88.6%	82.8%	5.8
Physical Structure	47.5%	46.3%	1.2
Biotic Structure	59.7%	59.3%	0.4

As outlined in the Conceptual HMMP (WRA 2010b), the combined average CRAM score of representative impact sites for SRPL is expected to decrease by an average of 3 percentage points from project implementation. This represents the average decrease in functions and services resulting from impacts to WOUS and WOS from the SRPL project. The CRAM score for the one perennial stream within the ROW is not expected to measurably decrease. The majority of individual projected impacts would result from aggradation/degradation of stream channels and degradation of wetland buffer areas.

While impacts to Buffer Condition and Channel Stability are likely to be common among desert dry wash and mountain ephemeral impact locations, these combined stream categories saw a decline of less than 2 percentage points in overall projected CRAM scores. The largest decline in CRAM score came from one intermittent stream at the Lightner Mitigation Site where the Suncrest Substation is proposed, causing a loss of both stream channel and adjacent riparian habitat. The drop in overall CRAM score of 38.7 percentage points for this AA (accounting for the majority of an 11.6-point drop for all intermittent streams combined) is the most substantial single impact of the SRPL project as reflected in projected CRAM scores. Substantial enhancement activities at the Long Potrero Mitigation Site, in combination with mitigation at other sites included in the overall mitigation package, are intended to offset these impacts to functions and services.

## 5.2 Baseline Condition and CRAM Assessment of the Long Potrero Mitigation Site

The Long Potrero Mitigation Site is a 471-acre area consisting of five parcels. It is located in the northern portion of the Cottonwood Creek-Tijuana River watershed (Figure 4), approximately 7.5 miles southwest of Interstate 8 off of Buckman Springs Road and Highway 94/Campo Road in San Diego County, California. This site is surrounded by mountainous terrain with no urban development nearby. Elevations on this site range from 2,420 to 2,690 feet National Geodetic Vertical Datum (NGVD).

The acreage and length of streams and wetlands is outlined in Table 5 below.

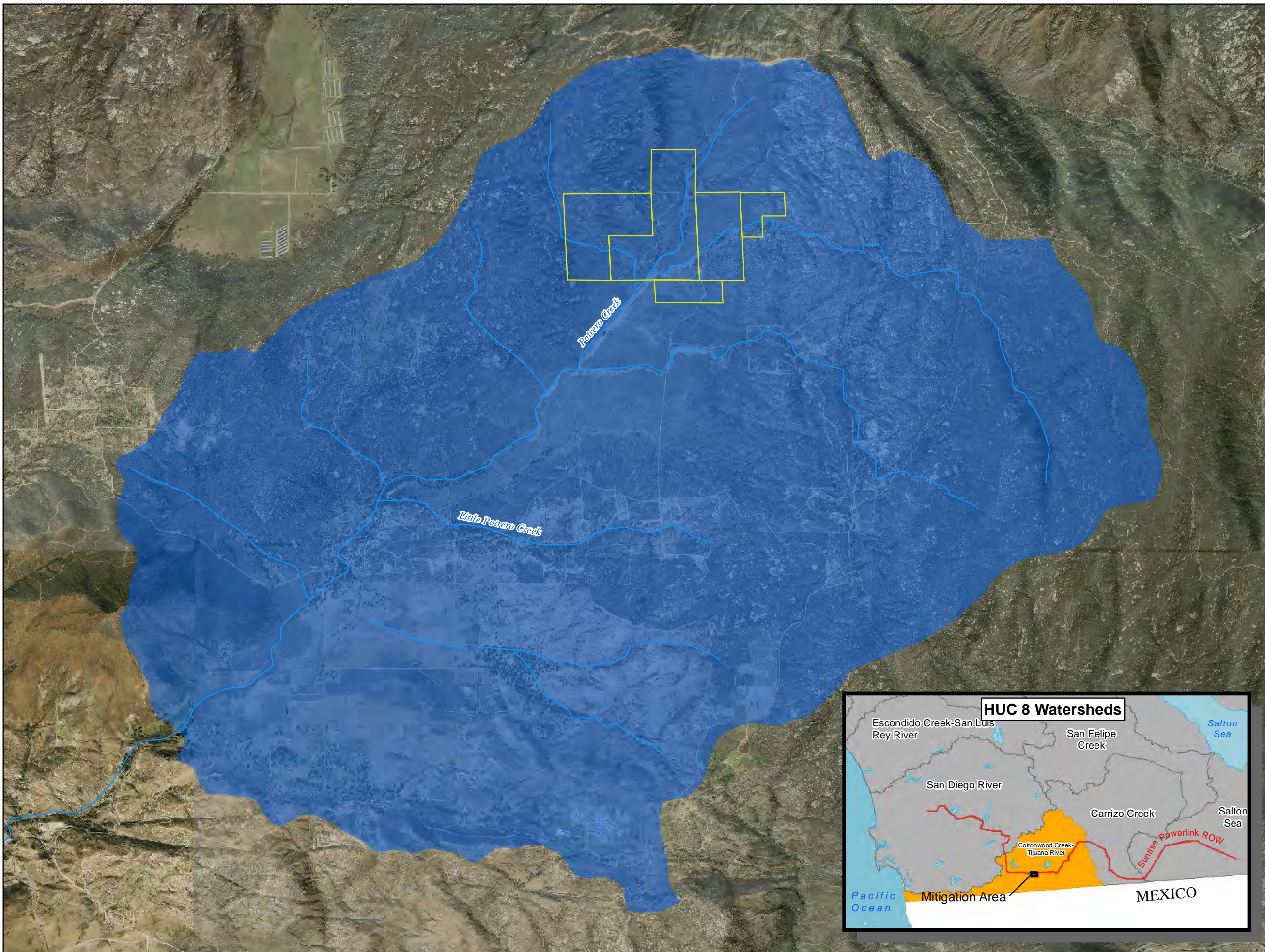
**Table 5. Waters at the Long Potrero Mitigation Site**

	<b>Area (acres)</b>	<b>Length (linear feet)</b>
<b>Ephemeral Streams</b>	0.25	3,400
<b>Intermittent Streams</b>	1.67	15,603
<b>Perennial Streams</b>	0.43	3,908
<b>Freshwater Marsh/ Emergent Wetlands</b>	15.91	-
<b>TOTAL</b>	<b>18.26</b>	<b>22,911</b>






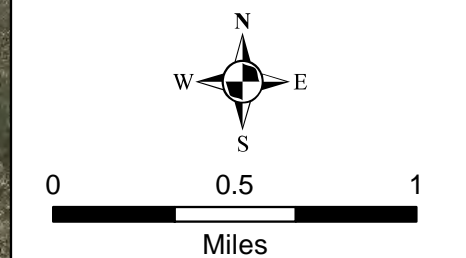
Sunrise Powerlink  
 San Diego County,  
 California

**Figure 4.**  
 Long Potrero  
 Mitigation Site:  
 Watersheds



**Legend**

-  Parcel Boundary
-  Long Potrero Watershed (HUC 12)
-  USGS Blue line Streams





Soils: There are seven native soil types mapped throughout the site. The two dominant soil types mapped are La Posta rocky loam coarse sand, 5 to 30 percent slopes and acid ingenious rock land. Additional soil types at the site consist of: Tollhouse rocky coarse sandy loam, 30 to 65 percent slopes; Fallbrook sandy loam, 5 to 9 percent slopes; Fallbrook sandy loam, 9 to 15 percent slopes; Visalia sandy loam, 0 to 2 percent slopes; and Mottsville loamy coarse sand, 2 to 9 percent slopes. Soils on this site are well to excessively drained and range from slow to medium runoff. The Fallbrook and Tollhouse soils have rapid to very rapid runoff (USDA 2010a). None of the soil series listed above appears on the San Diego County hydric soils list. The Visalia series does contain unnamed inclusions which are mapped as hydric (USDA 2010b).

Vegetation: The Long Potrero Mitigation Site is dominated by southern mixed chaparral except in areas where riparian and emergent wetlands areas were observed. Dominant southern mixed chaparral species observed on the site include chamise (*Adenostoma fasciculatum*), California buckwheat (*Eriogonum fasciculatum*), redstem filaree (*Erodium cicutarium*), laurel sumac (*Malosma laurina*) and various bromes (*Bromus* spp.). Riparian areas were dominated by coast live oak (*Quercus agrifolia*) while freshwater marshes and emergent wetlands were dominated by Mariposa rush (*Juncus dubius*), common toad rush (*Juncus bufonius*), common spike rush (*Eleocharis macrostachya*) and little hogweed (*Portulaca oleracea*) with low densities of curly dock (*Rumex crispus*), willow dock (*Rumex salicifolius*), tarragon (*Artemisia dracuncululus*), and Douglas mugwort (*Artemisia douglasiana*) occurring throughout.

Hydrology: Precipitation and resulting runoff from adjacent lands are the main sources of hydrology for ephemeral streams at this site while intermittent and perennial streams are spring-fed. Rainfall for this region averages 15.4 inches per year (USDA 2010c). Numerous access roads and earthen dams/berms are present on site, impeding the flow of some streams on site. Wetlands are bisected and discontinuous due to access roads. In addition, several stock ponds, including one perennial pond, have formed in areas adjacent to the earthen dams/berms.

### 5.2.1 Baseline CRAM Functional Assessment of the Long Potrero Mitigation Site

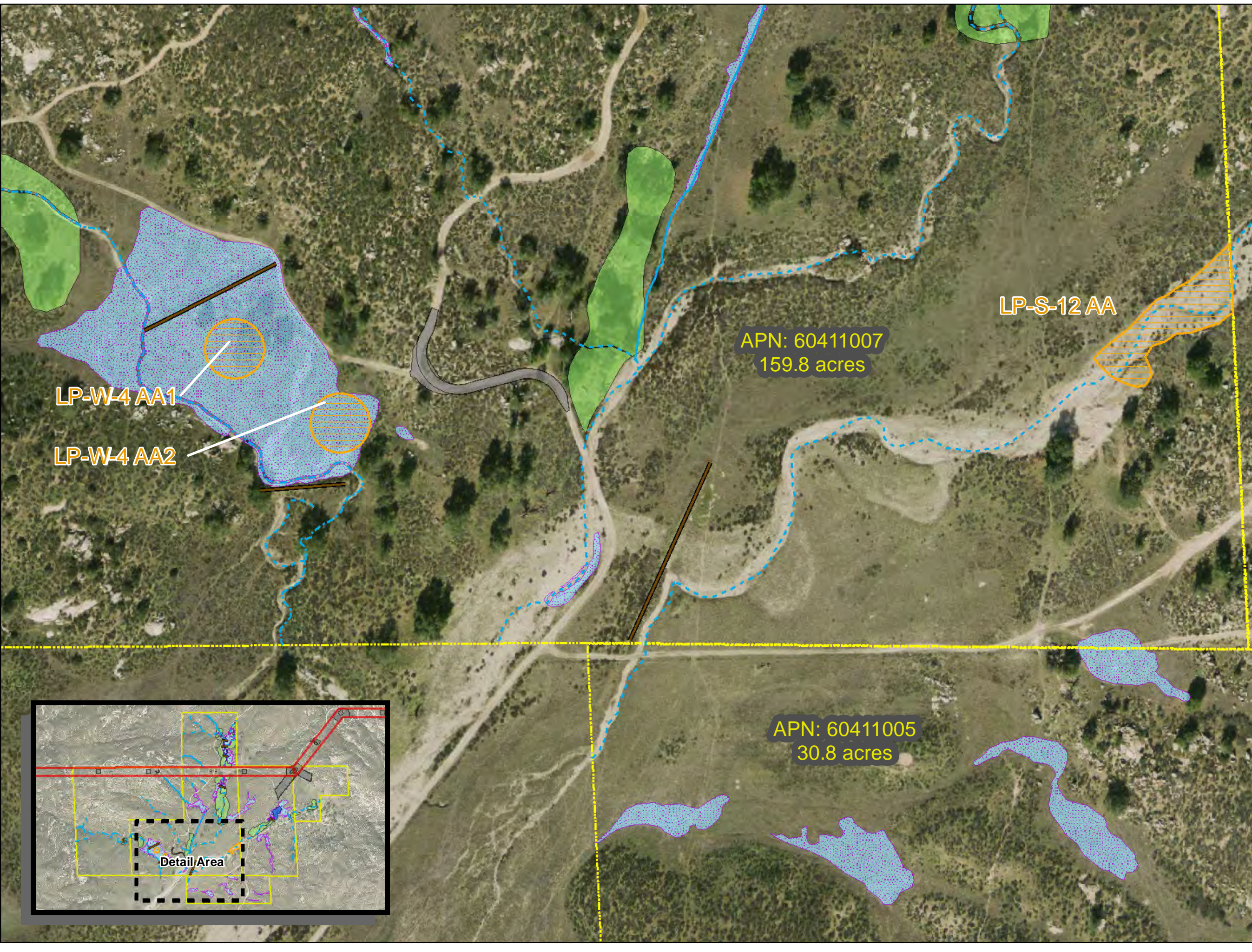
Functional assessments were performed at four of the five proposed mitigation sites (not the Desert Cahuilla mitigation site) for SRPL using CRAM methodology, covering both existing conditions and projected conditions following the implementation of mitigation activities. The assessments provide scores which quantify the existing condition and functional capacity of streams and wetlands being used as mitigation for impacts to WOUS and WOS along the SRPL ROW. The seven total mitigation CRAM assessments are representative of all proposed mitigation activities for the SRPL project, and also provide insight on conditions at proposed mitigation sites where activities other than preservation will take place. Two CRAM assessments were performed at the Long Potrero Mitigation Site and are the focus of this report.

The Long Potrero Mitigation Site supports a total of 12 intermittent streams and 22 wetland features, of which one intermittent stream and one seasonal wetland were chosen as representative features to be assessed using CRAM (Figure 5). Assessments were conducted at the Long Potrero Mitigation Site in September 2010.



