SUNRISE POWERLINK℠

Sunrise Powerlink Project

Habitat Acquisition Plan and Habitat Management Plan

Submitted to:

California Public Utilities Commission

Bureau of Land Management
U.S. Department of Interior

Fish and Wildlife Service
U.S. Department of Interior

California Department of Fish and Game

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SDGE

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ABBREVIATIONS AND ACRONYMS

ABDSP	Anza-Borrego Desert State Park
BLM	Bureau of Land Management, U.S. Department of Interior
BO	Biological Opinion
CDFG	California Department of Fish and Game
CNDDB	California Natural Diversity Database
CNF	Cleveland National Forest
CPUC	California Public Utilities Commission
CSLC	California State Lands Commission
CSS	Coastal Sage Scrub
Gecko	Barefoot Banded Gecko
Gnatcatcher	Coastal California gnatcatcher
HAP	Habitat Acquisition Plan
HMP	Habitat Management Plan
HMMP	Habitat Mitigation and Monitoring Plan
ITS	Incidental Take Statement
MMCRP	Mitigation Monitoring, Compliance, and Reporting Program
MSCP	Multiple Species Conservation Plan [or Program]
OWSVRA	Ocotillo Wells State Vehicular Recreation Area
NTRP	Native Tree Restoration Plan
PAR	Property Analysis Record
PBS	Peninsular Bighorn Sheep
Quino	Quino checkerspot butterfly
ROW	Right-of-Way
RPSP	Restoration Plan for Special Status Plants
RPSV	Restoration Plan for Sensitive Vegetation [in Temporary Impact Areas}
SDG&E	San Diego Gas & Electric Company
State ITP	State Incidental Take Permit
State Parks	California Department of Parks and Recreation
TSAP	Tower Staging Access Pad (for helicopters)
USFS	United States Forest Service, U.S. Department of Agriculture
USGS	United States Geological Survey
USFWS	United States Fish and Wildlife Service

SUMMARY

This Habitat Acquisition Plan and Habitat Management Plan (HAP/HMP) for the Sunrise Powerlink Project (Project) addresses offsite mitigation requirements for the Project's impacts on the sensitive vegetation communities and listed species identified in Table A.

TABLE A. SENSITIVE VEGETATION COMMUNITIES AND LISTED SPECIES ADDRESSED BY THIS HAP/HMP

Sensitive Vegetation Communities	Listed Species[2]
Chaparrals	Quino Checkerspot Butterfly
Coastal and Montane Scrubs	Arroyo Toad
Desert Scrubs	Barefoot Banded Gecko
Grasslands and Meadows	Coastal California Gnatcatcher
Herbaceous Wetlands, Freshwater, and Streams[1]	Peninsular Bighorn Sheep
Riparian Forests and Woodlands[1]	
Woodlands and Forests	

Notes

1 Impacts to these communities also typically entail impacts to federal and State waters. Mitigation for the Project's impacts to federal and State waters is addressed in a separate document.

2 These are these listed species for which the HAP/HMP properties are being used as offsite mitigation for Project impacts. On some of the HAP/HMP properties, other listed species do or may occur.

The HAP/HMP identifies nine properties that will be conserved and managed through funding provided by San Diego Gas & Electric Company (SDG&E) and includes a management plan for each property. Each management plan:

- Identifies the mitigation function of the property,
- Identifies the proposed land manager and holder of the fee title or conservation easements,
- Describes the property and its biological resources,
- Identifies the biological resource and land stewardship tasks necessary to conserve and maintain the property's mitigation values,
- Estimates (based on a Property Analysis Record) the funding required for the first five years of management and for a non-wasting endowment for ongoing management, and
- Indicates the current status of the land acquisition.

Table B provides a summary profile of the nine properties and their management plans. Approximately 8,940 acres will be acquired, and approximately $17,072,416 will be provided for management. Figure A shows the location of the nine properties in relation to the Project right-of-way.

Eight of the nine properties will be acquired by SDG&E and then conveyed to a public agency or conservancy, together with funding for start-up and ongoing management. The ninth property (Desert Cahuilla) entails a transaction between the California Department of Parks and Recreation (State Parks) and California State Lands Commission (CSLC) by which habitat for Peninsular bighorn sheep will be conserved on lands added Anza-Borrego Desert State Park (ABDSP) and one of the acquired parcels will be designated as a Project mitigation area. SDG&E will fund acquisition of the nine CSLC parcels, contribute to the management of the lands added to ABDSP, and provide for the ongoing management of the one parcel.

In a separate but related action, SDG&E also will acquire and provide funding for the management of offsite mitigation lands for vegetation and species impacts in Cleveland National Forest (CNF). A separate HAP/HMP is being prepared for those mitigation lands, which are being identified in consultation with the U.S. Department of Agriculture Forest Service. The CNF HAP/HMP will provide for the acquisition and management of at least 185.56 acres.

SDG&E is seeking approval of the properties and management plans in this HAP/HMP as the offsite mitigation for impacts to sensitive vegetation and listed species outside CNF. Approval requires the concurrence of the California Public Utilities Commission and U.S. Department of Interior Bureau of Land Management – the lead agencies for the Project – and the U.S. Fish and Wildlife Service and California Department of Fish and Game. The CNF HAP/HMP will be submitted when it has been approved by USFS.

TABLE B. SUMMARY PROFILE OF THE HAP/HMP PROPERTIES

FIGURE A. LOCATION OF THE HAP/HMP PROPERTIES

PART 1

PURPOSE, RELATIONSHIP TO OTHER PROJECT DOCUMENTS, AND ORGANIZATION

PURPOSE

This Habitat Acquisition Plan and Habitat Management Plan (HAP/HMP) for the Sunrise Powerlink Project (Project) addresses offsite mitigation requirements for the Project's impacts on sensitive vegetation communities and listed species. It identifies nine properties that will be conserved and managed through funding provided by San Diego Gas & Electric Company (SDG&E) and includes a management plan for each property. Table 1 lists the nine properties; Figure 1 shows their location in relation to the Project right-of-way (ROW).

TABLE 1. OFFSITE MITIGATION PROPERTIES FOR SUNRISE POWERLINK[1]

Property Name	County	Location in Relation to Project ROW	Acres
Nabi	San Diego	North of ROW	93.46
Lakeside Ranch	San Diego	Crossed by ROW	427.38
Hamlet	San Diego	Crossed by ROW	84.35
El Capitan	San Diego	North of ROW	381.40
Chocolate Canyon	San Diego	Crossed by ROW	76.14
Lightner	San Diego	Crossed by ROW	705.86
Long Potrero	San Diego	Crossed by ROW	1,212.27
Suckle	Imperial	West of ROW	199.39
Desert Cahuilla	Imperial	North of ROW	5,760.00
TOTAL	--	--	8,940.25

Note

1 Does not include offsite mitigation properties for impacts to biological resources in Cleveland National Forest.

As a separate but related action, SDG&E also will acquire and provide funding for the management of offsite mitigation lands for vegetation and species impacts in Cleveland National Forest (CNF). A separate HAP/HMP is being prepared for those mitigation lands, which are being identified in consultation with the U.S. Department of Agriculture Forest Service (USFS). The CNF HAP/HMP will provide for the acquisition and management of at least 185.56 acres.

SDG&E is seeking approval of the nine properties and management plans in this HAP/HMP as the offsite mitigation for impacts to sensitive vegetation and listed species outside CNF. Approval requires the concurrence of the California Public Utilities Commission (CPUC) and U.S. Department of Interior Bureau

of Land Management (BLM) – the lead agencies for the Project – and the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG). The CNF HAP/HMP will be submitted when it has been approved by USFS.

RELATIONSHIP TO OTHER PROJECT DOCUMENTS

The offsite mitigation requirements addressed in this HAP/HMP are those specified in:

- The Final Environmental Impact Report and Environmental Impact Statement (Final EIR/EIS)for the Project prepared and approved by the CPUC and BLM;
- The Final Mitigation Monitoring, Compliance, and Reporting Program (MMCRP) for the Project (a component of the Final EIR/EIS), specifically measures B-1a, B-2a, B-5a, B-7c, B-7e, B-7I, B-7j, B-7l, G-CM-17 and G-CM-45;
- The BLM and USFS Records of Decision (RODs) for the Final EIR/EIS;
- The Biological Opinion (BO) issued by the U.S. Department of Interior Fish and Wildlife Service (USFWS) pursuant to Section 7 of the federal Endangered Species Act (FESA); and
- The requirements for an incidental take permit from the California Department of Fish and Game (CDFG) pursuant to the California Endangered Species Act (CESA).

The impacts being mitigated are those resulting from the construction, operation, and maintenance of the Project, based on the configuration and components identified in the May 2010 Project Modification Report (PMR) for the Project.

The nine properties identified in this HAP/HMP also play a role in the implementation of other mitigation measures for the Project, including those specified in the:

- Habitat Mitigation and Monitoring Program (HMMP),
- Restoration Plan for Sensitive Vegetation Communities in Temporary Impact Area (RPSV),
- Restoration Plan for Special Status Plants (RPSP), and
- Native Tree Restoration Plan (NTRP).

Table 2 briefly describes the documents cited above and the relationship of the HAP/HMP to each. Table 3 indicates the Project's permanent and temporary impacts to sensitive vegetation communities as estimated for the Project in the May 2010 PMR, including impacts within CNF. Table 4 indicates the estimated impacts to the habitats of listed/proposed species. Tables 5 and 6 identify the offsite mitigation ratios that apply to the vegetation and species impacts based on the Final EIR/EIS, MMRCP, BLM and USFS RODs, and the USFWS BO.

FIGURE 1. LOCATION OF THE HAP/HMP PROPERTIES

TABLE 2. RELATIONSHIP OF THIS HAP/HMP TO OTHER PROJECT DOCUMENTS

Document	Description	Relationship of the HMP
Final Environmental Impact Report and Environmental Impact Statement (Final EIR/EIS)	The Final EIR/EIS is the environmental documentation for the Project as required under the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA). The CPUC certified the Final EIR/EIS, approved the Project, and adopted the MMCRP for the Project in December 2008. BLM issued a ROD approving the Project in January 2009 and included the mitigation and monitoring measures for impacts to BLM lands in the ROD. USFS, a cooperating federal agency for the EIR/EIS, issued its own ROD in July 2010. The requirements to prepare a HAP and HMP for offsite mitigation lands are stated in the Final EIR/EIS. The Project is the Final Environmentally Superior Southern Route identified in the Final EIR/EIS, as modified in the May 2010 PMR.	This HAP/HMP was prepared in compliance with the measure identified in Chapter D of the Final EIR/EIS. It identifies the offsite mitigation for impacts of the Project.
Final Mitigation, Monitoring, and Compliance Reporting Program (MMCRP)	The MMCRP is a component of the Final EIR/EIS. It contains the mitigation measures identified in the Final EIR/EIS for the Project and also provides clarifications of the wording and intent of the measures.	This HAP/HMP fulfills MMCRP measures B-1a, B-2a, B-5a, B-7c, B-7e, B-7I, B-7j, B-7l, G-CM-17 and G-CM-45 as they apply to mitigation for impacts outside of Cleveland National Forest.
Sunrise Powerlink Project Modification Report (PMR)	The PMR was prepared by SDG&E to comply to comply with Section 4.2.1 of the MMCRP. It presents the final engineering and design of the Project and identifies the modifications that were made since adoption of the Final EIR/EIS and approval of the Project by the CPUC and BLM. The modifications described in the PMR are the result of SDG&E's implementation of MMCRP measures to avoid and minimize impacts to sensitive resources, reduce or eliminate engineering constraints, and accommodate landowner location preferences where possible. A draft PMR was submitted in January 2010; the final PMR was submitted in May 2010. CPUC and BLM acceptance of the changes will be indicated in a memorandum that will be issued in September 2010.	This HAP/HMP provides offsite mitigation for the impacts of the Project as presented in the May 2010 PMR.
Federal Biological Opinion (BO) and Incidental Take Statement (ITS)	The BO and ITS identifies offsite mitigation requirements for Project impacts to federally listed species, species proposed for federal listing, and any designated or proposed critical habitat for federally listed species. The BO and ITS require that the offsite mitigation area be protected and managed in perpetuity.	Properties in this HAP/HMP are the offsite mitigation sites for Project impacts to Quino checkerspot, arroyo toad, coastal California gnatcatcher, least Bell's vireo, Peninsular bighorn sheep, and critical habitat for these species. The HMPs includes management measures for these species on the mitigation properties where they occur.
State Incidental take Permit (State ITP)	The State ITP authorizes incidental take of the State-listed barefoot banded gecko, conditioned on implementation of impact avoidance and minimization measures and offsite conservation and management of habitat for the species. The State ITP requires that the offsite mitigation area be protected and managed in perpetuity.	The Suckle property in this HAP/HMP is the offsite mitigation for impacts to barefoot banded gecko. The HMP for Suckle provides for the ongoing management of habitat for this species on that property.

Document	Description	Relationship of the HMP
Habitat Mitigation and Monitoring Plan (HMMP)	The HMMP identifies the offsite properties where jurisdictional waters and wetland/riparian resources will be preserved, enhanced, and/or restored as a condition of the Project's 401/404 permits and Streambed Alteration Agreement (SAA). The HMMP indicates where the HMMP measures will be implemented, what success criteria will apply, the cost of those measures, and the source of assured funding for those measures. Temporary as well as permanent impacts to dry washes and riparian/wetland habitats are covered by the HMMP. The HMMP requires that the HMMP mitigation areas be protected in perpetuity.	Five of the properties in this HAP/HMP (Chocolate Canyon, Lightner, Long Potrero, Suckle, and one of the Desert Cahuilla parcel) are proposed as mitigation sites in the HMMP. When the HMMP success criteria are met, the ongoing management of the areas where the HMMP measures were implemented will occur under the HMP for that property. The cost of the HMMP restoration/enhancement is not covered by the HMP endowment, but the ongoing management of the HMMP mitigation area is.
Restoration Plan for Sensitive Vegetation Communities in Temporary Impact Areas (RPSV)	The MMCRP requires that sensitive vegetation types be restored within temporary impact areas. The RPSV identifies the process, methods, and success criteria for such restoration within temporary work areas around structure pads, construction yards, wire stringing areas, guard areas, and designated access roads. The sensitive vegetation types include chaparrals, coastal and montane scrubs, desert scrubs, herbaceous wetlands, riparian forests and woodlands, and woodlands and forests. The measures for temporary impacts to riparian/wetland types in the PRSV are from the HMMP.	The RPSV applies to the Project's temporary impact areas. Any restoration or enhancement that might occur on an offsite mitigation property would be addressed in the HMP for that property. The offsite properties also serve as back-up mitigation for the restoration efforts within temporary impacts areas. The MMCRP allows for the conservation or enhancement/restoration of sensitive vegetation types on offsite mitigation lands if restoration within temporary impact areas is not feasible or fails.
Restoration Plan for Special Status Plant Species (RPSP)	The MMCRP requires that unavoidable impacts to listed plants be mitigated through salvage and relocation via a restoration plan and/or offsite acquisition and conservation at a 2:1 ratio. The MMRCP also requires that unavoidable impacts to CNPS List 1 and 2, BLM sensitive species, and USFS sensitive species be mitigated through reseeding or relocation as part of the restoration of temporary impact areas or via offsite habitat conservation. No listed plants will be affected by the Project. Nine CNPS List 1 or 2 and/or BLM or USFS sensitive species will be affected. The RPSP provides for the reseeding/relocation of 7 species and for the offsite conservation of 2 species (felt-leaved monardella and Lakeside ceanothus, which are not amenable to reseeding or relocation).	No reseeding or relocation of special status plants to the offsite mitigation lands in this HAP/HMP is proposed. Conservation of existing populations of felt-leaved monardella on the Lightner property and of Lakeside ceanothus on the El Capitan property is proposed in the RPSP. The HMPs for those properties provide for surveys and monitoring of those populations as part of the conservation and management activities on those properties.
Native Tree Restoration Plan (NTRP)	The MMRCP requires that Project impacts to native tree be mitigated through the planting of replacement trees and/or or the conservation existing woodlands at specified ratios. The NTRP identifies the methods and ratios that will apply in circumstances when replanting is required; it also identifies the woodland conservation that SDG&E is providing in advance of impacts.	The HAP/HMP identifies the properties where offsite conservation of woodlands will occur; these properties also are the locations where replacement trees would be planted if required during operation and maintenance activities.
Cleveland National Forest Habitat Acquisition Plan/Habitat Management Plan (CNF HAP/HMP)	The CNF HAP/HAP will identify the offsite mitigation lands for Project impacts to sensitive vegetation and species in CNF and will include a management plan for those properties. USFS has provided SDG&E with a list of potential mitigation properties and has indicated that, based on the requirements specified in the USFS ROD, at least 185.56 acres are needed as mitigation for the Project's construction impacts.	This HAP/HMP is mitigation for impacts outside CNF.

TABLE 3. ESTIMATED PROJECT IMPACTS TO SENSITIVE VEGETATION TYPES BASED ON THE MAY 2010 PMR

Vegetation Category	Vegetation Subtype	Acres		
		Permanent	Temporary	Total
Chaparrals	Chamise Chaparral	33.54	29.89	63.43
	Chamise Chaparral – Burned	2.14	3.82	5.97
	Chamise Chaparral – Disturbed	0.00	0.00	0.00
	Northern Mixed Chaparral	66.43	51.40	117.83
	Northern Mixed Chaparral – Disturbed	11.19	0.00	11.19
	Redshank Chaparral	1.76	2.56	4.32
	Scrub Oak Chaparral	0.29	0.00	0.29
	Scrub Oak Chaparral – Disturbed	1.41	1.16	2.58
	Semi-desert Chaparral	21.21	62.62	83.83
	Semi-desert Chaparral – Disturbed	2.10	56.16	58.27
	Southern Mixed Chaparral	28.60	9.35	37.95
	Southern Mixed Chaparral – Burned	9.84	7.00	16.84
	Southern Mixed Chaparral – Disturbed	2.68	0.00	2.68
	Chaparrals Total	**181.20**	**223.97**	**405.17**
Coastal and Montane Scrubs	Big Sagebrush Scrub	0.74	8.43	9.17
	Big Sagebrush Scrub – Disturbed	0.00	0.00	0.00
	Coastal Sage-Chaparral Scrub	6.25	1.76	8.01
	Coastal Sage-Chaparral Scrub – Disturbed	0.00	0.00	0.00
	Diegan Coastal Sage Scrub	11.52	16.39	27.91
	Diegan Coastal Sage Scrub – Burned	0.00	0.00	0.00
	Diegan Coastal Sage Scrub – Disturbed	2.84	3.77	6.60
	Diegan Coastal Sage Scrub, Inland Form	5.09	6.47	11.56
	Diegan Coastal Sage Scrub, Inland Disturbed	0.39	0.50	0.89
	Flat-topped Buckwheat Scrub	0.63	28.45	29.09
	Flat-topped Buckwheat Scrub, Disturbed	0.00	1.17	1.17
	Coastal and Montane Scrubs Total	**27.46**	**66.94**	**94.39**
Desert Scrubs	Desert Saltbush Scrub	0.00	0.00	0.00
	Sonoran Creosote Bush Scrub	14.88	89.28	104.16
	Sonoran Creosote Bush Scrub – Disturbed	3.86	28.12	31.98
	Sonoran Desert Mixed Scrub	5.91	2.48	8.39
	Sonoran Desert Scrub	0.94	3.47	4.41
	Sonoran Desert Wash Scrub	0.45	0.58	1.03
	Sonoran Mixed Woody and Succulent Scrub	5.15	6.75	11.91
	Sonoran Mixed Woody Scrub	5.03	11.44	16.46
	Sonoran Mixed Woody Scrub – Disturbed	0.15	0.15	0.29
	Sonoran Wash Scrub	0.00	0.00	0.00
	Desert Scrubs Total	**36.36**	**142.26**	**178.62**

Vegetation Category	Vegetation Subtype	Acres		
		Permanent	Temporary	Total
Grasslands and Meadows	Meadow	0.00	0.00	0.00
	Non-native Grassland	3.95	48.31	52.26
	Non-native Grassland – Disturbed	0.00	0.09	0.09
	Valley Needlegrass Grassland	0.20	0.00	0.20
	Valley Needlegrass Grassland – Disturbed	0.00	0.00	0.00
Grasslands and Meadows Total		**4.14**	**48.41**	**52.55**
Herbaceous Wetlands, Freshwater, and Streams	Non-vegetated Channel	1.10	2.37	3.47
Herbaceous Wetlands, Freshwater, and Streams Total		1.10	2.37	3.47
Riparian Forests and Woodlands	Riparian Woodland	0.00	0.00	0.00
	Southern Coast Live Oak Riparian Forest	0.25	0.08	0.33
	Southern Riparian Forest	0.00	0.00	0.00
	Southern Cottonwood-Willow Riparian For	0.00	0.00	0.00
Riparian Forests and Woodlands Total		**0.25**	**0.09**	**0.34**
Woodlands and Forests	Coast Live Oak Woodland	1.60	2.42	4.02
	Coast Live Oak Woodland – Burned	0.00	0.00	0.00
	Coast Live Oak Woodland – Disturbed	0.00	1.18	1.18
	Engelmann Oak Woodland	1.27	0.00	1.27
	Mixed Oak Woodland	0.99	0.00	0.99
	Peninsular Juniper Woodland Scrub	0.38	0.32	0.70
Woodlands and Forests Total		**4.24**	**3.92**	**8.16**
TOTAL		**254.75**	**487.97**	**742.71**

TABLE 4. ESTIMATED HABITAT IMPACTS TO LISTED AND PROPOSED SPECIES BASED ON THE MAY 2010 PMR[1]

SPECIES	Acres		
	Permanent	Temporary	Total
QUINO CHECKERSPOT BUTTERFLY			
USFWS Critical Habitat (2009 Designation)	4.45	1.59	6.04
USFWS Occupied Habitat (USFWS Data)[2]	15.16	17.49	32.65
ARROYO TOAD			
USFWS Proposed Critical Habitat	2.46	44.23	46.69
USFS Suitable Habitat [USFS Habitat Model]	11.92	63.00	74.92
USFS Suitable Habitat in CNF [USFS Habitat Model]	3.49	0.01	3.50
BAREFOOT BANDED GECKO (SUITABLE HABITAT)	10.84[3]	4.53[3]	15.37[3]
FLAT-TAILED HORNED LIZARD[4]			
Management Areas	9.54	36.87	46.41
Habitat Outside of Management Areas	26.35	94.88	121.23
Total	35.89	131.75	167.64
COASTAL CALIFORNIA GNATCATCHER			
USFWS Critical Habitat	3.88	21.58	25.46
USFWS Occupied Habitat (USFWS Data)	0.16	8.11	8.27
USFS Suitable Habitat [USFS Habitat Model]	11.97	15.67	27.64
USFS Suitable Habitat in CNF [USFS Habitat Model]	1.12	0.06	1.18
LEAST BELL'S VIREO[5]			
USFWS Occupied Habitat [USFWS Data]	0.00	0.00	0.00
USFS Suitable Habitat in CNF [USFS Habitat Model]	0.19	0.00	0.19
SOUTHWESTERN WILLOW FLYCATCHER[5]			
USFS Suitable Habitat in CNF (USFS Modeled Habitat]	3.98	0.74	4.72
PENINSULAR BIGHORN SHEEP			
Occupied Habitat[6]	10.36	20.24	30.60
2009 Designated Critical Habitat	5.41	1.41	6.82
STEPHENS' KANGAROO RAT[5]			
USFS Suitable Habitat in CNF [USFS Habitat Model]	0.18	0.00	0.18

Notes

1 Habitat impacts to listed and proposed species were quantified in the Final EIR/EIS, BO, and PMR in terms of the following habitat categories: USFWS critical habitat (designated or proposed), USFWS occupied habitat (areas that USFWS considers occupied by the species based on available information and/or assumptions); mapped habitat and management areas for flat-tailed horned lizard; mapped suitable habitat for barefoot banded gecko; and suitable habitat as identified by habitat models used by USFS (USFS Suitable Habitat).

2 USFWS Occupied Habitat includes areas of known Quino populations and sightings and a buffer that typically encompasses all host plants in the vicinity. Some of the USFWS occupied habitat areas also are part of designated critical habitat (e.g., the Jacumba population).

3 Based on protocol surveys conducted after the May 2010 PMR was submitted, it was determined that the Project would affect fewer acres of gecko habitat. As documented in the Project's 2081 permit application to CDFG, there would be 7.21 acres of permanent impacts and 1.41 acres of temporary impacts (8.62 acres total).

4 Impacts to flat-tailed horned lizard have been mitigated in advance through payment of a fee; the species is not covered by the HAP/HMP.

5 Focused surveys have determined that this species does not occur in Project impact areas. The USFS habitat model results have been retained for lands in the CNF.

6 This category includes areas previously designated as critical habitat, which USFWS considers to be occupied habitat.

TABLE 5. MITIGATION RATIOS FOR PROJECT IMPACTS TO SENSITIVE VEGETATION TYPES

Vegetation Community	Permanent Impacts	Temporary Impacts[1]
	Ratio for Offsite Mitigation	Ratio for Onsite and Offsite Mitigation
Desert Scrub and Dune Habitats	2:1	1:1 + 1:1
Coastal and Montane Scrub Habitats	1.5:1 2:1 for flat topped buckwheat 2:1 for CNF impacts	1:1 + 0.5:1 1:1 + 1:1 for flat topped buckwheat 1:1 +1:1 for CNF impacts
Grasslands and Meadows	1:1 2:1 for CNF impacts	1:1 1:1 + 1:1 for CNF Impacts
Chaparrals	1:1 2:1 for CNF Impacts	1:1 1:1 + 1:1 for CNF Impacts
Woodlands and Forests	3:1	1:1 + 2:1 1:1 + 1:1 for juniper woodland
Herbaceous Wetlands, Freshwater, and Streams	3:1	1:1 + 1:1
Riparian Forests and Woodlands	3:1	1:1 + 1:1
Impacts to the above types on existing preserves	Ratios Doubled	Ratios Doubled

Note

1 In its ROD, USFS indicates that temporary Project components (i.e., temporary impacts) that entail cut and fill ground disturbance will be subject to the same mitigation ratios that apply to permanent impacts. This will apply to Project activities on lands in CNF.

TABLE 6. MITIGATION RATIOS FOR IMPACTS TO THE HABITAT OF LISTED/PROPOSED SPECIES

Species	Habitat Category	Permanent Impacts	Temporary Impacts
		Ratio for Offsite Mitigation	Ratio for Onsite and Offsite Mitigation
Quino Checkerspot	Occupied Habitat Critical Habitat	3:1 3:1	1:1 + 1:1 1:1 + 1:1
Arroyo Toad	Occupied Breeding Habitat Occupied Upland Habitat Critical Habitat[2]	3:1 2:1 3:1	1:1 + 2:1 1:1 + 1:1 1:1 + 1:1
Barefoot Banded Gecko	Suitable Habitat	No ratio set by CDFG	No ratio set by CDFG
Flat Tailed Horned Lizard	In FTHL Management Area Outside FTHL Management Area	5.5:1 (4.5:1)[3] or in lieu fee 1:1 or in lieu Fee	3.5 (2.5:1)[3] or in lieu fee 1:1 or in lieu fee
California Gnatcatcher	Occupied Habitat Critical Habitat	2:1 2:1	1:1 + 1:1 1:1 + 1:1
Least Bell's Vireo[4]	Occupied Habitat	3:1	1:1 + 2:1
Southwestern Willow Flycatcher[4]	Occupied Habitat	3:1	1:1 + 2:1
Peninsular Bighorn Sheep	Occupied Habitat Critical Habitat	5:1 5:1	1:1 + 2:1 1:1 + 2:1
Stephens' Kangaroo Rat[4]	Occupied Habitat	2:1	1:1 + 1:1

Note

1 The Final EIR/EIS and BO do not specify a mitigation ratio for impacts to arroyo toad critical habitat (designated or proposed) because the USFWS did not propose to revise arroyo toad critical habitat to include the project until October 2009. For planning purposes, SDG&E has assumed that impacts to arroyo toad critical habitat would require 3:1 mitigation for permanent impacts and 2:1 mitigation for temporary impacts.

2 CDFG does not have a specified a mitigation ratio for impacts to barefoot banded gecko and basis mitigation on the quality of habitat removed and conserved.

3 Ratios in parentheses apply to agriculture and disturbed habitat.

4 Focused surveys have determined that this species does not occur within Project impact areas.

ORGANIZATION

This HAP/HMP is organized into four parts:

- Part 1 states the purpose of the HAP/HMP and describes its relationship to other Project documents and its organization.
- Part 2 contains the management plans for the properties, together with a description of the goals, assumptions, and tasks common to the plans. Each management plan:
    1) Identifies the mitigation function of the property,
    2) Identifies the proposed land manager and holder of the fee title or conservation easements,
    3) Describes the property and its biological resources,
    4) Identifies the biological resource and land stewardship tasks necessary to conserve and maintain the property's mitigation values,
    5) Summarizes the results of the Property Analysis Record (PAR) for each property in terms of funding required for the first five years of management and for a non-wasting endowment for ongoing management, and
    6) Indicates the current status of the proposed land acquisition.
- Part 3 includes the PAR spreadsheets for each property and a description of the PAR assumptions.
- Part 4 includes the legal descriptions for five of the properties (Chocolate Canyon, El Capitan, Hamlet, Lightner, and Long Potrero). Legal descriptions for the other properties will be provided as those transactions proceed.

PART 2

HABITAT MANAGEMENT PLANS FOR THE PROPERTIES

INTRODUCTION

The HMPs for the properties were prepared by qualified biologists working in coordination with the Project's environmental mitigation team. Biologists and conservation planners at Technology Associates International Corporation (TAIC) were the lead for compiling baseline biological information about the properties, drafting the biological resource and land stewardship tasks, and preparing the PARs. Biologists at ICF International conducted habitat assessments and species surveys at several properties. Eric Dugan, a barefoot banded gecko specialist, conducted habitat assessments and protocol surveys on the Suckle property and surrounding area. USFWS and CDFG staff provided habitat and species information from their databases. California Department of Parks and Recreation (State Parks) provided cost information for managing one of the parcels that will be acquired as part of the Desert Cahuilla transaction and will be identified as a mitigation area for the Project; State Parks also provided cost information relevant to management of lands within Anza-Borrego Desert State Park (ABDSP).

The HMPs are based on a common set of premises and share a common set of tasks.

PREMISES

1. The ownership of mitigation lands acquired directly by SDG&E will be conveyed to a public agency or a conservancy. SDG&E will ensure interim protection of the lands until the conveyance is completed. The Desert Cahuilla properties will be acquired and held by State Parks.

2. The land owner will be the land manager. A third-party may be retained by the land owner to provide all or some of the management services.

3. Management of the property will be integrated and conducted as part of the existing land management program of the public agency or conservancy to whom the lands are conveyed.

4. Management will focus on protecting and maintaining the resources that are being conserved as mitigation for the Project's impacts. Where there are other sensitive resources on the property, management will be planned to avoid impacts to and, where possible, benefit those resources.

5. For planning and PAR purposes, it is assumed that the land manager will not reside or require facilities on the mitigation property in order to implement the HMP measures.

6. Five of the properties also are mitigation sites for Project impacts to jurisdictional waters. Restoration and enhancement of stream/riparian resources on these properties will be planned, funded, and implemented separately by SDG&E in accordance with the HMMP. When the HMMP measures are successfully completed, ongoing management of the restored/enhanced areas will occur under the HMP for the property (i.e., will be conducted by the land manager and funded by the management endowment for the property).

7. Two of the properties (Lightner and El Capitan) also are mitigation sites for Project impacts to two non-listed special status species (Lakeside ceanothus and felt-leaved monardella). Conservation and management of these plants are addressed in the HMPs for these properties.

8. In San Diego County, the Project occurs within areas where regional multiple species conservation plans (MSCPs) for lands under the jurisdiction of the City of San Diego and County of San Diego have been approved by USFWS and CDFG or are being planned. The HAP has taken the MSCPs into consideration in identifying mitigation lands in San Diego County, and the HMPs for the San Diego properties consider conveyance of lands to the City and County for inclusion in their MSCP preserve systems.

9. The acquisition transactions and management arrangements (including funding) for the nine properties will be completed and/or financial assurances adequate to cover any pending acquisitions and management arrangements will be provided before the transmission line is energized.

HMP TASKS

Tasks common to the HMPs are described below.

Access Controls

To control access and deter illegal uses, gates, fences and signs will be installed and property patrols will be conducted. Fencing will be used selectively where access to areas with highly sensitive resources or hazards needs to be precluded and where the fencing would not interfere with wildlife movement. Signs, gates, and fencing will be maintained and replaced as needed as part of property management.

General Conditions Monitoring and Wildlife Assessment

The land manager will patrol the property on an annual basis to monitor the general condition of the property and to identify areas of management concern. All areas that have signs of illegal activity (such as dumping, unauthorized access, off-road vehicle use, or other unauthorized actions), invasive species problems, erosion issues, or other habitat degradation problems will be mapped using Geographic Positioning System (GPS) technology. A general assessment of wildlife habitat conditions will be coordinated and reported with the general conditions monitoring. All properties will be assessed for the potential occurrence of listed and other special status species.