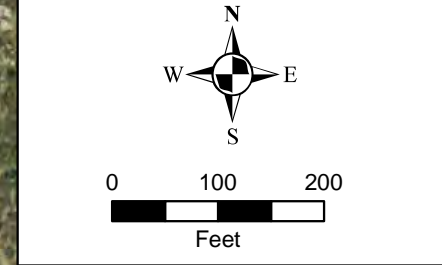
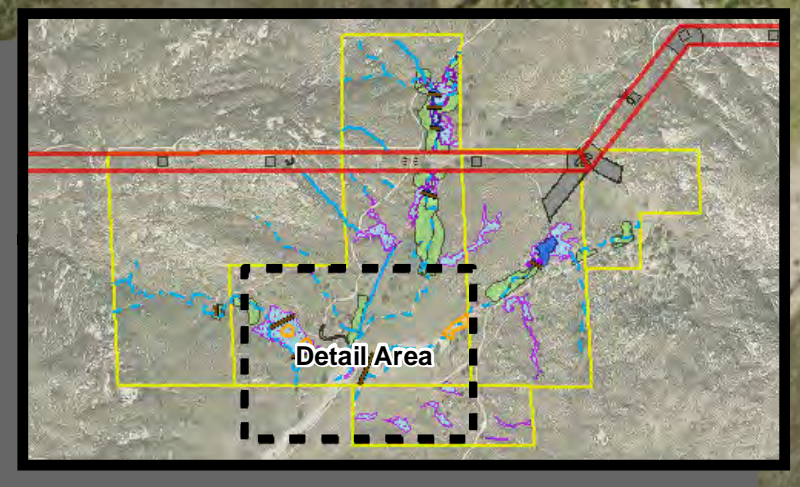
**Sunrise Powerlink**  
 San Diego County,  
 California

**Figure 5.**  
 CRAM Assessment  
 Areas within the  
 Long Potrero  
 Mitigation Site



- Legend**
- Parcel Boundary
  - Sunrise Powerlink ROW
  - Construction Impact Area
  - CRAM Assessment Area
  - Earthen Dams/Berms
  - Mapped Riparian Habitat (16.57 acres)
  - Man-made Ponds (1.28 acres)
  - Wetlands (15.91 acres)
- Streams**
- Ephemeral (0.25 ac.; 3,400 In. ft.)
  - Intermittent (1.67 ac.; 15,603 In.ft.)
  - Perennial (0.43 ac.; 3,908 In. ft.)

*Note: Stream and Riparian acreage calculations do not include areas within the Sunrise Powerlink ROW or Construction Impact Areas. Stream acreages are based on OHWM width. Riparian areas are based on CDFG riparian dripline.*



Only intermittent or perennial streams were used as representative stream functional assessment sites on the Long Potrero, Lightner, and Chocolate Canyon mitigation sites. This decision was based on possible limitations of CRAM methodology in ephemeral stream systems. As described in the CRAM Technical Bulletin (CWMW 2009), seasonal wetlands and headwater streams often have naturally lower complexity [than higher-order streams or perennial wetlands] and may inherently produce lower scores under the current CRAM methodology. Or, as described in the CRAM User's Manual (Collins *et al.* 2008a), there may be a limit to the applicability of CRAM in low order (i.e., headwater) streams in very arid environments that tend not to support species-rich plant communities with complex horizontal and vertical structure. The decision to assess only intermittent or perennial streams on these sites was made in conjunction with staff from the Corps.

In following additional guidance received from the Corps, the seasonal wetland chosen for assessment on the Long Potrero Mitigation Site was examined by performing CRAM at two separate locations within the wetland. One AA was located in a deep portion of the wetland, where wetland indicators were strongest, while the other was located in a shallower area near the upland transition to account for edge effects. The scores from these two AAs were averaged, and these average scores are presented in this report as the single set of representative CRAM scores for this wetland.

While all SRPL impact site AAs and most mitigation site AAs were considered to be riverine wetlands according to CRAM definitions, the seasonal wetland AA at the Long Potrero Mitigation Site was considered to be a depressional wetland according to CRAM definition (Collins *et al.* 2008a). Depressional wetlands are distinctly different from riverine wetlands according to CRAM guidance, and must be assessed using specialized CRAM methodology (Collins *et al.* 2008b), which relies on a different statewide standard for wetland condition than other wetland types (CWMW 2009). For this reason, CRAM scores for depressional wetlands at SRPL mitigation sites should not be directly compared to riverine CRAM scores for SRPL impact and mitigation AAs. In addition, reference data for depressional wetlands are currently unavailable, so comparison to ambient or statewide conditions is not possible. However, CRAM data for depressional wetlands at mitigation sites are useful for comparing existing conditions to future conditions, using both projected scores and future monitoring data.

The intermittent stream assessed at the Long Potrero Mitigation Site, LP-S-12, had an overall CRAM score of 70.5 percent while the wetland, LP-W-4, had an overall CRAM score of 59.4 percent. CRAM attribute scores for these features under existing conditions are discussed below.

#### *Buffer & Landscape Context*

Stream LP-S-12 scored a 93.3 percent for the Buffer & Landscape Context attribute. This AA received an "A" in all areas, except the Buffer Condition submetric, which scored a "B" due to the presence of a number of mostly annual non-native, invasive plants in the buffer area.

Wetland LP-W-4 scored a 55.8 percent for the Buffer & Landscape Context attribute. This relatively low score was due to a score of "D" for the Landscape Connectivity metric. Although LP-W-4 is located in a fairly remote, undisturbed setting, a higher Landscape Connectivity score for a depressional wetland requires a large area of wetland habitat surrounding the AA. This is based on the assumption that wetlands close to each other have a greater potential to interact ecologically and hydrologically, and that such interactions are generally beneficial (Collins *et al.* 2008a). Since LP-W-4 is located in a fairly arid region, there is insufficient wetland habitat in its surroundings to score higher than a "D." For this reason, most depressional wetlands in arid

environments would be likely to receive a low score for this metric. LP-W-4 received a “B” for Buffer Condition due to the presence of a number of mostly annual non-native, invasive plants in the buffer area. The wetland scored an “A” for the remaining submetrics.

### *Hydrology*

Stream LP-S-12 scored a 91.7 percent for the Hydrology attribute. The stream received a “B” for the Channel Stability metric due to minor indications of aggradation and degradation, but received an “A” for the remaining metrics.

Wetland LP-W-4 scored a 95.8 percent for the Hydrology attribute. The wetland received a score of 10.5 (the average of one “A” and one “B”) for the Hydroperiod metric. This was due to the fact that the large wetland LP-W-4 includes man-made berms that capture water in some portions of the wetland, making the hydrology less natural than in other portions of the wetland. LP-W-4 received an “A” for the remaining Hydrology metrics.

### *Physical Structure*

Stream LP-S-12 scored a 50.0 percent for the Physical Structure attribute. This stream had low Structural Patch Richness and Topographic Complexity and received a “C” for both metrics.

Wetland LP-W-4 scored a 37.5 percent for the Physical Structure attribute. This wetland received a “D” for Structural Patch Richness and a “C” for Topographic Complexity. As described above, low-order streams and seasonal wetlands are more likely to score low on CRAM structure attributes than higher-order or perennial features, thus the low Physical Structure scores at the Long Potrero Mitigation Site may be normal for the features assessed.

### *Biotic Structure*

Stream LP-S-12 scored a 47.2 percent for the Biotic Structure attribute. The stream received a “B” for both the Number of Plant Layers and Percent Invasion submetrics, a “C” for Number of Co-dominant Species and Horizontal Interspersion, and a “D” for Vertical Biotic Structure.

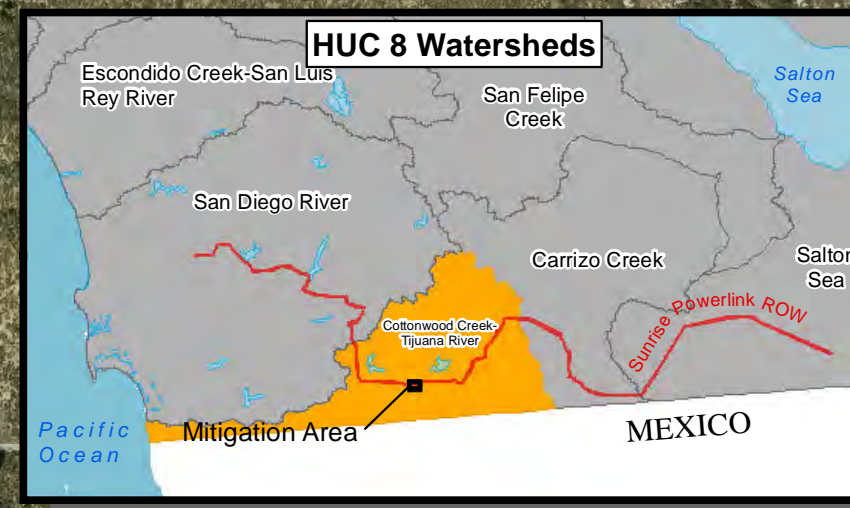
Wetland LP-W-4 scored a 48.6 percent for the Biotic Structure attribute. The wetland received a “C” for Percent Invasion, Horizontal Interspersion, and Vertical Biotic Structure. It scored a 7.5 (an average of one “B” and one “C”) for Number of Plant Layers, and scored a “D” for Number of Co-dominant Species. As described above, relatively low Biotic Structure scores may be normal for the stream and wetland assessed at the Long Potrero Mitigation Site.

## *5.2.2 Projected CRAM Scores Following Mitigation Implementation at the Long Potrero Mitigation Site*

Using proposed mitigation plans and data collected at mitigation sites for the SRPL project, CRAM was used to predict how the representative sites described in Section 5.2.1 may improve following mitigation activities. These projected scores are based on conditions anticipated approximately 5 years after project implementation, as not all results of mitigation actions may be evident immediately upon completion.

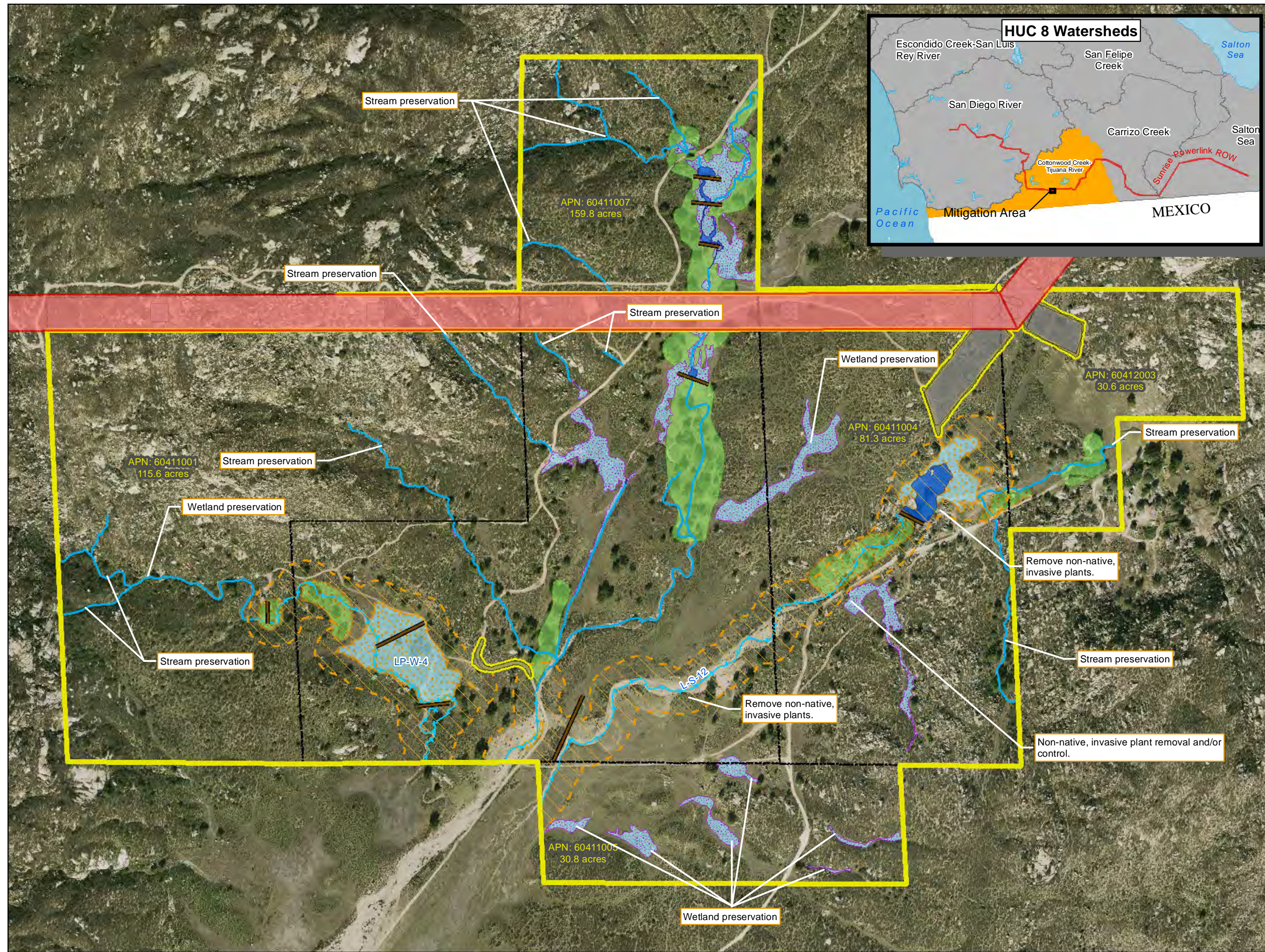
Proposed mitigation at the Long Potrero Mitigation Site includes stream, wetland, and riparian enhancement through removal of non-native, invasive species (Figure 6). Due to the presence of the endangered Arroyo toad at the Long Potrero Mitigation Site, further mitigation possibilities involving dam removal or soil disturbance are currently not permitted. However, the





**Figure 6.**

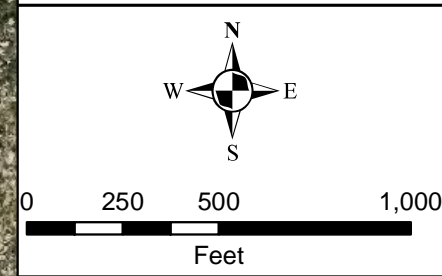
**Mitigation Activities at the Long Potrero Mitigation Site**



**Legend**

- Preservation Boundary
- Parcel Boundary
- Sunrise Powerlink ROW
- Construction Impact Area
- Earthen Dams/Berms
- Man-made Ponds (1.28 acres)
- Enhanced Riparian Habitat (3.95 acres)
- Preserved Riparian Habitat (12.62 acres)
- Enhanced Wetlands (5.99 acres)
- Preserved Wetlands (9.92 acres)
- Non-native, Invasive Species Removal
- Enhanced Streams (0.96 ac.; 6,054 In. ft.)
- Preserved Streams (1.39 ac.; 16,857 In. ft.)