Vegetation and Invasive Species Mapping

A qualified biologist will map the type, species dominance, and boundaries of all vegetation communities using the vegetation classification system commonly used by the management entity, and note the overall quality of the habitat. Concurrently, invasive plant species will be mapped in a manner appropriate to the species and extent of infestation (e.g., individual plants or general extent of a population). Target invasives are those listed by the California Invasive Pest Council (CalIPC) as highly or moderately invasive (Cal-IPC 2006). Information from the wildlife assessment regarding the location of observed exotic wildlife that may be a threat to listed species (e.g., cowbirds, bullfrogs, feral pigs) also will be included on the invasive species map. The mapping will be completed by the third year of property management and will be updated on a routine basis. Depending on the condition of the property, updates will occur every three to five years.

Species Surveys

On properties identified as mitigation for impacts to a listed species, focused surveys for that species will be conducted during start-up management and repeated as part of ongoing management. The surveys will be conducted by a qualified biologist using established protocols. The purpose of the surveys is to establish baseline information about occurrence and conditions and the basis for ongoing monitoring. The listed species of concern are: Quino checkerspot butterfly (Quino), arroyo toad, barefoot banded gecko (Gecko), coastal California gnatcatcher (Gnatcatcher), and Peninsular bighorn sheep (PBS). If other listed species are known or have a high likelihood to occur on the property, surveys also will be conducted for those species. Surveys for non-listed special status species will be planned on a property-by-property basis.

Invasive Species Control

The work program for the property will include a vegetation management component that (1) identifies the location and extent of target invasive species, 2) determines the threat posed to sensitive vegetation communities, (3) prioritizes remedial management actions based on the level of threat, (4) identifies methods that will be used and (5) provides a schedule for the management actions. The least biologically intrusive (yet effective) methods will be used at the appropriate time of year for a given species. Remedial restoration may be required after invasive species removal, as described below. Exotic species removal will be performed by the land manager on an annual basis.

Road Maintenance and Road Decommissioning

As part of the conditions assessment and vegetation mapping, existing roads on the property will be mapped, and roads required for property management and emergency response will be identified.

On the properties not crossed by Project access roads, existing roads not required for property management will be considered for decommissioning. Maintenance of roads required for property management will be inspected and maintained on a schedule established in the property work program.

Generally, decommissioning of roads will occur in the first five years of HMP implementation and maintenance of required roads will occur very two years.

On properties crossed by Project access roads, use of those roads for property management will be planned and coordinated with SDG&E. Maintenance of those roads will be conducted by SDG&E.

Erosion Control and Remedial Restoration

The land manager may be responsible for controlling minor erosion problems related to road use and invasive species removal. Erosion control activities may include minor earth work or the installation of gravel bags, silt fencing, or fiber rolls to control runoff and sedimentation. Where needed to prevent further erosion, hydroseeding and selective planting of native species will be considered. Hydroseeding and selective plantings also will be used where needed to remediate areas of illegal disturbance.

Trash Removal

The land manager will monitor the property for illegal dumping and provide for the collection and disposal of trash on an as-needed basis.

Planning and Coordination

Management of each property will be guided by a 5-year work program prepared by the land manager. The work program will include the following tasks as appropriate for the property being managed:

1. Installation and maintenance of access controls (signage, gates, and selective fencing)
2. Monitoring of general conditions and wildlife habitat
3. Vegetation and invasive species mapping
4. Surveys for species affected by the Project (i.e., the species for which the property is offsite mitigation for Project impacts) and other special status species on the property
5. Control of exotic invasive plant species
6. Road maintenance and decommissioning
7. Erosion control and remedial restoration
8. Fire management
9. Database management
10. Priorities for annual work plans and expenditures
11. Annual reporting of activities, expenditures, and principal balance of the endowment
12. Public information/education

The 5-year work programs also will establish funding priorities for management activities and will include a five-year cost estimate. The work program and cost estimate will be updated every 3 years.

Fire Management

The 5-year work programs will include a fire management component developed in cooperation with the responsible fire agencies and in compliance with applicable State and local policies and regulations.

GIS Database

The land manager will establish and maintain a GIS database for the property and management program. For properties in San Diego County, the database will be compatible with the MSCP regional database.

Annual Reporting

The land manager will prepare annual reports that identify management activities conducted in the prior 12 months, activities planned for the upcoming 12-months, expenditures for the past 12 months, proposed allocation of funds for the next 12 months, performance of the endowment in the prior year, and the balance of endowment at the end of the prior year.

Public Education/Information

Web-ready public information/education materials regarding the property's resources and any restrictions that apply to public access will be prepared and posted on the land manager/owner's website during the start-up management phase. After the start-up phase, the annual reports and any notices issued as part of access controls will be the primary vehicle for public information/education.

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NABI HMP

OVERVIEW

ACRES	93.46
LOCAL JURISDICTION	County of San Diego
CROSSED BY PROJECT ROW	No
CONSERVED AS MITIGATION FOR PROJECT IMPACTS TO	Sensitive Vegetation Communities
INCIDENTAL BIOLOGICAL VALUES	Arroyo Toad (Project impacts to this species are covered in full by the Long Potrero property)
ALSO A MITIGATION SITE FOR PROJECT IMPACTS TO	
JURISDICTIONAL WATERS	No
SENSITIVE PLANTS	No
NATIVE TREES	Yes (via conservation of woodlands)
OTHER	MSCP considerations
ADJACENT CONSERVED/PUBLIC LANDS	City of San Diego San Vicente Reservoir Cornerstone Lands, BLM Lands, CDFG San Vicente Ecological Reserve
PROPOSED LAND MANAGER/OWNER	City of San Diego
ESTIMATED START-UP MANAGEMENT COSTS	$88,732
ESTIMATED ENDOWMENT FOR ONGOING MANAGEMENT	$536,355
ACQUISITION STATUS	Willing seller; currently in appraisal process.

MITIGATION FUNCTION

This property will be part of the required offsite mitigation for the Project's permanent impacts to sensitive vegetation communities.

The property is not a mitigation site for the Project's impacts to listed species, jurisdictional waters, or sensitive plants. The oak woodlands on the property are part of the mitigation for the Project's impacts to native trees. The property also will augment and link lands conserved under the San Diego City and County MSCPs.

PROPERTY DESCRIPTION

Nabi is a 93.46-acre parcel under the jurisdiction of San Diego County (Figure N-1). The property is bisected by San Vicente Creek and Kimball Valley Road north of the Interstate 8 freeway. The Project ROW and Project impact areas do not occur on or immediately adjacent to the property.

A legal description of the property will be added to Part 4 of this HAP/HMP when the acquisition proceeds to the due diligence phase.

Access

The property is accessed mainly off Kimball Valley Road and a private road that cross the southern extent of the parcel.

Adjacent Lands and Land Use

Conserved lands either abut or are in the immediate vicinity of the Nabi parcel (Figure N-2). These conserved lands include: BLM (west), San Vicente County Reservoir Cornerstone Lands (southwest), and Monte Vista Ranch (east).

Climate, Geology, and Landscape

Nabi occurs in an area characterized by warm, dry summers and mild winters with occasional precipitation. Also characteristic of the region is the sea-breeze/land-breeze cycle. During the daytime, on-shore winds move inland with speeds of approximately seven to ten miles per hour (mph). During the nighttime, the direction is reversed and winds move from an easterly direction towards the coast. In addition, periodic Santa Ana wind conditions, which last from 2-3 days, are present.

Nabi contains numerous cliffs and granitic outcroppings. In general, the area is defined by steep slopes and xeric soils.

Vegetation Communities

The flora of Nabi is typical of areas with dry, steep slopes with little to no soil. Most of the parcel is vegetated with chaparral and coastal sage scrub. There are a few small stands of oak woodlands and patches of riparian forest and scrub. See Table N-1 and Figure N-3.

TABLE N-1. NABI VEGETATION

Vegetation Community		Acreage	
Type	**Subtypes**	**Subtype**	**Total**
Chaparrals	Southern Mixed Chaparral	37.85	37.85
Coastal and Montane Scrub	Diegan Coastal Sage Scrub	36.50	36.50
Woodlands and Forests	Coast Live Oak Woodland	4.47	4.47
Riparian Forests and Woodlands	Southern Coast Live Oak Riparian Woodland	6.42	6.42
Riparian Scrub	Mule Fat Scrub	1.63	1.63
Non-native Grassland	Non-native Grassland	4.86	4.86
Non-native Habitats, Developed and Disturbed Habitats	Developed	1.73	1.73
		Total	93.46

Southern Mixed Chaparral (37120)**.** This vegetation type is found throughout the property and is approximately 37.85 acres or 41% of the total area.

Diegan Coastal Sage Scrub (32500). This vegetation type is found throughout the property. It is completely surrounded by Southern Mixed Chaparral and makes up approximately 36.50 acres or 40% of the total property.

Coast Live Oak Woodland (71161). This vegetation type is found in small patches and makes up approximately 4.47 acres or 5% of the property.

Southern Coast Live Oak Riparian Woodland (61310). This vegetation type is found in a small patch along ephemeral drainages and makes up approximately 6.42 acres or 7% of the property.

Mule Fat Scrub (63310). This vegetation is found in a small patch adjacent to the Southern Coast Live Oak Riparian Woodland and up approximately 1.63 acres or 1% of the property.

Non-Native Grassland (42200). This vegetation type is found adjacent to the "developed" areas on the property. vegetation type within the Nabi Property. This vegetation type makes up approximately 4.86 acres or 5% of the total Property.

Developed (1200). Approximately 1.73 acres or 1% of the property is classified as "developed."

Sensitive Plant Species

Table N-2 and Figure N-4 indicate the sensitive plant species that are known to occur on the property.

TABLE N-2. NABI SENSITIVE PLANT SPECIES

Common Name	Scientific Name	Listing Status (Federal/State/CNPS)	Occurrence
Orcutt's brodiaea	*Brodiaea orcuttii*	-/-/1B	Observed
San Miguel savory	*Satureja chandleri*	-/-/1B	Observed

Invasive Plant Species

Invasive plants species are present on the property, mainly along roads. No significant populations have been recorded or mapped for the property.

Sensitive Animal Species

Table N-3 and Figure N-4 indicate the sensitive animal species associated with the property. Arroyo toad is known to occur based on existing data records. There also is a high likelihood that golden eagle forages on the property.

TABLE N-3. NABI SENSITIVE ANIMAL SPECIES

Common Name	Scientific Name	Listing Status (Federal/State/CNPS)	Likelihood of Occurrence
Arroyo toad	*Bufo californicus*	E/-/G2G3 S2S3	Observed
Golden eagle	*Aquila chrysaetos*	-/-/G5 S3	High

Invasive Animal Species

To date, no significant populations of invasive animals have been mapped or recorded for this property

Wildlife Movement and Linkages

Nabi is not located within a mapped wildlife linkage or MSCP linkage area. However, the property does provide a habitat linkages between MSCP conserved lands to the southwest and northeast.

MANAGEMENT SPECIFICATIONS

This section identifies the proposed land manager/owner, start-up and ongoing tasks, and the estimated costs of HMP implementation.

Proposed Land Manager/Owner

SDG&E proposes to convey the lands to the City of San Diego, who would manage them as an open space preserve. This arrangement is proposed because the property is adjacent to the City's San Vicente Reservoir Cornerstone Lands (conserved under the City's approved MSCP). The arrangement also offsets the Project's effects on the Cornerstone Lands.

Start-up Tasks (Years 1-5)

Access Control

Approximately ten signs will be installed in appropriate areas to limit public access. No gates or fencing are proposed. The signs will be maintained and replaced as needed during the period.

General Conditions Monitoring and Wildlife Assessment

The land manager will conduct annual inspections to determine overall conditions on the property and assess threats to habitat and species. Results of the inspection will be used to map and prioritize areas where preventive or remedial measures are needed.

Vegetation and Invasive Species Mapping

A qualified plant ecologist will prepare baseline mapping of vegetation communities and invasive plant species on the property based on field surveys and aerial imagery. The mapping will be completed by year three and updated as needed during the period.

Species Surveys

To establish the extent and condition of occupied arroyo toad habitat, a qualified herpetologist will conduct three sets of surveys for the species. The survey results will be used to identify areas where impacts to this listed species need to be avoided and where there are opportunities to incidentally benefit the species.

5-Year Work Program and Annual Work Plans

Using results from general conditions assessment and vegetation/invasive species mapping, the land manager will prepare a 5-year work program that identifies and prioritizes biological resource and land stewardship tasks for the period and includes a five-year staffing and materials budget. The 5-year work program will be completed no later than year 3 and updated every three years. Annual work plans and annual budgets will be based on the priorities set in the 5-year work program.

Interim Work Plans

Prior to completion of the first 5-year work program, the land manager will prepare annual work plans and budgets for the general conditions assessment, surveys, mapping, and other data collection required to guide management of the property. The interim work plans also may include access control, invasive species control, and erosion control measures that the land manager determines are necessary.

Invasive Plant Control

Invasive plant control measures will be initiated based on the results of the mapping effort and the priorities established in the work program.

Erosion Control, Road Maintenance, and Road Decommissioning

Erosion control and road maintenance will be performed on an as-needed basis. The existing internal access roads will be maintained if required for access control and monitoring purposes. No new roads will be added, and unnecessary internal roads will be decommissioned.

Fire Management

The 5-year work program will include a fire management component developed in consultation with the appropriate fire agencies. Controlled or systematic burns will not be allowed as a fuel reduction measure.

Trash Removal

The property will be managed for illegal dumping in concert with the management for public access. Any evidence of illegal dumping will be recorded by the land manager and addressed accordingly. Trash will be removed and disposed in accordance with applicable local ordinances.

GIS Database

The land manager will establish and maintain a GIS database for the property.

Annual Reports

The land manager will prepare annual reports on management activities and expenditure of start-up funds.

Public Information/Education
The land manager will prepare web-ready notices and fact sheets regarding the inclusion of the lands in the properties managed by the public agency or conservancy, the resources on the property, and public access restrictions. The materials will be posted on the land manager/owner's website.

Ongoing Tasks (Beginning Year 6)

Access Control
Signs will be maintained and replaced as needed. Barriers and other access controls will be considered if monitoring identifies illegal access and uses as a problem.

General Conditions Monitoring and Wildlife Assessment
The land manager will conduct annual inspections to determine overall conditions on the property and assess threats to habitat and species. Results of the inspection will be used to map and prioritize areas where preventive or remedial measures are needed.

Vegetation and Invasive Species Mapping
The vegetation and invasive species mapping will be updated every three years.

Species Surveys
Surveys for arroyo toads will be conducted every three to five years.

5-Year Work Program and Annual Work Plans
The 5-year work program will be updated every three years. Annual work plans and annual budgets will be based on the priorities identified in the work program.

Exotic Plant Control
Control measures for exotic invasive plants will be implemented as specified in the work program and annual work plans.

Erosion Control, Road Maintenance, and Road Decommissioning
Erosion control and road maintenance will be performed on an as-needed basis. No new roads will be added, and unnecessary internal roads will be decommissioned.

Fire Management
The fire management component of the management plan will be updated every three years.

Trash Removal
Monitoring for illegal dumping and the collection and disposal of trash will occur on an as-needed basis.

GIS Database
The land manager will maintain the GIS database for the property on an annual basis.

Annual Reports
The land manager will prepare annual reports on management activities, expenditures, and the balance of the management endowment.

Public Information/Education

Notices regarding access controls and limits on public uses and annual reports will be posted on the land manager/owner's website.

Estimated Costs and Funding

As presented in detail in Part 3, start-up management costs are estimated at $88,732 for the five-year period ($17,746 annually). Ongoing annual costs are estimated at $10,721 and would require a non-wasting endowment of $536,355. The total funding commitment required for management of the property is $625,087.

STATUS OF THE ACQUISITION

The owner is a willing seller. The acquisition is in the land-appraisal phase.

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LAKESIDE RANCH HMP

OVERVIEW

ACRES	427.38
LOCAL JURISDICTION	County of San Diego
CROSSED BY PROJECT ROW	Yes
CONSERVED AS MITIGATION FOR PROJECT IMPACTS TO	Sensitive vegetation and Coastal California Gnatcatcher
INCIDENTAL BIOLOGICAL VALUES	Sensitive plant species
ALSO A MITIGATION SITE FOR PROJECT IMPACTS TO	
JURISDICTIONAL WATERS	No
SENSITIVE PLANTS	No
NATIVE TREES	Yes (via woodland conservation)
OTHER	MSCP considerations; restoration of 50 acres of CSS.
ADJACENT CONSERVED/PUBLIC LANDS	City of San Diego San Vicente Reservoir Cornerstone Lands, County of San Diego Oak Oasis Open Space Preserve, County of San Diego Stelzer Regional Park, and Johnson Lake Open Space
PROPOSED LAND MANAGER/OWNER	County of San Diego
ESTIMATED START-UP MANAGEMENT COSTS	$246,219
ESTIMATED ENDOWMENT FOR ONGOING MANAGEMENT	$2,074,455
ACQUISITION STATUS	Willing seller; final negotiations.

MITIGATION FUNCTION

The property is part of the required mitigation for the Project's impacts to sensitive vegetation and is the offsite mitigation for impacts to the federally-listed coastal California gnatcatcher (Gnatcatcher).

As part of the mitigation for Project impacts to coastal sage scrub (CSS) vegetation, SDG&E will enhance and restore 50 acres of CSS in a recovering burn area on this property. The CSS enhancement and restoration will be funded and implemented separately by SDG&E under a plan subject to USFWS and CDFG approval. Implementation of the CSS plan will be coordinated with management of the property. Ongoing management of the enhanced/restored CSS will occur under the HMP.

The oak woodlands on the property are part of the mitigation for the Project's impacts to native trees. The property also will augment and link lands conserved under the San Diego City and County MSCPs.

The property is not a proposed site for Project mitigation measures for impacts to other listed species, jurisdictional waters, or sensitive plants.

PROPERTY DESCRIPTION

Lakeside Ranch is an aggregation of parcels located southeast of San Vicente Reservoir, east of State Route (SR) 67, and west of Wildcat Canyon Road (Figure LR-1). The Project ROW crosses the property and includes permanent and temporary impact areas for three towers, two tower staging access pads (TSAPs), and an access road to one of the towers. The ROW and these impact areas are not part of the mitigation site.

A legal description of the property will be inserted in Part 4 of this HAP/HMP when the acquisition is ready to proceed to escrow.

Access

The property is accessed from Vigilante Road and San Vicente Avenue on the west and Muth Valley Road on the east. Several existing roads cross the property. One of the roads is designated as an emergency evacuation road for a planned development east of the property.

Adjacent Lands and Land Use

Conserved lands either abut or are in the immediate vicinity of the property (Figure LR-2). These conserved lands include: San Vicente Reservoir (north), San Vicente View (north), Oak Oasis Open Space Preserve (northeast), Johnson Lake Open Space (west), Goodan Ranch/Sycamore Canyon Open Space Preserve (northwest), Stelzer Regional Park (south). The site is identified in the South County MSCP as a "hardline preserve"; about 30 percent of the site was planned for development.

Adjacent land uses include recreation concurrent with the management goals for the City of San Diego San Vicente Reservoir. Currently, the San Vicente Reservoir is closed to public use during the construction of a new dam. In the future (approximately 2014-2017), the reservoir will re-open to boating, picnicking, and other localized recreation.

Climate, Geology, and Landscape

The property is an area characterized by warm, dry summers and mild winters with occasional precipitation. Also characteristic of the region is the sea-breeze/land-breeze cycle. During the daytime, on-shore winds move inland with speeds of approximately seven to ten miles per hour (mph). During the nighttime, the direction is reversed and winds move from an easterly direction towards the coast. In addition, periodic Santa Ana wind conditions, which last from 2-3 days, are present.

The property is characterized by gently sloping rocky hills and canyons. In general the area contains fairly xeric soils and vegetation characteristic of the Mediterranean ecosystem. The arid environment along with the xeric soil conditions supports a large amount of Diegan coastal sage scrub (Figure LR-3). Riparian oak woodlands line some of the tributaries on the property. The property is located within the San Diego River Watershed and contains drainages to the San Diego River and/or San Vicente Reservoir. However, the site does not contain mapped jurisdictional waters.

The flora is typical of Mediterranean ecosystems. Most of the property is vegetated with coastal sage scrub and coastal sage scrub/chaparral ecotone.

Soils

TABLE LR-1. LAKESIDE RANCH SOILS

Soil Type	Summary Description
AcG	Acid igneous rock land
CmE2	Cieneba rocky coarse sandy loam, 9 to 30 percent slopes, eroded
CmrG	Cieneba very rocky coarse sandy loam, 30 to 75 percent slopes
CnG2	Cieneba-Fallbrook rocky sandy loams, 30 to 65 percent slopes, eroded
FvE	Fallbrook-Vista sandy loams, 15 to 30 percent slopes
PeD2	Placentia sandy loam, 9 to 15 percent slopes, eroded
Rm	Riverwash
SvE	Stony land
VaA	Visalia sandy loam, 0 to 2 percent slopes
VaB	Visalia sandy loam, 2 to 5 percent slopes
VvE	Vista rocky coarse sandy loam, 15 to 30 percent slopes
VvG	Vista rocky coarse sandy loam, 30 to 65 percent slopes

Source: Data from USDA NRCS Soil Surveys.

Vegetation Communities

The vegetation on the property is primarily coastal sage scrub with coastal sage scrub/chaparral ecotone in the northeast. The entire property burned in the 2003 Cedar Fire. East of the Project ROW, vegetation communities have retained their original characterization and are recovering, but have not yet reached a climax condition. West of the alignment, the vegetation communities are in inferior recovery from the fire and have type-converted to non-native grassland, interspersed with small pockets of coastal sage scrub (Figure LR-3). The area west of the ROW is where SDG&E will enhance and restore 50 acres of coastal sage scrub.

The property is primarily occupied by coastal sage scrub and coastal sage-chaparral scrub with small portions of oak woodlands (Table LR-2).

Diegan Coastal Sage Scrub (32500) - This vegetation type is found in a small patch along the western border of the property. The vegetation type is bordered by Southern Mixed Chaparral and Southern Coast Live Oak Riparian Woodland. This vegetation type makes up approximately 223.57 acres or 52% of the property.

Coastal Sage-Chaparral Scrub (37G00) – This vegetation type is found in northwestern portion of the property on the north facing slopes. This vegetation type makes up approximately 102.60 acres or 24% of the property.

Southern Mixed Chaparral (37120) - This vegetation type is found on approximately 90.26 acres or 21% of the property.

TABLE LR-2. LAKESIDE RANCH VEGETATION COMMUNITIES

Vegetation Communities		Acreage	
Type	**Subtype**	**Subtype**	**Total**
Chaparrals	Southern Mixed Chaparral	90.26	90.26
Woodlands and Forests	Coast Live Oak Woodland	11.54	11.54
Coastal and Montane Scrub Habitats	Diegan Coastal Sage Scrub	223.57	326.17
	Coastal Sage-Chaparral Scrub	102.60	
Riparian Forests and Woodlands	Southern Coast Live Oak Riparian Forest	3.76	3.76
Non-native Vegetation, Developed Areas, and Disturbed Habitat	Developed	0.58	0.80
	Disturbed	0.22	
		Total	432.93

Coast Live Oak Woodland (71161) - This vegetation type is found along the northeastern borders of the property. Significant amounts of Disturbed Habitat and Developed areas are adjacent to or bordering this vegetation type. This vegetation type makes up approximately 11.54 acres or 3% of the property.

Southern Coast Live Oak Riparian Woodland (61310) - This vegetation type is found in a linear patch on the southern portion of the property. This vegetation type is surrounded almost entirely by southern mixed chaparral. This vegetation type makes up approximately 3.76 acres or less than 1% of the property.

Developed (1200) – Less than one acre is classified as developed. It is found in small, linear patches along the northeastern borders of the property.

Disturbed Habitat (11300) - This type is found along the northeaster borders of the property adjacent to Coast Live Oak Woodland and Chaparral. This makes up approximately 0.22 acres or less than 1% of the property.

Sensitive Plant Species

TABLE LR-3. LAKESIDE RANCH SENSITIVE PLANT SPECIES

Common Name	Scientific Name	Listing Status Federal/State/CNPS	Potential to Occur
Orcutt's brodieae	*Brodieae orcuttii*	-/-/1B	High
Delicate clarkia	*Clarkia delicate*	-/-/1B	High
California plantain	*Plantago erecta*	-/-/1B	High

Invasive Plant Species

Invasive plant species occur on the property, along roads and in the burn area west of the ROW, but have not been mapped.

Sensitive Animal Species

Historically, the site was densely occupied by the California gnatcatcher (Figure LR-4). There is a low probability of Quino occurrence. There is a high probably of San Diego horned lizard occurrence.

TABLE LR-4. LAKESIDE RANCH SENSITIVE ANIMAL SPECIES

Common Name	Scientific Name	Listing Status Federal/State/CNDDB	Likelihood of Occurrence
Quino checkerspot butterfly	*Euphydryas editha quino*	E/-/G5T1 S1	Low
San Diego horned lizard	*Phrynosoma coronatum blainvillii*	-/-/G4G5 S3S4	High
California Gnatcatcher	*Polioptila californica*	-/-/G5T4 S5	High

Invasive Animal Species

There are no records of the presence of invasive animal species on the properties.

Wildlife Movement and Linkages

The property is not located within any identified wildlife movement corridors or habitat linkages. However, the property contributes to the overall landscape connectivity for wildlife, and specifically provides a "stepping stone" of habitats to benefit movement for the California gnatcatcher.

MANAGEMENT SPECIFICATIONS

This section identifies the proposed land manager/owner, start-up and ongoing tasks, and the estimated costs of HMP implementation.

Proposed Land Manager/Owner

SDG&E proposes to convey the lands to the County of San Diego, who would manage them as an open space preserve. This arrangement is proposed because the property includes lands previously identified as a "hardline preserve" in the County's approved MSCP for the area. The arrangement also offsets the Project's effects on lands conserved under the County's approved MSCP.

Start-up Tasks (Years 1-5)

Access Control

Approximately ten signs will be installed in appropriate areas to limit public access. No gates or fencing are proposed at this time.

General Conditions Monitoring and Wildlife Assessment

The land manager will conduct annual inspections to determine overall conditions on the property and assess threats to habitat and species. Results of the inspection will be used to map and prioritize areas where preventive or remedial measures are needed.

Vegetation and Invasive Species Mapping

A qualified plant ecologist will prepare baseline mapping of vegetation communities and invasive plant species on the property based on field surveys and aerial imagery. The mapping will be completed by year three and updated as needed during the period.

Species Surveys

Focused surveys for Gnatcatcher will be conducted annually. Surveys for Quino are not proposed but would be scheduled the annual general monitoring detects the species on the property.

5-Year Work Program and Annual Work Plans

Using results from general conditions assessment and vegetation/invasive species mapping, the land manager will prepare a 5-year work program that identifies and prioritizes biological resource and land stewardship tasks for the period and includes a five-year staffing and materials budget. The 5-year work program will be completed no later than year 3 and updated every three years. Annual work plans and annual budgets will be based on the priorities set in the 5-year work program.

Interim Work Plans

Prior to completion of the first 5-year work program, the land manager will prepare annual work plans and budgets for the general conditions assessment, surveys, mapping, and other data collection required to guide management of the property. The interim work plans also may include access control, invasive species control, and erosion control measures that the land manager determines are necessary.

Invasive Plant Control

Invasive plant control measures will be initiated based on the results of the mapping effort and the priorities established in the work program.

Erosion Control, Road Maintenance, and Road Decommissioning

Erosion control and road maintenance will be performed on an as-needed basis. The existing internal access roads will be maintained if required for access control and monitoring purposes. No new roads will be added, and unnecessary internal roads will be decommissioned. Use of the Project access road will be coordinated with SDG&E.

Fire Management

The 5-year work program will include a fire management component developed in consultation with the appropriate fire agencies. Controlled or systematic burns will not be allowed as a fuel reduction measure.

Trash Removal
The property will be managed for illegal dumping in concert with the management for public access. Any evidence of illegal dumping will be recorded by the land manager and addressed accordingly. Trash will be removed and disposed in accordance with applicable local ordinances.

GIS Database
The land manager will establish and maintain a GIS database for the property.

Annual Reports
The land manager will prepare annual reports on management activities and expenditure of start-up funds.

Public Information/Education
The land manager will prepare web-ready notices and fact sheets regarding the inclusion of the lands in the properties managed by the public agency or conservancy, the resources on the property, and public access restrictions. The materials will be posted on the land manager/owner's website.

Ongoing Tasks (Beginning Year 6)

Access Control
Signs will be maintained and replaced as needed. Barriers and other access controls will be considered if monitoring identifies illegal access and uses as a problem.

General Conditions Monitoring and Wildlife Assessment
The land manager will conduct annual inspections to determine overall conditions on the property and assess threats to habitat and species. Results of the inspection will be used to map and prioritize areas where preventive or remedial measures are needed.

Vegetation and Invasive Species Mapping
The vegetation and invasive species mapping will be updated every three years.

Species Surveys
Gnatcatcher surveys will be conducted every three to five years. Quino surveys will become part of ongoing management if the species is detected onsite.

5-Year Work Program and Annual Work Plans
The 5-year work program will be updated every three years. Annual work plans and annual budgets will be based on the priorities identified in the work program.

Exotic Plant Control
Control measures for exotic invasive plants will be implemented as specified in the work program and annual work plans.

Erosion Control, Road Maintenance, and Road Decommissioning
Erosion control and road maintenance will be performed on an as-needed basis. No new roads will be added, and unnecessary internal roads will be decommissioned.

Fire Management
The fire management component of the management plan will be updated every three years.

Trash Removal
Monitoring for illegal dumping and the collection and disposal of trash will occur on an as-needed basis.

GIS Database
The land manager will maintain the GIS database for the property on an annual basis.

Annual Reports
The land manager will prepare annual reports on management activities, expenditures, and the balance of the management endowment.

Public Information/Education
Notices regarding access controls and limits on public uses and annual reports will be posted on the land manager/owner's website.

Estimated Costs and Funding

Start-up costs are estimated at approximately $246,219 for the five years ($49,244 annually). Annual costs for ongoing management are estimated at $41,449, which would require a non-wasting endowment of $2,074,455. The total funding commitment required for management of the property is $2,320,674.

STATUS OF THE ACQUISITION

The owner is a willing seller. The acquisition is in the final negotiations stage.

HAMLET HMP

OVERVIEW

ACRES	84.35
LOCAL JURISDICTION	County of San Diego
CROSSED BY PROJECT ROW	Yes
CONSERVED AS MITIGATION FOR PROJECT IMPACTS TO	Sensitive Vegetation
INCIDENTAL BIOLOGICAL VALUES	Potential habitat for California gnatcatcher and Quino checkerspot
ALSO A MITIGATION SITE FOR PROJECT IMPACTS TO	
JURISDICTIONAL WATERS	No
SENSITIVE PLANTS	No
NATIVE TREES	No
OTHER	MSCP consideration
ADJACENT CONSERVED/PUBLIC LANDS	Stelzer Regional Park, Helix Water District Lands
PROPOSED LAND MANAGER/OWNER	County of San Diego
ESTIMATED START-UP MANAGEMENT COSTS	$77,786
ESTIMATED ENDOWMENT FOR ONGOING MANAGEMENT	$397,507
ACQUISITION STATUS	Acquired by SDG&E

MITIGATION FUNCTION

This property is part of the offsite mitigation for the Project's impacts to sensitive vegetation types. It includes potential habitat for Gnatcatcher and Quino but is not a proposed mitigation site for impacts to these or other listed species. It also is not a mitigation site for impacts to jurisdictional waters, sensitive plants, or native trees.

PROPERTY DESCRIPTION

The Hamlet parcel is located south of the Interstate 8 freeway and Willow Road between Wildcat Canyon Road and highway 67 (Figure H-1). A legal description is included in Part 4 of this HAP/HMP.

The Project ROW crosses the property. Two towers and two TSAPs will be permanent components within the ROW. An existing road on the property will be used as temporary access road during construction and will require improvements within the roadway.

Access

The property is accessed off Wildcat Canyon Road.

Adjacent Lands and Land Use

The parcel encompasses High Meadows Road and borders Louis A. Stelzer County Park to the south and west. Hamlet is located in the community of Lakeside. Directly north is the San Vicente Reservoir and Oak Oasis County Park. Helix Water District is within a close proximity to the eastern border of the parcel (Figure H-2). Allowable uses on the adjacent County Park include biking and hiking (day use only).

Climate, Geology, and Landscape

The Hamlet parcel is in an area characterized by warm, dry summers and mild winters with occasional precipitation. Also characteristic of the region is the sea-breeze/land-breeze cycle. During the daytime, on-shore winds move inland with speeds of approximately seven to ten miles per hour (mph). During the nighttime, the direction is reversed and winds move from an easterly direction towards the coast. In addition, periodic Santa Ana wind conditions, which last from 2-3 days, are present.

The Hamlet parcel contains hills that rise between 500-1500 feet above sea level. The resulting small canyons, valleys, and gullies distribute a dendritic system of ephemeral and perennial channels to the San Vicente Reservoir to the north.

Soils

TABLE H-1. HAMLET SOILS

Soil Type	Summary Description
CnG2	Cieneba-Fallbrook rocky sandy loams, 30 to 65 percent s lopes, eroded
RaD2	Ramona sandy loam, 9 to 15 percent slopes, eroded

Source: USDA NRCS Soil Surveys.

Vegetation Communities

Hamlet contains mainly coastal scrub (recovering) and non-native grassland communities (Table H-2 and Figure H-3). Jurisdictional wetlands also have been mapped on the property (Figure H-4).

TABLE H-2. HAMLET VEGETATION

Vegetation Communities		Acreage	
Types	**Subtypes**	**Subtype**	**Total**
Chaparrals	Southern Mixed Chaparral-Burned	2.24	2.24
Coastal and Montane Scrub Habitats	Diegan Coastal Sage Scrub	56.21	56.21
Grasslands and Meadows	Non-native Grassland	19.45	19.45
Herbaceous Wetlands, Freshwater, and Streams	Non-vegetated Channel	0.66	0.66
Non-Native Vegetation, Developed, Disturbed	Developed	5.79	5.79
		Total	84.35

Diegan Coastal Sage Scrub (32500) - This vegetation type makes up the majority of the Hamlet parcel. This vegetation type accounts for approximately 56.21 acres or 67% of the total parcel.

Non-native Grasslands (42200) - This vegetation type is found in three patches within Diegan Coastal Sage Scrub and directly adjacent to the Developed Area on the Hamlet parcel. This vegetation type occurs on approximately 19.62 acres or 23% of the parcel.

Southern Mixed Chaparral (37120) - This vegetation type is found in one small patch on the south western corner boundary of the Hamlet parcel. This area has been recently burned and accounts for approximately 2.24 acres or 3% of the parcel.

Non-Vegetated Channel (13200) – This vegetation type is found primarily on the northern portion of the Hamlet parcel. This type occurs on less than 1 acre (less than 1%) of the parcel.

Developed Area (12000) - This area is found in one patch within the Hamlet parcel and is adjacent to the Non-Native Grasslands and the southern border of the parcel. This type occurs on approximately 5.79 acres or 7% of the parcel.

Sensitive Plant Species

Two sensitive plant species are associated with the parcel (Table H-3 and Figure H-5).

TABLE H-3. HAMLET SENSITIVE PLANT SPECIES

Common Name	Scientific Name	Listing Status Federal/State/CNPS	Probability of Occurrence
San Diego sunflower	*Bahiopsis laciniata*	-/-/1B	Observed
Southern jewel-flower	*Streptanthus campestris*	-/-/1B	High

Invasive Plant Species

The Hamlet parcel contains one species listed by Cal-IPC as an invasive, fountain grass (*Pennisetum setaceum)*. Two individuals have been mapped along an access road through the property (Figure H-6).

Sensitive Animal Species

The Hamlet parcel has potentially suitable habitat for a diversity of sensitive fauna (Table H-4 and Figure H-5), including for potential habitat for Gnatcatcher and Quino.

The probability of Gnatcatcher occurrence is moderate to high. The CSS on the site was significantly affected by the 2003 Cedar fire and has not yet fully recovered. However, occupied habitat occurs just outside the boundaries of the Hamlet parcel on all sides. Gnatcatcher surveys conducted on the parcel in 2010 were negative.

The probability of Quino occurrence is moderate. A reasonably large population of California plantain (*Plantago erecta*) occur just outside the parcel. Host plants have not been found on the parcel.

TABLE H-4. HAMLET SENSITIVE ANIMAL SPECIES

Common Name	Scientific Name	Listing Status (Federal/State/CNDDB)	Potential to Occur
Quino Checkerspot Butterfly	*Euphydryas editha quino*	E/-/G5T1 S1	Moderate
Coast Patch-nosed Snake	*Salvadora hexalepis virguletea*	-/SSC/G5T3 S2S3	High
Costal Rosy Boa	*Lichanura trivirgata roseofusca*	-/-/G4G5 S3S4	Moderate
Coronado Skink	*Eumeces skiltonianus interparietalis*	-/-/G5T2T3Q S1S2	High
Northern Red-Diamond Rattlesnake	*Crotalus ruber ruber*	-/-/G4T3T4 S2	Moderate
Orange-throated Whiptail	*Aspidoscelis hyperythra*	-/-/G5 S2	Observed
San Diego Horned Lizard	*Phrynosoma coronatum blainvillii*	-/-/G4G5 S3S4	Observed
Black-tailed Jackrabbit	*Lepus californicus*	-/-/G5T4 S5	Moderate
Coastal California Gnatcatcher	*Polioptila californica californica*	T/SSC/G3T2 S2	Moderate/High
Loggerhead Shrike	*Lanius ludovicianus*	-/-/G4 S4	Low
Dulzura Pocket Mouse	*Chaetodipus californicus femoralis*	-/-/G5T3 S2	Low
Northwestern San Diego Pocket Mouse	*Chaetodipus fallax fallax*	-/-/G5T3 S2S3	Low

Invasive Animal Species

There have been no invasive animal species identified on the Hamlet property.

Wildlife Movement and Linkages

The Hamlet parcel is not located within any identified linkages. However, the habitat on the parcel connects with open space on the adjacent County parklands and Helix Water District properties.

MANAGEMENT SPECIFICATIONS

This section identifies the proposed land manager/owner, start-up and ongoing tasks, and the estimated costs of HMP implementation.

Proposed Land Manager/Owner

SDG&E proposes to convey the lands to the County of San Diego, who would manage them as part of a regional park or as an open space preserve. This arrangement is proposed because the property is adjacent to a existing regional county park. The arrangement also offsets the Project's effects on lands conserved under the County's approved MSCP.

Start-up Tasks (Years 1-5)

Access Control

Approximately five signs will be installed in appropriate areas to limit public access and maintained during the period. No gates or fencing is proposed at this time.

General Conditions Monitoring and Wildlife Assessment

The land manager will conduct annual inspections to determine overall conditions on the property and assess threats to habitat and species. Results of the inspection will be used to map and prioritize areas where preventive or remedial measures are needed.

Vegetation and Invasive Species Mapping

A qualified plant ecologist will prepare baseline mapping of vegetation communities and invasive plant species on the property based on field surveys and aerial imagery. The mapping will be completed by year three and updated as needed during the period.

Species Surveys

Focused surveys for Gnatcatcher and Quino would not be conducted unless general monitoring detects the species on the property.

5-Year Work Program and Annual Work Plans

Using results from general conditions assessment and vegetation/invasive species mapping, the land manager will prepare a 5-year work program that identifies and prioritizes biological resource and land stewardship tasks for the period and includes a five-year staffing and materials budget. The 5-year work program will be completed no later than year 3 and updated every three years. Annual work plans and annual budgets will be based on the priorities set in the 5-year work program.

Interim Work Plans

Prior to completion of the first 5-year work program, the land manager will prepare annual work plans and budgets for the general conditions assessment, surveys, mapping, and other data collection required to guide management of the property. The interim work plans also may include access control, invasive species control, and erosion control measures that the land manager determines are necessary.

Invasive Plant Control

Invasive plant control measures will be initiated based on the results of the mapping effort and the priorities established in the work program.

Erosion Control, Road Maintenance, and Road Decommissioning

Erosion control and road maintenance will be performed on an as-needed basis. The existing internal access roads will be maintained if required for access control and monitoring purposes. No new roads will be added, and unnecessary internal roads will be decommissioned. Use of the Project access road will be coordinated with SDG&E.

Fire Management
The 5-year work program will include a fire management component developed in consultation with the appropriate fire agencies. Controlled or systematic burns will not be allowed as a fuel reduction measure.

Trash Removal
The property will be managed for illegal dumping in concert with the management for public access. Any evidence of illegal dumping will be recorded by the land manager and addressed accordingly. Trash will be removed and disposed in accordance with applicable local ordinances.

GIS Database
The land manager will establish and maintain a GIS database for the property.

Annual Reports
The land manager will prepare annual reports on management activities and expenditure of start-up funds.

Public Information/Education
The land manager will prepare web-ready notices and fact sheets regarding the inclusion of the lands in the properties managed by the public agency or conservancy, the resources on the property, and public access restrictions. The materials will be posted on the land manager/owner's website.

Ongoing Tasks (Beginning Year 6)

Access Control
Signs will be maintained and replaced as needed. Barriers and other access controls will be considered if monitoring identifies illegal access and uses as a problem.

General Conditions Monitoring and Wildlife Assessment
The land manager will conduct annual inspections to determine overall conditions on the property and assess threats to habitat and species. Results of the inspection will be used to map and prioritize areas where preventive or remedial measures are needed.

Vegetation and Invasive Species Mapping
The vegetation and invasive species mapping will be updated every three years.

Species Surveys
If these species are detected onsite, surveys would be conducted at least every three years.

5-Year Work Program and Annual Work Plans
The 5-year work program will be updated every three years. Annual work plans and annual budgets will be based on the priorities identified in the work program.

Exotic Plant Control
Control measures for exotic invasive plants will be implemented as specified in the work program and annual work plans.

Erosion Control, Road Maintenance, and Road Decommissioning
Erosion control and road maintenance will be performed on an as-needed basis. No new roads will be added, and unnecessary internal roads will be decommissioned.

Fire Management
The fire management component of the management plan will be updated every three years.

Trash Removal
Monitoring for illegal dumping and the collection and disposal of trash will occur on an as-needed basis.

GIS Database
The land manager will maintain the GIS database for the property on an annual basis.

Annual Reports
The land manager will prepare annual reports on management activities, expenditures, and the balance of the management endowment.

Public Information/Education
Notices regarding access controls and limits on public uses and annual reports will be posted on the land manager/owner's website.

Estimated Costs and Funding

As presented in detail in Part 3, start-up management costs are estimated at $77,786 for the five-year period ($15,557 annually). Ongoing annual costs are estimated at $7,950 and would require a non-wasting endowment of $397,507. The total funding commitment required for management of the property is $475,293.

STATUS OF THE ACQUISITION

The property has been acquired by SDG&E.

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EL CAPITAN HMP

OVERVIEW

ACRES	381.40
LOCAL JURISDICTION	San Diego County El Capitan Open Space Preserve, CNF
CROSSED BY PROJECT ROW	No
CONSERVED AS MITIGATION FOR PROJECT IMPACTS TO	Sensitive Vegetation Communities
INCIDENTAL BIOLOGICAL VALUES	Nesting Golden Eagles
ALSO A MITIGATION SITE FOR PROJECT IMPACTS TO	
JURISDICTIONAL WATERS	No
SENSITIVE PLANTS	Yes (Lakeside ceanothus)
NATIVE TREES	No
OTHER	MSCP considerations; golden eagle conservation.
ADJACENT CONSERVED/PUBLIC LANDS	CNF, San Diego County El Capitan Open Space Preserve
PROPOSED LAND MANAGER/OWNER	County of San Diego or San Diego River Conservancy
ESTIMATED START-UP MANAGEMENT COSTS	$235,817
ESTIMATED ENDOWMENT FOR ONGOING MANAGEMENT	$1,440,192
ACQUISITION STATUS	Acquired by SDG&E

MITIGATION FUNCTION

This property will be part of the required offsite mitigation for the Project's permanent impacts to sensitive vegetation communities and will be location for mitigating impacts to Lakeside ceanothus. Conservation of the property also augments the Project's golden eagle impact avoidance and minimization measures. The property also will augment and link lands conserved under the San Diego County MSCP.

The property is not a mitigation site for the Project's impacts to listed species, jurisdictional waters, or native trees.

A legal description of the property is included in Part 4 of this HAP/HMP.

PROPERTY DESCRIPTION

The El Capitan property includes four parcels totaling 381.40 acres. The property is located north of El Monte Road and the Project ROW.

Access

The property is in a remote location and is accessed off a trail in the County open space preserve.

Adjacent Lands and Land Use

A variety of conserved and public lands either abut or are in the immediate vicinity of the property (Figure EC-2). These lands include: Audubon Society Silverwood Wildlife Sanctuary (northwest), County of San Diego El Monte Park (southwest), Center for Lands Management Blossom Valley (south), City of San Diego El Capitan Reservoir Open Space (south east), Cleveland National Forest (east), County of San Diego El Capitan Open Space Preserve (north).

Adjacent land uses include recreation concurrent with the management goals for County of San Diego open space and Cleveland National Forest. Cleveland allows for public use and access including hunting, fishing, camping, hiking, shooting, and ORV use. County of San Diego open space allows for recreational activities as well including hiking. El Capitan Open Space preserve, also adjacent to the El Capitan parcel, is open to hikers for day use only.

Climate, Geology, and Landscape

The area has a climate characterized by warm, dry summers and mild winters with occasional precipitation. Also characteristic of the region is the sea-breeze/land-breeze cycle. During the daytime, on-shore winds move inland with speeds of approximately seven to ten miles per hour (mph). During the nighttime, the direction is reversed and winds move from an easterly direction towards the coast. In addition, periodic Santa Ana wind conditions, which last from 2-3 days, are present.

El Capitan contains numerous cliffs and granitic outcroppings. In general, the area is defined by steep slopes and xeric soils. The arid environment along with the xeric soil conditions supports a large amount of the fire-prone southern mixed chaparral (Figure EC-3). The property has burned over five times in the last 100 years, most recently during the 2003 Cedar Fire.

The parcel is located within the San Diego River Watershed and contains intermittent seeps and streams which are tributaries to the San Diego River. However, there are no mapped jurisdictional waters.

Soils

TABLE EC-1. EL CAPITAN SOILS

Soil Type	Summary Description
AcG	Acid igneous rock land
FxG	Friant rocky fine sandy loam, 30 to 70 percent slopes
SvE	Stony land

Source: USDA NRCS Soils Survey Division

Vegetation Communities

The vegetation within the boundaries of the El Capitan parcel is fairly monotypic and mainly chaparral (Figure EC-3 and Table EC-2). Smaller patches of oak woodland are located mainly along the western

and southern extent of the property along drainages. There is a small amount of riparian forest, indicative of the ephemeral streams present on the property.

TABLE EC-2. EL CAPITAN VEGETATION

Vegetation Communities		Acreage	
Types	**Subtypes**	**Subtypes**	**Total**
Chaparrals	Chamise Chaparral	44.48	378.56
	Scrub Oak Chaparral	15.93	
	Southern Mixed Chaparral	318.16	
Woodlands and Forests	Coast Live Oak Woodland	2.84	2.84
		Total	381.40

Southern Mixed Chaparral (37120) - This vegetation type is found throughout the property on approximately 318.16 acres or 83% of the land.

Chamise Chaparral (37200) - This vegetation type is found in the south eastern corner of the El Capitan property. The vegetation type is completely surrounded by Southern Mixed Chaparral. This vegetation type makes up approximately 44.48 acres or 12% of the total area.

Scrub Oak Chaparral (37900) - This vegetation type is found in one patch along the southwestern border of the El Capitan property. This vegetation type makes up approximately 15.93 acres or 4% of the total area.

Coast Live Oak Woodland (71161) - This vegetation type is found in four small patches in the southwestern corner of the El Capitan property. This vegetation type makes up approximately 2.84 acres or less than 1% of the total area.

Sensitive Plant Species

The plant species found within the El Capitan property include Lakeside ceanothus, Ramona spineflower, Orcutt's brodiaea, and Ramona horkelia. For a detailed list of sensitive plant species with a high probability of occurrence or observed to occur on the El Capitan property, see Table EC-3 (Figure EC-4).

Invasive Plant Species

Because the El Capitan parcel contains no roads or trails of any kind, the invasive species present are minimal. To date, no significant populations of invasive plants have been mapped or recorded for this property. There are records of pampas grass and fountain grass north of the property.

TABLE EC-3. EL CAPITAN SENSITIVE PLANT SPECIES

Common Name	Scientific Name	Listing Status Federal/State/CNPS	Potential to Occur
Lakeside ceanothus	*Ceanothus cyaneus*	-/-/1B	Observed
Delicate clarkia	*Clarkia delicate*	-/-/1B	Observed
Ramona horkelia	*Horkelia truncate*	-/-/1B	Observed
Felt-leaved monardella	*Mondardella hypoleuca spp. lanata*	-/-/1B	High
Orcutt's brodiaea	*Brodiaea orcuttii*	-/-/1B	Observed
Moreno currant	*Ribes canthariforme*	-/-/1B	Moderate
Ramona spineflower	*Chorizanthe leptotheca*	-/-/4	Observed

Sensitive Animal Species

The golden eagle has been observed on the El Capitan property. In addition, survey conducted in 2010 for the Project confirmed that there is one active nest and one inactive nest on the site (Figure EC-5).

TABLE EC- 1. EL CAPITAN SENSITIVE ANIMAL SPECIES

Common Name	Scientific Name	Listing Status Federal/State/ CNDDB	Likelihood of Occurrence
Quino Checkerspot Butterfly	*Euphydryas editha quino*	E/-/G5T1 S1	Low
Coastal Rosy Boa	*Lichanura trivirgata roseofusca*	-/-/G4G5 S3S4	Moderate
Coast Patch-nosed Snake	*Salvadora hexalepis virguletea*	-/SSC/G5T3 S2S3	Moderate
Coronado Skink	*Eumeces skiltonianus interparietalis*	-/-/G5T2T3Q S1S2	Low
Orange-throated Whiptail	*Aspidoscelis hyperythra*	-/-/G5 S2	High
San Diego Horned Lizard	*Phrynosoma coronatum blainvillii*	-/-/G4G5 S3S4	High
Golden Eagle	*Aquila chrysaetos*	-/SSC/G5 S3	Observed
Black-tailed Jackrabbit	*Lepus californicus*	-/-/G5T4 S5	Moderate
Dulzura Pocket Mouse	*Chaetodipus californicus femoralis*	-/-/G5T3 S2	High

Invasive Animal Species

To date, no significant populations of invasive animals have been mapped or recorded for this property.

Wildlife Movement and Linkages

The El Capitan property is not located within any identified linkages but connects conserved lands and public open space to the south, east, and north.

MANAGEMENT SPECIFICATIONS

This section identifies the proposed land manager/owner, start-up and ongoing tasks, and the estimated costs of HMP implementation.

Proposed Land Manager/Owner

SDG&E proposes to convey the lands to the County of San Diego or the San Diego River Conservancy, who would manage them as an open space preserve. The County is proposed because the property is adjacent an existing open space preserve. The arrangement also offsets the Project's effects on lands conserved under the County's approved MSCP. The River Conservancy is proposed because both the City and County of San Diego are participants and the property is a key watershed land.

Start-up Tasks (Years 1-5)

Access Control
Approximately 10 signs will be installed in appropriate areas and maintained over the period. No gates or fencing is proposed at this time.

General Conditions Monitoring and Wildlife Assessment
The land manager will conduct annual inspections to determine overall conditions on the property and assess threats to habitat and species. Results of the inspection will be used to map and prioritize areas where preventive or remedial measures are needed.

Vegetation and Invasive Species Mapping
A qualified plant ecologist will prepare baseline mapping of vegetation communities and invasive plant species on the property based on field surveys and aerial imagery. The mapping will be completed by year three and updated as needed during the period.

Species Surveys
The Lakeside ceanothus population will be surveyed twice during the period. The location and status of eagle nest sites will be mapped based on data from Project monitoring efforts and other sources.

5-Year Work Program and Annual Work Plans
Using results from general conditions assessment and vegetation/invasive species mapping, the land manager will prepare a 5-year work program that identifies and prioritizes biological resource and land stewardship tasks for the period and includes a five-year staffing and materials budget. The 5-year work program will be completed no later than year 3 and updated every three years. Annual work plans and annual budgets will be based on the priorities set in the 5-year work program.

Interim Work Plans
Prior to completion of the first 5-year work program, the land manager will prepare annual work plans and budgets for the general conditions assessment, surveys, mapping, and other data collection required to guide management of the property. The interim work plans also may include access control, invasive species control, and erosion control measures that the land manager determines are necessary.

Invasive Plant Control
Invasive plant control measures will be initiated based on the results of the mapping effort and the priorities established in the work program. For this property, the focus will be on preventive measures.

Erosion Control, Road Maintenance, and Road Decommissioning
Erosion control will be performed on an as-needed basis. There are no existing internal access roads. No new roads will be added.

Fire Management
The 5-year work program will include a fire management component developed in consultation with the appropriate fire agencies. Controlled or systematic burns will not be allowed as a fuel reduction measure.

Trash Removal
Because of its limited access, illegal dumping is not expected to be problem on this property. However, the property will be monitored for illegal dumping in concert with the management for public access. Any evidence of illegal dumping will be recorded by the land manager and addressed accordingly. Trash will be removed and disposed in accordance with applicable local ordinances.

GIS Database
The land manager will establish and maintain a GIS database for the property.

Annual Reports
The land manager will prepare annual reports on management activities and expenditure of start-up funds.

Public Information/Education
The land manager will prepare web-ready notices and fact sheets regarding the inclusion of the lands in the properties managed by the public agency or conservancy, the resources on the property, and public access restrictions. The materials will be posted on the land manager/owner's website.

Ongoing Tasks (Beginning Year 6)

Access Control
Signs will be maintained and replaced as needed. Barriers and other access controls will be considered if monitoring identifies illegal access and uses as a problem.

General Conditions Monitoring and Wildlife Assessment
The land manager will conduct annual inspections to determine overall conditions on the property and assess threats to habitat and species. Results of the inspection will be used to map and prioritize areas where preventive or remedial measures are needed.

Vegetation and Invasive Species Mapping
The vegetation and invasive species mapping will be updated every three years. The status of the Lakeside ceanothus will be evaluated as part of the vegetation mapping update.

Species Surveys
Surveys for listed wildlife species will not be required as part of ongoing management (the property is not proposed as mitigation for impacts to any listed species).

5-Year Work Program and Annual Work Plans
The 5-year work program will be updated every three years. Annual work plans and annual budgets will be based on the priorities identified in the work program.

Exotic Plant Control
Control measures for exotic invasive plants will be implemented as specified in the work program and annual work plans.

Erosion Control, Road Maintenance, and Road Decommissioning
Erosion control will be performed on an as-needed basis. No new roads will be added.

Fire Management
The fire management component of the management plan will be updated every three years.

Trash Removal
Monitoring for illegal dumping and the collection and disposal of trash will occur on an as-needed basis.

GIS Database
The land manager will maintain the GIS database for the property on an annual basis.

Annual Reports
The land manager will prepare annual reports on management activities, expenditures, and the balance of the management endowment.

Public Information/Education
Notices regarding access controls and limits on public uses and annual reports will be posted on the land manager/owner's website.

Estimated Costs and Funding

As presented in detail in Part 3, start-up management costs are estimated at $235,817 for the five-year period ($47,164 annually). Ongoing annual costs are estimated at $28,804 and would require a non-wasting endowment of $1,440,192. The total funding commitment required for management of the property is $1,676,009.

STATUS OF THE ACQUISITION

The property has been acquired by SDG&E.

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CHOCOLATE CANYON HMP

OVERVIEW

ACRES	76.14
LOCAL JURISDICTION	County of San Diego
CROSSED BY PROJECT ROW	Yes
CONSERVED AS MITIGATION FOR PROJECT IMPACTS TO	Sensitive Vegetation
INCIDENTAL BIOLOGICAL VALUES	Southwestern Willow Flycatcher, Least Bell's Vireo
ALSO A MITIGATION SITE FOR PROJECT IMPACTS TO	
JURISDICTIONAL WATERS	Yes
SENSITIVE PLANTS	No
NATIVE TREES	Yes (via oak woodland conservation)
OTHER	MSCP considerations
ADJACENT CONSERVED/PUBLIC LANDS	City of San Diego Cornerstone Lands,
PROPOSED LAND MANAGER/OWNER	City of San Diego
ESTIMATED START-UP MANAGEMENT COSTS	$107,233
ESTIMATED ENDOWMENT FOR ONGOING MANAGEMENT	$598,088
ACQUISITION STATUS	Acquired by SDG&E

MITIGATION FUNCTION

This property will be part of the required offsite mitigation for the Project's permanent impacts to sensitive vegetation communities and will be a mitigation site for impacts to jurisdictional waters. The property also will augment and link lands conserved under the City of San Diego MSCP.

The property is not a mitigation site for the Project's impacts to listed species, special status plants, or native trees.

A legal description of the property is included in Part 4 of this HAP/HMP.

PROPERTY DESCRIPTION

The Chocolate Canyon property includes all or part of five parcels. It is located northeast of the Interstate 8 freeway between the Chocolate Summit Drive and Peutz Valley Road exits (Figure CC-1). This area is located between the communities of Crest and Alpine in El Cajon.

The Project ROW and impact areas (temporary and permanent) cross the property and are excluded from the mitigation land. Impact areas include a permanent access road, four structures, and a TSAP.

Access

The property can be accessed off of Chocolate Summit Drive and Peutz Valley Road. There are two paved roads on the property.

Adjacent Lands and Land Use

The Chocolate Canyon property is bordered on the west by private lands and the County of San Diego's Chocolate Summit. The northern border of the property is adjacent to the City of San Diego's Cornerstone Lands, which in turn are adjacent to CNF and El Capitan Lake. The southern border runs along the Interstate 8 freeway edge and is adjacent to the community of Harbison Canyon. (Figure CC-2).

Climate, Geology, and Landscape

The area has a climate characterized by warm, dry summers and mild winters with occasional precipitation. Also characteristic of the region is the sea-breeze/land-breeze cycle. During the daytime, on-shore winds move inland with speeds of approximately seven to ten miles per hour (mph). During the nighttime, the direction is reversed and winds move from an easterly direction towards the coast. In addition, periodic Santa Ana wind conditions, which last from 2-3 days, are present. These wind conditions contribute to the overall arid environment and can exacerbate fire risk.

This property, as well as the surrounding area, was burned in the 2003 Cedar fire and is slowly recovering from the fire effects, The entire property is located within the San Diego River watershed and is just south of El Capitan Reservoir. The main water body which supports the riparian and coast live oak woodland found on the property is the Chocolate Canyon Stream.

Soils

TABLE CC-1. CHOCOLATE CANYON SOILS

Soil Type	Summary Description
ClG2	Cieneba coarse sandy loam, 30 to 65 percent slopes, eroded
CnG2	Cieneba-Fallbrook rocky sandy loams, 30 to 65 percent s lopes, eroded

Vegetation Communities

The Chocolate Canyon property contains a variety of vegetation and habitat types due to its ecotonal nature. The property is characterized by coastal sage scrub covered hills surrounding a canyon of riparian forests and chaparral, with large patches of non-native grasslands interspersed as a result of the 2003 Cedar Fire, which significantly affected this area (Figure CC-3). The property is bisected by a canyon with a densely vegetated riparian corridor that contains low to moderately dense oak woodlands. The north-facing slopes are dense chaparral.

TABLE CC-2. CHOCOLATE CANYON VEGETATION

Vegetation Communities		Acreage	
Types	**SubTypes**	**Subtypes**	**Total**
Chaparrals	Southern Mixed Chaparral	26.10	26.10
Coastal and Montane Scrub Habitats	Diegan Coastal Sage Scrub	30.63	30.63
Herbaceous Wetlands, Freshwater, and Streams	Non-vegetated Channel	0.03	0.03
Riparian Forests and Woodlands	Southern Coast Live Oak Riparian Forest	14.16	14.16
Woodlands and Forests	Coast Live Oak Woodland	4.42	4.42
Non-Native Vegetation, Developed Areas, and Disturbed Habitat	Developed	0.80	0.80
		Total	76.14

Southern Mixed Chaparral (37120) - This vegetation type is found on the southern half and north eastern arm of the Chocolate Canyon property. A small portion of southern mixed chaparral, located along the south western border of the property, is considered disturbed.

Diegan Coastal Sage Scrub (32500) - This vegetation type makes up the majority of the northern half of the Chocolate Canyon property.

Southern Coast Live Oak Riparian Forest (61310) - This vegetation type is found in one north to south linear finger within the Chocolate Canyon property, dividing the Diegan Coastal Sage Scrub and the Southern Mixed Chaparral vegetation types.

Coast Live Oak Woodland (71160) - This vegetation type is usually found on north-facing slopes and shaded ravines and also as part of the Southern Coast Live Oak Riparian Forest vegetation type. This vegetation type is found in one small patch on the south western border of the Chocolate Canyon property.

Non-vegetated Channel (13200) - Two small Non-vegetated Channels are found running within the Diegan Coastal Sage Scrub vegetation type on the Chocolate Canyon Property. This vegetation type is approximately 0.15 acre or less than 1% of the total Chocolate Canyon Property.

Developed (1200) - Two paved roads are found within the Chocolate Canyon Property. One is located within the Southern Mixed Chaparral on the south eastern portion of the property, the other bisects the ROW and is located within the Diegan Coastal Sage Scrub on the north western portion of the Chocolate Canyon property.

The property has a large number of streams and riparian habitats running along the many small valleys and canyons located within its boundaries (Figure CC-4). A system of jurisdictional wetlands runs north to south along the eastern border of the property. In addition, a dendritic system of ephemeral, intermittent and perennial streams run throughout the property and flows into El Capitan Reservoir.

Sensitive Plant Species

Three CNPS List 1b plant species are associated with the property. California plantain also occurs. See Table CC-3 (Figure CC-5).

TABLE CC-7. CHOCOLATE CANYON SENSITIVE PLANT SPECIES

Common Name	Scientific Name	Listing Status Federal/State/CNPS	Potential to Occur
Delicate clarkia	*Clarkia delicate*	-/-/1B	Observed
Lakeside ceanothus	*Ceanothus cyaneus*	-/-/1B	Moderate
Tecate cypress	*Cupressus forbesii*	-/-/1B	High

Invasive Plant Species

There have been two Cal-IPC listed invasive plant species identified and mapped on Chocolate Canyon (Figure CC-6).

Patches of arundo (*Arrundo donax*) have been mapped along the entire length of the Chocolate Canyon Stream. Arrundo is considered to be a noxious invasive plant because it not only displaces native riparian vegetation, it also can alter the hydrogeomorphology of the watershed. The plants can grow so large and so dense that they alter the way a stream flows, the depth of the water table, and the angle of the embankment.

A linear population of castor bean (*Ricinus communis*) has been mapped along the southern border of the Chocolate Canyon property where it meets the Interstate 8 freeway. Castor bean can reach a height of 3-15 feet and is considered to be invasive in southern California. The seeds are toxic to humans and some wildlife.

Sensitive Animal Species

For a detailed list of sensitive animal species with a high probability of occurrence or observed to occur on the Chocolate Canyon Property, see Table CC-4 (Figure CC-5).

The probability of Quino occurrence is moderate because of the presence of California plantain.

Despite the presence of significant portions of coastal sage scrub habitat, the likelihood of Gnatcatcher occurrence is low. Recent focused surveys for gnatcatcher have located the bird just off property. Focused surveys on the property did not find any gnatcatcher. It is likely that gnatcatcher could occupy this habitat in the future even if current probability of occurrence is low.

One migrating individual southwestern willow flycatcher was observed on the property in 2010 (ICF per. comm. 2010). The likelihood of the southwestern willow flycatcher being present within the Chocolate Canyon property is moderate. The property contains a significant amount of riparian habitat which would be suitable breeding habitat for the bird. Suitable riparian habitat is, by its nature, ephemeral in

nature and dynamic in distribution (USFWS 2002). The bird has been observed migrating through the property. Only four populations of southwestern willow flycatcher are known to nest in San Diego County.

While the least Bell's vireo were not observed onsite during surveys conducted in 2010, habitat for these species occur onsite. The property contains a both riparian areas and oak woodland. The density of willow and cotton wood trees is somewhat lower than ideal for the least Bell's vireo. Therefore, the likelihood of occurrence for this species is low to moderate. Permanent sources of water and riparian areas within the species' identified range increase the likelihood that this bird will be found here.

TABLE CC-4. CHOCOLATE CANYON SENSITIVE ANIMAL SPECIES

Common Name	Scientific Name	Listing Status Federal/State/CNDDB	Likelihood of Occurrence
Quino Checkerspot Butterfly	*Euphydryas editha quino*	E/-/G5T1 S1	Moderate
Black-tailed Jackrabbit	*Lepus californicus*	-/-/G5T4 S5	Low
Coast Patch-nosed Snake	*Salvadora hexalepis virguletea*	-/SSC/G5T3 S2S3	High
Costal Rosy Boa	*Lichanura trivirgata roseofusca*	-/-/G4G5 S3S4	High
Orange-throated Whiptail	*Aspidoscelis hyperythra*	-/-/G5 S2	Observed
San Diego Horned Lizard	*Phrynosoma coronatum blainvillii*	-/-/G4G5 S3S4	High
Coronado Skink	*Eumeces skiltonianus interparietalis*	-/-/G5T2T3Q S1S2	High
Two-striped Garter Snake	*Thamnophis hammondii*	-/-/G3 S2	Low
Coastal California Gnatcatcher	*Polioptila californica californica*	T/SSC/G3T2 S2	Low
Cooper's Hawk	*Accipiter cooperii*	-/-/G5 S3	High
Least Bell's Vireo	*Vireo bellii pusillus*	E/E/G5T2 S2	Moderate
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	E/E/G5T1T2 S1	Moderate
Yellow-breasted Chat	*Icteria virens*	-/SSC/G5 S3	Moderate
Yellow Warbler	*Dendroica petechia brewsteri*	-/SSC/G5T3 S2	Moderate
Dulzura Pocket Mouse	*Chaetodipus californicus femoralis*	-/-/G5T3 S2	Moderate
Northwestern San Diego Pocket Mouse	*Chaetodipus fallax fallax*	-/-/G5T3 S2S3	Low

Invasive Animal Species

No significant populations of invasive animal species have been identified on the property to date.