**Note:** Stream and Riparian acreage calculations do not include areas within the Sunrise Powerlink ROW or Construction Impact Areas. Stream acreages are based on OHWM width. Riparian areas are based on CDFG riparian dripline.





proposed removal of non-native, invasive species is expected to improve the Biotic Structure attribute and in some cases the Buffer & Landscape Context Attribute for many of the streams and wetlands within the site.

The overall CRAM score for stream LP-S-12 increased from 70.5 percent under existing conditions to a 71.2 percent under projected future conditions, while LP-W-4 increased from a 59.4 percent to a 61.8percent. Individual attribute scores under projected future conditions are discussed below.

#### *Buffer & Landscape Context*

The CRAM score for the Buffer & Landscape Context attribute is not expected to change for stream LP-S-12 following mitigation implementation. Maintenance of roads through the site will continue to be a source of soil disturbance that will likely prevent the Buffer Condition submetric score for this AA from increasing within the projected 5-year period. However, streams in other locations within the Long Potrero Mitigation Site have the potential to increase their CRAM scores for this submetric due to the removal of non-native, invasive vegetation within stream and riparian areas.

Following mitigation activities at the Long Potrero Mitigation Site, the Buffer Condition submetric score for wetland LP-W-4 is expected to increase from a “B” to an “A” due to the removal of non-native, invasive species. This would increase the Buffer & Landscape Context attribute score for this AA from a 55.8 percent to a 62.5percent.

#### *Hydrology*

The CRAM score for the Hydrology attribute is not expected to change following mitigation implementation for stream LP-S-12 or wetland LP-W-4. In the case of stream LP-S-12, channel stability is unlikely to improve within the projected 5-year period due to the continued maintenance of roads through the site. Similarly, the channel stability scores for other streams at the site are not likely to change within the projected 5-year period.

#### *Physical Structure*

The CRAM score for the Physical Structure attribute is not expected to change following mitigation implementation for stream LP-S-12 or wetland LP-W-4.

#### *Biotic Structure*

Following mitigation implementation, stream LP-S-12 is expected to have its score for the Percent Invasion submetric increase from a “B” to an “A” due to the proposed removal of non-native, invasive species. The remaining aspects of the Biotic Structure attribute would remain unchanged. The increased score for Percent Invasion would raise the Biotic Structure attribute score for LP-S-12 from a 47.2 percent to a 50.0 percent.

Similarly, the Percent Invasion score for wetland LP-W-4 is likely to increase by one letter grade, while other aspects of Biotic Structure would be unchanged. The increase in Percent Invasion score from a “C” to a “B” would raise the attribute score from a 48.6 percent to a 51.4 percent.

5.3.3 *Conclusions of CRAM Functional Assessment for Mitigation at the Long Potrero Mitigation Site*

Comparing existing CRAM scores to projected scores, it is possible to consider the nature and magnitude of likely improvements to functional capacity at the Long Potrero Mitigation Site AAs. CRAM scores for the Long Potrero Mitigation Site are summarized in Table 6. Raw scores for all AAs are presented in Appendix A, and further information on the CRAM assessments can be found in Appendix B of the Conceptual HMMP (WRA 2010b).

**Table 6. CRAM Attribute and Overall Scores for Proposed Mitigation Sites at the Long Potrero Mitigation Site.**

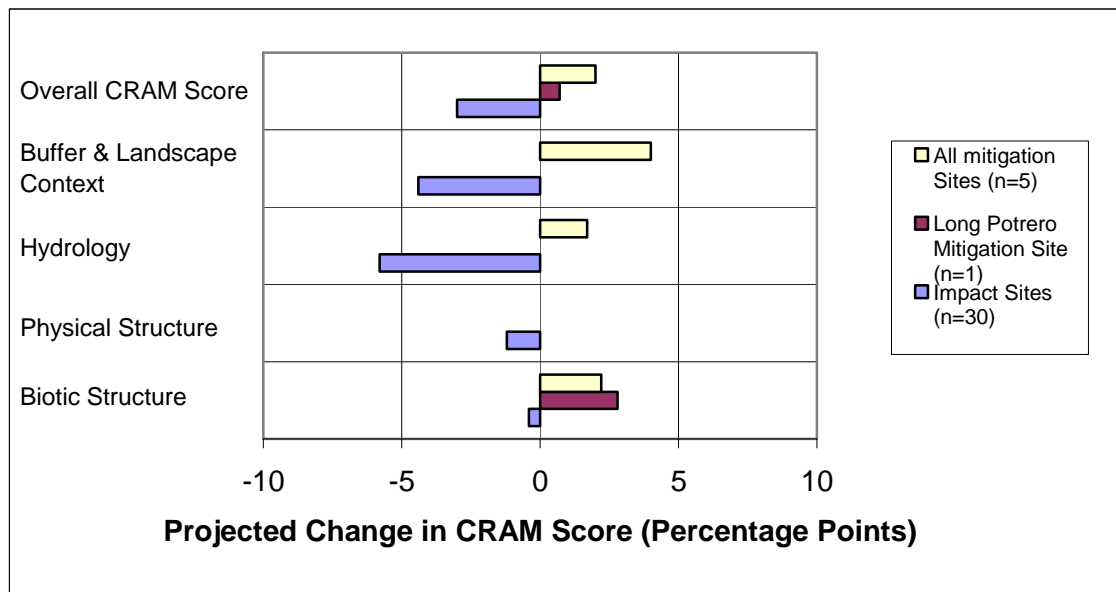
CRAM Index and Attributes	INTERMITTENT STREAM			DEPRESSIONAL WETLAND		
	Existing (Baseline) Mean Scores	Projected Post-Project Mean Scores	Projected Increase Following Mitigation Implementation (percentage points)	Existing (Baseline) Mean Scores	Projected Post-Project Mean Scores	Projected Increase Following Mitigation Implementation (percentage points)
Overall Index Score	70.5%	71.2%	0.7	59.4%	61.8%	2.4
Landscape Context	93.3%	93.3%	0	55.8%	62.5%	6.7
Hydrology	91.7%	91.7%	0	95.8%	95.8%	0
Physical Structure	50.0%	50.0%	0	37.5%	37.5%	0
Biotic Structure	47.2%	50.0%	2.8	48.6%	51.4%	2.8

All CRAM attributes at impact sites had some level of average decrease as a result of the SRPL project (Table 4). Mitigation actions at the Long Potrero Mitigation Site should allow improvements in the area of Biotic Structure that are apparent at stream AAs within 5 years of mitigation implementation. In addition, improvements to the Buffer & Landscape Context attribute are likely at depressional wetlands and other streams not included in CRAM assessments at the Long Potrero Mitigation Site. As seen in Figure 7, stream mitigation actions at the Long Potrero Mitigation Site will contribute to improvements in at least one area of stream impact along the ROW.

The proposed removal of non-native, invasive vegetation in stream, wetland, and riparian areas at the Long Potrero Mitigation Site is projected to result in improvements to the condition of these areas as reflected in CRAM scores. Removal of non-native, invasive herbaceous species including tocalote (*Centaurea melitensis*), curly dock, and shortpod mustard (*Hirschfeldia incana*) would eliminate the need for native vegetation to compete with these species, and increase habitat value for both vegetation and wildlife. Removal of salt cedar (*Tamarix ramosissima*), in particular, would be beneficial to surrounding habitats and downstream areas by eliminating a possible source for the spread of this problematic invasive species. Mitigation actions would therefore benefit not only the Long Potrero Mitigation Site but would also be beneficial to the greater Long Potrero watershed.



**Figure 7. Projected Average Changes in CRAM Score at Stream Impact Sites and Stream Mitigation Sites 5 Years after Mitigation Implementation**



In conclusion, CRAM provides a basis for comparing impacts along the SRPL ROW to proposed mitigation actions. Proposed mitigation actions at the Long Potrero Mitigation Site will contribute to the overall mitigation package to compensate for the areas of functionality that are impaired by the SRPL project. These mitigation actions taking place at the Long Potrero Mitigation Site, in combination with other mitigation sites, demonstrate more than adequate compensation for impacts to waters occurring as a result of the SRPL project.

## 6.0 DETERMINATION OF CREDITS

The Long Potrero Mitigation Site contains several habitat types which will contribute to the overall mitigation acreage contained in the five mitigation properties. Within this mitigation site, compensation for permanent impacts to ephemeral, intermittent, and perennial streams along with wetlands and riparian habitat will be provided. Mitigation acreages and credits are discussed in more detail in the following sections.

### 6.1 Mitigation Credits within the Long Potrero Mitigation Site

The Long Potrero property provides 54 percent of the total SRPL mitigation acreage for ephemeral, intermittent, and perennial streams, 85 percent of the project mitigation for wetlands, and 35 percent of the project mitigation for riparian habitat. Additional credits for these habitat types are provided by the Lightner, Chocolate Canyon, and Suckle mitigation sites. A summary of mitigation acres provided by the Long Potrero Mitigation Site is presented in Table 7 below. A summary of collective mitigation acres provided by the entire mitigation program at all five sites is presented in Section 6.2.

**Table 7. Summary of SRPL Aquatic Resource Mitigation at the Long Potrero Mitigation Site**

Site	Resource Type	Mitigation Area [acres; linear feet for streams]		
		Preservation	Enhancement	Total
Long Potrero Mitigation Site	Perennial, Intermittent, and Ephemeral Streams	1.39 (16,857)	0.96 (6,054)	2.35
	Wetlands	9.92	5.99	15.91
	Riparian	12.62	3.95	16.57
<b>Totals</b>		<b>23.93</b>	<b>10.9</b>	<b>34.83</b>

## 6.2 Summary of Mitigation Credits for Entire Mitigation Program at all Sites

A summary of total mitigation for permanent and temporary impacts for each resource type is detailed in Table 8 for WOUS and in Table 9 for WOS. In addition, a summary of mitigation activities at each mitigation site for the SRPL project is contained in Table 10. On an acreage basis, the SRPL project provides more than adequate mitigation to compensate for unavoidable permanent impacts to waters. In addition, enhancement and restoration activities at four of the five mitigation sites will increase the functions and services provided by waters at the mitigation sites. Cumulatively, this provides ample mitigation to compensate for reduced functions and services in temporarily and permanently impacted waters.

Proposed mitigation activities for SRPL will provide improvements in the same areas of functional capacity that are likely to be impacted by the SRPL project. Overall, the average projected decrease of 3 CRAM percentage points at stream impact sites will be offset by an average increase of 2 percentage points at stream mitigation sites at the end of the 5-year monitoring period, together with restoration, enhancement, and preservation of these areas at a cumulative 35:1 ratio by acreage for permanent impacts and 2:1 ratio for temporary impacts. CRAM scores for the Physical Structure and Biotic Structure attributes are likely to increase as the habitat areas develop over the long-term, thus raising average overall CRAM scores further than are indicated herein for the term of the 5-year monitoring program.

Projected CRAM data at mitigation sites is intended to serve as a guide for comparison of mitigation and impacts, and should not be directly applied to mitigation ratios. The results of multiplying CRAM score by any dimension of size, such as wetland area, length, or perimeter, might distort the scaling of some metrics, weight the values of other metrics in unintended ways, and thus lead to erroneous results (CWMW 2009). Furthermore, areas of habitat preservation were not included in the CRAM analyses, but are valuable in maintaining the overall condition of their watersheds and protecting the mitigation features from negative external stressors such as edge effects.

**Table 8. Summary of Total Mitigation for Permanent and Temporary Impacts per Resource Type (based on Ordinary High Water Mark)**

Resource Type	Temporary Impacts		On-Site Mitigation (acres)	Permanent Impacts Impact (acres)	Offsite Mitigation (acres)			TOTAL MITIGATION (acres)
	Impact (acres)	Mitigation Ratio			Preservation	Enhancement	Restoration	
Desert Dry Washes	6.53	1:1	6.53	2.45	84.13 (DC)	(DC)	(DC)	<b>98.13</b>
					3.43 (S)	4.04 (S)	(S)	
					(LP)	(LP)	(LP)	
					(L)	(L)	(L)	
					(CC)	(CC)	(CC)	
<b>Subtotal</b>					<b>87.56</b>	<b>4.04</b>	<b>-</b>	
Other Streams	0.55	1:1	0.55	0.35	(DC)	(DC)	(DC)	<b>4.94</b>
					(S)	(S)	(S)	
					1.39 (LP)	0.96 (LP)	(LP)	
					0.55 (L)	0.09 (L)	0.04 (L)	
					0.28 (CC)	1.08 (CC)	(CC)	
<b>Subtotal</b>					<b>2.21</b>	<b>2.14</b>	<b>0.04</b>	
Wetlands	0	2:1	0	0.08	(DC)	(DC)	(DC)	<b>18.63</b>
					(S)	0.88 (S)	(S)	
					9.92 (LP)	5.99 (LP)	(LP)	
					0.20 (L)	0.63 (L)	(L)	
					0.99 (CC)	0.02 (CC)	(CC)	
<b>Subtotal</b>					<b>11.11</b>	<b>7.52</b>	<b>-</b>	

Abbreviations for Mitigation Sites:  
 DC= Desert Cahuilla Mitigation Site  
 S= Suckle Mitigation Site  
 LP= Long Potrero Mitigation Site  
 L= Lightner Mitigation Site  
 CC= Chocolate Canyon Mitigation Site