Wildlife Movement and Linkages

The Puetz Valley Wildlife Movement Corridor runs through the property, linking El Capitan Reservoir to open space lands south of I-8. The property also link City of San Diego MSCP lands.

MANAGEMENT SPECIFICATIONS

This section identifies the proposed land manager/owner, start-up and ongoing tasks, and the estimated costs of HMP implementation.

Proposed Land Manager/Owner

SDG&E proposes to convey the lands to the City of San Diego, who would manage them as an open space preserve. This arrangement is proposed because the property is adjacent to the City's San Vicente Reservoir Cornerstone Lands (MSCP preserve) and is identified by the City as an important watershed property. The arrangement also offsets the Project's effects on lands conserved under the City's approved MSCP.

Start-up Tasks (Years 1-5)

Access Control
Four bollards, one gate, and 15 signs will be installed and maintained over the period.

General Conditions Monitoring and Wildlife Assessment
The land manager will conduct annual inspections to determine overall conditions on the property and assess threats to habitat and species. Results of the inspection will be used to map and prioritize areas where preventive or remedial measures are needed.

Vegetation and Invasive Species Mapping
A qualified plant ecologist will prepare baseline mapping of vegetation communities and invasive plant species on the property based on field surveys and aerial imagery. The mapping will be completed by year three and updated as needed during the period.

Species Surveys
Two sets of surveys (3 visits each set) will be conducted for southwestern willow flycatcher and least Bell's vireo. Surveys for Quino and Gnatcatcher will be scheduled if general monitoring detects the species on the property during the period.

5-Year Work Program and Annual Work Plans
Using results from general conditions assessment and vegetation/invasive species mapping, the land manager will prepare a 5-year work program that identifies and prioritizes biological resource and land stewardship tasks for the period and includes a five-year staffing and materials budget. The 5-year work program will be completed no later than year 3 and updated every three years. Annual work plans and annual budgets will be based on the priorities set in the 5-year work program.

Interim Work Plans
Prior to completion of the first 5-year work program, the land manager will prepare annual work plans and budgets for the general conditions assessment, surveys, mapping, and other data collection required to guide management of the property. The interim work plans also may include access control, invasive species control, and erosion control measures that the land manager determines are necessary.

Invasive Plant Control

Invasive plant control measures will be initiated based on the results of the mapping effort and the priorities established in the work program. This effort will be coordinated with the invasives control conducted as part of the HMMP measures on the property.

Erosion Control, Road Maintenance, and Road Decommissioning

Erosion control and road maintenance will be performed on an as-needed basis. The existing internal access roads will be maintained if required for access control and monitoring purposes. No new roads will be added, and unnecessary internal roads will be decommissioned. Use of the Project access road will be coordinated with the SDG&E.

Fire Management

The 5-year work program will include a fire management component developed in consultation with the appropriate fire agencies. Controlled or systematic burns will not be allowed as a fuel reduction measure.

Trash Removal

The property will be managed for illegal dumping in concert with the management for public access. Any evidence of illegal dumping will be recorded by the land manager and addressed accordingly. Trash will be removed and disposed in accordance with applicable local ordinances.

GIS Database

The land manager will establish and maintain a GIS database for the property.

Annual Reports

The land manager will prepare annual reports on management activities and expenditure of start-up funds.

Public Information/Education

The land manager will prepare web-ready notices and fact sheets regarding the inclusion of the lands in the properties managed by the public agency or conservancy, the resources on the property, and public access restrictions. The materials will be posted on the land manager/owner's website.

Ongoing Tasks (Beginning Year 6)

Access Control

The barriers, gate, and signs will be maintained and replaced as needed. Additional barriers and other access controls will be considered if monitoring identifies illegal access and uses as a problem.

General Conditions Monitoring and Wildlife Assessment

The land manager will conduct annual inspections to determine overall conditions on the property and assess threats to habitat and species. Results of the inspection will be used to map and prioritize areas where preventive or remedial measures are needed.

Vegetation and Invasive Species Mapping

The vegetation and invasive species mapping will be updated every three years.

Species Surveys
Surveys for flycatcher and vireo will be conducted every three to five years. Surveys for Quino and Gnatcatcher will be scheduled if general monitoring detects the species on the property.

5-Year Work Program and Annual Work Plans
The 5-year work program will be updated every three years. Annual work plans and annual budgets will be based on the priorities identified in the work program. Ongoing management of the HMMP enhancement and preservation areas will begin under the HMP when the success criteria are met (potentially beginning year 6).

Exotic Plant Control
Control measures for exotic invasive plants will be implemented as specified in the work program and annual work plans.

Erosion Control, Road Maintenance, and Road Decommissioning
Erosion control and road maintenance will be performed on an as-needed basis. No new roads will be added, and unnecessary internal roads will be decommissioned.

Fire Management
The fire management component of the management plan will be updated every three years.

Trash Removal
Monitoring for illegal dumping and the collection and disposal of trash will occur on an as-needed basis.

GIS Database
The land manager will maintain the GIS database for the property on an annual basis.

Annual Reports
The land manager will prepare annual reports on management activities, expenditures, and the balance of the management endowment.

Public Information/Education
Notices regarding access controls and limits on public uses and annual reports will be posted on the land manager/owner's website.

Estimated Costs and Funding

As presented in detail in Part 3, start-up management costs are estimated at $107,233 for the five-year period ($21,447 annually). Ongoing annual costs are estimated at $11,962 and would require a non-wasting endowment of $598,088. The total funding commitment required for management of the property is $709,333.

STATUS OF THE ACQUISITION

The property has been acquired by SDG&E.

LIGHTNER HMP

OVERVIEW

ACRES	705.86
LOCAL JURISDICTION	County of San Diego
CROSSED BY PROJECT ROW	Yes (also Substation Site)
CONSERVED AS MITIGATION FOR PROJECT IMPACTS TO	Sensitive Vegetation Communities
INCIDENTAL BIOLOGICAL VALUES	Hermes Copper Habitat and Potential Quino Habitat
ALSO A MITIGATION SITE FOR PROJECT IMPACTS TO	
JURISDICTIONAL WATERS	Yes
SENSITIVE PLANTS	Yes (Felt-leaved Monardella)
NATIVE TREES	Yes (via oak woodland conservation)
OTHER	None
ADJACENT CONSERVED/PUBLIC LANDS	CNF
PROPOSED LAND MANAGER/OWNER	Conservancy
ESTIMATED START-UP MANAGEMENT COSTS	$364,446
ESTIMATED ENDOWMENT FOR ONGOING MANAGEMENT	$1,479,648
ACQUISITION STATUS	Acquired by SDG&E

MITIGATION FUNCTION

This property is part of the mitigation for the Project's impacts to sensitive vegetation, is a mitigation site under the HMMP, is the conservation site for felt-leaved monardella, and is the primary mitigation/conservation site for native oaks.

The property is not proposed as a mitigation site for impacts to listed species.

PROPERTY DESCRIPTION

This property includes 12 parcels located south of Interstate 8 within the Congressional boundaries of the CNF. It is the second largest of the properties acquired directly by SDG&E.

The Project ROW crosses the property and includes several towers, a substation, a TSAP, and permanent access roads.

A legal description of the property is included in Part 4 of this HAP/HMP.

Access

The property is accessed mainly from the east on an existing road that extends onto the property from adjacent private lands. There are multiple dirt roads on the property.

Adjacent Lands and Land Use

The Lightner property is surrounded on the north, south, and west by CNF and by private lands to the east. Recreational uses in CNF include target shooting, camping, biking, hiking, designated OHV areas, and hunting. The private lands to the east are generally designated as rural residential.

In addition to dirt roads, the Lightner property contains a windmill/well and structures. These features, along with stands of non-native grasslands are consistent with agricultural and residential land uses (ranching) and historic use of the land for open range cattle ranching. Historically, open-range cattle ranching was practiced on this property. As a result, the property contains remnants of fencing, a well with windmill and "guzzler" designed for livestock. The presence of riparian and wetland habitat as well as non-native grasslands and other vegetation made this parcel ideal for cattle. Currently, there are no grazing or agricultural activities practiced on this parcel.

Fire is relatively frequent on the property, the most recent occurring in 2001 as a result of the Viejas fire.

Climate, Geology, and Landscape

The area has a climate characterized by warm, dry summers and mild winters with occasional precipitation. Also characteristic of the region is the sea-breeze/land-breeze cycle. During the daytime, on-shore winds move inland with speeds of approximately seven to ten miles per hour (mph). During the nighttime, the direction is reversed and winds move from an easterly direction towards the coast. In addition, periodic Santa Ana wind conditions, which last from 2-3 days, are present.

The landscape is a combination of gently rolling hills and shallow valleys with dendritic streams and drainages.

Soils

TABLE L-1. LIGHTNER SOILS

Soil Type	Summary Description
AcG	Acid igneous rock land
ClE2	Cieneba coarse sandy loam, 15 to 30 percent slopes, eroded
ClG2	Cieneba coarse sandy loam, 30 to 65 percent slopes, eroded
CmrG	Cieneba very rocky coarse sandy loam, 30 to 75 percent slopes
FaD2	Fallbrook sandy loam, 9 to 15 percent slopes, eroded
FeE	Fallbrook rocky sandy loam, 9 to 30 percent slopes
FvD	Fallbrook-Vista sandy loams, 9 to 15 percent slopes
TuB	Tujunga sand, 0 to 5 percent slopes

Source: USDA NRCS Soils Survey Division

Vegetation Communities

Lightner contains upland scrub, oak woodland, and wetland communities (Table L-2, Figure L-3), including jurisdictional wetlands (Figure L-4).

The property is characterized by chaparral covered hills surrounding a flatter area containing two small wetlands as well as stands of oak and non-native grasslands. While the hills contain the dense vegetation characteristic of chaparral communities, the low-lying areas of wetlands contain low to moderately dense oak woodlands. Large areas of non-native grasslands are adjacent to the wetlands as well as the multiple dirt roads that run through the property (Figure L-3).

TABLE L-2. LIGHTNER VEGETATION

Vegetation Communities		Acreage	
Chaparrals	Chamise Chaparral	256.33	599.37
	Northern Mixed Chaparral	205.36	
	Northern Mixed Chaparral - Disturbed	0.36	
	Scrub Oak Chaparral	0.03	
	Southern Mixed Chaparral	134.79	
	Southern Mixed Chaparral - Disturbed	2.51	
Coastal and Montane Scrub Habitats	Flat-topped Buckwheat Scrub	0.82	0.82
Grasslands and Meadows	Meadow – Wet	0.45	21.68
	Native Grassland - Disturbed	6.47	
	Non-native Grassland	14.76	
Herbaceous Wetlands, Freshwater, and Streams	Disturbed Wetland	0.07	0.12
	Non-vegetated Channel	0.05	
Non-Native Vegetation, Developed Areas, and Disturbed Habitat	Developed	0.63	8.56
	Disturbed Habitat	7.93	
Woodlands and Forests	Engelmann Oak Woodland	43.87	75.31
	Englemann Oak Woodland - Disturbed	0.22	
	Mixed Oak Woodland	31.23	
		Total	705.86

Chamise Chaparral (37200) - This vegetation type is found throughout the Lightner property often adjacent to and within patches of Northern Mixed Chaparral and makes up approximately 256.33 acres or 36% of the total property.

Northern Mixed Chaparral (37130) - This vegetation type is the most abundant within the Lightner property and is found throughout. This vegetation type is approximately 205.36 acres or 29% of the total Lightner parcel. Of the 29%, a small portion of the Northern Mixed Chaparral, located near the Developed and ROW area(s), is considered disturbed. This is less than one acre or less than 1% of the total Northern Mixed Chaparral vegetation type.

Southern Mixed Chaparral (37120) - This vegetation type is found in large contiguous patches throughout the Lightner property. It makes up approximately 134.79 acres or 19% of the total parcel. Of the 19%, a small portion of the Southern Mixed Chaparral, adjacent to the roads on the western portion of the Lightner property, is considered disturbed. This is approximately 2.51 acres or 2% of the total Southern Mixed Chaparral vegetation type.

Engelmann Oak Woodland (71180) - This vegetation type occurs on the eastern half of the parcel adjacent to both Non-Native Grassland and Northern and Southern Mixed Chaparral patches within the Lightner property. It occupies approximately 43.87 acres or 6% of the total parcel. Of the 6%, a small portion of the Engelmann Oak Woodland, adjacent to the roads on the western portion of the Lightner property, is considered disturbed. This is less than one acre or less than 1% of the total Engelmann Oak Woodland vegetation type.

Mixed Oak Woodland (77000) - The largest patch of Mixed Oak Woodland found on the Lightner property is located in the northeastern corner surrounded by larger patches of Northern Mixed Chaparral, Chamise Chaparral, and a relatively smaller patch of Non-Native Grassland. Three smaller patches are located just west of the center of the Lightner property adjacent to patches of Northern Mixed Chaparral and Southern Mixed Chaparral. Mixed Oak Woodland makes up approximately 31.23 acres or less than 1% of the total parcel.

Non-native Grasslands (42200) - This vegetation type is found in three small patches within the Lightner property, one near the southwestern portion of the property, and two on the northeaster portion of the property. All three are directly adjacent to dirt roads and/or disturbed areas. Non-native Grasslands are not found on the westernmost portion of the parcel. This vegetation type makes up approximately 14.76 acres or 2% of the total parcel.

Native Grasslands (42100) - This vegetation type is found in two small patches within the Lightner property. The larger of the two patches is located on the western half of the property while the much smaller patch is located on the south eastern portion of the Lightner property. This vegetation type makes up approximately 6.47 acres or less than 1% of the total property. All of the Native Grassland within the Lightner property is considered disturbed.

Wet Montane Meadow (45110) - This vegetation type is found on the north eastern portion of the Lightner property. It is located within Disturbed Wetland and Mixed Oak Woodland vegetation types. This vegetation type makes up less than 1 acre or less than 1% of the total property.

Disturbed Wetlands (11200) - This vegetation type is found within the Disturbed Habitat located on the south western portion of the Lightner property. This vegetation type makes up less than 1 acre or less than 1% of the total property.

Disturbed Habitat (11300) - This vegetation type is found in two small areas, one in the southeastern half of the Lightner property (within APN: 52-392-007) and makes up approximately 8 acres or 1% of the total parcel.

Developed (1200) - Only a small portion of this parcel is considered developed. There are a few paved roads that run east-west through a portion of the parcel. This makes up less than 1 acre or less than 1% of the total property.

Sensitive Plant Species

TABLE L-3. LIGHTNER SENSITIVE PLANT SPECIES

Common Name	Scientific Name	Listing Status Federal/State/CNPS	Potential to Occur
Delicate clarkia	*Clarkia delicate*	-/-/1B	High, CNDDB
Sticky geraea	*Geraea viscid*	-/-/2	Moderate
Felt-leaved mondardella	*Monardella hypoleuca ssp. Lanata*	-/-/1B	Observed
Rush-like bristleweed	*Xanthisma junceum*	-/-/4	Observed
Orcutt's brodiaea	*Brodiaea orcuttii*	-/-/1B	Moderate
Southern skullcap	*Scutellaria bolanderi spp. austromontana*	-/-/1B	Moderate

Invasive Plant Species

TABLE L-8. LIGHTNER INVASIVE PLANT SPECIES

Common Name	Scientific Name	Listing Status (Cal-IPC)	Potential to Occur
Ripgut brome	*Bromus diandrus*	Moderate/B	Observed
Soft brome	*Bromus hordeaceus*	Limited/C	Observed
Cheatgrass	*Bromus tectorum*	High/A	Observed
Star thistle	*Centaurea melitensis*	Moderate/B	Observed
Western tansy mustard	*Descurainia pinnata spp. halictorum*	Limited/C	Observed
Foxtail	*Hordeum murinum spp. glaucum*	Moderate/B	Observed
Mustard	*Hirschfeldia incana*	Moderate/B	Observed
Spiny sow thistle	*Sonchus asper spp. Asper*	*	Observed
Tall tumble mustard	*Sisymbrium altissimum*	Limited/C	Observed
Hedge mustard	*Sisymbrium orientale*	Limited/C	Observed
Tamarisk	*Tamarix spp.*	High/A	Observed

Note

* currently being evaluated—no listing

Sensitive Animal Species

TABLE L-5. LIGHTNER SENSITIVE ANIMAL SPECIES

Common Name	Scientific Name	Listing Status Federal/State/CNDDB	Potential to Occur
Hermes Copper Butterfly	*Lycaena hermes*	-/-/G1G2 S1S2	Low
Quino Checkerspot Butterfly	*Euphydryas editha quino*	E/-/G5T1 S1	Low
Coast Patch-nosed Snake	*Salvadora hexalepis virguletea*	-/SSC/G5T3 S2S3	Moderate
Costal Rosy Boa	*Lichanura trivirgata roseofusca*	-/-/G4G5 S3S4	Moderate
Coronado Skink	*Eumeces skiltonianus interparietalis*	-/-/G5T2T3Q S1S2	High
Northern Red-Diamond Rattlesnake	*Crotalus ruber*	-/-/G4T3T4 S2	Moderate
Orange-throated Whiptail	*Aspidoscelis hyperythra*	-/-/G5 S2	High
San Diego Horned Lizard	*Phrynosoma coronatum blainvillii*	-/-/G4G5 S3S4	High
Two-striped Garter Snake	*Thamnophis hammondii*	-/-/G3 S2	High
Cooper's Hawk	*Accipiter cooperii*	-/-/G5 S3	Observed
Loggerhead shrike	*Lanius ludovicianus*	-/-/G4 S4	Observed
Prairie Falcon	*Falco mexicanus*	-/-/G5 S3	Low
Black-tailed Jackrabbit	*Lepus californicus*	-/-/G5T4 S5	High
Dulzura Pocket Mouse	*Chaetodipus californicus femoralis*	-/-/G5T3 S2	Moderate

Invasive Animal Species

There have been no invasive animal species identified on the Lightner property

Wildlife Movement and Linkages

The Lightner parcel is not located within any identified linkages. However, the parcel links natural open space of CNF.

MANAGEMENT SPECIFICATIONS

This section identifies the proposed land manager/owner, start-up and ongoing tasks, and the estimated costs of HMP implementation.

Proposed Land Manager/Owner

SDG&E proposes to convey the lands to a conservancy. USFS has indicated that it is not interested in holding or managing the property.

Start-up Tasks (Years 1-5)

Access Control

Bollards, a gate, approximately 10 signs, and some fencing will be installed and maintained over the period.

General Conditions Monitoring and Wildlife Assessment

The land manager will conduct annual inspections to determine overall conditions on the property and assess threats to habitat and species. Results of the inspection will be used to map and prioritize areas where preventive or remedial measures are needed.

Vegetation and Invasive Species Mapping

A qualified plant ecologist will prepare baseline mapping of vegetation communities and invasive plant species on the property based on field surveys and aerial imagery. The mapping will be completed by year three and updated as needed during the period.

Species Surveys

Surveys for Hermes Copper and Quino will be conducted every other year. The felt-leaved mondardella population will be surveyed twice during the period.

5-Year Work Program and Annual Work Plans

Using results from general conditions assessment and vegetation/invasive species mapping, the land manager will prepare a 5-year work program that identifies and prioritizes biological resource and land stewardship tasks for the period and includes a five-year staffing and materials budget. The 5-year work program will be completed no later than year 3 and updated every three years. Annual work plans and annual budgets will be based on the priorities set in the 5-year work program.

Interim Work Plans

Prior to completion of the first 5-year work program, the land manager will prepare annual work plans and budgets for the general conditions assessment, surveys, mapping, and other data collection required to guide management of the property. The interim work plans also may include access control, invasive species control, and erosion control measures that the land manager determines are necessary.

Invasive Plant Control

Invasive plant control measures will be initiated based on the results of the mapping effort and the priorities established in the work program. This effort will be coordinated with the enhancement measures under the HMMP that will be implemented on the property.

Erosion Control, Road Maintenance, and Road Decommissioning

Erosion control and road maintenance will be performed on an as-needed basis. The existing internal access roads will be maintained if required for access control and monitoring purposes. No new roads will be added, and unnecessary internal roads will be decommissioned. Most decommissioning will occur under the HMMP. Use of the Project access road will be coordinated with SDG&E.

Fire Management

The 5-year work program will include a fire management component developed in consultation with the appropriate fire agencies. Controlled or systematic burns will not be allowed as a fuel reduction measure.

Trash Removal
The property will be managed for illegal dumping in concert with the management for public access. Any evidence of illegal dumping will be recorded by the land manager and addressed accordingly. Trash will be removed and disposed in accordance with applicable local ordinances.

GIS Database
The land manager will establish and maintain a GIS database for the property.

Annual Reports
The land manager will prepare annual reports on management activities and expenditure of start-up funds.

Public Information/Education
The land manager will prepare web-ready notices and fact sheets regarding the inclusion of the lands in the properties managed by the public agency or conservancy, the resources on the property, and public access restrictions. The materials will be posted on the land manager/owner's website.

Ongoing Tasks (Beginning Year 6)

Access Control
The barriers, gates, signs, and fencin will be maintained and replaced as needed. Additional barriers and other access controls will be considered if monitoring identifies illegal access and uses as a problem.

General Conditions Monitoring and Wildlife Assessment
The land manager will conduct annual inspections to determine overall conditions on the property and assess threats to habitat and species. Results of the inspection will be used to map and prioritize areas where preventive or remedial measures are needed.

Vegetation and Invasive Species Mapping
The vegetation and invasive species mapping will be updated every three years.

Species Surveys
Surveys for Quino and Hermes Copper will be conducted every three to five years. The status of the felt-leaved monardella will be assessed as part the vegetation mapping update and general conditions monitoring.

5-Year Work Program and Annual Work Plans
The 5-year work program will be updated every three years. Annual work plans and annual budgets will be based on the priorities identified in the work program. Ongoing management of the areas where HMMP restoration/enhancement occurred would begin under the HMP when the success criteria are met (potentially in year 6).

Exotic Plant Control
Control measures for exotic invasive plants will be implemented as specified in the work program and annual work plans.

Erosion Control, Road Maintenance, and Road Decommissioning

Erosion control and road maintenance will be performed on an as-needed basis. No new roads will be added, and unnecessary internal roads will be decommissioned. Use the Project access roads will be coordinated with SDG&E.

Fire Management

The fire management component of the management plan will be updated every three years.

Trash Removal

Monitoring for illegal dumping and the collection and disposal of trash will occur on an as-needed basis.

GIS Database

The land manager will maintain the GIS database for the property on an annual basis.

Annual Reports

The land manager will prepare annual reports on management activities, expenditures, and the balance of the management endowment.

Public Information/Education

Notices regarding access controls and limits on public uses and annual reports will be posted on the land manager/owner's website.

Estimated Costs and Funding

As presented in detail in Part 3, start-up management costs are estimated at $364,446 for the five-year period ($72,889 annually). Ongoing annual costs are estimated at $29,593 and would require a non-wasting endowment of $1,479,648. The total funding commitment required for management of the property is $1,844,094.

STATUS OF THE ACQUISITION

The property has been acquired by SDG&E.

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LONG POTRERO HMP

OVERVIEW

ACRES	1212.27
LOCAL JURISDICTION	County of San Diego
CROSSED BY PROJECT ROW	Yes
CONSERVED AS MITIGATION FOR PROJECT IMPACTS TO	Sensitive Vegetation, Quino, Arroyo Toad
INCIDENTAL BIOLOGICAL VALUES	Sensitive Plants
ALSO A MITIGATION SITE FOR PROJECT IMPACTS TO	
JURISDICTION WATERS	Yes
SENSITIVE PLANTS	No
NATIVE TREES	Yes (via oak woodland conservation)
OTHER	None
ADJACENT CONSERVED/PUBLIC LANDS	CNF, BLM, Hauser Wilderness Area
PROPOSED LAND MANAGER/OWNER	Conservancy, County of San Diego, or BLM
ESTIMATED START-UP MANAGEMENT COSTS	$527,356
ESTIMATED ENDOWMENT FOR ONGOING MANAGEMENT	$3,279,064
ACQUISITION STATUS	Acquired by SDG&E

MITIGATION FUNCTION

This property in part of the mitigation for the Project's sensitive vegetation impacts, is the offsite mitigation property for impacts to Quino and arroyo toad, is a mitigation site under the HMMP, and is a primary mitigation area for impacts to native oaks.

The property is not a designated mitigation site for impacts to special status plants.

PROPERTY DESCRIPTION

This property includes 11 parcels totaling 1212.27 acres. The property is the largest of the mitigation areas acquired by SDG&E. The Project ROW and impact areas cross the northern portion of the property. Impact areas include four towers and permanent access roads.

A legal description of the property is included in Part 4 of this HAP/HMP.

Access

The property is accessed mainly from the north by existing roads that cross USFS, BLM, and private lands in the areas. These same existing roads provide access to the Project ROW and impact areas. On the property, there are paved roads that run north-south.

Adjacent Lands and Land Use

The property abuts CNF, BLM lands, and privately owned lands. It is within close proximity to the Hauser Mountain Wilderness Area (Figure LP-1). Most of the northern border is shared with CNF (Figure LP-2). BLM lands lie to the east, southeast, and west. The western half of the southern border is shared with private lands.

Most of the property, 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 property. The presence of riparian and wetland habitat as well as non-native grasslands and other vegetation made this property ideal for cattle. Currently, there are no grazing or agricultural activities practiced on this parcel.

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), OHV use, and hunting. CNF has similar recreational uses including target shooting, camping, biking, hiking, designated OHV areas, and hunting.

Climate, Geology, and Landscape

The area has a climate characterized by warm, dry summers and mild winters with occasional precipitation. Also characteristic of the region is the sea-breeze/land-breeze cycle. During the daytime, on-shore winds move inland with speeds of approximately seven to ten miles per hour (mph). During the nighttime, the direction is reversed and winds move from an easterly direction towards the coast. In addition, periodic Santa Ana wind conditions, which last from 2-3 days, are present.

The property contains dirt roads, fencing, and non-native grassland consistent with agricultural land use and historic open range cattle ranching.

Soils

TABLE LP-1. LONG POTRERO SOILS

Soil Type	Summary Description
AcG	Acid igneous rock land
ChA	Chino fine sandy loam, 0 to 2 percent slopes
FaB	Fallbrook sandy loam, 2 to 5 percent slopes
FaC	Fallbrook sandy loam, 5 to 9 percent slopes
FaD2	Fallbrook sandy loam, 9 to 15 percent slopes, eroded
LcE	La Posta rocky loamy coarse sand, 5 to 30 percent slope s
MvC	Mottsville loamy coarse sand, 2 to 9 percent slopes
ToE2	Tollhouse rocky coarse sandy loam, 5 to 30 percent slopes, eroded
ToG	Tollhouse rocky coarse sandy loam, 30 to 65 percent slopes
VaA	Visalia sandy loam, 0 to 2 percent slopes

Vegetation Communities

The Long Potrero parcel contains a variety of vegetation and habitat types due to its ecotonal nature and unique resources. A non-vegetated channel runs diagonally through the southeastern borders of the parcel and feeds an emergent wetland area as well as meadows and stands of coast live oak woodland. Low lying hills characterized by large boulders surround the water features on either side and are vegetated with chaparral (Figure LP-4).

The water features present within Long Potrero include man-made ponds, ephemeral, intermittent and perennial streams as well as potential jurisdictional wetlands (Figure LP-5). The substantial amount of water on the site supports riparian habitats including vernal marsh and oak woodlands.

TABLE LP-2. LONG POTRERO VEGETATION COMMUNITIES

Vegetation Communities		**Acreage**	
Chaparrals	Chamise Chaparral	170.58	757.70
	Northern Mixed Chaparral	0.01	
	Southern Mixed Chaparral	587.11	
Coastal and Montane Scrub Habitats	Flat-topped Buckwheat Scrub	29.34	175.75
	Flat-topped Buckwheat Scrub - Disturbed	146.41	
Grasslands and Meadows	Non-native Grassland	21.30	21.30
Herbaceous Wetlands, Freshwater, and Streams	Emergent Wetland	2.44	60.12
	Non-vegetated Channel	24.98	
	Vernal Marsh	32.69	
Non-Native Vegetation, Developed Areas, and Disturbed Habitat	Developed	7.22	122.59
	Disturbed Habitat	115.36	
Riparian Forests and Woodlands	Southern Coast Live Oak Riparian Forest	0.20	0.20
Riparian Scrubs	Mule Fat Scrub	0.32	0.32
Woodlands and Forests	Coast Live Oak Woodland	74.09	74.09
		Total	1,212.08

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Chamise Chaparral (37200) - This vegetation type is found throughout the Long Potrero property and makes up approximately 170.58 acres or 14% of the total area.

Southern Mixed Chaparral (37120) - This vegetation type is found on the eastern border and the northwestern corner of the Long Potrero property. It makes up approximately 587.11 acres or 48.4% of the total Property.

Flat-topped Buckwheat Scrub (37K00) - This vegetation type is found in the center of the property adjacent to Coast Live Oak Woodland vegetation type and Disturbed Habitat vegetation type. This vegetation type makes up approximately 175.75 acres or 14.5% of the total Property. Of this 14.5%, approximately 46 acres or 83% of this vegetation type is considered disturbed.

Coast Live Oak Woodland (71160) - This vegetation type is found in the center of the Long Potrero property adjacent to Non-native Grassland, Chamise Chaparral, and Flat-topped Buckwheat Scrub. Coast Live Oak Woodland is also found along the center of the southeastern portion of the Long Potrero property. This vegetation type makes up approximately 74.09 acres or 6% of the total area.

Non-native Grasslands (42200) - This vegetation type is found in small patches interspersed throughout the Long Potrero Property, but is concentrated on the eastern half. Non-native Grasslands are not found on the westernmost portion of the Property. This vegetation type makes up approximately 21.30 acres or 2% of the total property.

Vernal Marsh (52410) - This vegetation type is surrounded by Non-native Grasslands on the western portion of the Long Potrero Property. It makes up approximately 32.69 acres or approximately 3% of the total Property.

Emergent Wetlands (52500) - This vegetation type is found on the eastern portion of the Long Potrero Property adjacent to Coast Live Oak Woodland, Chamise Chaparral, and Disturbed Habitat. This vegetation type makes up approximately 2.44 acres or less than 1% of the total Property.

Non-vegetated Channel (13200) - This vegetation type is found running from northeast to southwest along the lower portion of the Long Potrero Property. It is located within the flat-topped buckwheat Scrub and coast live oak woodland vegetation types. This vegetation type makes up approximately 24.98 acres or 1% of the total Property.

Northern Mixed Chaparral (37110) – A very small amount of northern mixed chaparral is located on this Property. It is found in conjunction with the Southern Mixed Chaparral vegetation community. This vegetation type makes up less than 1 acre or less than 1% of the total Property.

Southern Coast Live Oak Riparian Forest (61310) – A small amount of southern coast live oak riparian forest is located within the coast live oak woodland located on the southeastern portion of the Property. This vegetation type makes up less than 1 acre or less than 1% of the total Property.

Mule Fat Scrub (63310) – A small amount of mule fat scrub is located within the coast live oak woodland located on the southeastern portion of the Property. This vegetation type is found just adjacent to a small patch of southern coast live oak riparian forest. This vegetation type makes up less than 1 acre or less than 1% of the total Property.

Disturbed Habitat (11300) - This vegetation type is found in the center of the southern border of the Long Potrero Property and also on the northeastern portion and makes up approximately 115.36 acres or 9.5% of the total Property.

Developed (1200) - Only a small portion of this Property is considered developed. There are a few paved roads that run north-south through the center of the Property. This vegetation type makes up approximately 7.22 acres or less than 1% of the total Property.

Sensitive Plant Species

TABLE LP-3. LONG POTRERO SENSITIVE PLANT SPECIES

Common Name	Scientific Name	Listing Status Federal/State/CNPS	Probability of Occurrence
Tecate tarplant	*Deinandra floribunda*	-/-/1B	Observed
Engelmann oak	*Quercus engelmannii*	-/-/4	Observed
California plantain	*Plantago erecta*	-/-/-	Observed

Invasive Plant Species

The Long Potrero parcel has large patches of non-native grasslands surrounding many of the riparian and wetland areas (Figure LP-4). These grasslands are likely the result of the cattle grazing that has taken place on the parcel in the past. In addition to non-native grasslands, tamarisk (*Tamarix* spp.) is present in and near some of the wetland areas (Figure LP-7).

Sensitive Animal Species

The Long Potrero property contains a diversity of sensitive fauna, including the federally listed arroyo toad and Quino checkerspot butterfly.