**Table 9. Summary of Total Mitigation for Permanent and Temporary Impacts per Resource Type (based on Top of Bank)**

Resource Type	Temporary Impacts		On-Site Mitigation (acres)	Permanent Impacts Impact (acres)	Offsite Mitigation (acres)			TOTAL MITIGATION (Onsite and Offsite acres)
	Impact (acres)	Ratio			Preservation	Enhancement	Restoration	
Desert Dry Washes	7.30	1:1	7.22	2.72	84.13 (DC)	(DC)	(DC)	<b>98.90</b>
					3.43 (S)	4.04 (S)	(S)	
					(LP)	(LP)	(LP)	
					(L)	(L)	(L)	
					(CC)	(CC)	(CC)	
<b>Subtotal</b>				<b>87.56</b>	<b>4.04</b>	<b>-</b>		
Streams with No Riparian Vegetation	0.91	1:1	0.97	0.37	(DC)	(DC)	(DC)	<b>5.30</b>
					(S)	(S)	(S)	
					1.39 (LP)	0.96 (LP)	(LP)	
					0.55 (L)	0.09 (L)	0.04 (L)	
					0.28 (CC)	1.08 (CC)	(CC)	
<b>Subtotal</b>				<b>2.21</b>	<b>2.14</b>	<b>0.04</b>		
Streams with Riparian Vegetation <sup>1</sup>	0	2:1 or 3:1	0.02 or 0.03	2.34	(DC)	(DC)	(DC)	<b>47.01</b>
					(S)	(S)	(S)	
					12.62 (LP)	3.95 (LP)	(LP)	
					15.83 (L)	0.63 (L)	3.43 (L)	
					10.25 (CC)	0.30 (CC)	(CC)	
<b>Subtotal</b>				<b>38.70</b>	<b>4.88</b>	<b>3.43</b>		
Wetlands	0	2:1	0	0.08	(DC)	(DC)	(DC)	<b>18.63</b>
					(S)	0.88 (S)	(S)	
					9.92 (LP)	5.99 (LP)	(LP)	
					0.20 (L)	0.63 (L)	(L)	
					0.99 (CC)	0.02 (CC)	(CC)	
<b>Subtotal</b>				<b>11.11</b>	<b>7.52</b>	<b>-</b>		

Abbreviations for Mitigation Sites:  
 DC= Desert Cahuilla Mitigation Site  
 S= Suckle Mitigation Site  
 LP= Long Potrero Mitigation Site  
 L= Lightner Mitigation Site  
 CC= Chocolate Canyon Mitigation Site

<sup>1</sup> Mitigation acreages for SRV's are referred to on figures and in text as "Riparian Habitat" preservation, enhancement, and restoration.

**Table 10. Summary of SRPL Aquatic Resource Mitigation**

Site	Resource Type	Mitigation Area [acres; linear feet for streams]			
		Preservation	Enhancement	Restoration	Total
Desert Cahuilla	Desert Dry Washes	84.13 (24,400)			84.13 (24,400)
	Streams				
	Wetlands				
	Riparian				
Suckle	Desert Dry Washes	3.43 (7,000)	4.04 (4,200)		7.47 (11,200)
	Streams				
	Wetlands	0.48	0.40		0.88
	Riparian				
Lightner	Desert Dry Washes				
	Intermittent and Ephemeral Streams	0.55 (17,117)	0.09 (2,751)	0.04 (1,117)	0.68 (20,985)
	Wetlands	0.20	0.63		0.83
	Riparian	15.83	0.63	3.43	19.89
Long Potrero	Desert Dry Washes				
	Intermittent and Ephemeral Streams	1.39 (16,857)	0.96 (6,054)		2.35 (22,911)
	Wetlands	9.92	5.99		15.91
	Riparian	12.62	3.95		16.57
Chocolate Canyon	Desert Dry Washes				
	Perennial and Intermittent Streams	0.28 (9,051)	1.08 (3,162)		1.36 (12,213)
	Wetlands	0.99	0.02		1.01
	Riparian	10.25	0.30		10.55
<b>Totals</b>	<b>Desert Dry Washes</b>	<b>87.56</b>	<b>4.04</b>		<b>91.60</b>
	<b>Streams</b>	<b>2.22 (43,025)</b>	<b>2.13 (11,967)</b>	<b>0.04 (1,117)</b>	<b>4.39 (56,109)</b>
	<b>Wetland</b>	<b>11.11</b>	<b>7.52</b>		<b>18.63</b>
	<b>Riparian</b>	<b>38.70</b>	<b>4.88</b>	<b>3.43</b>	<b>47.01</b>

## 7.0 MITIGATION WORK PLAN

This section of the Final HMMP is divided into two parts. The first part provides a description of mitigation implemented for this mitigation site, with maps and tables showing acreages and locations of mitigation within the site. The second section describes implementation methods for general mitigation activities that will be performed at the mitigation site.

### 7.1 Activities Planned at the Mitigation Site

The following section describes the mitigation activities that will be performed at the Long Potrero Mitigation Site. These activities are summarized in the list below. Mitigation activities at the Long Potrero Mitigation Site are limited due to the presence of the federally endangered arroyo toad. No grading or significant earth disturbance will be permitted within the site to protect this species and its habitat. In addition, driving on all roads should be limited to 2 hours after sunrise to 2 hours before sunset to prevent impacts to arroyo toad. Mitigation implementation proposed at the Long Potrero Mitigation Site includes:

- Preservation of streams, wetlands, and riparian habitat
- Enhancement of streams, wetlands and riparian habitat through removal of non-native, invasive plant species (limited to occur from October through December, outside of arroyo toad breeding season)

Mitigation acreage within the Long Potrero Mitigation Site is listed in Table 11 below. Mitigation activities planned for the Long Potrero Mitigation Site are shown in Figure 6 and Appendix B, and each activity is described further in the text below.

**Table 11. Summary of Mitigation Activities Long Potrero Mitigation Site**

Mitigation Action	Area (acres)	Length (linear feet)
<b>Streams</b>		
Stream Preservation	1.39	16,857
Stream Enhancement and Preservation	0.96	6,054
<b>Total</b>	<b>2.35</b>	<b>22,911</b>
<b>Wetlands</b>		
Wetland Preservation	9.92	N/A
Wetland Enhancement and Preservation	5.99	N/A
<b>Total</b>	<b>15.91</b>	<b>N/A</b>
<b>Riparian</b>		
Riparian Preservation	12.62	N/A
Riparian Enhancement and Preservation	3.95	N/A
<b>Total</b>	<b>16.57</b>	<b>N/A</b>

### 7.1.1 *Preservation*

A total of 9.92 acres of wetlands, 1.39 acres of ephemeral, intermittent, and perennial streams, and 12.62 acres of riparian habitat within the Long Potrero Mitigation Site will be preserved through this mitigation action. Land use restrictions and long-term financing mechanisms will ensure that these waters and their surrounding habitats are preserved in perpetuity.

### 7.1.2 *Enhancement*

A total of 5.99 acres of wetlands, 0.96 acre of ephemeral, intermittent, and perennial streams, and 3.95 acres of riparian habitat within the Long Potrero Mitigation Site will be preserved through this mitigation action. Non-native, invasive plant species, or weeds, will be removed from the site, as feasible, from within the stream channels, wetlands, and ponds. In addition, control of these species within 120 feet of the stream channels, wetlands, and ponds will occur to increase the functions and values of habitat for native wildlife and plant species, including special-status species.

In general, weed species are distributed throughout the upland areas that are adjacent to the streams, wetlands, and ponds at this site. In these areas, mostly annual weed species, particularly grass species, occur somewhat evenly distributed throughout the grasslands. Within the stream channels, weeds occur sporadically and are not currently having a significant adverse impact on the functions and resources of the streams. Within the wetland areas, weeds are more predominant within, surrounding, and outside of the wetlands. This is particularly true of areas within the wetlands that appear too deep for perennial seasonal wetland vegetation. The density of weed species within some of the wetland habitat degrades the functions and services of the wetlands to wildlife and to native plant species.

Removal of non-native, invasive species will focus on areas within the banks of the stream channels and within the wetlands and ponds. In addition, weeds will be controlled in the buffer areas adjacent to the stream channels and wetland areas to reduce the spread of weeds into the aquatic resources. As part of the mitigation activities, weed species will be controlled within a 120-foot buffer adjacent to stream channels and around wetlands and ponds. This buffer size was determined based on a balance between establishing a width large enough to effectively reduce the spread of weeds into the aquatic resources, while at the same time limiting the width based on practical limitations associated with managing weed species in remote areas.

In addition, there are several other areas where non-native, invasive plant species will be removed. Specifically, several salt cedar plants will be removed which occur within the eastern-most man-made pond and just below the dam of this pond. Lastly, the top of the dam and portions of the downstream slope of the dam at this pond is covered with tocalote, which will be removed. Other weed species will be controlled under the larger project-wide weed management plan.

Table 12 lists the non-native, invasive plant species that will be removed and controlled and the method(s) that will be used to control them.

### Sequence and Timing

The sequence and timing for the mitigation activities will likely be concurrent with project construction for activities in mountain stream areas. Sequence and timing that is related to specific weed removal methods are described in Section 5.2.



**Table 12. Non-native, Invasive Plant Species to be Controlled and the Method of Control**

Botanical Name	Common Name	Method of Control
<i>Centaurea melitensis</i>	toocalote	Hand/Mechanical Removal, Herbicide
<i>Hirschfeldia incana</i>	shortpod mustard	Hand/Mechanical Removal, Herbicide
<i>Rumex crispus</i>	curly dock	Hand/Mechanical Removal, Herbicide
<i>Tamarix ramosissima</i>	salt cedar	Salt Cedar Control Method

## 7.2 General Mitigation Implementation Methods and Best Management Practices

This section describes general methods for implementation of mitigation activities that would occur throughout all of the mitigation sites. These activities include site preparation, weed removal, and erosion control Best Management Practices (BMPs) that would be implemented as applicable to a given site. In addition, all mitigation activities will avoid impacts to nesting birds and will follow the breeding season dates listed in the SRPL Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS) (Aspen Environmental Group 2008).

### 7.2.1 Implementation Methods for Control of Non-native, Invasive Plant Species

Non-native, invasive plant species removal will be implemented as part of enhancement activities, during site preparation for restoration activities, and as part of long-term management activities throughout the project alignment (Recon Environmental Inc. 2010). Non-native, invasive plant species removal will target all California Invasive Plant Council (Cal-IPC; <http://www.cal-ipc.org/ip/inventory/weedlist.php>) non-native, invasive annual and perennial plant species listed as having a severe or moderate (A or B) invasive impact with the exception of annual grass species which are abundant within reference locations. Non-native, invasive plant species removal methods to be implemented for each species are indicated in each of the invasive plant species control table (Table 12) above. Specifics on the implementation of these methods are described in more detail below.

In general and when feasible, live reproductive plant materials such as seed and rhizomes, will be removed from the site. Some areas have extremely fragile habitats that could be damaged by attempting to remove large quantities of plant material. For these areas, the option of processing and disposing of plant material on-site in an appropriate manner will be determined by the land manager. In all cases, viable plant material will be processed and disposed of outside of the bed and banks of the channel. Plant material processing that may be proposed includes one or more of the methods that are listed below.

- Burning during appropriate time of year to prevent spread of fire
- Cut into manageable size and dispose of on-site to create brush piles for wildlife
- Removal of material from the site
- Burial of material

### Weed Removal as Part of Site Preparation

Mowing will be one method used for initial removal of non-native, invasive plants to prepare enhancement areas, as appropriate. Based on the remoteness of the mitigation sites, mowing will be implemented using weed-eaters (or “weed-whackers”) or similar trimmers with string or metal blades. This method may be used to minimize the extent and height of non-native annual

herbs and grasses. Mowing will be used only if it will not have a deleterious effect on native plant species that are interspersed with the weeds.

### Removal of Priority Weed Species

The removal of the priority weed species at the Long Potrero Mitigation Site, including tocalote, shortpod mustard, and curly dock, will be removed by manual and mechanical methods. The removal methods of salt cedar, another priority species, are described later. Manual removal is the preferred method of removing weed species from the site since ground disturbance and adverse effects to sensitive wildlife species will be minimized. However, mechanical methods of removal, such as mowing or the use of weed-whackers, are prescribed in appropriate areas of the site.

Removal of the annual species tocalote and shortpod mustard will be performed first during the late winter or early spring when soils are moist enough to remove most plants without breaking the roots. A second weed removal effort will take place in late spring or early summer to remove any re-sprouted weeds and ensure that the weed control area is weed free. Tocalote and shortpod mustard will be removed twice during the spring throughout the 5-year monitoring period. Removal of the perennial species curly dock will occur monthly during the growing season, between approximately February and August, during the first year. Curly dock will then be removed four times during the growing season in monitoring Year 2 and two times during the spring in monitoring Years 3-5. The timing and methods of weed removal may be adapted by the consulting biologist depending on the weed removal results from previous years.

Plant materials that are removed will be disposed of carefully to prevent regeneration or spread. Weeds will be removed before the species sets seed. When this is not feasible, seed heads will be removed from plants prior to removal of the remaining plant. Seed heads of non-native, invasive plant species will be placed in plastic trash bags and removed from the project site for proper disposal.

If manual and mechanical removal methods are tried and found to be ineffective after 2 years of repeated treatment, or if the problem is too widespread for these methods to be practical, then chemical controls may be implemented as described below. All of the methods described in this section will be adapted to each species based on its morphology and phenology.

### Herbicides

Herbicides will be used when manual and mechanical removal methods are not effective and may be used in conjunction with these other methods for species that are known to be difficult to control. The project will use glyphosate-, triclopyr-, or imazapyr- based herbicides, such as Rodeo®, Habitat®, or other products that are Environmental Protection Agency (EPA)-approved for use near wetlands and streams. Herbicides will not be used when rain is predicted within 24 hours after application. The owner and applicator must comply with all state and local regulations regarding the application of herbicides.

Herbicides will be applied using a localized spot-treatment method and applied in a manner that will eliminate or reduce drift onto native plants. Herbicides may also be applied to cut stumps for large woody plants or large clumps of herbaceous weed that cannot be effectively removed. If the species has the ability to sprout from the cut trunk, then the cut stump will be treated with Garlon® 4 or other approved herbicide in accordance with the manufacturer's specifications to ensure that the cut stump will not sprout. Cut stumps will be subsequently monitored and repeatedly cut and treated with herbicide until the stump is dead. Except as described above, and for the remainder of the ROW, the above ground plant material shall be removed from the

site and disposed at a municipal recycling center that is equipped to process and recycle green waste (Recon Environmental Inc. 2010). The removal shall be performed at a time when the plants do not have ripe seed. If this is not feasible, then seeds will be removed, placed in plastic bags and disposed off-site.

As an alternative to commercially manufactured herbicides, the project may use an organic alternative of horticultural vinegar (20 percent) spray or common household vinegar (5 percent) spray.

### Salt Cedar Removal

Salt cedar may be removed by hand or by using an herbicide application, depending on the size of the plants. Removal of salt cedar plants will occur between August and October, and resprouts will be removed between 4 and 6 months following the first removal. When feasible, all biomass must be removed and disposed of at an appropriate off-site location. Follow up spraying of resprouts must be done on an annual basis during the 5-year monitoring period and may be required multiple times each year to eliminate infestations.

When salt cedar plants are seedlings, hand pulling or a weed wrench can be used to remove individuals. Removing the entire plant, including the root system, ensures that plants do not resprout. For salt cedar saplings and trees, an herbicide treatment will be prescribed. A triclopyr-based herbicide such as Garlon®4 or Remedy™ or imazapyr-based herbicide such as Arsenal® or Habitat® or other herbicides approved by the EPA for aquatic settings will be used.

The cut-surface, girdle-spray, and basal bark methods of salt cedar removal involve the use of herbicide. The cut-surface method is the preferred method of salt cedar removal. Using this method, the salt cedar trees or saplings are cut within 6 inches of the ground surface. The stump surface is sprayed with herbicide immediately following the cuts. The dead plant biomass is then removed from the site if feasible or disposed of in locations on site approved by the land manager.

The girdle-spray and basal bark methods can be used in places where removal of the dead plant biomass is prohibitive due to site conditions and with approval by the consulting biologist. The girdle-spray method is used on salt cedar trees with trunk diameters of 4 inches or greater. The trees are girdled by the creation of shallow, overlapping cuts around the trunk. Herbicide is applied to the cut surface immediately following girdling. The basal bark method can be used on salt cedar trees with diameters of less than 4 inches. Using the basal bark treatment, an herbicide mixture is applied to the lowest 12 inches of the plant. Following the girdle-spray or basal bark treatments, the plants can be left in place to die and be retreated if necessary. Any seed heads on the plants will be removed and brought off-site, however.

### *7.2.2 Erosion Control Measures*

Erosion control measures will be utilized in areas that involve any mitigation activities that result in bare ground. These areas will be covered with rice straw to protect the surface from erosion. In areas where the slope is greater than 3:1 (horizontal to vertical), straw wattles, straw bales, and/or silt fence may be installed to reduce the velocity of runoff and trap sediment. Wattles, bales, and silt fence will either be biodegradable or will be removed as part of the mitigation activities when they are no longer needed.

## **8.0 MAINTENANCE PLAN**

Maintenance activities are summarized in the following sections. The maintenance plan for the first 5 years (start-up period) in the HAP/HMP area is described fully in the HAP/HMP (SDG&E 2010) and summarized below.

### **8.1 Maintenance Activities within Mitigation Areas**

On-going removal of non-native, invasive plant species will occur in the mitigation areas as described in 7.2.1. In addition, methods and success of controlling and removing non-native, invasive plants will be shared with surrounding land managers/owners.

### **8.2 Maintenance Activities within HAP/HMP Area**

As stated in the HAP/HMP (SDG&E 2010), the following maintenance activities will take place within the Long Potrero Mitigation Site:

- Access control and maintenance of signage
- Control of invasive plant species
- Erosion control along maintained roads and decommissioned roads
- Fire management in coordination with local fire agencies
- Monitoring and maintenance of illegal dumping and general trash removal

In addition, the HAP/HMP (SDG&E 2010) includes ongoing tasks for general monitoring of environmental conditions, species community mapping, species surveys, and wildlife assessments. These activities will inform maintenance activities through preparation of monitoring reports.

## **9.0 MONITORING REQUIREMENTS AND PERFORMANCE CRITERIA**

### **9.1 As-built Conditions Reporting**

As-built conditions reporting will take place at the end of the 120-day establishment period which will serve to notify the agencies of the completion of construction. In addition, this will be reported as part of the first annual monitoring report for the Long Potrero Mitigation Site. As-built conditions reporting will include descriptions of enhancement activities undertaken during mitigation implementation. If enhancement activities take place during consecutive years, the reporting will occur as part of the annual reporting the first year following implementation at the mitigation site.

### **9.2 Initial Mitigation Monitoring Activities and Performance Criteria**

The purpose of the project's mitigation monitoring program is to assess the effects of enhancement activities, as well as to provide guidance for habitat management in the event of negative environmental stressors that may affect ecosystem function. The project will use CRAM to provide quantitative evaluation of mitigation site waters during the initial monitoring period, as well as qualitative monitoring that will include monitoring and mapping of non-native, invasive species, excessive erosion, and other negative environmental stressors.

Monitoring at the mitigation site will occur for a minimum 5-year period, with Year 1 beginning following the completion of mitigation action at the site and the completion of preservation agreements between SDG&E and the long-term land manager. Year 1 begins following completion of the mitigation action (e.g., non-native, invasive species removal). Monitoring would continue on an annual basis until the site has met all performance criteria *and* all regulatory agencies have agreed in writing that the site has met performance criteria and is ready for transfer to the long-term manager. Monitoring methods are described below.

### 9.2.1 Quantitative CRAM Evaluation

*Purpose:* Provide quantitative evaluation of preserved streams to inform adaptive management through comparison of CRAM scores from year-to-year.

*Methods:* CRAM methodology developed by the Southern California Coastal Water Research Project (SCCWRP 2010) for riverine habitats in the project reach will be applied annually to enhanced stream reaches. CRAM AAs will remain the same from year-to-year to enable consistent comparison of performance. Evaluation of riverine wetlands using CRAM will be led by certified CRAM practitioners trained in the riverine CRAM module or a more specific module for these areas, if developed in the future. The results of riverine wetland evaluations using CRAM will be presented as part of the annual monitoring reports.

*Performance Criteria:* CRAM scores will be compared to baseline CRAM scores for enhanced stream reaches. CRAM scores are anticipated to increase compared to baseline conditions following enhancement. The rate and of increase will vary based on the baseline scores for each reach, and intensity of enhancement actions. If CRAM scores decrease, reasons for the decrease will be reported as part of the annual monitoring report and management actions will be implemented.

### 9.2.2 Qualitative Monitoring for Non-native, Invasive Species

*Purpose:* To monitor conditions for non-native, invasive species that may affect the ability of the mitigation site to continue to provide adequate habitat functions and to identify and retreat any re-growth or new colonies prior to spreading.

*Methods:* The mitigation site will be surveyed during each annual monitoring visit to map and describe the occurrence of negative environmental stressors. For invasive species, the site will be surveyed for the locations of non-native, invasive species populations designated as having a severe or moderate (A or B) invasive impact by Cal-IPC (with the exception of annual grass species). Non-native, annual grass species will be controlled within waters for the duration of the monitoring period, but are expected to be present due to their prolific nature within reference locations. For any observed non-native, invasive plant species, locations and extents of each population will be mapped, and estimates of population size (number of individuals) will be made. Other stressors to be evaluated include OHV use and anthropogenic sources of erosion and sedimentation. If environmental stressors are identified, the source of the stressor (for example, a cut fence resulting in OHV use, or off-site source population of invasive species) will be identified and described for management action. Weeds in other locations will follow the Weed Control Plan for the entire ROW (Recon Environmental Inc. 2010).

*Performance Criteria:* Non-native, invasive plant species listed as having a severe or moderate (A or B) invasive impact by the Cal-IPC (with the exception of annual grass species prevalent in the area) will be managed so they do not exceed more than 5 percent cover of annual species and 0 percent cover of perennial species within waters. Non-native, annual grass species will be controlled within waters for the duration of the monitoring period, but are expected to be present



due to their prolific nature within reference locations Monitoring reports in Years 2 through 5 will contain a description of management activities performed each year based on previous year's management recommendations. The success of management recommendations will also be evaluated as part of the adaptive management strategy for the site (see Section 6.4 below).

### 9.2.3 Semiannual Wildlife Surveys

A qualified biologist will conduct semiannual surveys of mitigation areas to document the bird, wildlife, and fish use of the enhanced habitats within the mitigation site. Wildlife surveys will be conducted in the spring and fall of each year; the exact timing will be determined by the consulting biologist. The surveys will be initiated after removal of non-native, invasive species removal has occurred and will continue through the initial 5-year monitoring period. No performance criteria have been established for this task.

## 9.3 Monitoring Schedule and Reporting Requirements

With the exception of wildlife surveys, monitoring of the mitigation site will occur on a quarterly basis for the first year, bi-annually for the second year, and annually until performance criteria are met. Qualitative monitoring would be completed at the end of every year with quantitative monitoring (e.g. CRAM, vegetation transects or other data collection methods) would occur bi-annually (e.g. Years 1, 3, and 5). Wildlife surveys will be conducted twice annually throughout the 5-year monitoring period. Reporting will occur annually; reports for qualitative years (Years 2 and 4) will consist of a memorandum discussing the general condition of the site and management actions implemented in that year and/or recommended for the following year. Quantitative monitoring years (Years 1, 3, and 5) will be a full report with analysis. Each monitoring report will include a summary of the two wildlife surveys conducted in that year.

Monitoring at this mitigation site will be completed during the late spring or early summer of each monitoring year. A mitigation monitoring report will be prepared for the mitigation site to enable clear communication to the land manager at this location. The report will be submitted to the Corps, CDFG, and SWRCB by December 31 of each monitoring year.

## 10.0 LONG-TERM MANAGEMENT PLAN

Long-term management for the Long Potrero Mitigation Site is described in the HAP/HMP (SDG&E 2010) for the SRPL project, and is to be funded by a long term endowment based on a Property Analysis Record (PAR). The timing for development of the long-term management plan is detailed in Conservation Measure G-CM-17 of the BO (USFWS 2010):

*(b) SDG&E will fully fund an endowment for in-perpetuity management of all parcels acquired in (c) within 3 months of the Wildlife Agencies' approval of the final endowment amounts.*

*(c) Unless otherwise authorized by the Wildlife Agencies, no later than 18 months from the date of the revised 2010 biological and conference opinion, SDG&E will acquire and permanently preserve the nine (9) parcels identified in the September 2010 HAP (referenced by name as Nabi, Lakeside Ranch, Hamlet, El Capitan, Chocolate Canyon, Lightner, Long Potrero, Suckle, and Desert Cahuilla) in a manner consistent with the HAP and the following provisions:*

- The land-owner, land management entity, conservation easement grantee, and endowment fund manager for each property will be approved by the Wildlife Agencies. SDG&E will coordinate efforts with the Wildlife Agencies to identify*

*potential candidates and review their qualifications to hold and manage lands and/or endowment funds. This task will be completed within 6 months of issuance of the 2010 revised biological and conference opinion.*

- *SDG&E will conduct a revised Property Analysis Record (PAR) or PAR-like analysis for each property once the land management entity for individual properties has been identified and approved by the Wildlife Agencies. This revised PAR will be used to determine the final endowment amount SDG&E will provide for in-perpetuity habitat management of each property.*
- *Conservation easement language, or its equivalent where an easement is not allowed by the land manager (State Parks), for all properties will be approved by the Wildlife Agencies prior to easement recordation; and*
- *SDG&E will complete the required acquisition, protection, and transfer of all properties and record the required conservation easements in favor of DFG, or other entity approved by the Wildlife Agencies, no later than 18 months after the start of the ground- or vegetation-disturbing activities.*

The PAR results for all land management activities including those necessary to maintain the wetlands and streams within the mitigation site are included in the HAP/HMP (SDG&E 2010). The PAR provides the basis for long-term funding determinations. A preliminary summary of the conveyance, land use restrictions, and funding is provided in Table 13. A summary of the preliminary long-term endowment costs for the Long Potrero Mitigation Site is provided in Table 14.

### **10.1 Parties Responsible for Long-Term Management**

The Long Potrero Mitigation Site will be conveyed to a non-profit conservancy, the County of San Diego, or the BLM; however, a final decision will not be made until the resource agencies consider and approve a long-term management entity. The entity responsible for long-term management will be identified according to the schedule provided above.

### **10.2 Incorporation with Habitat Mitigation Plan for the Long Potrero Mitigation Site**

Long-term management of wetlands and waters in the Long Potrero Mitigation Site is fully incorporated with the long-term maintenance and monitoring described in the HAP/HMP (SDG&E 2010).

### **10.3 Activities Included in Long-Term Management**

Long-term management activities are similar to maintenance activities described in the HAP/HMP (SDG&E 2010) and summarized above in Section 8.2. These activities include::

- Access control and maintenance of signage
- Control of invasive plant species
- Erosion control along maintained roads and decommissioned roads
- Fire management in coordination with local fire agencies
- Monitoring and maintenance of illegal dumping and general trash removal
- General conditions monitoring and wildlife assessment
- Vegetation mapping
- Special status species surveys

- Maintenance of a Geographic Information System (GIS) database
- Preparation of annual reports detailing management activities that occurred during the reporting year

Complete descriptions of these activities are included in the HAP/HMP (SDG&E 2010).

**Table 13. Summary of elements of Long-Term Management for the Long Potrero Mitigation Site<sup>2</sup>. Details provided in HAP/HMP (SDG&E 2010) and BO.**

<i>Land Use Restrictions</i>	<i>Par Analysis</i>	<i>Funding for Long-term Maintenance</i>
Entire mitigation site would be managed for conservation purposes, with emphasis on the wetland resources, native trees, and other sensitive biological resources (including arroyo toad, spadefoot toad, western pond turtle, and quino checkerspot butterfly). Restricted access.	<p>PAR Analysis provided in Sept. 2010 HAP/HMP (SDG&amp;E 2010)</p> <p>Funding for Endowment provided 3 months after revised PAR and land management entity selected by Resource Agencies, SWRCB, and Corps</p> <p>Final easements and site ownership conveyed to management entity no later than 18 months after ground disturbance activities</p>	SDG&E will provide funding for perpetual management of the mitigation site; long-term costs estimated based on a PAR analysis of mitigation site maintenance and management of biological resources approved by Resource Agencies. Long-term management would include control of non-native, invasive species, habitat and species monitoring, access control, and related measures. SDG&E will provide copies of the management plans that identify how access will be controlled.