TABLE LP- 1. LONG POTRERO SENSITIVE ANIMAL SPECIES

Common Name	Scientific Name	Listing Status (Federal/State/CNDDB)	Potential to Occur
Quino Checkerspot Butterfly	*Euphydryas editha quino*	E/-/G5T1 S1	Observed
Arroyo toad	*Bufo californicus*	E/SSC/G4T3T4 S3	Observed
Coast Patch-nosed Snake	*Salvadora hexalepis virguletea*	-/SSC/G5T3 S2S3	High
Coronado Skink	*Eumeces skiltonianus interparietalis*	-/-/G5T2T3Q S1S2	Observed
Coastal Rosy Boa	*Lichanura trivirgata roseofusca*	-/-/G4G5 S3S4	High
Northern Red-Diamond Rattlesnake	*Crotalus ruber*	-/-/G4T3T4 S2	Moderate
Orange-throated Whiptail	*Aspidoscelis hyperythra*	-/-/G5 S2	High
San Diego Horned Lizard	*Phrynosoma coronatum blainvillii*	-/-/G4G5 S3S4	Observed
Two-striped Garter Snake	*Thamnophis hammondii*	-/-/G3 S2	High
Western Spadefoot toad	*Spea hammondii*	-/-/G3 S3	Observed
Cooper's Hawk	*Accipiter cooperii*	-/-/G5 S3	High
Least Bell's Vireo	*Vireo bellii pusillus*	E/E/G5 T2 S2	Low
Loggerhead shrike	*Lanius ludovicianus*	-/-/G4 S4	Moderate
Prairie Falcon	*Falco mexicanus*	-/-/G5 S3	Low
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	E/E/G5 T1T2 S1	Low
Black-tailed Jackrabbit	*Lepus californicus*	-/-/G5T4 S5	High
Dulzura Pocket Mouse	*Chaetodipus californicus femoralis*	-/-/G5T3 S2	High
Northwestern San Diego Pocket Mouse	*Chaetodipus fallax fallax*	-/-/G5T3 S2S3	Moderate

Quino has been observed on the northern portion of the property along the Project ROW. In addition, historic records confirm presence of this species near parcel boundaries (Mattoni et. al 1997, Pratt et. al. 2001). Arroyo toad has been observed onsite during 2010 focused surveys of the property. There also are CNDDB historic records for arroyo toad on the property.

Invasive Animal Species

There have been no invasive animal species identified on the Long Potrero property. However, because this property is intended to conserve Quino checkerspot butterfly and arroyo toad, general surveys should include notations about invasive species.

Wildlife Movement and Linkages

The Long Potrero property is situated between two identified linkages between the U.S. and Mexico, the Otay Mountain-Cerra San Ysidro linkage to the west and the La Posta linkage to the east. The La Posta linkage serves as an important transition zone from desert to coastal ecosystems and will help to maintain the integrity of a landscape fragmented by intense urbanization. The Otay Mountain-Cerra San Ysidro linkage represents the last cross-border coastal sage scrub linkage and will help maintain the many endemic plant species found within the linkage footprint.

MANAGEMENT SPECIFICATIONS

This section identifies the proposed land manager/owner, start-up and ongoing tasks, and the estimated costs of HMP implementation.

Proposed Land Manager/Owner

SDG&E proposes to convey the lands to a conservancy, the County of San Diego, or BLM. USFS has indicated it is not interested in holding or managing the northern-most parcel that is within the CNF boundaries.

Start-up Tasks (Years 1-5)

Access Control

Approximately 20 signs and selective fencing will be installed and maintained over the period. Gates and vehicle barriers are not proposed at this time. Illegal access and property damage is a known concern, and patrols may be required to deter such activities.

General Conditions Monitoring and Wildlife Assessment

The land manager will conduct annual inspections to determine overall conditions on the property and assess threats to habitat and species. Results of the inspection will be used to map and prioritize areas where preventive or remedial measures are needed.

Vegetation and Invasive Species Mapping

A qualified plant ecologist will prepare baseline mapping of vegetation communities and invasive plant species on the property based on field surveys and aerial imagery. The mapping will be completed by year three and updated as needed during the period.

Species Surveys

Surveys for Quino and arroyo toad will be conducted every three years.

5-Year Work Program and Annual Work Plans

Using results from general conditions assessment and vegetation/invasive species mapping, the land manager will prepare a 5-year work program that identifies and prioritizes biological resource and land stewardship tasks for the period and includes a five-year staffing and materials budget. The 5-year work program will be completed no later than year 3 and updated every three years. Annual work plans and annual budgets will be based on the priorities set in the 5-year work program.

Interim Work Plans

Prior to completion of the first 5-year work program, the land manager will prepare annual work plans and budgets for the general conditions assessment, surveys, mapping, and other data collection required to guide management of the property. The interim work plans also may include access control, invasive species control, and erosion control measures that the land manager determines are necessary.

Invasive Plant Control

Invasive plant control measures will be initiated based on the results of the mapping effort and the priorities established in the work program. These efforts will be coordinated with the HMMP enhancement measures.

Erosion Control, Road Maintenance, and Road Decommissioning

Erosion control and road maintenance will be performed on an as-needed basis. The existing internal access roads will be maintained if required for access control and monitoring purposes. No new roads will be added, and unnecessary internal roads will be decommissioned. Use of the Project access road will be coordinated with SDG&E.

Fire Management

The 5-year work program will include a fire management component developed in consultation with the appropriate fire agencies. Controlled or systematic burns will not be allowed as a fuel reduction measure.

Trash Removal

The property will be managed for illegal dumping in concert with the management for public access. Any evidence of illegal dumping will be recorded by the land manager and addressed accordingly. Trash will be removed and disposed in accordance with applicable local ordinances.

GIS Database

The land manager will establish and maintain a GIS database for the property.

Annual Reports
The land manager will prepare annual reports on management activities and expenditure of start-up funds.

Public Information/Education
The land manager will prepare web-ready notices and fact sheets regarding the inclusion of the lands in the properties managed by the public agency or conservancy, the resources on the property, and public access restrictions. The materials will be posted on the land manager/owner's website.

Ongoing Tasks (Beginning Year 6)

Access Control
Signs will be maintained and replaced as needed. Barriers and other access controls will be considered if monitoring identifies illegal access and uses as a problem.

General Conditions Monitoring and Wildlife Assessment
The land manager will conduct annual inspections to determine overall conditions on the property and assess threats to habitat and species. Results of the inspection will be used to map and prioritize areas where preventive or remedial measures are needed.

Vegetation and Invasive Species Mapping
The vegetation and invasive species mapping will be updated every three years.

Species Surveys
Surveys for Quino and arroyo toad will be conducted every three to five years.

5-Year Work Program and Annual Work Plans
The 5-year work program will be updated every three years. Annual work plans and annual budgets will be based on the priorities identified in the work program. Ongoing management of the areas where HMMP measures were implemented will occur under the HMP when the success criteria are met (potentially year 6).

Exotic Plant Control
Control measures for exotic invasive plants will be implemented as specified in the work program and annual work plans.

Erosion Control, Road Maintenance, and Road Decommissioning
Erosion control and road maintenance will be performed on an as-needed basis. No new roads will be added, and unnecessary internal roads will be decommissioned. Use of the Project access road will be coordinated with SDG&E.

Fire Management
The fire management component of the management plan will be updated every three years.

Trash Removal
Monitoring for illegal dumping and the collection and disposal of trash will occur on an as-needed basis.

GIS Database
The land manager will maintain the GIS database for the property on an annual basis.

Annual Reports
The land manager will prepare annual reports on management activities, expenditures, and the balance of the management endowment.

Public Information/Education
Notices regarding access controls and limits on public uses and annual reports will be posted on the land manager/owner's website.

Estimated Costs and Funding

As presented in detail in Part 3, start-up management costs are estimated at $527,356 for the five-year period ($105,471 annually). Ongoing annual costs are estimated at $65,581 and would require a non-wasting endowment of $3,279,064. The total funding commitment required for management of the property is $3,806,420.

STATUS OF THE ACQUISITION

The property has been acquired by SDG&E.

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SUCKLE HMP

OVERVIEW

ACRES	199.39
LOCAL JURISDICTION	County of Imperial
CROSSED BY PROJECT ROW	No
CONSERVED AS MITIGATION FOR PROJECT IMPACTS TO	Sensitive Vegetation and Barefoot Banded Gecko
INCIDENTAL BIOLOGICAL VALUES	Palm Oasis, Peninsular Bighorn Sheep Habitat
ALSO A MITIGATION SITE FOR PROJECT IMPACTS TO	
JURISDICTION WATERS	Yes
SENSITIVE PLANTS	No
NATIVE TREES	No
OTHER	None
ADJACENT TO EXISTING CONSERVED/PUBLIC LANDS:	BLM, Caltrans, San Diego County Park (across county border), Anza-Borrego Desert State Park (in SD County)
PROPOSED LAND MANAGER/OWNER	CDFG, State Parks, or Conservancy
ESTIMATED START-UP MANAGEMENT COSTS	$148,922
ESTIMATED ENDOWMENT FOR ONGOING MANAGEMENT	$970,596
ACQUISITION STATUS	Willing seller; due diligence phase.

MITIGATION FUNCTION

This property is part of the required offsite mitigation for the Project's permanent impacts to desert dry scrubs and is the only mitigation parcel for the Project's impacts to the State-listed barefoot banded gecko. The property also has habitat for Peninsular bighorn sheep (PBS), but the Project's impacts to PBS are being mitigated in full through the Desert Cahuilla transaction. The property also is proposed as a mitigation site for the Project's impacts to dry washes and ephemeral streams. The dry wash and stream resources on the property would be preserved and enhanced under the HMMP (which will be implemented and funded separately from this HMP). However, the HMP would cover the ongoing management of the preserved/enhanced resources after the HMMP measures are successfully implemented.

The property is proposed as a mitigation site for impacts to other listed species, special status plants, or native trees.

PROPERTY DESCRIPTION

The Suckle property is a compilation of contiguous parcels totaling 199.39 acres. It is located in Imperial County, just south of the Interstate 8 (I-8) split near the San Diego County and Imperial County border. The Sunrise Powerlink right-of-way (ROW) is located east of the property. (See Figure S-1.) A legal description of the property will be included in Part 4 of this HAP/HMP when the acquisition proceeds to the escrow phase.

Access

The Suckle property is not open to the public but is not gated or fenced. There are two access roads on the property, which originate on the northern end of the property. The roads do not provide egress from the property on the south, west, or east. The property is vacant and undeveloped.

Adjacent Lands and Land Use

U.S. Department of Interior Bureau of Land Management land border the property on the east, including the In-Ko-Pah gorge at the base of the In-Ko-Pah Mountains. Caltrans lands border the property on the south, west, and north; San Diego County lands also border on the west. Anza Borrego Desert State Park is located west and north of the property. Other lands owned by the Suckle family occur to the north, and other private property occurs to the south near I-8.

The Table Mountain area, which contains the In-Ko-Pah Mountains, has been designated by the BLM as an Area of Critical Environmental Concern (ACEC). The ACEC designation is unique to the BLM and is a required conservation mandate under the 1976 Federal Lands Policy and Management Act. Lands designated by the BLM as ACEC must meet specific criteria; it is defined as "an area within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards." The BLM allowed land uses include: camping, biking, hiking, rock hounding (collecting), OHV use, and hunting. On January 20, 1998, the Table Mountain ACEC (which includes the In-Ko-Pah Mountains) was closed to target shooting to conserve raptor habitats. Hunting is still allowed (with a permit) in the area.

Several out buildings and a residence are located adjacent to the northwest corner of the property. A PVC pipe originating at the northernmost desert fan palm oasis in the southern portion of the property appears to run to one of these buildings. The other Suckle property to the north (in and above the I-8 island) shows signs of target practice (shells, glass bottles, appliances used as targets) and some off-road vehicle use (likely in connection with target practice).

Geology and Landscape

The Suckle Property is located in an area characterized by sloping, granitic hills and outcroppings typical of the Jacumba Mountains. The terrain is very rocky with medium to large boulders across the majority of the property (a deterrent to off-road vehicle use and public access). Elevations range from 2,200 to 2,357 feet.

Soils

Soils at the site are mapped as Rock Outcrop-Lithic Torriorthents-Omstott. Omsott soils are characterized as well drained with rapid to medium runoff and moderate to moderately rapid permeability (USDA 2010a). Soils are non-hydric (USDA 2010b)

Hydrology

Precipitation is the main source of hydrology for this site. This site typically receives on average 3.21 inches of rainfall per year (USDA 2010c). Interstate 8 intersects with an area of desert dry washes on the southern end of the property. The largest desert dry wash on the southern end of the property flows from the west through a culvert under I-8 and onto the Suckle property. Natural hydrology in this dry wash system may be somewhat impeded by the tamarisk and giant reed infestations in the middle of this stream.

Vegetation Communities

The Suckle Property contains vegetation and topographic features typical of the Sonoran Desert. The property consists of primarily rocky outcroppings with sparse vegetation. The vegetation is primarily scrub communities with a few palm trees (Figure S-3). A few small permanent water sources can be found on site and are marked by palm trees (Figure S-4).

The vegetation is characteristic Sonoran mixed woody succulent scrub with some smaller patches of Sonoran desert scrub (Table S-1). Desert washes occur mainly on the northern and southern portion of the property, and the palm oases are a unique feature (Figure S-4).

TABLE S-1. SUCKLE VEGETATION COMMUNITIES

Vegetation Communities		Acreage	
Type	**Subtype**	**Subtype**	**Total**
Desert Scrub and Dune Habitats	Sonoran Mixed Woody and Succulent Scrub	198.23	198.23
Herbaceous Wetlands, Freshwater and Streams	Desert Fan Palm Oases	0.41	1.15
	Freshwater Marsh	0.74	
		Total	199.39

Sonoran Mixed Woody and Succulent Scrub (33220)**.** This vegetation type is found throughout the Suckle property and makes up the majority of the vegetation found there. Sonoran Mixed Woody and Succulent Scrub make up approximately 198.23 acres or 99% of the Suckle property.

Freshwater Marsh (52400). This vegetation type is a small patch located on the southwestern border of the property south of the Interstate 8 freeway. Freshwater Marsh makes up less than 1 acre or less than 1% of the Suckle property.

Desert Fan Palm Oasis Woodland (62300)**.** This vegetation type exists as two very small patches along the border of the southwestern arm as well as the southeastern arm of the Suckle property. Desert Fan Palm Oasis Woodland makes up less than 1 acre or less than 1% of the Suckle property.

Sensitive Plant Species

There have been no sensitive plant species recorded for the property, however, Wolf's cholla (*Cylindropuntia wolfii*) has been observed just off-site.

TABLE S-2. SUCKLE SENSITIVE PLANT SPECIES

Common Name	**Scientific Name**	**Listing** Status Federal/State/CNPS	**Probability of Occurrence**
Wolf's cholla	*Cylindeopuntia wolfii*	-/-/4	High

Invasive Plant Species

Invasive species present on this property include the giant reed (*Arrundo donax*) and tamarisk (*Tamarix* spp.), which are found in restricted areas in and around desert dry washes in the southern portion of the property (Figure S-6). These areas are targeted for treatment under the HMMP (implemented and funded separately).

Sensitive Animal Species

Table S-3 identifies the sensitive animal species observed or potentially occurring on the property.

TABLE S-3. SUCKLE SENSITIVE ANIMAL SPECIES

Common Name	**Scientific Name**	**Listing Status (Federal/State/CNDDB)**	**Potential to Occur**
Black-tailed Jackrabbit	*Lepus californicus*	-/-/G5T4 S5	Moderate
Coastal Rosy Boa	*Lichanura trivirgata roseofusca*	-/-/ G4G5T3 S3S4	Moderate
Northern Red Diamond Rattlesnake	*Crotalus ruber*	-/SSC/ G4T3T4 S3	Observed
Barefoot banded gecko	*Coleonyx switaki*	-/T/G4	Considered Occupied
Peninsular bighorn sheep	*Ovis canadensis nelsonii*	E/ST, FP/ G4T3Q S1	High (Observed in the vicinity)
Prairie Falcon	*Falco mexicanus*	-/-/G5 S3	Moderate, CNDDB

Invasive Animal Species

No invasive animal species have been identified on the Suckle property.

Wildlife Movement and Linkages

The Suckle property is located within the identified wildlife linkage between the Jacumba Mountains in the U.S. and Sierra-Juarez Mountains in Mexico. The so called "Park-to-Parque" linkage represents one of the only montane linkages from the U.S. to Mexico allowing the movement of wildlife cross-border.

This linkage provides a connection between Anza-Borrego Desert State Park in San Diego and Imperial counties and Parque Constitucion de 1857 in Baja California. The goal of conserving and maintaining this linkage is to ultimately allow the Peninsular bighorn sheep to repopulate the Sierra Juarez mountains in northern Baja California (Southcoast Wildlands 2008).

MANAGEMENT SPECIFICATIONS

This section identifies the proposed land manager/owner arrangements, start-up and ongoing tasks, and the estimated costs of HMP implementation.

Proposed Land Manager/Owner

SDG&E proposes to convey the lands to CDFG, State Parks, BLM, or a conservancy. The property is in CDFG region 6, but there are no other CDFG lands in the immediate vicinity. BLM lands are immediately adjacent to the parcel, but BLM may not be able to accept the conservation easement and endowment. The State Park lands closest to the property are to the west in San Diego County. Although not contiguous with the State Park lands, management of the two areas could be effectively coordinated.

The selection of the land manager/owner is subject to approval by CDFG because the property is the mitigation parcel conserved under the terms and conditions of the Project's 2081 permit.

Start-up Tasks (Years 1-5)

Access Control

Approximately five signs will be erected in appropriate areas alerting the public to illegal trespassing, illegal dumping, and other illegal uses. Gates will be installed at the entry of the two existing access roads. No fencing will be installed. The signs and gates will be maintained and replaced as needed during the period.

General Conditions Monitoring and Wildlife Assessment

The land manager will conduct annual inspections to determine overall conditions on the property and assess threats to habitat and species. Results of the inspection will be used to map and prioritize areas where preventive or remedial measures are needed.

Vegetation and Invasive Species Mapping

A qualified plant ecologist will prepare baseline mapping of vegetation communities and invasive plant species on the property based on field surveys and aerial imagery. The mapping will be completed by year 3 and updated once during the period.

Species Surveys

Barefoot banded gecko will be monitored annually during the start up phase. Nocturnal surveys will be conducted four times at least two weeks apart within the period from May 1 through July 31. PBS monitoring also will occur annually during the start up phase. Daytime surveys (1-3 visits per survey) will be conducted. The PBS surveys will be coordinated with 10-year PBS monitoring program being conducted by USFWS and CDFG with funds provided by SDG&E. The monitoring also will be coordinated

with annual sheep count conducted by the Anza Borrego Foundation and Anza-Borrego Desert State Park.

5-Year Work Program and Annual Work Plans

Using results from general conditions assessment and vegetation/invasive species mapping, the land manager will prepare a 5-year work program that identifies and prioritizes biological resource and land stewardship tasks for the period and includes a five-year staffing and materials budget. The 5-year work program will be completed no later than year 3 and updated every three years. Annual work plans and annual budgets will be based on the priorities set in the 5-year work program.

Interim Work Plans

Prior to completion of the first 5-year work program, the land manager will prepare annual work plans and budgets for the general conditions assessment, surveys, mapping, and other data collection required to guide management of the property. The interim work plans also may include access control, invasive species control, and erosion control measures that the land manager determines are necessary.

Invasive Plant Control

Invasive plant control measures will be initiated based on the results of the mapping effort and the priorities established in the work program.

Erosion Control, Road Maintenance, and Road Decommissioning

Erosion control and road maintenance will be performed on an as-needed basis. The existing internal access roads will be maintained if required for access control and monitoring purposes. No new roads will be added, and unnecessary internal roads will be decommissioned.

Fire Management

The 5-year work program will include a fire management component developed in consultation with the appropriate fire agencies. Controlled or systematic burns will not be allowed as a fuel reduction measure.

Trash Removal

The property will be managed for illegal dumping in concert with the management for public access. Any evidence of illegal dumping will be recorded by the land manager and addressed accordingly. Trash will be removed and disposed in accordance with applicable local ordinances.

GIS Database

The land manager will establish and maintain a GIS database for the property.

Annual Reports

The land manager will prepare annual reports on management activities and expenditure of start-up funds.

Public Information/Education
The land manager will prepare web-ready notices and fact sheets regarding the inclusion of the lands in the properties managed by the public agency or conservancy, the resources on the property, and public access restrictions. The materials will be posted on the land manager/owner's website.

Ongoing Tasks (Beginning Year 6)

Access Control
Signs and gates will be maintained and replaced as needed. Barriers and other access controls will be considered if monitoring identifies illegal access and uses as a problem.

General Conditions Monitoring and Wildlife Assessment
The land manager will conduct annual inspections to determine overall conditions on the property and assess threats to habitat and species. Results of the inspection will be used to map and prioritize areas where preventive or remedial measures are needed.

Vegetation and Invasive Species Mapping
The vegetation and invasive species mapping will be updated every three years.

Species Surveys
Surveys for gecko and PBS will be conducted every five years. The survey results will be used to identify areas where impacts to this listed species need to be avoided and where there are opportunities to benefit the species.

5-Year Work Program and Annual Work Plans
The five-year work program will be updated every three years. Annual work plans and annual budgets will be based on the priorities identified in the management plan.

Exotic Plant Control
Control measures for exotic invasive plants will be implemented as specified in the management plan. Management of the HMMP enhancement areas will become part of the HMP work program when the HMMP success criteria have been met (potentially in year 6).

Work Program and Annual Work Plans
The 5-year work program will be updated every three years. Annual work plans and annual budgets will be based on the priorities identified in the work program.

Exotic Plant Control
Control measures for exotic invasive plants will be implemented as specified in the work program and annual work plans.

Erosion Control, Road Maintenance, and Road Decommissioning
Erosion control and road maintenance will be performed on an as-needed basis. No new roads will be added, and unnecessary internal roads will be decommissioned.

Fire Management
The fire management component of the management plan will be updated every three years.

Trash Removal
Monitoring for illegal dumping and the collection and disposal of trash will occur on an as-needed basis.

GIS Database
The land manager will maintain the GIS database for the property on an annual basis.

Annual Reports
The land manager will prepare annual reports on management activities, expenditures, and the balance of the management endowment.

Public Information/Education
Notices regarding access controls and limits on public uses and annual reports will be posted on the land manager/owner's website.

Estimated Costs and Funding

As presented in detail in Part 3, start-up management costs are estimated at $148,922 for the five-year period ($29,784 annually). Ongoing annual costs are estimated at $19,412 and would require a non-wasting endowment of $970,596. The total funding commitment required for management of the property is $1,119,518.

STATUS OF THE ACQUISITION

The owner is a willing seller. The acquisition is in due diligence stage.

DESERT CAHUILLA TRANSACTION AND HMP

OVERVIEW

ACRES	5,760
LOCAL JURISDICTION	County of Imperial
CROSSED BY PROJECT ROW	No
CONSERVED AS MITIGATION FOR PROJECT IMPACTS TO	Sensitive Vegetation, PBS Habitat, PBS Connectivity
INCIDENTAL BIOLOGICAL VALUES	Special Status Plants
ALSO A MITIGATION SITE FOR PROJECT IMPACTS TO	
JURISDICTION WATERS	Yes (on designated mitigation parcel)
SENSITIVE PLANTS	No
NATIVE TREES	No
OTHER	None
ADJACENT CONSERVED/PUBLIC LANDS	Anza-Borrego Desert State Park, Ocotillo Wells State Vehicular Recreation Area
PROPOSED LAND MANAGER/OWNER	State Parks
ESTIMATED START-UP MANAGEMENT COSTS	$125,000 (for designated mitigation parcel)
ESTIMATED ENDOWMENT FOR ONGOING MANAGEMENT	$1,000,000 (for management of mitigation parcel), $3,500,000 (contribution towards management of PBS habitat added to Park)
ACQUISITION STATUS	Agreement with State Parks Proposed

DESCRIPTION OF THE PROPOSED TRANSACTION

The Desert Cahuilla Transaction entails the acquisition and consolidation of State lands within a 14,899-acre area (transaction area) west of Route 86 near the Salton Sea in Imperial County, California (Figure 1). The primary goal of the transaction is to conserve the area's unique resources -- including key areas for Peninsular bighorn sheep (PBS) -- while also accommodating public uses of State lands. Under the transaction, nine parcels currently owned by the California State Lands Commission (CSLC) will be acquired by the California Department of Parks and Recreation (State Parks), consolidated with other lands owned by State Parks, and added to Anza-Borrego Desert State Park (ABDSP) and Ocotillo Wells State Vehicular Recreation Area (OWSVRA).

State lands north of the boundary shown on Figure DC-A will go to ABDSP; State lands south of the boundary will go to OWSVRA. This division of lands was determined by State Parks working in cooperation with environmental and recreation groups and in consultation with CDFG and USFWS. Table DC-1 estimates ownership north and south of the boundary before and after the transaction. See Figures DC-1 through DC-6 for additional information about the transaction area and mitigation parcel.

FIGURE DC-A. DESERT CAHUILLA TRANSACTION AREA

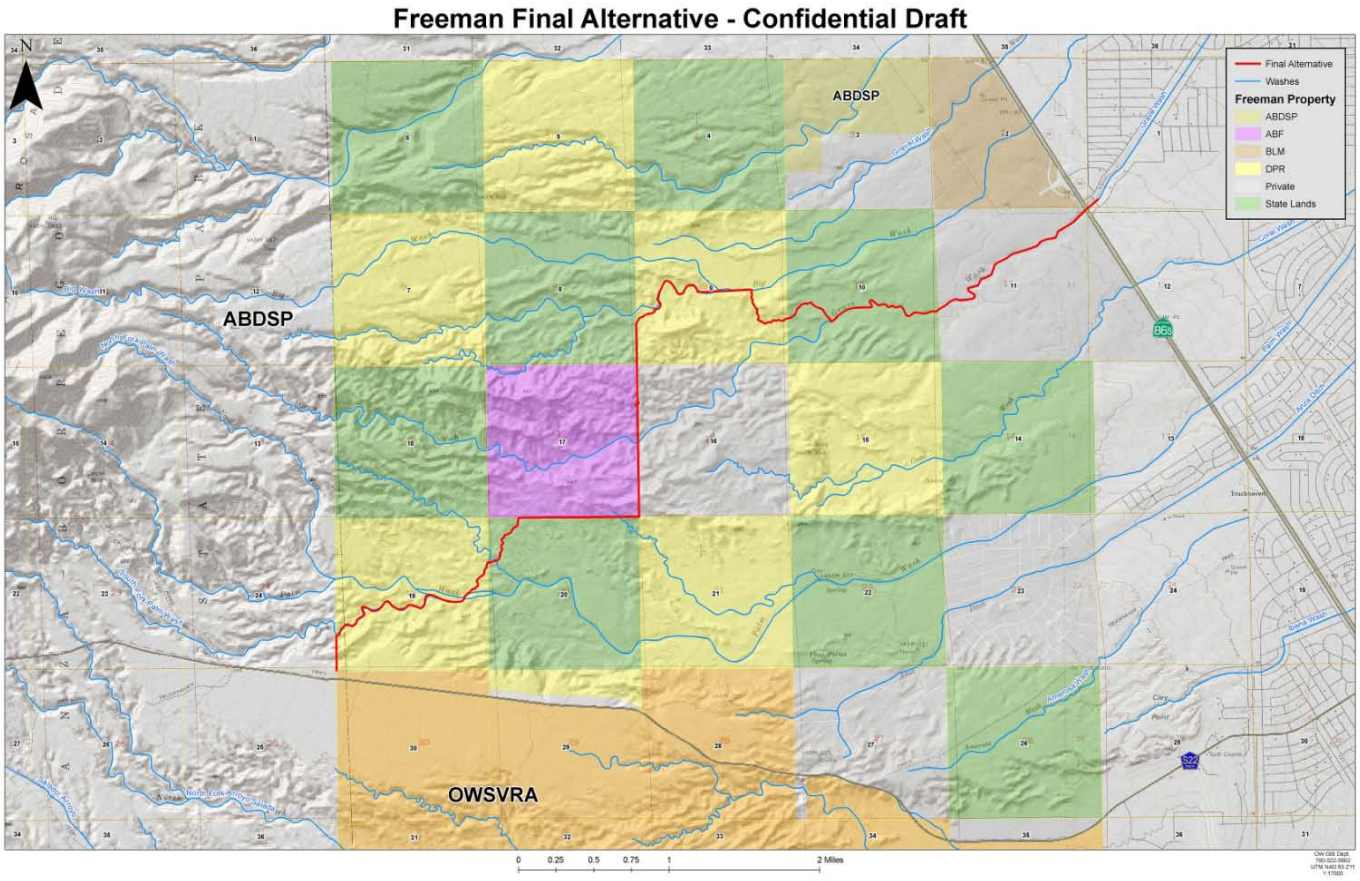

TABLE DC-1. PRE- AND POST-TRANSACTION OWNERSHIP IN THE TRANSACTION AREA

Existing (Pre-Transaction)	North Tier (acres)	South Tier (acres)	Total (acres)
Anza-Borrego Desert State Park	356.73	0	356.73
Anza-Borrego Foundation	650.50	0	650.50
BLM	388.42	0	388.42
California State Lands Commission	3,082.16	2,809.92	5,892.08
Ocotillo Wells SVRA	0	410.00	410.00
Private	537.45	2,551.39	3,088.84
State Parks[1]	2,032.58	1,973.23	4,005.80
TOTAL	**7,047.83**	**7,744.54**	**14,792.38**
Post Transaction			
Anza-Borrego Desert State Park[2]	5,471.46	0	5,471.46
Anza-Borrego Foundation	650.50	0	650.50
BLM	388.42	0	388.42
California State Lands Commission	0	0	0
Ocotillo Wells SVRA[3]	0	5,193.15	5,193.15
Private	537.45	2,551.39	3,088.84
State Parks[4]	0	0	0
TOTAL	7,047.83	7,744.54	14,792.38

Notes

1 Includes properties acquired by State Parks for expansion of OCSVRA prior to 2010.
2 Includes existing ABDSP lands, plus northern tier CSLC and State Parks property.
3 Includes existing OWSVRA lands, plus southern tier CSLC and State Parks property.
4 Assumes all of State Parks' ownership (including the 9 acquired CSLC parcels) will be divided between ABDSP and OCSRVA.

The northern tier currently includes ABDSP lands, a parcel owned by the Anza-Borrego Foundation, and a combination of CSLC and State Park holdings. This area also encompasses includes all key areas for PBS, including designated critical habitat and known movement corridors. The ABDSP lands to the west are designated as Wilderness Area. The private lands and BLM lands are not part of the transaction. However, State Parks anticipates that over time some or all of the private lands would be acquired from willing sellers and added to ABDSP and that a land exchange or management agreement would be proposed for the BLM lands.

The southern tier currently includes OWSVRA lands, a combination of CSLC and State Park holdings, and a substantial amount of private lands. The existing SVRA extends from the southern border. ABDSP is to the west; private lands and a BLM parcel are to the east. As in the northern tier, State Parks anticipates that over time private lands would be acquired from willing sellers and added to the SVRA.

MITIGATION FUNCTION

SDG&E's role in the transaction is to provide funding for the acquisition of the nine CSLC parcels and management of the lands added to ABDSP. One of the acquired parcels (APN 0070100101) will be designated as a mitigation area for the impacts of SDG&E's Sunrise Powerlink Project (Project) on dry washes, desert scrub, and PBS habitat. In addition, the funding for the acquisition and for the management of lands added to ABDSP will serve as mitigation for the Project's impacts on PBS connectivity. SDG&E's participation is conditioned on USFWS and CDFG approval of the mitigation for impacts to PBS and U.S. Army Corps of Engineers' approval of the dry wash preservation on the mitigation parcel. The California Public Utilities Commission and U.S. Department of Interior Bureau of Land Management, the lead agencies for the Project, also must agree that the mitigation meets the requirements specified for the Project. SDG&E has discussed the matter with these agencies and has their preliminary concurrence, conditioned on documentation and assurances regarding how the dry wash and PBS values will be preserved over time.

MANAGEMENT AND FUNDING COMMITMENTS

SDG&E proposes to enter into an agreement with State Parks that includes the following provisions:

1. SDG&E will provide a total of $2,000,000 for the acquisition of the nine parcels. This amount is based on the estimated appraisal value of the lands. If actual acquisition costs are less than $2,000,000, State Park will allocate the remainder to the management of the lands added to ABDSP (see item 2b below).

2. SDG&E will provide $4,500,000 for State Parks to manage the lands added to ABDSP within the transaction area, including the parcel identified as the Project mitigation area.

    a. $1,000,000 of the management funds will be designated for initial and ongoing management of the designated Project mitigation area, with $750,000 allocated for a non-wasting endowment for ongoing management. Enforcement patrols on the parcel will occur as part of the management of the other lands added to the ABDSP and will not be funded by the $1,000,000. PBS monitoring is not a required task on the parcel and will not be funded by the $1,000,000.

        i. Initial management tasks (years 1-5) will include:

            1. Installation of signage (year 1) and maintenance (as needed).

            2. Installation of fencing (6,000 linear feet in selective areas in years 1 and 2) and maintenance of the fencing (as needed).