**Table 14. Long-term Endowment Costs for the Long Potrero Mitigation Site.**

<b>Endowment Total</b>	<b>Yearly Average Cost: First 5 Years</b>
\$3,279,064	\$120,792

## 11.0 ADAPTIVE MANAGEMENT PLAN

SDG&E will be the responsible party for implementation of management activities during the initial monitoring period. Specific maintenance and management activities will be identified based on the results of each annual monitoring visit. Maintenance and monitoring recommendations will be developed by September 15 of each year to allow time for planning and mobilization of work crews prior to the rainy season. Maintenance activities that involve work in waters and wetlands will be conducted prior to the onset of winter rains. Other maintenance activities will be conducted prior to the annual monitoring in the year following the recommendation.

As part of each annual monitoring report, maintenance and management activities implemented during the previous year will be described and the results will be evaluated under the framework of adaptive management. If management and maintenance methods are not successful in addressing negative environmental stressors identified as part of annual monitoring reports, the methods will be examined and altered to increase the potential for success based on best professional judgment and management methods that are shown to be successful based on scientific research. In some cases, success of management and maintenance activities may not

<sup>2</sup> Long term management agency subject to Corps approval.

be evident over the course of only 1 year. This will be accounted for in annual monitoring reports through evaluation of whether or not management actions are contributing to progress towards the ultimate goal. In these cases, it may be necessary to wait for 2 years or more before altering methods as part of an adaptive management strategy. Each annual monitoring report will contain a section dedicated to evaluation of management and maintenance actions as part of the adaptive management strategy.

### **11.1 Incorporation within Habitat Mitigation Plan for the Long Potrero Mitigation Site**

The principles of adaptive management are fully incorporated into the implementation, monitoring, maintenance, and long-term management of the Long Potrero Mitigation Site described in this Final HMMP.

### **11.2 Natural Occurrences**

Contingencies have been included in the financial assurances (Section 12.0) to provide a cushion for any unforeseen costs of management activities to be carried out in the event that a fire, flood, or other natural disaster should have a negative impact on preserved and/or enhanced habitat during the initial monitoring period. The 5-year habitat management work programs (described fully in the HAP/HMP [SDG&E 2010]) includes a fire management component developed in cooperation with the responsible fire agencies and in compliance with applicable State and local policies and regulations. In addition, the fire management component of the long-term management plan will be updated every 3 years. Remedial actions will be carried out during the initial monitoring period if habitat quality is reduced due to the occurrence of fire and/or other natural disasters. Remedial actions will also be carried out during long-term management if habitat quality is reduced due to management activities. These actions are described in the HAP/HMP (SDG&E 2010) and summarized in the following section.

### **11.3 Potential Remedial Actions**

Habitat remediation consists of minor restoration of habitat from the effects of erosion, unauthorized access or removal of exotics; it is not considered ecological habitat restoration or creation. This task may include seeding with native seeds, raking, or weed removal. Remedial restoration may also include the restoration of closed trails or roads. Due to the high level of disturbance and compaction, a closed road or trail can take a substantially greater amount of time to revert back to the surrounding native vegetation community without active seeding, weeding, and soil preparation. Therefore, remedial restoration for decommissioned roads and trails will be somewhat active (e.g., may include soil de-compaction, seeding with the imprinting method, more active exotic species control etc.). Habitat remediation is included during the initial monitoring (start-up) period for this mitigation site and is also an integral part of the habitat management in perpetuity.

## **12.0 FINANCIAL ASSURANCES**

### **12.1 Estimated Costs for Mitigation Measures**

#### *12.1.1 Land acquisition*

The Long Potrero Mitigation Site is already owned by SDG&E. Therefore, there is no additional land acquisition cost associated with this mitigation site.



*12.1.2 Plan Implementation*

Implementation costs for the Final HMMP are estimated to be \$208,596, as shown in Table 15 below. Implementation tasks include mobilization, removal of non-native, invasive species, and enhancement of riparian and wetland vegetation.

*12.1.3 Monitoring and Maintenance for Performance Period*

Monitoring costs for the Final HMMP are estimated to be \$120,792, as shown in Table 15 below. These costs represent the first 5 years of monitoring. In addition, maintenance costs from the HAP/HMP (SDG&E 2010) are estimated to be \$527,356 for the first 5 years.

*12.1.4 Long-Term Maintenance*

Long-term endowment costs are estimated at \$3,279,064 million, as shown in Table 15 below. This endowment estimate is based on the amount of money needed to generate, on an annual basis, the annual maintenance costs (assuming a 5 percent return on the money and 3 percent inflation).

*12.1.5 Remediation*

Remediation costs are combined with maintenance costs in Table 15 below. Remediation efforts may include removal of non-native, invasive plants and minor stream habitat restoration, replanting and weed removal.

**Table 15. Long Potrero Mitigation Costs**

	<b>Cost</b>
<b>First 5 Years</b>	
<b>Implementation Costs for HMMP</b>	\$208,596
<b>5-year Monitoring Costs for HMMP</b>	\$120,792
<b>Maintenance/Remediation</b>	\$83,375
<b>In Perpetuity</b>	
<b>Long-term Endowment Costs</b>	\$3,279,064

**12.2 Form of the Letter of Credit**

Financial assurance during the initial monitoring period will be guaranteed by SDG&E through issuance of a Letter of Credit. The dollar amount of the Letter of Credit will be based on the estimated cost of mitigation implementation to be determined upon acceptance of the mitigation plan by resource agencies and is subject to final approval by the Corps. The final dollar amount will be provided by SDG&E under separate cover upon issuance of project permits. Cost estimates for both the mitigation activities and initial management of the mitigation site described in this document are in Appendix C.

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Appendix A: All CRAM Scores Collected for the Sunrise Powerlink Project



Appendix A. All CRAM Scores Collected for the Sunrise Powerlink Project.\*

CRAM ID	Category	OVERALL CRAM SCORE		Buffer and Landscape Context										Hydrology								
				Landscape Connectivity		% of AA with Buffer		Average Buffer Width		Buffer Condition		Attribute Score (Final %)		Water Source		Hydro-period/Channel Stability		Hydrologic Connectivity		Attribute Score (Final %)		
				E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P	
Existing/Projected		E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P	
5-DW-7	DDW	62.2%	58.4%	12	12	12	12	12	12	12	12	9	100.0%	93.3%	12	12	12	9	3	3	75.0%	66.7%
5-DW-8	DDW	71.5%	67.8%	12	12	12	12	12	12	12	12	9	100.0%	93.3%	12	12	12	9	9	9	91.7%	83.3%
7-DW-10	DDW	64.0%	62.0%	12	12	12	12	12	12	9	6	93.3%	85.4%	12	12	9	9	12	12	91.7%	91.7%	
8-DW-2	DDW	65.3%	65.3%	12	12	12	12	12	12	9	9	93.3%	93.3%	12	12	9	9	12	12	91.7%	91.7%	
9-DW-9	DDW	71.2%	69.2%	12	12	12	12	12	12	12	9	9	93.3%	93.3%	12	12	12	9	12	12	100.0%	91.7%
10-DW-1	DDW	72.7%	72.7%	12	12	12	12	12	12	6	6	85.4%	85.4%	12	12	9	9	12	12	91.7%	91.7%	
11-DW-1	DDW	62.0%	62.0%	12	12	12	12	12	12	6	6	85.4%	85.4%	12	12	9	9	12	12	91.7%	91.7%	
13-DW-15	DDW	65.3%	63.3%	12	12	12	12	12	12	9	9	93.3%	93.3%	12	12	12	9	6	6	83.3%	75.0%	
14-DW-12	DDW	69.1%	65.3%	12	12	12	12	12	12	12	9	100.0%	93.3%	12	12	12	9	12	12	100.0%	91.7%	
15-DW-1	DDW	68.8%	68.8%	12	12	12	12	12	12	12	12	100.0%	100.0%	12	12	9	9	9	9	83.3%	83.3%	
15-DW-8	DDW	71.2%	67.4%	12	12	12	12	12	12	12	9	100.0%	93.3%	12	12	12	9	12	12	100.0%	91.7%	
16-DW-11	DDW	68.6%	68.6%	12	12	12	12	12	12	6	6	85.4%	85.4%	12	12	9	9	12	12	91.7%	91.7%	
17-DW-2	DDW	71.2%	71.2%	12	12	12	12	12	12	9	9	93.3%	93.3%	12	12	9	9	12	12	91.7%	91.7%	
17-DW-7	DDW	63.3%	61.2%	12	12	12	12	12	12	12	9	9	93.3%	93.3%	12	12	12	9	6	6	83.3%	75.0%
35-S-2	ME	67.4%	67.4%	12	12	12	12	12	12	12	9	9	93.3%	93.3%	12	12	9	9	6	6	75.0%	75.0%
35-S-4	ME	70.5%	70.5%	12	12	12	12	12	12	9	9	93.3%	93.3%	12	12	9	9	12	12	91.7%	91.7%	
53-S-8	ME	78.5%	74.7%	12	12	12	12	12	12	12	9	100.0%	93.3%	12	12	12	9	12	12	100.0%	91.7%	
54-S-10	ME	63.6%	63.6%	12	12	12	12	12	12	12	9	9	93.3%	93.3%	12	12	6	6	3	3	58.3%	58.3%
62-S-12	ME	80.2%	80.2%	12	12	12	12	12	12	12	12	100.0%	100.0%	12	12	9	9	9	9	83.3%	83.3%	
79-S-1	ME	83.4%	81.3%	12	12	12	12	12	12	9	9	93.3%	93.3%	12	12	12	9	12	12	100.0%	91.7%	
82-S-1	I	83.3%	79.6%	12	12	12	12	12	12	12	9	100.0%	93.3%	12	12	12	9	12	12	100.0%	91.7%	
92-S-4	ME	72.6%	70.9%	12	12	12	12	12	12	12	9	100.0%	93.3%	12	12	9	9	9	9	83.3%	83.3%	
92-S-6	ME	82.6%	78.9%	12	12	12	12	12	12	12	9	100.0%	93.3%	12	12	12	9	12	12	100.0%	91.7%	
107-S-2	ME	72.3%	68.2%	12	12	12	12	12	12	9	6	93.3%	85.4%	12	12	12	9	12	12	100.0%	91.7%	
107-S-3	ME	67.8%	65.8%	12	12	12	12	12	12	9	6	93.3%	85.4%	12	12	9	9	3	3	66.7%	66.7%	
109-S-1	I	87.8%	49.1%	12	3	12	6	12	9	12	9	100.0%	46.4%	12	6	9	3	12	6	91.7%	41.7%	
111-S-9	I, W	82.0%	79.9%	12	12	12	12	12	12	9	9	93.3%	93.3%	12	12	12	9	3	3	75.0%	66.7%	
112-S-2	I, W	80.4%	78.4%	12	12	12	12	9	9	6	6	82.9%	82.9%	12	12	12	9	12	12	100.0%	91.7%	
117-S-1	P	81.0%	81.0%	3	3	12	12	12	12	9	9	55.8%	55.8%	9	9	9	9	12	12	83.3%	83.3%	
130-S-1	ME	69.2%	67.1%	12	12	12	12	12	12	9	9	93.3%	93.3%	12	12	12	9	6	6	83.3%	75.0%	
L-S-10	I	88.3%	95.8%	12	12	12	12	12	12	9	12	93.3%	100.0%	6	9	12	12	12	12	83.3%	91.7%	
L-S-1	I	78.5%	80.2%	12	12	12	12	12	12	9	12	93.3%	100.0%	12	12	12	12	12	12	100.0%	100.0%	
L-W-2	W	65.0%	69.2%	3	3	12	12	12	12	9	9	55.8%	55.8%	12	12	12	12	12	12	100.0%	100.0%	
LP-S-12	I	70.5%	71.2%	12	12	12	12	12	12	9	9	93.3%	93.3%	12	12	9	9	12	12	91.7%	91.7%	
LP-W-4**	W	59.4%	61.8%	3	3	12	12	12	12	9	12	55.8%	62.5%	12	12	10.5	10.5	12	12	95.8%	95.8%	
S-DW-1	DDW	68.1%	71.2%	12	12	12	12	12	12	9	12	93.3%	100.0%	12	12	9	9	12	12	91.7%	91.7%	
117-S-1	P	81.0%	81.7%	3	3	12	12	12	12	9	9	55.8%	55.8%	9	9	9	9	12	12	83.3%	83.3%	

Impact AA  
Mitigation AA

Key to Categories

DDW = Desert Dry Wash; ME = Mountain Ephemeral Stream; I = Intermittent Stream; P = Perennial Stream; W = Corps Wetland.

\* Note: The data table in Appendix A was originally included in Appendix B of the Conceptual HMMP (WRA 2010b), titled "Table B-1."

\*\* The CRAM score reported for depressional wetland (proposed mitigation site) LP-W-4 is the average of two CRAM assessments done on the same feature. This approach was requested by staff from the US Army Corps of Engineers.



Appendix B. Grading and Landscape Plans for the Long Potrero Mitigation Site



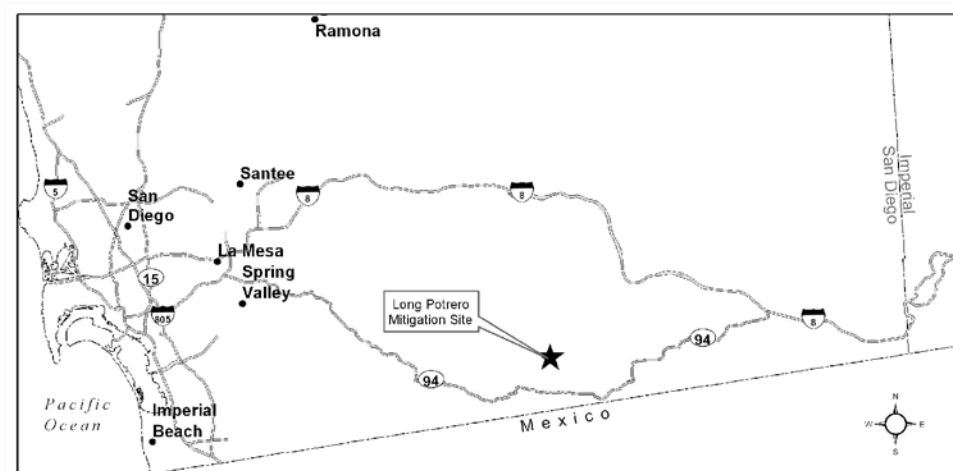
## SHEET INDEX

L-1 --- COVER SHEET  
 L-2 --- LONG POTRERO MITIGATION PLAN

## SUNRISE POWERLINK

LONG POTRERO PROPERTY  
 WATERS MITIGATION PLAN  
 SAN DIEGO COUNTY, CALIFORNIA  
 CORPS FILE NUMBER: 2007-00704-SAS

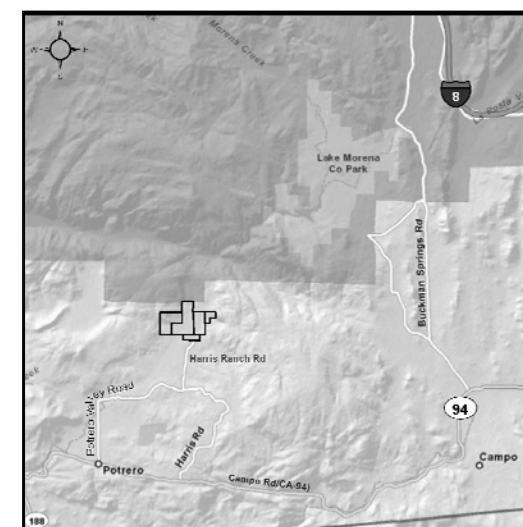
## LOCATION MAP



### NOTES:

1. MITIGATION SITE MAY BE ACCESSED VIA INTERSTATE 8.
2. CONTRACTOR SHALL NOT ACCESS SITE WITHOUT PRIOR PERMISSION FROM LAND MANAGER.

## SITE MAP



**DIRECTIONS TO SITE:**  
 FROM INTERSTATE 5, TAKE INTERSTATE 8 EAST AND EXIT AT BUCKMAN SPRINGS ROAD. CONTINUE APPROXIMATELY 10 MILES THEN TAKE A RIGHT AT CAMPO ROAD/CA-94. CONTINUE APPROXIMATELY 11 MILES THEN TAKE A RIGHT AT POTRERO VALLEY ROAD.

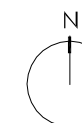
NOT FOR CONSTRUCTION



11/12/10 PERMIT SET

Date	Issues And Revisions	No.

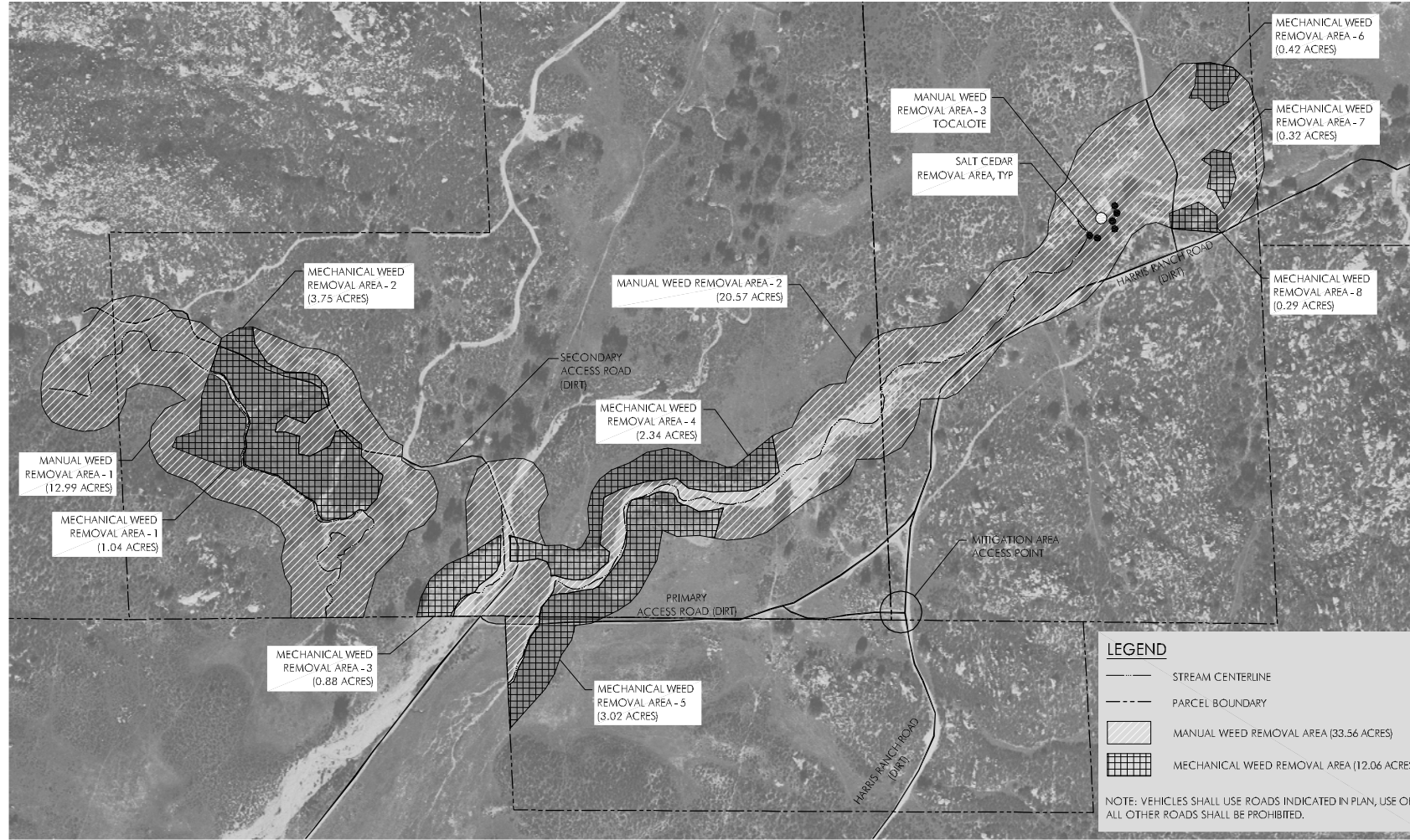
PROJECT #17128-3  
 DRAWN BY: ICM, KET  
 CHECKED BY: GIS  
 ORIGINAL DRAWING SIZE: 24 X 36



COVER SHEET

Sheet

# L-1



**GENERAL SITE DESCRIPTION**

1. ACCESS ROADS LEAD TO ALL MITIGATION AREAS.
2. THE MAJORITY OF THE VEGETATION IN THE MITIGATION AREAS AT THE LONG POTRERO PROPERTY IS NATIVE SOUTHERN MIXED CHAPARRAL, EXCEPT IN AREAS WHERE SENSITIVE RIPARIAN AND EMERGENT WETLAND HABITATS ARE PRESENT.
3. THE LOCAL CLIMATE CAN VARY FROM MILD TO HOT. CONDITIONS MAY BE PHYSICALLY CHALLENGING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE HEALTH AND SAFETY OF WORKERS AT THE SITE.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING POTABLE WATER AND PORTABLE RESTROOM FACILITIES AT THE SITE. THE CONTRACTOR SHALL BE PROHIBITED FROM DISPOSING OF ANY HUMAN EXCREMENT AT THE SITE.

**PROTECTION OF WILDLIFE, PLANT SPECIES AND NATURAL RESOURCES**

1. HABITAT ON THE SITE SUPPORTS THE FEDERALLY ENDANGERED ARROYO TOAD ( *BUFO CALIFORNICUS* ), QUINO CHECKERSPOT BUTTERFLY ( *LEUPHYDRYAS EDITHA QUINO* ) AND POTENTIALLY SUPPORTS CALIFORNIA DEPARTMENT OF FISH AND GAME SPECIES OF SPECIAL CONCERN SPADEFoot TOAD ( *SCAPHIOPUS BOMBIFRONS* ) AND SOUTHWESTERN POND TURTLE ( *CLEMmys MARMORATA PALLIDA*). MITIGATION ACTIVITIES SHALL NOT OCCUR DURING THE ARROYO TOAD BREEDING SEASON (MARCH 15 - JULY 31). DRIVING ON ALL ROADS IS LIMITED TO 2 HOURS AFTER SUNRISE AND 2 HOURS BEFORE SUNSET. ACCESS MAY NOT OCCUR THROUGH PONDED AREAS, EXCEPT UNDER THE SUPERVISION OF THE PROJECT BIOLOGIST. CONTRACTORS SHALL AVOID CONTACT WITH WILDLIFE AND NOTIFY THE PROJECT BIOLOGIST OF ANY OBSERVATIONS OF SPECIAL STATUS WILDLIFE SPECIES.
2. NO FEDERAL OR STATE PROTECTED PLANT SPECIES ARE KNOWN TO OCCUR WITHIN THE SITE; HOWEVER, THE SITE MAY SUPPORT CALIFORNIA NATIVE PLANT SOCIETY (CNPS) LISTED PLANT SPECIES. THE MAJORITY OF PLANTS NOT TARGETED FOR WEED REMOVAL ARE NATIVE AND SHALL NOT TO BE DISTURBED DURING WEED REMOVAL ACTIVITIES. THE CONTRACTOR SHALL OBTAIN A LIST OF SENSITIVE SPECIES FROM THE PROJECT BIOLOGIST.
3. WEED REMOVAL ACTIVITIES SHALL MINIMIZE DAMAGE TO THE NATIVE VEGETATION. DISTURBANCE TO SENSITIVE HABITAT OUTSIDE WEED REMOVAL AREAS SHALL BE PROHIBITED.
4. DESIGNATED ACCESS ROADS SHALL BE CONFIRMED BY THE PROJECT BIOLOGIST. USE OF OTHER ROADS SHALL BE PROHIBITED.
5. THE CONTRACTOR SHALL PROPOSE SUITABLE STAGING AREAS, WHICH SHALL BE APPROVED BY THE PROJECT BIOLOGIST.
6. HERBICIDES SHALL BE SELECTED TO AVOID HARM TO SENSITIVE SPECIES AND SHALL BE APPROVED BY THE PROJECT BIOLOGIST.
7. ALL WORK SHALL COMPLY WITH PROVISIONS LISTED IN THE PROJECT HABITAT MITIGATION AND MONITORING PLAN (HMMMP), FINAL ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT (FEIR/EIS), BIOLOGICAL ASSESSMENT, AND FINAL REGULATORY PERMITS.

**DISTRIBUTION OF WEEDS**

1. WEED REMOVAL WILL FOCUS ON THE TREATMENT OF TOCALOTE, SHORTPOD MUSTARD, CURLY DOCK AND SALT CEDAR. ALL OF THE SPECIES OCCUR AT VARIOUS DENSITIES THROUGHOUT THE MITIGATION AREAS, WITH THE EXCEPTION OF SALT CEDAR, WHICH OCCURS SOLELY IN THE EASTERN MITIGATION AREA.
2. WEED CONTROL IS LIMITED TO 120 FEET FROM STREAM CHANNELS.

**BEST MANAGEMENT PRACTICES FOR WEED REMOVAL**

1. AVOID IMPACTS TO NATIVE TREES AND SHRUBS AND ALL SENSITIVE SPECIES ON THE SITE.
2. AVOID DISTURBANCE AND DO NOT STAGE CONSTRUCTION ACTIVITIES IN WEED INFESTED AREAS.
3. AVOID AND MINIMIZE GROUND DISTURBANCE. SELECT WEED REMOVAL EQUIPMENT WHICH WILL MINIMIZE DISTURBANCE TO THE SOIL AND NATIVE VEGETATION WHENEVER POSSIBLE.
4. CLEAN VEHICLES BEFORE ENTERING OR LEAVING A WEED-INFESTED SITE OR CONSTRUCTION SITE TO PREVENT THE TRANSPORT OF SOIL AND PLANT MATERIAL.
5. REMOVE SEEDS FROM CLOTHING, FOOTWEAR, VEHICLES, AND EQUIPMENT BEFORE ENTERING AREAS WITH NO WEED INFESTATION.
6. COVER MATERIAL, INCLUDING DEAD WEED BIOMASS OR SOIL, SECURELY DURING TRANSPORT.

**MANUAL WEED REMOVAL AREAS**

**YEAR 1**

1. WEEDS WITHIN THE MANUAL WEED REMOVAL AREAS SHALL BE REMOVED AS DESCRIBED IN THE DRAWINGS.
2. WEED SPECIES DESIGNATED FOR MANUAL REMOVAL INCLUDE NON-NATIVE, INVASIVE PLANT SPECIES LISTED BY THE CALIFORNIA INVASIVE PLANT COUNCIL (CAL-IPC) AS HAVING A SEVERE OR MODERATE (A OR B) INVASIVE IMPACT. THESE WEED SPECIES SHALL BE DESCRIBED AND IDENTIFIED TO THE CONTRACTOR BY THE PROJECT BIOLOGIST. CONTRACTOR SHALL PROVIDE A WEED REMOVAL PLAN WHICH ADDRESSES EACH WEED SPECIES AND WEED REMOVAL LOCATION FOR APPROVAL BY THE PROJECT BIOLOGIST PRIOR TO ANY REMOVAL ACTIVITIES.
3. THE CONTRACTOR SHALL COORDINATE WITH THE PROJECT BIOLOGIST TO DETERMINE THE EXACT TIMING OF WEED REMOVAL ACTIVITIES. CONTRACTOR SHALL REMOVE SEED HEADS FROM PLANTS PRIOR TO REMOVING THE STEMS AND ROOTS, IF THE PLANTS HAVE SET SEED.
  - A. PERENNIAL WEEDS SHALL BE REMOVED ONCE A MONTH DURING THE GROWING SEASON, BETWEEN APPROXIMATELY FEBRUARY 1 TO AUGUST 31. COMMON PERENNIAL WEEDS AT THE SITE INCLUDE CASTOR BEAN ( *RICINUS COMMUNIS* ) AND CURLY DOCK ( *RUMEX CRISPLIS* ).
  - B. ANNUAL WEEDS SHALL BE REMOVED TWO TIMES DURING THE SPRING, ONCE BETWEEN APPROXIMATELY FEBRUARY 1 AND APRIL 15 AND ONCE BETWEEN APRIL 16 AND JUNE 30. COMMON ANNUAL WEEDS AT THE SITE INCLUDE SAHARAN MUSTARD ( *BRASSICA TOURNEFORTII* ), TOCALOTE ( *CENTAUREA MELITENSIS* ), AND SHORTPOD MUSTARD ( *HIRSCHFELDIA INCANA* ).
4. WEEDS SHALL BE REMOVED WITH MANUAL TOOLS WHICH CAUSE MINIMAL GROUND DISTURBANCE. NATIVE SHRUBS OR TREES ADJACENT TO WEED REMOVAL AREAS SHALL NOT BE DISTURBED.
5. THE CONTRACTOR SHALL DISPOSE OF SEEDS, WEED CLIPPINGS AND DEAD PLANT BIOMASS WITH APPROVAL FROM THE PROJECT BIOLOGIST. THE CONTRACTOR SHALL CONTAIN SEEDS, WEED CLIPPINGS, AND DEAD PLANT BIOMASS IN BAGS. THE CONTRACTOR SHALL DISPOSE OF WEED CLIPPINGS IN DESIGNATED AREAS WITHIN THE SITE, AS FEASIBLE. THE METHOD OF ONSITE AND OFFSITE TRANSPORTATION OF REMOVING SEEDS, WEED CLIPPINGS, AND DEAD PLANT BIOMASS SHALL BE DETERMINED BASED ON THE SITE TOPOGRAPHY AND REMOTENESS.