            3. Assessment of dry wash and desert scrub conditions, including mapping of exotic invasive plants and any problem areas (completed in year 2).

4. Decommissioning and rehab of existing road on parcel (12,000 linear feet) (completed by year 5).

5. Monitoring of dry wash and desert scrub vegetation for presence and spread of exotic invasive species (annual) and identification of appropriate control measures to be implemented as part of ongoing management.

6. Preparation of annual work plans and annual reports on management activities.

ii. Ongoing management tasks will include:

1. Maintenance and replacement of signage and fencing (as needed).

2. Periodic habitat assessments and mapping updates (every 5 years).

3. Invasive plant species monitoring (every 2 years).

4. Implementation of invasive plant species control measures (where needed, as determined by monitoring task and within limits of available funding).

5. Preparation of annual work plans and annual reports on management activities.

b. $3,500,000 will be designated for management activities on the other lands added to ABDSP within the transaction area. The funding is being provided as mitigation for the Project's impacts on PBS connectivity and will be used for management activities that protect and enhance PBS connectivity on and across the lands added to ABDSP. Such activities will include:

i. Signage to mark the boundaries between the ABDSP and OWSVRA and indicate allowable uses;

ii. Enforcement patrols/access controls to deter illegal uses in ABDSP and promote compliance with the land use restrictions;

iii. PBS habitat enhancement (e.g., addition or management of watering locations);

iv. PBS monitoring after year 10 (see item 3 below); and

v. Road decommissioning to improve habitat conditions and limit access to certain areas.

Use of the funding for other tasks will require the concurrence of USFWS and CDFG in advance of the expenditure.

State Parks will prepare an expenditure plan that identifies the proposed allocation of funds for types of tasks; estimates annual expenditures for staffing, equipment, and materials; and estimates the duration of the funding. Establishing park boundaries and land use controls is a critical step in establishing the expanded ABDSP and also is crucial to preserving PBS connectivity across the area. It is anticipated that State Parks will use the funding for management activities over a 5 to 10 year period, when establishing boundaries and land use controls will be critical to shaping the expanded park and to preserving PBS connectivity across the area.

3. As a separate but related mitigation measure for the Project's impacts, SDG&E is funding a 10-year PBS monitoring program. The program will be implemented by USFWS and CDFG. USFWS and CDFG have agreed to include the lands added to ABDSP, including the mitigation parcel, in the program. After the 10-year monitoring program is completed, the funding provided for management of the lands added to ABDSP may be used for PBS monitoring on those lands. This assumes that State Parks will not expend all of the funds by year 10.

4. State Parks will attach a mitigation overlay to APN 0070100101. The overlay will identify the parcel as the Project mitigation area and the area where the $1,000,000 will be used for management activities. The overlay also will limit allowable land uses to those consistent with preserving the dry wash, desert scrub, and PBS values on the property. During the first five years of managing the parcel, State Parks also will prepare an amendment to the SBDSP General Plan to designate the parcel as a Wilderness Zone.

STATUS OF THE TRANSACTION

State Parks has initiated discussions with CSLC. An agreement between SDG&E and State Parks is being drafted.

PART 3

PROPERTY ANALYSIS RECORDS FOR THE PROPERTIES

INTRODUCTION

Because the properties are located in different ecoregions and support different sensitive vegetation communities and species, each mitigation property requires its own suite of management and monitoring tasks that will supplement the general management that will be performed at each site to mitigate project impacts. The costs to perform these management tasks are produced by a PAR, which identifies the individual tasks and assigns labor and materials costs for each task. Management is conducted in two phases. Phase 1 is a five-year start-up period during which initial access control measures are installed, baseline inventory surveys are conducted, and intensive management actions are taken to bring the property to a condition that provides the baseline for future monitoring. Phase 2 is ongoing management, which consists of annual maintenance in perpetuity. Phase 2 costs are given as an average annual estimate of implementation. The PAR then calculates an endowment amount that would yield enough interest (at a conservative rate) to cover the annual in-perpetuity management costs without having to use the principal (i.e., a non-wasting endowment).

GENERAL ASSUMPTIONS FOR COST ANALYSIS

The cost analysis incorporates several general. Any changes to these assumptions would require a re-evaluation of the cost estimate.

Land Assumptions

1. *Total Acreage* is the acreage of the mitigation land that will be managed on each property, which does not include permanent or temporary project impacts or the right-of-way, if they occur on the property. *Land Stewardship* activities will be conducted on this acreage in perpetuity..

2. Taxes, district fees and other levies are the responsibility of the land owner and are not included in this analysis.

3. Management of storm water conveyance structures will not be the responsibility of the Land Manager.

Funding Assumptions

1. Funding will be through a one-time payment for five-year start-up costs and interest earned on endowments provided by SDG&E for annual ongoing management costs.

2. Management and monitoring tasks in this cost analysis are based on requirements outlined in the MMCRP and conditions of the BO issued by the USFWS

3. A separate cost analysis has been conducted for each property, and reflects the specific mitigation requirements and property site conditions.

COST JUSTIFICATION AND LINE ITEM ASSUMPTIONS

The cost breakdown for biological management and monitoring is divided into the following sections: Facilities Maintenance and Access Control, Biological Inventory and Monitoring, Habitat and Land Management, Preserve Management Plan and Reporting, and Contingencies and Administration. As described in the individual HMPs, "land stewardship," which is the overall management of the property as a whole, consist of access control (Facilities Management and Access Control section of the PAR), general condition monitoring (a line item within Biological Inventory and Biological Monitoring sections of the PAR), and trash removal (a line item within the Habitat/Land Management section of the PAR). The dollar amount required for management is based on the analysis below.

Each PAR is presented in two components: Start-up Costs and Annual Costs in Perpetuity. Start-up costs cover the initial investment in infrastructure and surveys to begin monitoring and reporting, and maintenance, monitoring and reporting that would occur in the first 5 years of implementation. Annual Costs in Perpetuity provides an average annual estimate of implementation of the HMP. An annual inflation rate (3.0%) is applied to the annual cost which is used to generate an estimate of an endowment that would yield an amount, assuming a 5% return, to pay for the annual management and monitoring. To this endowment estimate the start-up cost is added to provide a total initial endowment estimate.

Facilities Maintenance and Access Control

Gates, fencing, and signs are included in the cost analysis as needed to protect mitigated species or habitats from unauthorized access. The HMP includes the start-up and long-term maintenance costs for facilities other than those provided by SDG&E for Operations and Maintenance (e.g., gates for maintenance access roads).

Fencing

Fencing will be an important aspect of land management, since unauthorized use can destroy sensitive resources and undermine the biological value of the mitigation. Several assumptions have been made for the cost analysis. Some properties (e.g. Lightner and Long Potrero) will require fencing whereas others (e.g. Chocolate Canyon, Desert Cahuilla Land Transaction, El Capitan, Hamlet, Lakeside, Nabi and Suckle) will not. Fencing discussed in this section is limited to the perimeter or portions of the

properties. The entire perimeter of each parcel will not need to be fenced as there is steep topography, adjacent protected land, vacant land or existing fencing associated with private property present at the property boundaries. Details for each property are provided in the individual PARs. A combination of smooth wire or chain link will be used for the mitigation sites. Fencing costs are estimated at $15 per linear foot and based on the average cost of the two types of fencing. It is estimated that 10% of the fencing installed during the start-up period will need to be replaced annually.

Gates and Barriers

Gates will be required to block unauthorized access but allow access for the Land Managers and emergency services personnel. Gates will be installed on the perimeter at main access points into the property if needed. High quality 16-foot swinging arm gates firmly planted into the ground are recommended since they are most resistant to vandalism and destruction. A typical 16-foot swinging arm gate will cost about $5,000 including installation. These gates will need to be serviced annually and replaced every 20 years.

Concrete bollards are fixed barriers to vehicular access that are firmly planted into the ground to resist being removed or pushed over by vehicles. They will be used to prevent vehicles from bypassing gates. Four bollards are expected to be needed at $75 per bollard for each gate. Long-term maintenance consists of replacement every 10 years.

Signage

Signage will be used to indicate boundaries, cite regulations, and identify areas of habitat restoration. Signs are estimated at $15 per sign, which is an average cost for small signs of this type (e.g., 8 in. by 13.5 in.). Signage is susceptible to vandalism and/or removal; therefore, in addition to initial installation, it is expected that an average of 20% of signs will need replacement each year.

Biological Monitoring

Monitoring costs include baseline inventory surveys to be conducted during the first five-years and long-term monitoring for mitigated species and habitats. For the purpose of this cost analysis, the following definitions are used. A *baseline survey* is conducted at a certain point in time and is used as the benchmark against which subsequent surveys will be compared. *Baseline surveys* can take place during a single year or can be conducted over a period of time to encompass the natural fluctuation in the density or distribution of a population or structure of a plant or animal community. *Monitoring surveys* are conducted over a given period of time or in perpetuity, and are compared to the baseline survey results to indicate changes in populations or habitat conditions over time. Negative changes over time (e.g., showing a more restricted sensitive species population distribution) will alert the land manager and may trigger specific remedial management actions. Note that long-term monitoring may be conducted less frequently than surveys conducted during the five-year start-up period if appropriate for a given species.

Habitat-Related Monitoring

Habitat-related monitoring includes general condition monitoring, general wildlife habitat assessment, vegetation mapping, invasive species mapping, and species-specific habitat assessment. Some of these

activities can be conducted concurrently as described below. Unless otherwise specified, the estimated survey rate (acres/hour) includes field preparation and travel time.

General Condition Monitoring and Wildlife Habitat Assessment

General condition monitoring will be conducted to identify threats to sensitive habitats and species. Threats may include invasive species, erosion problems, illegal trespass (e.g., off-road vehicles or graffiti, etc.), trash or illegal dumping. In addition, the general overall health a quality of wildlife habitat will be assessed during this effort. One visit will be conducted annually at an estimated rate of 10 acres/hour.

Vegetation Communities and Invasive Species Mapping

Baseline mapping of vegetation communities and invasive species will be conducted during the start-up period and updated annually for the remainder of this period. Updates will continue every three years thereafter. This effort is expected to be more intense than that described for general condition monitoring, in which general presence/absence information will be recorded for invasive species. Mapping will consist of defining boundaries and noting the density, species, and level of threat. This effort is estimated to be conducted at 7.5 acres/hour

Species-specific Habitat Assessments

Some species may require ongoing habitat assessments to inform species-specific monitoring. This type of assessment is more specific than that described for general condition monitoring, as it takes into consideration the particular habitat needs of a given species. For example, a habitat assessment for the least Bell's vireo and southwestern willow flycatcher might focus on such habitat characteristics as canopy structure or dominant plant species. This type of assessment is expected to be conducted concurrently with vegetation communities and invasive species mapping, as this is a more intense effort than general condition monitoring.

Information gathered from the general conditions monitoring and invasive species mapping will be used to prepare a vegetation management plan, which will include a list and assessment of threats to biological resources, management priorities, and a work plan for habitat management. The plan will be updated annually.

Focused Species Survey Methods

Surveys for mitigated species will be conducted according to established protocols (either USFWS presence/absence protocols or preserve-specific monitoring protocols[1]), USGS guidelines, or recommendations of species experts. A brief summary of each approach is provided below. Field preparation and travel time is built into the estimated number of acres covered per hour.

- Felt-leaved monardella, modified from McEarchen (in progress and 2009). Baseline surveys for felt-leaved monardella will be conducted on the Lightner property twice during the start-up period. The surveys will be conducted to assess the current condition and extent of the population, potential threats, and condition of the surrounding habitat. Each survey is expected to be conducted in 10 hours.

[1] If not otherwise specified, preserve-specific monitoring protocols include USFWS presence/absence protocols that have been specifically modified to fulfill long-term preserve monitoring goals.

- Lakeside Ceanothus. Baseline surveys for Lakeside ceanothus will be conducted on the El Capitan property. The surveys will assess the current condition of the population, level of seedling recruitment, potential threats, and condition of the surrounding habitat. Each survey will take 30 hours, and be conducted twice during the start-up period.

- Quino: USFWS protocol (2002). Baseline surveys and long-term monitoring of the Quino checkerspot butterfly will be conducted every three years on the Long Potrero and Lightner properties. The Hermes butterfly will be surveyed on the Lightner property concurrently. Each flight season (usually between late February and late April) consists of five field visits which are conducted one week apart at 15 hours/acre. Surveys will occur within scrub and grassland habitats (the survey acreage may be reduced if a habitat assessment is conducted to determine excludible habitat.). A report will be prepared and submitted to the USFWS 45 days after the last survey.

- Arroyo Toad: USFWS MSCP Animal Survey Protocol (USFWS 2009) and USGS Monitoring Protocol for the arroyo toad (USGS 2003). Baseline surveys and long-term monitoring will be conducted for the arroyo toad on the Long Potrero property every three years. Three field visits per survey will be conducted during the breeding season (March through June) at an estimated 2.5 acres/hr of suitable habitat. Report due to USFWS 30 days after final surveys or positive sighting. To be conducted every three years during start-up and ongoing management periods.

- Barefoot banded gecko: CDFG protocol (in prep). Baseline surveys and long-term monitoring of the barefoot banded gecko will be conducted on the Suckle property. Surveys will consist of four visits between May 1 and July 31 at an estimated rate of 2.5 acres/hr. Ten percent of the site will be surveyed. Surveys will be conducted annually during the start-up period, and every three years thereafter.

- Gnatcatcher: modified USFWS survey protocol (1997). Focused species surveys will be conducted on the Lakeside property. Surveys will consist of one visit during the breeding season (February 15 – August 30) at an estimated rate of 10 acres/hr. A report is due to USFWS within 45 days of the final survey. Surveys will be conducted every three years during start-up and ongoing monitoring periods.

- Least Bell's vireo: USFWS Survey Guidelines (2001) as modified. Least Bell's vireo surveys will be conducted on the Chocolate Canyon property. Three survey visits will be conducted 10 days apart, between April 15 and July 31 at an estimated rate of 3 acres/hr in riparian scrub, forest, or woodland habitat. A report is due to USFWS 45 days after the last survey. Surveys will be conducted annually during the start-up period and every three years thereafter.

- Southwestern willow flycatcher: USFWS monitoring protocol (2010) as modified. To be conducted concurrently with least Bell's vireo surveys

- Peninsular Bighorn Sheep Project Monitoring will be conducted independently by California State Parks and is not part of this HMP Surveyors will enter all the data into a spreadsheet or GIS database, analyze the data, and create survey reports for each survey season as required by the USFWS. The additional cost of reporting and data management is calculated at 25% of the total survey effort.

HABITAT/LAND MANAGEMENT

Habitat management consists of actions that are directed at maintaining habitat quality for mitigated species through invasive species control, erosion control, trash removal, and minor habitat remediation, as described below.

Invasive Species Control

Control of invasive plant species will be one of the most important aspects of habitat management. The common non-native plant species in the dominant habitats (coastal sage scrub, grassland and chaparral) are usually non-native grasses, mustards (*Brassica* ssp and *Hirschfeldia incana*), star-thistle (*Centaurea melintensis*), fennel (*Foeniculum vulgare*) and many others. Non-native plant species that occur in riparian areas, such as arundo (*Arundo donax*), pampas (*Cortaderia selloana*) and tamarisk (*Tamarix* spp.), will be removed through the jurisdictional resources habitat mitigation Plan. This cost analysis assumes that there will be an initial intensive effort to remove the most damaging invasive species (as per California Invasive Plant Council (CalIPC)) recommendations, and that invasive species removal will most likely be a continual process in perpetuity. Although invasive species removal can be conducted by laborers, this activity must be supervised by a qualified biologist to ensure that sensitive species and habitats are not damaged during the removal process.

Difficult-to-remove or widespread invasive species:
The cost estimate assumes that a small staff of laborers will be needed for widespread and/or difficult to remove invasive species. Cost assumptions include: 25 acres/crew day, $1,600 per crew day (5 laborers/crew, $64/ hour labor cost plus equipment cost), on approximately one to ten percent of the total property in a given year. The activity may include mowing, herbicide treatment, hand removal, debris removal, etc. Equipment needed for this activity may include weed-whips, gardening tools, chain saws and other tools as well as rental equipment such as mowers for removal of non-native grasses. The frequency of treatment varies from annually to every five years depending on the local conditions of a given property.

Other invasive species:
Smaller scale infestations and/or species that are less difficult to remove can be conducted by laborers at an estimated cost of $45/hour at an estimated rate of 0.25 acre per hour. Much of this work will likely be done by hand or with small equipment. Generally, this level of invasive species removal is expected to occur annually on one to five percent of the property depending on local conditions.

Erosion Control and Road Maintenance

Erosion control and road maintenance for this cost estimate is meant to cover minor problems, for example erosion repairs along degraded habitat or near unused or old trails. It does not include the construction of erosion control devices, such as cement berms or culverts, or any measures that would require permits, engineering or major contracting. In general, maintenance of roads is not the responsibility of the Land Manager, except for existing roads that are required for management access and not already maintained by SDG&E for access to the transmission line and related structures.

Erosion control materials are estimated to cost $600 per acre. Materials will consist of gravel bags (250 bags at $1.50/bag), fiber roles and stakes (12 rolls at $28/roll), and silt fencing (500 feet at $25/100-ft roll). This management task can be conducted by laborers, and assumes $45/hour at a rate of eight labor hours per acre on five percent of the property on an annual basis. As with invasive species removal, this activity must be supervised by a qualified biologist to ensure that sensitive species and habitats are not damaged during erosion control activities.

Trash Removal

Trash removal is a land steward task that is more important in open space areas that are more accessible to the public (e.g. Suckle) as compared to areas that are far from public facilities (e.g., El Capitan). Because the Sunrise mitigation parcels will not be open to the public, the need for trash removal is lower than for a property that has active recreation. Trash removal is based on a cost of $100/acre for one percent to five percent of the property and will be conducted every one to five years depending on the property.

Habitat Remediation

Habitat remediation consists of minor rehabilitation of habitat from the effects of erosion, unauthorized access or removal of exotics; it 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 decompaction, seeding with the imprinting method, more active exotic species control etc.), but will not include irrigation as part of this HMP. Major restoration, restoration for mitigation purposes (e.g., those identified in the Habitat Mitigation Monitoring Plan (HMMP) for this Project) and/or the development of restoration plans are not included in this HMP.

Habitat remediation is included during the start-up period for most properties and is also an integral part of the habitat management in perpetuity. Costs are estimated based on one percent to five percent of the total acreage of each property every two to five years. Remediation efforts, including labor and materials, will vary in cost between $300/acre for minor habitat repair and $1,000/acre for a more active effort, which is required to restore decommissioned roads and trails.

PRESERVE MANAGEMENT PLANS AND REPORTING

Annual Reports

Annual reports will include a threats assessment, work plan, budget plan, and a financial summary (including the status of endowments). Reporting will be prepared annually and be submitted to the appropriate wildlife, or other public agency. Preparation of annual reports is expected to take approximately 20 hours during the start up period and 10 hours thereafter.

Five Year Work Programs

Using the results from the general condition monitoring, wildlife habitat assessments, vegetation communities mapping, invasive species mapping and species-specific habitat assessments, 50year work programs will be prepared and regularly updated. The plan will include a threats assessment, prioritization, monitoring protocols and schedules, and a work plan. The plan is expected to be completed in year three and updated annually thereafter. Some interim land management will occur during years one and two. Initial report preparation is estimated to take 30 to 60 hours during the start-up period, and updates will take 10 to 30 hours annually.

GIS Database Management

GIS tasks will include the management of survey data submitted by the surveyors (including GPS data), and the preparation of maps and graphics to assist in the data analysis, to be conducted by the land manager, and in the preparation of annual reports and preserve management plans. GIS-related activities are estimated to take 8 hours annually during the start up period and 4 hours thereafter.

CONTINGENCIES AND ADMINISTRATION

This cost estimate includes a provision for contingencies at a rate of 10% of the budgeted expenses to provide a cushion for extra and unforeseen costs. There is also a provision for administrative overhead at 15% to provide for the cost of maintaining an office, office supplies, and administrative staff to assist with paperwork and other administrative costs.

LABOR RATE ASSUMPTIONS

The following table summarizes the labor rate assumptions used for this cost analysis. Labor rates usually vary from organization to organization which should be considered during discussion of this cost analysis. The cost analysis is based on 'fully burdened' labor rates, which includes labor costs and overhead to allow for staffing, materials, and equipment.

Position	Hourly Rate*
Land Manager	$100
Plant Ecologist	$90
Entomologist	$90
Herpetologist	$90
Ornithologist	$90
Mammalogist	$90
Biological Supervisor	$160
Laborer	$45
GIS Specialist	$90

* Charge rates, not pay rates - includes benefits, including health care, 3% matching in a 401k, vacation (120 days), sick (40 hours) and paid holidays (72 hours).

ENDOWMENTS

SDG&E will establish "non-wasting" endowments for each mitigation property, based on this cost analysis, to provide for the management and monitoring of biological resource. Start-up costs will be provided through an initial one-time payment into the endowment account. Annual ongoing management costs will be funded through annual interest earned on the endowment principal. It is assumed that the cost of ongoing management will increase by approximately 3.0% annually, based on the average annual U.S. Bureau of Labor Statistics Consumer Price Index inflation rates over the last 20 years (e.g., between 1989 and 2009). The average annual rate of return is estimated to be 5%. The average estimated reinvestment is estimated at 3%.

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Nabi Start Up Costs (First Five Years)

* Acreage for parcel is exclusive of substation

Facilities Maintenance/Access Control

	Specification	Unit	No. Units	Cost/Unit	Frequency (for 5 years)	Total 5-Yr Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Sign - initial installation	Boundary 8" x 13.5	Item	10	$15.00	1	$150.00	$30.00	Average cost for signs. Sign types: boundary, regulations, habitat restoration. One-time cost for initial installation (10 signs).	
Sign - replacement	Boundary 8" x 13.5	Item	2	$15.00	4	$120.00	$24.00	Average cost for signs. Sign types: boundary, regulations, habitat restoration. Replacement of 20% annually for the remaining 4 years	
SUBTOTAL CAPITAL IMPROVEMENTS						***$270.00***	***$54.00***		

Biological Inventory (Baseline Surveys)

	Specification	Unit	No. Units	Labor rate	Frequency (for 5 years)	Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Land Manager	General condition monitoring and wildlife habitat assessment	Acres	93.46	$100.00	5	$4,673.00	$934.60	One visit annually to identify threats to habitat and species (comprehensive). 100 acres/day; 10 hour days (=10 acres/hour)	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (number of surveys in 5 year period).
Plant Ecologist	Vegetation communities and invasive species mapping	Acres	93.46	$90.00	5	$5,607.60	$1,121.52	Baseline mapping of vegetation communities (one time) and annual invasive species mapping; to be conducted concurrently the first year; 7.5 acres/hour	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (number of surveys in 5 year period).
Herpetologist	Arroyo toad	L. Hours	10	$90.00	9	$8,100.00	$1,620.00	3 visits at 10 hours each, including travel time; three survey seasons	**Formula:** Hours * Labor Rate * Frequency
Surveyors	Data entry, analysis and reporting	N/A	N/A	N/A	N/A	$4,595.15	$919.03	(25%) * (total survey effort)	**Formula:** 25% of time spent for (general condition monitoring; mapping, and species surveys)
SUBTOTAL BIOLOGICAL MONITORING						***$22,975.75***	***$4,595.15***		

Habitat/Land Management

* or cost per unit

	Specification	Unit	No. Units	Labor rate*	Frequency (for 5 years)	Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Exotic Plant Control	Difficult to remove species (palms, Eucalyptus trees, artichoke thistle)	Acres	5	$64.00	2	$640.00	$128.00	25 acres/crew day; $1,600 per crew day (5 laborers/crew, $64/ hour labor cost; plus equipment cost); 5% of total property . Mowing, herbicide treatment, hand removal, debris removal, etc. One treatment per 5 years.	**Formula:** Total Cost = (5% total acres/25 ac per crew day) * (labor cost per crew day) * (no. treatments in 5 year period).
Exotic Plant Control	Other species, labor	Acres	5	$45.00	5	$4,500.00	$900.00	Laborer; 0.25 acre/hour; 5% of total property per year. Cal-IPC high and moderate risk species.	**Formula:** Total Cost = (5% total acres/ ac per hour) * (labor cost per hour) * (no. treatments in 5 year period).
Erosion Control	Materials	Acres	5	$600.00	1	$3,000.00	$600.00	Gravel bags (250 @ $1/bag), fiber rolls and stakes (12 @ $28/roll), silt fencing (500 ft @$25/100 ft roll) = $600/acre per 5 years, 5% property.	**Formula:** Total Cost = 5% total acres * cost per acre * no. treatments in 5 year period.
Erosion Control/ Road Maintenance	Labor	Acres	5	$45.00	5	$9,000.00	$1,800.00	laborer; 8 labor hrs/acre; 5% of property annually	**Formula:** Total Cost = (5% total acres/acres per hr) * labor cost per acre * no. treatments in 5 year period.
Trash Removal	Trash Hauling-load	Acres	5	$100	5	$2,500.00	$500.00	$100/acre every year for 5% of total property	**Formula:** 5% total acres * cost per acre * frequency
Habitat Remediation	Minor habitat enhancement due to erosion, unauthorized access, etc.	Linear Ft.	5	$300	1	$1,500.00	$300.00	$300/acre; 5% of total property per 5 years (eg. minor habitat remediation may include seeding with native seeds, raking, soil preparation, etc.). Preparation of a restoration plan and project management is not included in this cost.	**Formula:** Total Cost = (5% total acres/acres per hr) * (cost per hr) * no. treatments in 5 year period.
Habitat Management - all tasks	Supervision by qualified biologist	L. Hours	5	$160.00	5	$4,000.00	$800.00	A qualified biologist will monitor management activities in areas occupied by, or suitable for, listed species.	**Formula:** Total Cost = (number of hours) *(labor cost per hour) * (annually for 5 year period).
SUBTOTAL BIOLOGICAL MANAGEMENT						***$25,140.00***	***$5,028.00***		

Plan/Reporting

	Specification	Unit	No. Units	Labor rate	Quantity (for 5 years)	Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Land Manager	Annual Reporting and Coordination	L. Hours	20	$100.00	5	$10,000.00	$2,000.00	Preparation of annual report, to include threats assessment, work plan, budget plan, and status of endowment.	**Formula:** Hours * Labor Rate * Frequency
Land Manager	Prepare and update management plan	L. Hours	30	$100.00	3	$9,000.00	$1,800.00	Using results from general condition monitoring and invasive species mapping, prepare and update management plan. Will include threats assessment, prioritization, and work plan. Assumes plan completed in year 3 and updated in years 4 and 5. Some interim land management will occur in years 1 and 2.	**Formula:** Hours * Labor Rate * Frequency
GIS Specialist	GIS Database Management and reporting	L. Hours	8	$90.00	5	$3,600.00	$720.00	Data management and produce figures for annual report.	**Formula:** Hours * Labor Rate * Frequency
SUBTOTAL REPORTING						***$22,600.00***	***$4,520.00***		

TOTAL	$70,985.75	$14,197.15

Contingencies/ Administration	Total costs	% of Total				Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Contingencies	$70,985.75	10				$7,098.58	$1,419.72		
Administrative Overhead	$70,985.75	15				$10,647.86	$2,129.57	Accountants, technical, clerical, contract managers, lawyers, etc.	
SUBTOTAL CONTINGENCIES/ADMINISTRATION						***$17,746.44***	***$3,549.29***		

	Total Cost	Annual Cost (Total divided by 5 Yrs)	
GRAND TOTAL	**$88,732.19**	**$17,746.44**	

Nabi Annual Cost In-Perpetuity

Facilities Maintenance/Access Control

	Specification	Unit	No. Units	Cost/Unit	Quantity	Total Annual Cost	Assumptions	Comments
Sign	Boundary 8" x 13.5	Item	2	$15.00	1	$30.00	Average cost for signs. Signs types: boundary, regulations, habitat restoration. Aprox. Replacement at 20% per year	**Formula:** Total Cost = (20% total number of signs per property) * (cost per sign) * (number of years installation is needed)
SUBTOTAL CAPITAL IMPROVEMENTS						***$30.00***		

Biological Monitoring

Note: in general, these estimates do not include travel time or field prep

	Specification	Unit	No. Units	Cost/Unit	Frequency	Total Cost	Assumptions	Comments
Land Manager	General condition monitoring and wildlife habitat assessment	Acres	93.46	$100.00	1	$934.60	One visit annually to identify threats to habitat and species (comprehensive). Total acreage = 705.86 ac.; 100 acres/day; 10 hour days (=10 acres/hour)	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (frequency).
Plant Ecologist	Update vegetation communities and invasive species mapping	Acres	93.46	$90.00	0.33	$370.10	Update mapping of vegetation communities and invasive species; to be conducted concurrently; 7.5 acres/hour. Once every three years.	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (frequency).
Herpetologist	Arroyo toad	L. Hours	10	$90.00	1	$900.00	3 visits at 10 hours each, including travel time; every three years	**Formula:** Hours * Labor Rate * Frequency
Surveyors	Data entry, and analysis	N/A	N/A	N/A	N/A	$551.18	25% of the total survey effort required for the property.	**Formula:** 25% of time spent for (general condition monitoring; mapping, and species surveys)
SUBTOTAL BIOLOGICAL MONITORING						***$2,755.88***		

Habitat/Land Management

	Specification	Unit	No. Units	Labor Rate	Frequency	Total Cost	Assumptions	
Exotic Plant Control	Difficult to remove species (palms, Eucalyptus trees, artichoke thistle)	Acres	5	$64.00	0.33	$105.60	25 acres/crew day; $1,600 per crew day (5 laborers/crew, $64/ hour labor cost; plus equipment cost); 5% of total property. Mowing, herbicide treatment, hand removal, debris removal, etc. Treatment every 5 yrs.	**Formula:** Total Cost = (5% total acres/25 ac per crew day) * (labor cost per crew day) * (frequency).
Exotic Plant Control	Other species, Removal by Laborers	Acres	5	$45.00	1	$900.00	Laborer; 0.25 acre/hour; 5% of total property per year. Cal-IPC high and moderate risk species.	**Formula:** Total Cost = (5% total acres/ac per hour) * (labor cost per hour) * (frequency).
Erosion Control	Materials	Acres	5	$600.00	0.20	$600.00	Gravel bags (250 @ $1/bag), fiber rolls and stakes (12 @ $28/roll), silt fencing (500 ft @$25/100 ft roll) = $600/acre per 5 years, 5% property.	**Formula:** Total Cost = 5% total acres * cost per acre * frequency.
Erosion Control/ Road Maintenance	Labor	Acres	5	$45.00	1	$225.00	Laborer; 5 acres/hour; 5% of property annually	**Formula:** Total Cost = (5% total acres/acres per hr) * labor cost per acre * frequency
Trash Removal	Trash Hauling	Acres	5	$100.00	1	$500.00	$100/acre annually for 5% of total property	**Formula:** 5% total acres * cost per acre * frequency
Habitat Remediation	Minor habitat enhancement due to erosion, unauthorized access, etc.	Acre	5	$300.00	0.20	$305.20	$300/hour; 5% of total property per 5 years (eg. minor habitat remediation may include seeding with native seeds, raking, soil preparation, etc.). Preparation of a restoration plan and project management is not included in this cost.	**Formula:** Total Cost = (5% total acres/acres per hr) * (cost per hr) * frequency
Habitat Management - all tasks	Supervision by qualified biologist	L. Hours	5	$160	1	$800.00	A qualified biologist will monitor management activities in areas occupied by, or suitable for, listed species.	**Formula:** Total Cost = (number of hours) *(labor cost per hour) * (frequency).
SUBTOTAL BIOLOGICAL MANAGEMENT						***$3,435.80***		

Plan/Reporting

	Specification	Unit	No. Units	Labor Rate	Frequency	Total Cost	Assumptions	Comments
Land Manager	Annual Reporting and Coordination	L. Hours	10	$100.00	1	$1,000.00	Preparation of annual report, to include threats assessment, work plan, budget plan, and status of endowment.	**Formula:** Hours * Labor Rate * Frequency
Land Manager	Update management plan	L. Hours	10	$100.00	1	$1,000.00	Using results from general condition monitoring and invasive species mapping, update management plan. Will include threats assessment, prioritization, and work plan. Update annually.	**Formula:** Hours * Labor Rate * Frequency
GIS Specialist	GIS Database Management and reporting	L. Hours	4	$90.00	1	$360.00	Data management and produce figures for annual report.	**Formula:** Hours * Labor Rate * Frequency
SUBTOTAL REPORTING						***$2,360.00***		

TOTAL	$8,581.68

Contingencies/ Administration

	Total costs	% of Total				Total Cost	Assumptions	Comments
Contingencies	$8,581.68	10				$858.17		
Administrative Overhead	$8,581.68	15				$1,287.25	Accountants, technical, clerical, contract managers, lawyers, etc.	
SUBTOTAL CONTINGENCIES/ADMINISTRATION						***$2,145.42***		