**YEARS 2-5**

1. YEAR 2: ANNUAL WEEDS SHALL BE REMOVED TWO TIMES DURING THE SPRING, ONCE BETWEEN FEBRUARY 1 AND APRIL 15 AND ONCE BETWEEN APRIL 16 AND JUNE 30. PERENNIAL WEEDS SHALL BE REMOVED FOUR TIMES DURING THE GROWING SEASON, BETWEEN FEBRUARY 1 AND AUGUST 31. THE CONTRACTOR SHALL COORDINATE WITH THE PROJECT BIOLOGIST TO DETERMINE THE EXACT TIMING OF WEED REMOVAL ACTIVITIES.
2. YEARS 3-5: WEEDS SHALL BE REMOVED TWICE ANNUALLY AT A MINIMUM. THE CONTRACTOR SHALL COORDINATE WITH THE PROJECT BIOLOGIST TO DETERMINE THE EXACT TIMING OF WEED REMOVAL ACTIVITIES.
3. WEED REMOVAL METHODS SHALL BE ADAPTED AS NECESSARY BASED ON ANNUAL MONITORING RESULTS. THE PROJECT BIOLOGIST SHALL SPECIFY CHANGES TO WEED REMOVAL METHODS BY SEPTEMBER 15 OF EACH MONITORING YEAR.

**1 WEED REMOVAL PLAN**  
 1" = 250'

**SALT CEDAR REMOVAL AREAS**

**YEAR 1**

1. ALL SALT CEDAR ( *TAMARIX RAMOSISSIMA* ) TREES WITHIN THE SALT CEDAR REMOVAL AREAS SHALL BE TREATED AS DESCRIBED IN THE DRAWINGS.
2. THE FIRST REMOVAL OF SALT CEDAR TREES SHALL OCCUR BETWEEN AUGUST 1 AND OCTOBER 31. THE CONTRACTOR SHALL RETURN TO THE SITE TO TREAT ANY RESPROUTING STUMPS BETWEEN FOUR AND SIX MONTHS FOLLOWING THE FIRST TREATMENT. EXACT TIMING OF REMOVAL ACTIVITIES SHALL BE COORDINATED WITH THE PROJECT BIOLOGIST.
3. A TRICLOPYR-BASED HERBICIDE SUCH AS GARLON ® 4 OR IMAZAPYR-BASED HERBICIDE SUCH AS HABITAT ® OR APPROVED EQUIVALENT SHALL BE USED FOLLOWING THE LABEL DIRECTIONS AND REQUIREMENTS. CONTRACTOR SHALL SUBMIT HERBICIDE INFORMATION AND THE APPLICATION REGIME FOR APPROVAL BY THE PROJECT BIOLOGIST.
4. SALT CEDAR REMOVAL METHODS SHALL BE DETERMINED BASED ON SITE CONDITIONS AND CONSTRAINTS. THE CONTRACTOR SHALL SUBMIT A SALT CEDAR REMOVAL PLAN TO THE PROJECT BIOLOGIST FOR APPROVAL PRIOR TO ANY REMOVAL ACTIVITIES. THE CONTRACTOR SHALL USE THE FOLLOWING REMOVAL METHODS:
  - A. CUT-SURFACE METHOD: THE CUT-SURFACE METHOD IS THE PREFERRED METHOD OF SALT CEDAR REMOVAL. SALT CEDAR TREES OR SAPLINGS SHALL BE CUT WITHIN SIX INCHES OF THE GROUND SURFACE. THE STUMP SURFACE SHALL BE SPRAYED WITH HERBICIDE IMMEDIATELY FOLLOWING CUTTING. SEEDINGS SHALL BE UPROOTED BY HAND SUCH THAT THE ENTIRE ROOT SYSTEM IS REMOVED.
  - B. GIRDLE-SPRAY METHOD: THE GIRDLE-SPRAY METHOD MAY BE USED WITH APPROVAL BY THE PROJECT BIOLOGIST IN PLACES WHERE REMOVAL OF THE DEAD PLANT BIOMASS IS PROHIBITIVE DUE TO SITE CONDITIONS. SALT CEDAR TREES WITH TRUNK DIAMETERS OF OVER FOUR INCHES SHALL BE GIRDLED. THE CONTRACTOR SHALL MAKE SHALLOW, OVERLAPPING CUTS INTO THE BARK WITH A HATCHET OR CHAINSAW. HERBICIDE SHALL BE APPLIED TO THE ENTIRE CUT SURFACE IMMEDIATELY FOLLOWING THE CUTS. CONTRACTOR SHALL REMOVE SEED HEADS FROM SALT CEDAR TREES IF THE TREES HAVE SET SEED. THE REMAINING TREE BIOMASS SHALL BE LEFT IN PLACE AFTER THE HERBICIDE APPLICATION.
  - C. BASAL BARK METHOD: THE BASAL BARK METHOD MAY BE USED WITH APPROVAL BY THE PROJECT BIOLOGIST IN PLACES WHERE REMOVAL OF THE DEAD PLANT BIOMASS IS PROHIBITIVE DUE TO SITE CONDITIONS. SALT CEDAR TREES WITH TRUNK DIAMETERS LESS THAN FOUR INCHES SHALL BE TREATED USING THE BASAL BARK METHOD. HERBICIDE SHALL BE APPLIED TO THE LOWEST 12 INCHES OF EACH TRUNK. CONTRACTOR SHALL REMOVE SEED HEADS FROM THE SALT CEDAR TREES OR SAPLINGS IF THE PLANTS HAVE SET SEED. THE REMAINING TREE BIOMASS SHALL BE LEFT IN PLACE AFTER THE HERBICIDE APPLICATION.
5. THE CONTRACTOR SHALL DISPOSE OF SEED HEADS AND PLANT BIOMASS WITH APPROVAL FROM THE PROJECT BIOLOGIST. THE CONTRACTOR SHALL CONTAIN SEEDS IN BAGS. THE METHOD OF ONSITE AND OFFSITE TRANSPORTATION OF REMOVING SEEDS AND PLANT BIOMASS SHALL BE DETERMINED BASED ON THE SITE TOPOGRAPHY AND REMOTENESS.

**YEARS 2 - 5**

1. SALT CEDAR REMOVAL SHALL OCCUR ON AN ANNUAL BASIS DURING MONITORING YEARS 2-5, UNLESS OTHERWISE SPECIFIED BY THE PROJECT BIOLOGIST. THE CONTRACTOR SHALL COORDINATE WITH THE PROJECT BIOLOGIST TO DETERMINE THE TIMING OF THE REMOVAL.
2. ALL NEW SALT CEDAR TREES, WHICH HAVE ESTABLISHED ON THE SITE, AND ALL SALT CEDAR TREES, WHICH HAVE NOT RESPONDED TO HERBICIDE TREATMENT DURING THE PREVIOUS YEAR, SHALL BE TREATED WITH HERBICIDE USING THE SAME PARAMETERS DESCRIBED IN THE YEAR 1 TREATMENT GUIDELINES, UNLESS OTHERWISE SPECIFIED BY THE PROJECT BIOLOGIST.

**MECHANICAL WEED REMOVAL AREAS**

**YEAR 1**

1. WEEDS WITHIN THE MECHANICAL WEED REMOVAL AREAS SHALL BE REMOVED AS DESCRIBED IN THE DRAWINGS.
2. WEED SPECIES DESIGNATED FOR MECHANICAL REMOVAL INCLUDE NON-NATIVE, INVASIVE PLANT SPECIES LISTED BY THE CAL-IPC AS HAVING A SEVERE OR MODERATE (A OR B) INVASIVE IMPACT. THESE WEED SPECIES SHALL BE DESCRIBED AND IDENTIFIED TO THE CONTRACTOR BY THE PROJECT BIOLOGIST. CONTRACTOR SHALL PROVIDE A WEED REMOVAL PLAN THAT ADDRESSES EACH WEED SPECIES AND WEED REMOVAL LOCATION FOR APPROVAL BY THE PROJECT BIOLOGIST PRIOR TO ANY REMOVAL ACTIVITIES.
3. WEED REMOVAL SHALL OCCUR TWO TIMES DURING THE SPRING, ONCE BETWEEN APPROXIMATELY FEBRUARY 1 AND APRIL 15 AND ONCE BETWEEN APRIL 16 AND JUNE 30. THE CONTRACTOR SHALL COORDINATE WITH THE PROJECT BIOLOGIST TO DETERMINE THE EXACT TIMING OF THE WEED REMOVAL ACTIVITIES.
4. WEEDS SHALL BE REMOVED WITH A TRACTOR MOWER, WEED-EATER OR OTHER EQUIVALENT TOOL OR METHOD AS APPROVED BY THE PROJECT BIOLOGIST.
5. CONTRACTOR SHALL REMOVE SEED HEADS FROM PLANTS PRIOR TO REMOVING THE STEMS AND ROOTS IF THE PLANTS HAVE SET SEED.
6. THE CONTRACTOR SHALL DISPOSE OF SEEDS, WEED CLIPPINGS AND DEAD PLANT BIOMASS WITH APPROVAL FROM THE PROJECT BIOLOGIST. THE CONTRACTOR SHALL CONTAIN SEEDS, WEED CLIPPINGS, AND DEAD PLANT BIOMASS IN BAGS. THE CONTRACTOR SHALL DISPOSE OF WEED CLIPPINGS IN DESIGNATED AREAS WITHIN THE SITE, AS FEASIBLE. THE METHOD OF ONSITE AND OFFSITE TRANSPORTATION OF REMOVING SEEDS, WEED CLIPPINGS, AND DEAD PLANT BIOMASS SHALL BE DETERMINED BASED ON THE SITE TOPOGRAPHY AND REMOTENESS.
7. DISTURBANCE TO THE GROUND AND ADJACENT NATIVE SHRUBS AND TREES SHALL BE MINIMIZED.

**YEARS 2-5**

1. WEEDS SHALL BE REMOVED TWICE ANNUALLY AT A MINIMUM DURING THE MONITORING YEARS 2-5. THE CONTRACTOR SHALL COORDINATE WITH THE PROJECT BIOLOGIST TO DETERMINE THE TIMING OF WEED REMOVAL ACTIVITIES.
2. WEED REMOVAL METHODS SHALL BE ADAPTED AS NECESSARY BASED ON ANNUAL MONITORING RESULTS. THE PROJECT BIOLOGIST SHALL SPECIFY CHANGES TO WEED REMOVAL METHODS BY SEPTEMBER 15 OF EACH MONITORING YEAR.

**SUNRISE POWERLINK**

LONG POTRERO PROPERTY  
 WATERS MITIGATION PLAN  
 SAN DIEGO COUNTY, CALIFORNIA  
 CORPS FILE NUMBER: 2007-00704-SAS

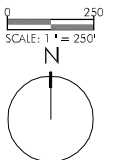
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Date	Issues And Revisions	No.
11/12/10	PERMIT SET	

PROJECT #17128-3  
 DRAWN BY: ICM, KET  
 CHECKED BY: GIS  
 ORIGINAL DRAWING SIZE: 24 X 36

SCALE: 1" = 250'



LONG POTRERO PROPERTY  
 MITIGATION PLAN

Sheet

**L-2**

Appendix C. Detailed Mitigation Implementation Cost Estimate to Support Financial Assurances



**Appendix C. Mitigation Activities and Initial Management Cost Estimate at the Long Potrero Mitigation Site**

**1.0 Mobilization**

<u>Item Number</u>	<u>Description</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Cost</u>
1.1	Mobilization	\$172,750	% of base cost	5%	\$8,638
				<b>Subtotal</b>	<b>\$8,638</b>

**2.0 Removal of Non-Native, Invasive Plant Species**

<u>Item Number</u>	<u>Description</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Cost</u>
2.1	Removal of Salt Cedar	n/a	allocation	n/a	\$5,500
2.2	Removal of Non-Native Invasive Plants within Stream Channels and Wetlands	11.47	AC	\$6,000	\$68,820
2.3	Removal of Non-Native Invasive Plants within Buffer Areas	32.81	AC	\$3,000	\$98,430
				<b>Subtotal</b>	<b>\$172,750</b>

**3.0 Interim Maintenance and Monitoring (1-5 Years)**

<u>Item Number</u>	<u>Description</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Cost</u>
3.1	Adaptive Management - Weed Removal	5	Annual	\$14,500	\$72,500
3.2	Monitoring	5	Annual	\$24,158	\$120,792
				<b>Subtotal</b>	<b>\$193,292</b>

<b>SUBTOTAL</b>	<b>\$374,680</b>
<b>15% Contingency*</b>	<b>\$38,083</b>
<b>TOTAL</b>	<b>\$412,763</b>

\*15% Contingency cost does not apply to monitoring (item 3.2)