GRAND TOTAL	**$10,727.10**

ENDOWMENT NEEDED	**$536,354.81**	Assume 5% return on investment and 3.0% inflation yearly

Lakeside Ranch Start Up Costs (First Five Years)

* Acreage for parcel is exclusive of substation

Facilities Maintenance/Access Control

	Specification	Unit	No. Units	Cost/Unit	Frequency (for 5 years)	Total 5-Yr Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Sign - initial installation	Boundary 8" x 13.5	Item	10	$15.00	1	$150.00	$30.00	Average cost for signs. Sign types: boundary, regulations, habitat restoration. One-time cost for initial installation (10 signs).	
Sign - replacement	Boundary 8" x 13.5	Item	2	$15.00	4	$120.00	$24.00	Average cost for signs. Sign types: boundary, regulations, habitat restoration. Replacement of 20% annually for the remaining 4 years (2 sign per year = 8 signs).	
SUBTOTAL CAPITAL IMPROVEMENTS						***$270.00***	***$54.00***		

Biological Baseline Surveys and Monitoring

	Specification	Unit	No. Units	Labor rate	Frequency (for 5 years)	Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Land Manager	General condition monitoring and wildlife habitat assessment	Acres	420	$100.00	5	$21,000.00	$4,200.00	One visit annually to identify threats to habitat and species (comprehensive). ; 100 acres/day; 10 hour days (=10 acres/hour)	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (number of surveys in 5 year period).
Plant Ecologist	Vegetation communities and invasive species mapping	Acres	420	$90.00	5	$25,200.00	$5,040.00	Baseline mapping of vegetation communities and invasive species; 7.5 acres/hour	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (number of surveys in 5 year period).
Ornithologist	Coastal CA gnatcatcher	Acres	326	$90.00	2	$5,868.00	$1,173.60	Surveys every 3 years; 1 visit/survey; 100 ac/day; 10 hr days; 10 acres/hr; calculated for costal sage scrub habitat only. The inventory will include identifying threats to mitigated species, including cowbirds, starlings and ravens.	Formula: Total Cost = (total acres/acres per hour) * (labor cost per hour) * (number of surveys in 5 year period)* number of visits per survey).
Surveyors	Data entry, analysis and reporting	N/A	N/A	N/A	N/A	$13,017.00	$2,603.40	(25%) * (total survey effort)	**Formula:** 25% of time spent for (general condition monitoring; mapping, and species surveys)
SUBTOTAL BIOLOGICAL MONITORING						***$65,085.00***	***$13,017.00***		

Habitat/Land Management

* or cost per unit

	Specification	Unit	No. Units	Labor rate*	Frequency (for 5 years)	Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Exotic Plant Control	Difficult to remove species (palms, Eucalyptus trees, artichoke thistle)	Acres	21	$64.00	5	$6,720.00	$1,344.00	25 acres/crew day; $1,600 per crew day (5 laborers/crew, $64/ hour labor cost; plus equipment cost); 5% of total property per year, total property acreage 705.86. Mowing, herbicide treatment, hand removal, debris removal, etc. Yearly treatment first 5 years.	**Formula:** Total Cost = (5% total acres/25 ac per crew day) * (labor cost per crew day) * (no. treatments in 5 year period).
Exotic Plant Control	Other species, labor	Acres	21	$45.00	5	$18,900.00	$3,780.00	Laborer; .25 acre/hour; 5% of total property per year. Cal-IPC high and moderate risk species.	**Formula:** Total Cost = (1% total acres/ac per hour) * (labor cost per hour) * (no. treatments in 5 year period).
Erosion Control	Materials	Acres	21	$600.00	1	$12,600.00	$2,520.00	Gravel bags (250 @ $1/bag), fiber rolls and stakes (12 @ $28/roll), silt fencing (500 ft @$25/100 ft roll) = $600/acre per 5 years, 5% property.	**Formula:** Total Cost = 5% total acres * cost per acre * no. treatments in 5 year period.
Erosion Control/ Road Maintenance	Labor	Acres	21	$45.00	5	$37,800.00	$7,560.00	Laborer; 8 hours/acre; 5% of property annually	**Formula:** Total Cost = (5% total acres) *8 hours/acre * labor cost per acre * no. treatments in 5 year period.
Trash Removal	Trash Hauling-load	Acres	4	$100	2.5	$1,000.00	$200.00	$100/acre every other year for 1% of total property	**Formula:** 1% total acres * cost per acre * frequency
Habitat Remediation	Minor habitat enhancement/restoration due to erosion, unauthorized access, etc.	Linear Ft.	21	$1,000	1	$21,000.00	$4,200.00	$1000/acre; 5% of total property per 5 years (eg. minor habitat remediation may include soil decompaction, seeding with native seeds by hand or with imprinter, raking, soil preparation, etc.). Preparation of a restoration plan and project management is not included in this cost.	**Formula:** Total Cost = (5% total acres)* cost/acre * (no. treatments in 5 year period).
Habitat Management - all tasks	Supervision by qualified biologist	L. Hours	10	$160.00	5	$8,000.00	$1,600.00	A qualified biologist will monitor management activities in areas occupied by, or suitable for, listed species.	**Formula:** Total Cost = (number of hours) *(labor cost per hour) * (annually for 5 year period).
SUBTOTAL BIOLOGICAL MANAGEMENT						***$106,020.00***	***$21,204.00***		

Plan/Reporting

	Specification	Unit	No. Units	Labor rate	Quantity (for 5 years)	Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Land Manager	Annual Reporting and Coordination	L. Hours	20	$100.00	5	$10,000.00	$2,000.00	Preparation of annual report, to include threats assessment, work plan, budget plan, and status of endowment.	**Formula:** hours * labor rate * frequency
Land Manager	Prepare and update management plan	L. Hours	40	$100.00	3	$12,000.00	$2,400.00	Using results from general condition monitoring and invasive species mapping, prepareand update management plan. Will include threats assessment, prioritization, and work plan. Assumes plan completed in year 3 and updated in years 4 and 5. Some interim land management will occur in years 1 and 2.	**Formula:** hours * labor rate * frequency
GIS Specialist	GIS Database Management and reporting	L. Hours	8	$90.00	5	$3,600.00	$720.00	Data management and produce figures for annual report.	**Formula:** hours * labor rate * frequency
SUBTOTAL REPORTING						***$25,600.00***	***$5,120.00***		

TOTAL	$196,975.00	$39,395.00

Contingencies/ Administration

	Total costs	% of Total				Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Contingencies	$196,975.00	10				$19,697.50	$3,939.50		
Administrative Overhead	$196,975.00	15				$29,546.25	$5,909.25	Accountants, technical, clerical, contract managers, lawyers, etc.	
SUBTOTAL CONTINGENCIES/ADMINISTRATION						***$49,243.75***	***$9,848.75***		

	Total Cost	Annual Cost (Total divided by 5 Yrs)
GRAND TOTAL	**$246,218.75**	**$49,243.75**

Lakeside Ranch Annual Cost In-Perpetuity

Facilities Maintenance/Access Control

	Specification	Unit	No. Units	Cost/Unit	Quantity	Total Annual Cost	Assumptions	Comments
Sign	Boundary 8" x 13.5	Item	2	$15.00	1	$30.00	Average cost for signs. Signs types: boundary, regulations, habitat restoration. Aprox. Five signs per property. Replacement at 20% per year or 2 sign per year.	**Formula:** Total Cost = (20% total number of signs per property) * (cost per sign) * (number of years installation is needed)
SUBTOTAL CAPITAL IMPROVEMENTS						***$30.00***		

Biological Monitoring

Note: in general, these estimates do not include travel time or field prep

	Specification	Unit	No. Units	Cost/Unit	Frequency	Total Cost	Assumptions	Comments
Land Manager	General condition monitoring and wildlife habitat assessment	Acres	420	$100.00	1	$4,200.00	One visit annually to identify threats to habitat and species (comprehensive). 100 acres/day; 10 hour days (=10 acres/hour)	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (frequency).
Plant Ecologist	Update vegetation communities and invasive species mapping	Acres	420	$90.00	0.33	$1,663.20	Update mapping of vegetation communities and invasive species; 7.5 acres/hour. Once every three years.	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (frequency).
Ornithologist	Coastal CA gnatcatcher	Acres	326	$90.00	0.33	$968.22	Surveys every 3 years; 1 visit/survey; 100 ac/day; 10 hr days 10 acres/hr; calculated for costal sage scrub habitat only. The inventory will include identifying threats to mitigated species, including cowbirds, starlings and ravens.	Formula: Total Cost = (total acres/acres per hour) * (labor cost per hour) * (survey frequency)
Surveyors	Data entry, and analysis	N/A	N/A	N/A	N/A	$1,457.86	25% of the total survey effort required for the property.	**Formula:** 25% of time spent for (general condition monitoring; mapping, and species surveys)
SUBTOTAL BIOLOGICAL MONITORING						***$8,289.28***		

Habitat/Land Management

	Specification	Unit	No. Units	Labor Rate	Frequency	Total Cost	Assumptions	
Exotic Plant Control	Difficult to remove species (palms, Eucalyptus trees, artichoke thistle)	Acres	21	$64.00	0.50	$672.00	25 acres/crew day; $1,600 per crew day (5 laborers/crew, $64/ hour labor cost; plus equipment cost); Mowing, herbicide treatment, hand removal, debris removal, etc. Treatment of 5% of property every other yr.	**Formula:** Total Cost = (5% total acres/25 ac per crew day) * (labor cost per crew day) * (frequency).
Exotic Plant Control	Other species, Removal by Laborers	Acres	21	$45.00	1	$3,780.00	Laborer; 0.25 acre/hour; 5% of total property per year. Cal-IPC high and moderate risk species.	**Formula:** Total Cost = (1% total acres/ac per hour) * (labor cost per hour) * (frequency).
Erosion Control/ Road Maintenance	Materials	Acres	4	$600.00	1	$2,400.00	Gravel bags (250 @ $1/bag), fiber rolls and stakes (12 @ $28/roll), silt fencing (500 ft @$25/100 ft roll) = $600/acre annually, 1% property.	**Formula:** Total Cost = 1% total acres * cost per acre * frequency.
Erosion Control	Labor	Acres	21	$45.00	1	$7,560.00	Laborer; 8 labor hours/acre; 5% of property annually	**Formula:** Total Cost = (5% total acres) * 8hours/acre * labor cost per acre * frequency
Trash Removal	Trash Hauling	Acres	4	$100.00	0.5	$200.00	$100/acre every other year for 1% of total property	**Formula:** 1% total acres * cost per acre * frequency
Habitat Remediation	Minor habitat enhancement/restoration due to erosion, unauthorized access, etc.	Acres	21	$300.00	1	$6,300.00	$300/acre; 5% of total property annually (eg. minor habitat remediation may include soil decompaction seeding with native seeds by hand or with imprinter, raking, soil preparation, etc.). Preparation of a restoration plan and project management is not included in this cost.	**Formula:** Total Cost = (5% total acres) * cost/acre *frequency
Habitat Management - all tasks	Supervision by qualified biologist	L. Hours	10	$160	1	$1,600.00	A qualified biologist will monitor management activities in areas occupied by, or suitable for, listed species.	**Formula:** Total Cost = (number of hours) *(labor cost per hour) * (frequency).
SUBTOTAL BIOLOGICAL MANAGEMENT						***$22,512.00***		

Plan/Reporting

	Specification	Unit	No. Units	Labor Rate	Frequency	Total Cost	Assumptions	Comments
Land Manager	Annual Reporting and Coordination	L. Hours	10	$100.00	1	$1,000.00	Preparation of annual report, to include threats assessment, work plan, budget plan, and status of endowment.	**Formula:** hours * labor rate * frequency
Land Manager	Update management plan	L. Hours	20	$100.00	1	$1,000.00	Using results from general condition monitoring and invasive species mapping, update management plan. Will include threats assessment, prioritization, and work plan. Update annually	**Formula:** hours * labor rate * frequency
GIS Specialist	GIS Database Management and reporting	L. Hours	4	$90.00	1	$360.00	Data management and produce figures for annual report.	**Formula:** hours * labor rate * frequency
SUBTOTAL REPORTING						***$2,360.00***		

TOTAL	$33,191.28

Contingencies/ Administration

	Total costs	% of Total				Total Cost	Assumptions	Comments
Contingencies	$33,191.28	10				$3,319.13		
Administrative Overhead	$33,191.28	15				$4,978.69	Accountants, technical, clerical, contract managers, lawyers, etc.	
SUBTOTAL CONTINGENCIES/ADMINISTRATION						***$8,297.82***		

GRAND TOTAL	**$41,489.09**

ENDOWMENT NEEDED	**$2,074,454.69**	Assume 5% return on investment and 3.0% inflation yearly

Hamlet Start Up Costs (First Five Years)

* Acreage for parcel is exclusive of substation

Facilities Maintenance/Access Control

	Specification	Unit	No. Units	Cost/Unit	Frequency (for 5 years)	Total 5-Yr Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Sign - initial installation	Boundary 8" x 13.5	Item	5	$15.00	1	$75.00	$15.00	Average cost for signs. Sign types: boundary, regulations, habitat restoration. One-time cost for initial installation (10 signs).	
Sign - replacement	Boundary 8" x 13.5	Item	1	$15.00	4	$60.00	$12.00	Average cost for signs. Sign types: boundary, regulations, habitat restoration. Replacement of 20% annually for the remaining 4 years.	
SUBTOTAL CAPITAL IMPROVEMENTS						***$135.00***	***$27.00***		

Biological Inventory (Baseline Surveys)

	Specification	Unit	No. Units	Labor rate	Frequency (for 5 years)	Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Land Manager	General condition monitoring and general wildlife habitat assessment	Acres	84.35	$100.00	5	$4,217.50	$843.50	One visit annually to identify threats to habitat and species (comprehensive). Total acreage = 84.35 ac.; 100 acres/day; 10 hour days (=10 acres/hour)	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (number of surveys in 5 year period).
Plant Ecologist	Vegetation communities and invasive species mapping; species-specific habitat assessments	Acres	84.35	$90.00	5	$12,652.50	$2,530.50	Baseline mapping of vegetation communities and invasive species; habitat assessment for QCB and CAGN. To be conducted concurrently at 3 acres/hour. See comments for QCB and CAGN.	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (number of surveys in 5 year period).
Surveyors	Data entry, analysis and reporting	N/A	N/A	N/A	N/A	$1,967.50	$393.50	(25%) * (total survey effort)	**Formula:** 25% of time spent for (general condition monitoring; mapping, and species surveys)
SUBTOTAL BIOLOGICAL MONITORING						***$18,837.50***	***$3,767.50***		

Habitat/Land Management

* or cost per unit

	Specification	Unit	No. Units	Labor rate*	Frequency (for 5 years)	Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Exotic Plant Control	Difficult to remove species (palms, Eucalyptus trees, artichoke thistle)	Acres	4	$64.00	1	$256.00	$51.20	25 acres/crew day; $1,600 per crew day (5 laborers/crew, $64/ hour labor cost; plus equipment cost); 5% of total property per year. Mowing, herbicide treatment, hand removal, debris removal, etc. One treatment during first 5 years.	**Formula:** Total Cost = (5% total acres/25 ac per crew day) * (labor cost per crew day) * (no. treatments in 5 year period).
Exotic Plant Control	Other species, labor	Acres	4	$45.00	5	$3,600.00	$720.00	Laborer; 0.25 acre/hour; 5% of total property per year. Cal-IPC high and moderate risk species.	**Formula:** Total Cost = (5% total acres/ac per hour) * (labor cost per hour) * (no. treatments in 5 year period).
Erosion Control	Materials	Acres	1	$600.00	5	$3,000.00	$600.00	Gravel bags (250 @ $1/bag), fiber rolls and stakes (12 @ $28/roll), silt fencing (500 ft @$25/100 ft roll) = $600/acre per 5 years, 1% property.	**Formula:** Total Cost = 5% total acres * cost per acre * no. treatments in 5 year period.
Erosion Control/ Trash Removal	Labor	Acres	5	$45.00	5	$9,000.00	$1,800.00	Laborer; 8 labor hours per acre; 5% of property per 5 years	**Formula:** Total Cost = (5% total acres)* (8 labor hours/acre) * labor
	Trash Hauling-load	Acres	4	$100	2	$800.00	$160.00	$100/acre every 3 years for 5% of total property	**Formula:** 5% total acres * cost per acre * frequency
Habitat Management - all tasks	Supervision by qualified biologist	L. Hours	5	$160.00	5	$4,000.00	$800.00	A qualified biologist will monitor management activities in areas occupied by, or suitable for, listed species.	**Formula:** Total Cost = (number of hours) *(labor cost per hour) * (annually for 5 year period).
SUBTOTAL BIOLOGICAL MANAGEMENT						***$20,656.00***	***$4,131.20***		

Plan/Reporting

	Specification	Unit	No. Units	Labor rate	Quantity (for 5 years)	Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Land Manager	Annual Reporting and Coordination	L. Hours	20	$100.00	5	$10,000.00	$2,000.00	Preparation of annual report, to include threats assessment, work plan, budget plan, and status of endowment.	**Formula:** Hours * labor rate * frequency.
Land Manager	Prepare and update management plan	L. Hours	30	$100.00	3	$9,000.00	$1,800.00	Using results from general condition monitoring and invasive species mapping, prepare and update management plan. Will include threats assessment, prioritization, and work plan. Assumes plan completed in year 3 and updated in years 4 and 5. Some interim land management will occur in years 1 and 2.	**Formula:** (hrs to creat report) * labor rate * frequency
GIS Specialist	GIS Database Management and reporting	L. Hours	8	$90.00	5	$3,600.00	$720.00	Data management and produce figures for annual report.	**Formula:** Hours * labor rate * frequency.
SUBTOTAL REPORTING						***$22,600.00***	***$4,520.00***		

TOTAL	$62,228.50	$12,445.70

Contingencies/ Administration

	Total costs	% of Total				Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Contingencies	$62,228.50	10				$6,222.85	$1,244.57		
Administrative Overhead	$62,228.50	15				$9,334.28	$1,866.86	Accountants, technical, clerical, contract managers, lawyers, etc.	
SUBTOTAL CONTINGENCIES/ADMINISTRATION						***$15,557.13***	***$3,111.43***		

	Total Cost	Annual Cost (Total divided by 5 Yrs)
GRAND TOTAL	**$77,785.63**	**$15,557.13**

Hamlet Annual Cost In-Perpetuity

Facilities Maintenance/Access Control

	Specification	Unit	No. Units	Cost/Unit	Quantity	Total Annual Cost	Assumptions	Comments
Sign	Boundary 8" x 13.5	Item	1	$15.00	1	$15.00	Average cost for signs. Signs types: boundary, regulations, habitat restoration. Aprox. Five signs per property. Replacement at 20% per year or 1 sign per year.	**Formula:** Total Cost = (20% total number of signs per property) * (cost per sign) * (number of years installation is needed)
SUBTOTAL CAPITAL IMPROVEMENTS						***$15.00***		

Biological Monitoring

Note: in general, these estimates do not include travel time or field prep

	Specification	Unit	No. Units	Cost/Unit	Frequency	Total Cost	Assumptions	Comments
Land Manager	General condition monitoring and general wildlife habitat assessment	Acres	84.35	$100.00	1	$843.50	One visit annually to identify threats to habitat and species (comprehensive). Total acreage = 705.86 ac.; 100 acres/day; 10 hour days (=10 acres/hour)	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (frequency).
Plant Ecologist	Update vegetation communities and invasive species mapping; species-specific habitat assessments	Acres	84.35	$90.00	0.33	$334.03	Update mapping of vegetation communities and invasive species every three years. Habitat assessment for QCB and CAGN will be conducted concurrently; 3 acres/hour. See comments for QCB and CAGN.	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (frequency).
Surveyors	Data entry, and analysis	N/A	N/A	N/A	N/A	$44.38	25% of the total survey effort required for the property.	**Formula:** 25% of time spent for (general condition monitoring; mapping, and species surveys)
SUBTOTAL BIOLOGICAL MONITORING						***$1,221.91***		

Habitat/Land Management

	Specification	Unit	No. Units	Labor Rate	Frequency	Total Cost	Assumptions	
Exotic Plant Control	Difficult to remove species (palms, Eucalyptus trees, artichoke thistle)	Acres	4	$64.00	0.20	$51.20	25 acres/crew day; $1,600 per crew day (5 laborers/crew, $64/ hour labor cost; plus equipment cost); 5% of total property per year. Mowing, herbicide treatment, hand removal, debris removal, etc. Treatment every 5 yrs.	**Formula:** Total Cost = (5% total acres/25 ac per crew day) * (labor cost per crew day) * (frequency).
Exotic Plant Control	Other species, Removal by Laborers	Acres	4	$45.00	1	$180.00	Laborer; 0.25 acre/hour; 5% of total property per year. Cal-IPC high and moderate risk species.	**Formula:** Total Cost = (5% total acres/ac per hour) * (labor cost per hour) * (frequency).
Erosion Control	Materials	Acres	1	$600.00	1	$600.00	Gravel bags (250 @ $1/bag), fiber rolls and stakes (12 @ $28/roll), silt fencing (500 ft @$25/100 ft roll) = $600/acre per 5 years, 1% property.	**Formula:** Total Cost = 5% total acres * cost per acre * no. treatments in 5 year period.
Erosion Control/ Road Maintenance	Labor	Acres	5	$45.00	1	$1,800.00	Laborer; 8 labor hours per acre; 5% of property per 5 years	**Formula:** Total Cost = (5% total acres)* (8 labor hours/acre) * labor cost per hour * no. treatments in 5 year period.
Trash Removal	Trash Hauling	Acres	4	$100.00	0.33	$132.00	$100/acre every 3 years for 5% of total property	**Formula:** 1% total acres * cost per acre * frequency
Habitat Management - all tasks	Supervision by qualified biologist	L. Hours	5	$160	1	$800.00	A qualified biologist will monitor management activities in areas occupied by, or suitable for, listed species.	**Formula:** Total Cost = (number of hours) *(labor cost per hour) * (frequency).
SUBTOTAL BIOLOGICAL MANAGEMENT						***$2,763.20***		

Plan/Reporting

	Specification	Unit	No. Units	Labor Rate	Frequency	Total Cost	Assumptions	Comments
Land Manager	Annual Reporting and Coordination	L. Hours	10	$100.00	1	$1,000.00	Preparation of annual report, to include threats assessment, work plan, budget plan, and status of endowment.	**Formula:** Hours * labor rate * frequency
Land Manager	Update management plan	L. Hours	10	$100.00	1	$1,000.00	Using results from general condition monitoring and invasive species mapping, update management plan. Will include threats assessment, prioritization, and work plan. Update annually.	**Formula:** Hours * labor rate * frequency
GIS Specialist	GIS Database Management and reporting	L. Hours	4	$90.00	1	$360.00	Data management and produce figures for annual report.	**Formula:** Hours * labor rate * frequency
SUBTOTAL REPORTING						***$2,360.00***		

TOTAL	$6,360.11

Contingencies/ Administration

	Total costs	% of Total				Total Cost	Assumptions	Comments
Contingencies	$6,360.11	10				$636.01		
Administrative Overhead	$6,360.11	15				$954.02	Accountants, technical, clerical, contract managers, lawyers, etc.	
SUBTOTAL CONTINGENCIES/ADMINISTRATION						***$1,590.03***		

GRAND TOTAL	**$7,950.13**	
ENDOWMENT NEEDED	**$397,506.72**	Assume 5% return on investment and 3.0% inflation yearly

El Capitan Start Up Costs (First Five Years)

* Acreage for parcel is exclusive of substation

Facilities Maintenance/Access Control

	Specification	Unit	No. Units	Cost/Unit	Frequency (for 5 years)	Total 5-Yr Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Sign - initial installation	Boundary 8" x 13.5	Item	10	$15.00	1	$150.00	$30.00	Average cost for signs. Sign types: boundary, regulations, habitat restoration. One-time cost for initial installation (5 signs).	
Sign - replacement	Boundary 8" x 13.5	Item	2	$15.00	4	$120.00	$24.00	Average cost for signs. Sign types: boundary, regulations, habitat restoration. Replacement of 20% annually for the remaining 4 years	
SUBTOTAL CAPITAL IMPROVEMENTS						***$270.00***	***$54.00***		

Biological Inventory (Baseline Surveys)

	Specification	Unit	No. Units	Labor rate	Frequency (for 5 years)	Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Land Manager	General condition monitoring and wildlife habitat assessment	Acres	381.4	$100.00	5	$19,070.00	$3,814.00	One visit annually to identify threats to habitat and species (comprehensive). 100 acres/day; 10 hour days (=10 acres/hour)	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (number of surveys in 5 year period).
Plant Ecologist	Mapping of vegetation communities and invasive species; habitat assessment	Acres	381.4	$90.00	5	$49,037.14	$9,807.43	Baseline mapping of vegetation communities and invasive species; assessment of eagle nesting and foraging habitat; to be conducted concurrently; 3.5 acres/hour. Once during the start-up.	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (number of surveys in 5 year period).
Botanist	Lakeside Ceanothus	L. Hours	30	$90.00	2	$5,400.00	$1,080.00	Monitoring for known populations will be conducted two times during the start up period to assess the condition of the property, level of seedling recruitment, threats to the populations, and condition of the surrounding habitat. Surveys are expected to take approximately 30 hours.	**Formula:** Total Cost = (Total number of hours) * (labor cost per hour) * (number of surveys in 5 year period).
Surveyor	Data entry, analysis and reporting	N/A	N/A	N/A	N/A	$18,376.79	$3,675.36	(25%) * (total survey effort)	**Formula:** 25% of time spent for (general condition monitoring; mapping, and species surveys)
SUBTOTAL BIOLOGICAL MONITORING						***$91,883.93***	***$18,376.79***		

Habitat/Land Management

	Specification	Unit	No. Units	Labor rate	Frequency (for 5 years)	Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Exotic Plant Control	Difficult to remove species (palms, Eucalyptus trees, artichoke thistle)	Crew day	1	$1,600.00	5	$8,000.00	$1,600.00	$1,600 per crew day (5 laborers/crew, $64/ hour labor cost; plus equipment cost); One crew day per year. Mowing, herbicide treatment, hand removal, debris removal, etc. Annual treatment first 5 years.	**Formula:** Total Cost = (crew days) * (labor cost per crew day) * (no. treatments in 5 year period).
Exotic Plant Control	Other species, labor	Acres	19	$45.00	5	$17,100.00	$3,420.00	Laborer; 0.25 acre/hour; 5% of total property per year; total property acreage 381.4. Cal-IPC high and moderate risk species.	**Formula:** Total Cost = (5% total acres/ac per hour) * (labor cost per hour) * (no. treatments in 5 year period).
Erosion Control	Materials	Acres	4	$600.00	1	$2,400.00	$480.00	Gravel bags (250 @ $1/bag), fiber rolls and stakes (12 @ $28/roll), silt fencing (500 ft @$25/100 ft roll) = $600/acre per 5 years, 1% property.	**Formula:** Total Cost = 1% total acres * cost per acre * no. treatments in 5 year period.
Erosion Control/	Labor	Acres	19	$45.00	5	$34,200.00	$6,840.00	Laborer; 8 labor hours per acre; 5% of property per 5 years	**Formula:** Total Cost = (5% total acres)* (8 labor hours/acre) * labor
Habitat Remediation	Minor habitat enhancement due to erosion, unauthorized access, etc.	Linear Ft.	4	$300	1	$1,200.00	$240.00	$300/acre; 1% property per 5 years (eg. minor habitat remediation may include seeding with native seeds, raking, soil preparation, etc.).	**Formula:** Total Cost = (1% total acres/acres per hr) * (cost per hr) * no. treatments in 5 year period.
Habitat Management - all tasks	Supervision by qualified biologist	L. Hours	10	$160.00	5	$8,000.00	$1,600.00	A qualified biologist will monitor management activities in areas occupied by, or suitable for, listed species.	**Formula:** Total Cost = (number of hours) *(labor cost per hour) * (annually for 5 year period).
SUBTOTAL BIOLOGICAL MANAGEMENT						***$70,900.00***	***$14,180.00***		

Plan/Reporting

	Specification	Unit	No. Units	Labor rate	Quantity (for 5 years)	Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Land Manager	Annual Reporting and Coordination	L. Hours	20	$100.00	5	$10,000.00	$2,000.00	Preparation of annual report, to include threats assessment, work plan, budget plan, and status of endowment.	**Formula:** Hours * labor rate * frequency.
Land Manager	Prepare and update management plan	L. Hours	40	$100.00	3	$12,000.00	$2,400.00	Using results from general condition monitoring and invasive species mapping, prepare and update management plan. Will include threats assessment, prioritization, and work plan. Assumes plan completed in year 3 and updated in years 4 and 5. Some interim land management will occur in years 1 and 2.	**Formula:** (hrs to create plan * labor rate * (frequency).
GIS Specialist	GIS Database Management and reporting	L. Hours	8	$90.00	5	$3,600.00	$720.00	Data management and produce figures for annual report.	**Formula:** Hours * labor rate * frequency.
SUBTOTAL REPORTING						***$25,600.00***	***$5,120.00***		

TOTAL	$188,653.93	$37,730.79

Contingencies/ Administration	Total costs	% of Total				Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Contingencies	$188,653.93	10				$18,865.39	$3,773.08		
Administrative Overhead	$188,653.93	15				$28,298.09	$5,659.62	Accountants, technical, clerical, contract managers, lawyers, etc.	
SUBTOTAL CONTINGENCIES/ADMINISTRATION						***$47,163.48***	***$9,432.70***		

	Total Cost	Annual Cost (Total divided by 5 Yrs)	
GRAND TOTAL	**$235,817.41**	**$47,163.48**	

El Capitan Annual Cost In-Perpetuity

Facilities Maintenance/Access Control

	Specification	Unit	No. Units	Cost/Unit	Quantity	Total Annual Cost	Assumptions	Comments
Sign	Boundary 8" x 13.5	Item	2	$15.00	1	$30.00	Average cost for signs. Signs types: boundary, regulations, habitat restoration. Aprox. Five signs per property. Replacement at 20% per year or 2 sign per year.	
SUBTOTAL CAPITAL IMPROVEMENTS						***$30.00***		

Biological Monitoring

Note: in general, these estimates do not include travel time or field prep

	Specification	Unit	No. Units	Cost/Unit	Frequency	Total Cost	Assumptions	Comments
Land Manager	General condition monitoring and wildlife habitat assessment	Acres	381.4	$100.00	1	$3,814.00	One visit annually to identify threats to habitat and species (comprehensive). Total acreage = 381.4 ac.; 100 acres/day; 10 hour days (=10 acres/hour)	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (number of surveys in 5 yr period).
Plant Ecologist	Update mapping of vegetation communities and invasive species; habitat assessments	Acres	381.4	$90.00	0.33	$3,236.45	Revise mapping of vegetation communities and assessment of eagle nesting and foraging habitat; 3.5 acres/hour. Once every 3 years.	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (frequency).
Surveyors	Data entry, analysis and reporting	N/A	N/A	N/A	N/A	$1,762.61	(25%) * Data entry and reporting effort estimated at aproximately 25% of the total survey effort required for the property.	**Formula:** 25% of time spent for (general condition monitoring; mapping, and species surveys)
SUBTOTAL BIOLOGICAL MONITORING						***$8,813.06***		

Habitat/Land Management

	Specification	Unit	No. Units	Labor Rate	Frequency	Total Cost	Assumptions	Comments
Exotic Plant Control	Difficult to remove species (palms, Eucalyptus trees, artichoke thistle)	Acres	1	$1,600.00	1	$800.00	$1,600 per crew day (5 laborers/crew, $64/ hour labor cost; plus equipment cost); one crew day per treatment area. Mowing, herbicide treatment, hand removal, debris removal, etc. Treatment every other year.	**Formula:** Total Cost = (Crew days) * (labor cost per crew day) * (frequency).
Erosion Control	Materials	Acres	4	$600.00	1	$2,400.00	Gravel bags (250 @ $1/bag), fiber rolls and stakes (12 @ $28/roll), silt fencing (500 ft @$25/100 ft roll) = $600/acre per 5 years, 1% property.	**Formula:** Total Cost = 1% total acres * cost per acre * no. treatments in 5 year period.
Erosion Control/ Road Maintenance	Labor	Acres	19	$45.00	1	$6,840.00	Laborer; 8 labor hours per acre; 5% of property per 5 years	**Formula:** Total Cost = (5% total acres)* (8 labor hours/acre) * labor cost per hour * no. treatments in 5 year period.
Habitat Management - all tasks	Supervision by qualified biologist	L. Hours	5	$160	1	$800.00	A qualified biologist will monitor management activities in areas occupied by, or suitable for, listed species.	**Formula:** Total Cost = (number of hours) *(labor cost per hour) * (annually for 5 year period).
SUBTOTAL BIOLOGICAL MANAGEMENT						***$10,840.00***		

Plan/Reporting

	Specification	Unit	No. Units	Labor Rate	Frequency	Total Cost	Assumptions	Comments
Land Manager	Annual Reporting and Coordination	L. Hours	10	$100.00	1	$1,000.00	Preparation of annual report, to include threats assessment, work plan, budget plan, and status of endowment.	**Formula:** Hours * labor rate * frequency.
Land Manager	Update management plan	L. Hours	20	$100.00	1	$2,000.00	Using results from general condition monitoring and invasive species mapping, update management plan. Will include threats assessment, prioritization, and work plan. Update annually.	**Formula:** (hrs to create plan *(labor rate) * (frequency).
GIS Specialist	GIS Database Management and reporting	L. Hours	4	$90.00	1	$360.00	Data management and produce figures for annual report.	**Formula:** Hours * labor rate * frequency.
SUBTOTAL REPORTING						***$3,360.00***		

TOTAL	$23,043.06

Contingencies/ Administration

	Total costs	% of Total				Total Cost	Assumptions	Comments
Contingencies	$23,043.06	10				$2,304.31		
Administrative Overhead	$23,043.06	15				$3,456.46	Accountants, technical, clerical, contract managers, lawyers, etc.	
SUBTOTAL CONTINGENCIES/ADMINISTRATION						***$5,760.77***		

GRAND TOTAL	**$28,803.83**	
ENDOWMENT NEEDED	**$1,440,191.52**	Assume 5% return on investment and 3.0% inflation yearly

Chocolate Canyon Start Up Costs (First Five Years)

* Acreage for parcel is exclusive of substation

Facilities Maintenance/Access Control

	Specification	Unit	No. Units	Cost/Unit	Frequency (for 5 years)	Total 5-Yr Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Vehicle Barrier	Concrete Bollards	Item	4	$75.00	1	$300.00	$60.00	Targeted for access points into the preserve. 4 bollards per gate	
Gates	16 ft. Swinging Arm	Item	1	$5,000.00	1	$5,000.00	$1,000.00	Targeted for access points into the preserve.	
Sign - initial installation	Boundary 8" x 13.5	Item	15	$15.00	1	$225.00	$45.00	Average cost for signs. Sign types: boundary, regulations, habitat restoration. One-time cost for initial installation.	
Sign - replacement	Boundary 8" x 13.5	Item	3	$15.00	4	$180.00	$36.00	Average cost for signs. Sign types: boundary, regulations, habitat restoration. Replacement of 20% annually for the remaining 4 years (3 sign per year).	
SUBTOTAL CAPITAL IMPROVEMENTS						***$5,705.00***	***$1,141.00***		

Biological Baseline Surveys and Monitoring

	Specification	Unit	No. Units	Labor rate	Frequency (for 5 years)	Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Land Manager	General condition monitoring and wildlife habitat assessment	Acres	95	$100.00	5	$4,750.00	$950.00	One visit annually to identify threats to habitat and species (comprehensive). Total acreage = 95.47 ac.; 100 acres/day; 10 hour days (=10 acres/hour)	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (number of surveys in 5 year period).
Plant Ecologist	Mapping of vegetation communities and invasive species; habitat assessments	Acres	95	$90.00	5	$14,250.00	$2,850.00	Baseline mapping of vegetation communities and invasive species; habitat assessment for CAGN, LBV and SWFL; all to be conducted concurrently; 3 acres/hour	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (number of surveys in 5 year period).
Ornithologist	SWF + LBV	Acres	14	$90.00	9	$3,780.00	$756.00	Surveys every 3 years; 3 visits/survey; 3 acres/hr; calculated for suitable habitat only. The inventory will include identifying threats to mitigated species, including cowbirds, starlings and ravens.	**Formula:** Total Cost = acres of habitat/acres per hour) * (labor cost per hour) * (number of visits per survey * survey frequency).
Surveyor	Data entry, analysis and reporting	N/A	N/A	N/A	N/A	$5,695.00	$1,139.00	(25%) * (total survey effort)	**Formula:** 25% of time spent for (general condition monitoring; mapping, and species surveys)
SUBTOTAL BIOLOGICAL MONITORING						***$28,475.00***	***$5,695.00***		

Habitat/Land Management

* or cost per unit

	Specification	Unit	No. Units	Labor rate*	Frequency (for 5 years)	Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Exotic Plant Control	Difficult to remove species (palms, Eucalyptus trees, artichoke thistle)	Acres	10	$64.00	5	$3,200.00	$640.00	25 acres/crew day; $1,600 per crew day (5 laborers/crew, $64/ hour labor cost; plus equipment cost); 10% of total property per year. Mowing, herbicide treatment, hand removal, debris removal, etc. Yearly treatment first 5 years.	**Formula:** Total Cost = (10% total acres/25 ac per crew day) * (labor cost per crew day) * (no. treatments in 5 year period).
Exotic Plant Control	Other species, labor	Acres	10	$45.00	5	$9,000.00	$1,800.00	Laborer; 0.25 ac/hr; 10% of total property per year. Cal-IPC high and moderate risk species.	**Formula:** Total Cost = (10% total acres/ac per hour) * (labor cost per hour) * (no. treatments in 5 year period).
Erosion Control	Materials	Acres	5	$600.00	1	$3,000.00	$600.00	Gravel bags (250 @ $1/bag), fiber rolls and stakes (12 @ $28/roll), silt fencing (500 ft @$25/100 ft roll) = $600/acre per 5 years, 5% property.	**Formula:** Total Cost = 5% total acres * cost per acre * no. treatments in 5 year period.
Erosion Control/ Road Maintenance	Labor	Acres	5	$45.00	5	$9,000.00	$1,800.00	Laborer; 8 labor hrs/acre; 5% of property per 5 years	**Formula:** Total Cost = (5% total acres)*8 hrs/ac * labor cost * no. treatments in 5 year period.
Trash Removal	Trash Hauling-load	Acres	5	$100	1	$500.00	$100.00	$100/acre every 5 years for 5% of total property	**Formula:** 5% total acres * cost per acre * frequency
Habitat Remediation	Minor habitat enhancement due to erosion, unauthorized access, etc.	Linear Ft.	5	$300	1	$306.00	$61.20	$300; 5% of total property per 5 years (eg. minor habitat remediation may include seeding with native seeds, raking, soil preparation, etc.). Preparation of a restoration plan and project management is not included in this cost.	**Formula:** Total Cost = (5% total acres/acres per hr) * (cost per hr) * no. treatments in 5 year period.
Habitat Management - all tasks	Supervision by qualified biologist	L. Hours	5	$160.00	5	$4,000.00	$800.00	A qualified biologist will monitor management activities in areas occupied by, or suitable for, listed species.	**Formula:** Total Cost = (number of hours) *(labor cost per hour) * (annually for 5 year period).
SUBTOTAL BIOLOGICAL MANAGEMENT						***$29,006.00***	***$5,801.20***		

Plan/Reporting

	Specification	Unit	No. Units	Labor rate	Quantity (for 5 years)	Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Land Manager	Annual Reporting and Coordination	L. Hours	20	$100.00	5	$10,000.00	$2,000.00	Preparation of annual report, to include threats assessment, work plan, budget plan, and status of endowment.	**Formula:** total hours * labor rate * frequency
Land Manager	Prepare and update management plan	L. Hours	30	$100.00	3	$9,000.00	$1,800.00	Using results from general condition monitoring and invasive species mapping, prepare and update management plan. Will include threats assessment, prioritization, and work plan. Assumes plan completed in year 3 and updated in years 4 and 5. Some interim land management will occur in years 1 and 2.	**Formula:** (hrs to creat plan * labor rate * frequency.
GIS Specialist	GIS Database Management and reporting	L. Hours	8	$90.00	5	$3,600.00	$720.00	Data management and produce figures for annual report.	**Formula:** total hours * labor rate * frequency
SUBTOTAL REPORTING						***$22,600.00***	***$4,520.00***		

TOTAL	$85,786.00	$17,157.20

Contingencies/ Administration

	Total costs	% of Total				Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Contingencies	$85,786.00	10				$8,578.60	$1,715.72		
Administrative Overhead	$85,786.00	15				$12,867.90	$2,573.58	Accountants, technical, clerical, contract managers, lawyers, etc.	
SUBTOTAL CONTINGENCIES/ADMINISTRATION						***$21,446.50***	***$4,289.30***		

	Total Cost	Annual Cost (Total divided by 5 Yrs)
GRAND TOTAL	**$107,232.50**	**$21,446.50**

Chocolate Canyon Annual Cost In-Perpetuity

Facilities Maintenance/Access Control

	Specification	Unit	No. Units	Cost/Unit	Quantity	Total Annual Cost	Assumptions	Comments
Vehicle Barrier	Concrete Bollards	Linear Ft.	4	$75.00	0.1	$30.00	Targeted for access points into the preserve. 3 bollards per gate. To be replaced every 10 years.	
Gates	16 ft. Swinging Arm	Item	1	$5,000.00	0.05	$250.00	Targeted for access points into the preserve. To be replaced every 20 years.	
Sign	Boundary 8" x 13.5	Item	3	$15.00	1	$45.00	Average cost for signs. Signs types: boundary, regulations, habitat restoration. Aprox. Five signs per property. Replacement at 20% per year or 3 signs per year.	
SUBTOTAL CAPITAL IMPROVEMENTS						***$325.00***		

Biological Monitoring

Note: in general, these estimates do not include travel time or field prep

	Specification	Unit	No. Units	Cost/Unit	Frequency	Total Cost	Assumptions	Comments
Land Manager	General condition monitoring and wildlife habitat assesssment	Acres	76	$100.00	1	$760.00	One visit annually to identify threats to habitat and species (comprehensive). Total acreage = 95.47 ac.; 100 acres/day; 10 hour days (=10 acres/hour)	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (frequency).
Plant Ecologist	Update vegetation communities and invasive species mapping	Acres	76	$90.00	0.33	$300.96	update mapping of vegetation communities and invasive species; 7.5 acres/hour. Once every three years.	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (frequency).
Ornithologist	SWF + LBV	Acres	14	$90.00	1	$420.00	Surveys every 3 years. 3 visits/survey; 3 acres/hr; calculated for CSS only. The inventory will include identifying threats to mitigated species, including cowbirds, starlings and ravens.	**Formula:** Total Cost = acres of habitat/acres per hour) * (labor cost per hour) * (number of visits per survey * survey frequency), where frequency = 3 visits every 3 years (3 * 0.33)
Surveyor	Data entry, analysis and reporting	N/A	N/A	N/A	N/A	$370.24	(25%) * Data entry and reporting effort estimated at aproximately 25% of the total survey effort required for the property.	**Formula:** 25% of time spent for (general condition monitoring; mapping, and species surveys)
SUBTOTAL BIOLOGICAL MONITORING						***$1,851.20***		

Habitat/Land Management

	Specification	Unit	No. Units	Labor Rate	Frequency	Total Cost	Assumptions	
Exotic Plant Control	Difficult to remove species (palms, Eucalyptus trees, artichoke thistle)	Acres	10	$64.00	0.20	$128.00	25 acres/crew day; $1,600 per crew day (5 laborers/crew, $64/ hour labor cost; plus equipment cost); 10% of total property per year. Mowing, herbicide treatment, hand removal, debris removal, etc. Treatment every 5 yrs.	**Formula:** Total Cost = (10% total acres/25 ac per crew day) * (labor cost per crew day) * (frequency).
Exotic Plant Control	Other species, Removal by Laborers	Acres	5	$45.00	1	$900.00	Laborer; 0.25 acre/hour; 5% of total property per year. Cal-IPC high and moderate risk species.	**Formula:** Total Cost = (5% total acres/ac per hour) * (labor cost per hour) * (frequency).
Erosion Control	Materials	Acres	1	$600.00	1	$600.00	Gravel bags (250 @ $1/bag), fiber rolls and stakes (12 @ $28/roll), silt fencing (500 ft @$25/100 ft roll) = $600/acre per 5 years, 1% property.	**Formula:** Total Cost = 1% total acres * cost per acre * frequency.
Erosion Control/ Road Maintenance	Labor	Acres	5	$45.00	1	$1,800.00	Laborer; 8 labor hrs/ac; 5% of property per 5 years	**Formula:** Total Cost = (5% total acresr) * 8 hrs/ac* labor cost per acre * frequency
Trash Removal	Trash Hauling	Acres	5	$100.00	1	$500.00	$100/acre annually for 5% of total property	**Formula:** 5% total acres * cost per acre * frequency
Habitat Remediation	Minor habitat enhancement due to erosion, unauthorized access, etc.	Acre	5	$300.00	0.20	$305.20	$300/acre; 5% of total property per 5 years (eg. minor habitat remediation may include seeding with native seeds, raking, soil preparation, etc.). Preparation of a restoration plan and project management is not included in this cost.	**Formula:** Total Cost = (5% total acres/acres per hr) * (cost per hr) * frequency
Habitat Management - all tasks	Supervision by qualified biologist	L. Hours	5	$160	1	$800.00	A qualified biologist will monitor management activities in areas occupied by, or suitable for, listed species.	**Formula:** Total Cost = (number of hours) *(labor cost per hour) * (frequency).
SUBTOTAL BIOLOGICAL MANAGEMENT						***$5,033.20***		

Plan/Reporting

	Specification	Unit	No. Units	Labor Rate	Frequency	Total Cost	Assumptions	Comments
Land Manager	Annual Reporting and Coordination	L. Hours	10	$100.00	1	$1,000.00		**Formula:** total hours * labor rate * frequency
Land Manager	Update management plan	L. Hours	10	$100.00	1	$1,000.00	Using results from general condition monitoring and invasive species mapping, update management plan. Will include threats assessment, prioritization, and work plan. Update annually.	**Formula:** total hrs * labor rate * frequency
GIS Specialist	GIS Database Management and reporting	L. Hours	4	$90.00	1	$360.00		**Formula:** total hours * labor rate * frequency
SUBTOTAL REPORTING						***$2,360.00***		

TOTAL	$9,569.40

Contingencies/ Administration

	Total costs	% of Total				Total Cost	Assumptions	Comments
Contingencies	$9,569.40	10				$956.94		
Administrative Overhead	$9,569.40	15				$1,435.41	Accountants, technical, clerical, contract managers, lawyers, etc.	
SUBTOTAL CONTINGENCIES/ADMINISTRATION						***$2,392.35***		

GRAND TOTAL	**$11,961.75**

ENDOWMENT NEEDED	**$598,087.50**	Assume 5% return on investment and 3.0% inflation yearly

Lightner Start Up Costs (First Five Years)

* Acreage for parcel is exclusive of substation

Facilities Maintenance/Access Control

	Specification	Unit	No. Units	Cost/Unit	Frequency (for 5 years)	Total 5-Yr Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Fencing	Smooth strand wire or chain link	Linear Ft.	100	$15.00	1	$1,500.00	$300.00	initial installation of 100 linear feet	
Vehicle Barrier	Concrete Bollards	Item	4	$75.00	1	$300.00	$60.00	Targeted for access points into the preserve. 4 bollards per gate	
Gates	16 ft. Swinging Arm	Item	1	$5,000.00	1	$5,000.00	$1,000.00	Targeted for access points into the preserve.	
Sign - initial installation	Boundary 8" x 13.5	Item	10	$15.00	1	$150.00	$30.00	Average cost for signs. Sign types: boundary, regulations, habitat restoration. One-time cost for initial installation (10 signs).	
Sign - replacement	Boundary 8" x 13.5	Item	2	$15.00	4	$120.00	$24.00	Average cost for signs. Sign types: boundary, regulations, habitat restoration. Replacement of 20% annually for the remaining 4 years.	
SUBTOTAL CAPITAL IMPROVEMENTS						***$7,070.00***	***$1,414.00***		

Biological Inventory (Baseline Surveys)

	Specification	Unit	No. Units	Labor rate	Frequency (for 5 years)	Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Land Manager	General condition monitoring and wildlife habitat assessment	Acres	705.86	$100.00	5	$35,293.00	$7,058.60	One visit annually to identify threats to habitat and species (comprehensive). 100 acres/day; 10 hour days (=10 acres/hour)	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (number of surveys in 5 year period).
Plant Ecologist	Vegetation communities and Invasive species mapping	Acres	705.86	$90.00	5	$42,351.60	$8,470.32	Baseline mapping of vegetation communities and invasive species; 7.5 acres/hour; to be updated annually	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (number of surveys in 5 year period).
Botanist	Felt-leaved monardella	L. Hours	10	$90.00	2	$1,800.00	$360.00	Survey populations of felt-leaved monardella in two locations twice during start-up period; assess the condition of the population and surrounding habitat. Estimated time: 10 hours, including travel.	
Entomologist	Quino checkerspot/hermes butterflies	Acres	22.5	$90.00	3	$18,225.00	$3,645.00	Surveys for Quino and Hermes butterflies will be conducted by walking transects during 5 weekly visit; 3 hrs per visit; every other year	**Formula:** Total Cost = (total acres) * (labor cost per hour) * hrs/visit* (number of survey visits in 5 year period).
Surveyors	Data entry, analysis and reporting	N/A	N/A	N/A	N/A	$24,417.40	$4,883.48	(25%) * (total survey effort)	**Formula:** 25% of time spent for (general condition monitoring; mapping, and species surveys)
SUBTOTAL BIOLOGICAL MONITORING						***$122,087.00***	***$24,417.40***		

Habitat/Land Management

* or cost per unit

	Specification	Unit	No. Units	Labor rate*	Frequency (for 5 years)	Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Exotic Plant Control	Difficult to remove species (palms, Eucalyptus trees, artichoke thistle)	Acres	35	$64.00	5	$11,200.00	$2,240.00	25 acres/crew day; $1,600 per crew day (5 laborers/crew, $64/ hour labor cost; plus equipment cost); 5% of total property. Mowing, herbicide treatment, hand removal, debris removal, etc. Yearly treatment first 5 years.	**Formula:** Total Cost = (5% total acres/25 ac per crew day) * (labor cost per crew day) * (no. treatments in 5 year period).
Exotic Plant Control	Other species, labor	Acres	35	$45.00	5	$31,500.00	$6,300.00	$45/hour for each laborer; 0.25 acre/hour; 5% of total property per year. Cal-IPC high and moderate risk species.	**Formula:** Total Cost = (5% total acres/0.25 ac per hour) * (labor cost per hour) * (no. treatments in 5 year period).
Erosion Control	Materials	Acres	14	$600.00	1	$8,400.00	$1,680.00	Gravel bags (250 @ $1/bag), fiber rolls and stakes (12 @ $28/roll), silt fencing (500 ft @$25/100 ft roll) = $600/acre per 5 years, 2% property.	**Formula:** Total Cost = 2% total acres * cost per acre * no. treatments in 5 year period.
Erosion Control/ Road Maintenance	Labor	Acres	35	$45.00	5	$63,000.00	$12,600.00	$45/hour for each laborer; 8 labor hours/acre; 5% of property per 5 years	**Formula:** Total Cost = (5% total acres/acres per hr) * labor cost per acre * no. treatments in 5 year period.
Trash Removal	Trash Hauling-load	Acres	7	$100	1	$700.00	$140.00	$100/acre every 5 years for 1% of total property	**Formula:** 1% total acres * cost per acre * frequency
Habitat Remediation	Minor habitat restoration of decommissioned roads and degraded areas.	Acres	14	$1,000	1	$14,000.00	$2,800.00	$1000/acre; 2% of total property per 5 years (eg. minor habitat remediation may include soil decompacting, seeding with native seeds by hand or imprinting, raking, soil preparation, etc.). Includes labor cost and materials. Preparation of a restoration plan and project management is not included in this cost.	**Formula:** Total Cost = (2% total acresr) * (cost per acre) * no. treatments in 5 year period.
Habitat Management - all tasks	Supervision by qualified biologist	L. Hours	10	$160.00	5	$8,000.00	$1,600.00	A qualified biologist will monitor management activities in areas occupied by, or suitable for, listed species. Approximately 10 hours annually.	**Formula:** Total Cost = (number of hours) *(labor cost per hour) * (annually for 5 year period).
SUBTOTAL BIOLOGICAL MANAGEMENT						***$136,800.00***	***$27,360.00***		

Plan/Reporting

	Specification	Unit	No. Units	Labor rate	Quantity (for 5 years)	Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Land Manager	Annual Reporting and Coordination	L. Hours	20	$100.00	5	$10,000.00	$2,000.00	Preparation of annual report, to include threats assessment, work plan, budget plan, and status of endowment.	**Formula:** hrs to prepare report * labor rate * frequency
Land Manager	Prepare and update management plan	L. Hours	40	$100.00	3	$12,000.00	$2,400.00	Using results from general condition monitoring and invasive species mapping, prepare and update management plan. Will include threats assessment, prioritization, and work plan. Assumes plan completed in year 3 and updated in years 4 and 5. Some interim land management will occur in years 1 and 2.	**Formula:** hrs to prepare plan * labor rate * frequency
GIS Specialist	GIS Database Management and reporting	L. Hours	8	$90.00	5	$3,600.00	$720.00	Data management and produce figures for annual report.	**Formula:** hrs required for GIS work * labor rate * frequency
SUBTOTAL REPORTING						***$25,600.00***	***$5,120.00***		

TOTAL	$291,557.00	$58,311.40

Contingencies/ Administration

	Total costs	% of Total				Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Contingencies	$291,557.00	10				$29,155.70	$5,831.14		
Administrative Overhead	$291,557.00	15				$43,733.55	$8,746.71	Accountants, technical, clerical, contract managers, lawyers, etc.	
SUBTOTAL CONTINGENCIES/ADMINISTRATION						***$72,889.25***	***$14,577.85***		

	Total Cost	Annual Cost (Total divided by 5 Yrs)
GRAND TOTAL	**$364,446.25**	**$72,889.25**

Lightner Annual Cost In-Perpetuity

Facilities Maintenance/Access Control

	Specification	Unit	No. Units	Cost/Unit	Quantity	Total Annual Cost	Assumptions	Comments
Fencing	Smooth strand wire or chain link	Linear Ft.	10	$15.00	1	$150.00	Annual replacement of 10% of fencing installed during start-up (100)	
Vehicle Barrier	Concrete Bollards	Linear Ft.	4	$75.00	0.1	$30.00	maintenance incudes replacement every 10 years	
Gates	16 ft. Swinging Arm	Item	1	$5,000.00	0.05	$250.00	Targeted for access points into the preserve. To be replaced every 20 years.	
Sign	Boundary 8" x 13.5	Item	2	$15.00	1	$30.00	Average cost for signs. Signs types: boundary, regulations, habitat restoration. Aprox. Five signs per property. Replacement at 20% per year.	**Formula:** Total Cost = (total number of signs per property) * (cost per sign) * (number of years installation is needed)
SUBTOTAL CAPITAL IMPROVEMENTS						***$460.00***		

Biological Monitoring

Note: in general, these estimates do not include travel time or field prep

	Specification	Unit	No. Units	Cost/Unit	Frequency	Total Cost	Assumptions	Comments
Land Manager	General condition monitoring and wildlife habitat assessment	Acres	705.86	$100.00	1	$7,058.60	One visit annually to identify threats to habitat and species (comprehensive). 100 acres/day; 10 hour days (=10 acres/hour)	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (frequency).
Plant Ecologist	Update of vegetation communities and Invasive species mapping	Acres	705.86	$90.00	0.33	$2,795.21	Update mapping of vegetation communities and invasive species every three years; 7.5 acres/hour.	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (frequency).
Entomologist	Quino checkerspot/cermes butterflies	Acres	22.5	$90.00	0.33	$2,004.75	Surveys for Quino and Hermes butterflies will be conducted by walking transects during 5 weekly visits. 3 hrs/visit; every three	**Formula:** Total Cost = (total acres) * (labor cost per hour) * hrs/survey*(number of survey visits in 5 year period).
Land Manager	Data entry, analysis and reporting	N/A	N/A	N/A	N/A	$2,964.64	(25%) * Data entry and reporting effort estimated at aproximately 25% of the total survey effort required for the property.	**Formula:** 25% of time spent for (general condition monitoring; mapping, and species surveys)
SUBTOTAL BIOLOGICAL MONITORING						***$14,823.19***		

Habitat/Land Management

	Specification	Unit	No. Units	Labor Rate	Frequency	Total Cost	Assumptions	
Exotic Plant Control	Difficult to remove species (palms, Eucalyptus trees, artichoke thistle)	Acres	7	$64.00	0.33	$147.84	25 acres/crew day; $1,600 per crew day (5 laborers/crew, $64/ hour labor cost; plus equipment cost); 1% of total property. Mowing, herbicide treatment, hand removal, debris removal, etc. Treatment every 3 yrs.	**Formula:** Total Cost = (1% total acres/25 ac per crew day) * (labor cost per crew day) * (frequency).
Exotic Plant Control	Other species, Removal by Laborers	Acres	7	$45.00	1	$315.00	$45/hour for each laborer; 1 acre/hour; 1% of total property per year. Cal-IPC high and moderate risk species.	**Formula:** Total Cost = (1% total acres/1 ac per hour) * (labor cost per hour) * (frequency).
Erosion Control	Materials	Acres	7	$600.00	0.33	$1,386.00	Gravel bags (250 @ $1/bag), fiber rolls and stakes (12 @ $28/roll), silt fencing (500 ft @$25/100 ft roll) = $600/acre per 5 years, 1% property every 3 years.	**Formula:** Total Cost = 1% total acres * cost per acre * frequency.
Erosion Control/ Road Maintenance	Labor	Acres	35	$45.00	1	$1,575.00	$45/hour for each laborer; 5 acres/hour; 5% of property annually	**Formula:** Total Cost = (5% total acres/acres per hr) * labor cost per acre * frequency
Trash Removal	Trash Hauling	Acres	7	$100.00	1	$700.00	$100/acre annually for 1% of total property annually	**Formula:** 1% total acres * cost per acre * frequency
Habitat Remediation	Minor restoration due to erosion, unauthorized access, etc.	Acre	7	$300.00	0.33	$307.33	$300/acre; 1% of total property per 3 years (eg. minor habitat remediation may include seeding with native seeds, raking, soil preparation, etc.). Preparation of a restoration plan and project management is not included in this cost.	**Formula:** Total Cost = (1% total acres) * cost/acre* frequency
Habitat Management - all tasks	Supervision by qualified biologist	L. Hours	10	$160	1	$1,600.00	A qualified biologist will monitor management activities in areas occupied by, or suitable for, listed species. Approximately 10 hours annually.	**Formula:** Total Cost = (number of hours) *(labor cost per hour) * (frequency).
SUBTOTAL BIOLOGICAL MANAGEMENT						***$6,031.17***		

Plan/Reporting

	Specification	Unit	No. Units	Labor Rate	Frequency	Total Cost	Assumptions	Comments
Preserve Manager	Annual Reporting and Coordination	L. Hours	10	$100.00	1	$1,000.00	Preparation of annual report, to include threats assessment, work plan, budget plan, and status of endowment.	**Formula:** hrs to update report * labor rate * frequency
Land Manager	Update management plan	L. Hours	20	$100.00	1	$1,000.00	Using results from general condition monitoring and invasive species mapping, prepare and update management plan. Will include threats assessment, prioritization, and work plan. Every other year.	**Formula:** hrs to update plan * labor rate * frequency
GIS Specialist	GIS Database Management and reporting	L. Hours	4	$90.00	1	$360.00	Data management and produce figures for annual report.	**Formula:** hrs required for GIS work * labor rate * frequency
SUBTOTAL REPORTING						***$2,360.00***		

TOTAL	$23,674.36

Contingencies/ Administration

	Total costs	% of Total				Total Cost	Assumptions	Comments
Contingencies	$23,674.36	10				$2,367.44		
Administrative Overhead	$23,674.36	15				$3,551.15	Accountants, technical, clerical, contract managers, lawyers, etc.	
SUBTOTAL CONTINGENCIES/ADMINISTRATION						***$5,918.59***		

GRAND TOTAL	**$29,592.96**

ENDOWMENT NEEDED	**$1,479,647.78**	Assume 5% return on investment and 3.0% inflation yearly

Long Potrero Start Up Costs (First Five Years)

* Acreage for parcel is exclusive of substation

Facilities Maintenance/Access Control

	Specification	Unit	No. Units	Cost/Unit	Frequency (for 5 years)	Total 5-Yr Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Fencing	Smooth strand wire or chain link	Linear Ft.	450	$15.00	1	$6,750.00	$1,350.00	Cost per year estimated at approximately 1% of the total perimeter of the property	**Formula:** Total Cost = (total perimeter * 1%) * (cost per linear foot)* (number of years installation is needed)
Sign - initial installation	Boundary 8" x 13.5	Item	20	$15.00	1	$300.00	$60.00	Average cost for signs. Sign types: boundary, regulations, habitat restoration. One-time cost for initial installation (10 signs).	
Sign - replacement	Boundary 8" x 13.5	Item	4	$15.00	4	$240.00	$48.00	Average cost for signs. Sign types: boundary, regulations, habitat restoration. Replacement of 20% annually for the remaining 4 years.	**Formula:** Total Cost = (20% total number of signs per property) * (cost per sign) * (number of years installation is needed)
SUBTOTAL CAPITAL IMPROVEMENTS						***$7,290.00***	***$1,458.00***		

Biological Inventory (Baseline Surveys)

	Specification	Unit	No. Units	Labor rate	Frequency (for 5 years)	Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Land Manager	General condition monitoring and wildlife habitat assessment	Acres	1212	$100.00	5	$60,600.00	$12,120.00	One visit annually to identify threats to habitat and species (comprehensive). Total acreage = 393.4ac.; 100 acres/day; 10 hour days (=10 acres/hour)	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (number of surveys in 5 year period).
Plant Ecologist	Vegetation communities and Invasive species mapping	Acres	1212	$90.00	5	$72,720.00	$14,544.00	Baseline mapping of vegetation communities and invasive species; to be conducted concurrently; 7.5 acres/hour	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (number of surveys in 5 year period).
Entomologist	Quino Checkerspot	Acres	197	$90.00	10	$11,820.00	$2,364.00	Every three years to include weekly site visits for 5 weeks (5 visits) ; 15 acres/hour. Acreage based on upland scrub and grassland habitats. **This acreage will drop if a habitat assesment is conducted to determine suitable habitat .**	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (frequency)
Herpetologist	Arroyo toad	Acres	25	$90.00	6	$5,400.00	$1,080.00	One survey every three years; 3 visits/survey; Acreage based on non-vegetated channel habitat; 2.5 acres/hr.	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (number of visits in a 5 year period)
Surveyors	Data entry, analysis and reporting	N/A	N/A	N/A	N/A	$37,635.00	$7,527.00	(25%) * (total survey effort)	**Formula:** 25% of time spent for (general condition monitoring; mapping, and species surveys)
SUBTOTAL BIOLOGICAL MONITORING						***$188,175.00***	***$37,635.00***		

Habitat/Land Management

* or cost per unit

	Specification	Unit	No. Units	Labor rate*	Frequency (for 5 years)	Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Exotic Plant Control	Difficult to remove species (palms, Eucalyptus trees, artichoke thistle)	Acres	36	$64.00	5	$11,520.00	$2,304.00	25 acres/crew day; $1,600 per crew day (5 laborers/crew, $64/ hour labor cost; plus equipment cost); 3% of total property per year. Mowing, herbicide treatment, hand removal, debris removal, etc. Yearly treatment first 5 years.	**Formula:** Total Cost = (3% total acres/25 ac per crew day) * (labor cost per crew day) * (no. treatments in 5 year period).
Exotic Plant Control	Other species, labor	Acres	60	$45.00	5	$54,000.00	$10,800.00	Laborer; 0.25 acre/hour; 5% of total property per year. Cal-IPC high and moderate risk species.	**Formula:** Total Cost = (5% total acres/ac per hour) * (labor cost per hour) * (no. treatments in 5 year period).
Erosion Control	Materials	Acres	12	$600.00	5	$36,000.00	$7,200.00	Gravel bags (250 @ $1/bag), fiber rolls and stakes (12 @ $28/roll), silt fencing (500 ft @$25/100 ft roll) = $600/acre per 5 years, 1% property.	**Formula:** Total Cost = 1% total acres * cost per acre * no. treatments in 5 year period.
Erosion Control/ Road Maintenance	Labor	Acres	60	$45.00	5	$13,500.00	$2,700.00	Laborer; 8 labor hrs/acre; 5% of property per 5 years	**Formula:** Total Cost = (5% total acres/acres per hr) * labor cost per acre * hrs/acre*no. treatments in 5 year period.
Habitat Remediation	Minor restoration due to decommissioned roads, erosion, etc.	Linear Ft.	60	$1,000	1	$60,000.00	$12,000.00	$1000/acre; 5% of total property per 5 years (eg. minor habitat remediation may include decompacting, seeding by hand or imprinter, raking, soil preparation, etc.). Preparation of a restoration plan and project management is not included in this cost.	**Formula:** Total Cost = (acres/acres per hr) * (cost per hr) * no. treatments in 5 year period.
Habitat Management - all tasks	Supervision by qualified biologist	L. Hours	10	$160.00	5	$8,000.00	$1,600.00	A qualified biologist will monitor management activities in areas occupied by, or suitable for, listed species	**Formula:** Total Cost = (number of hours) *(labor cost per hour) * (annually for 5 year period).
SUBTOTAL BIOLOGICAL MANAGEMENT						***$183,020.00***	***$36,604.00***		

Plan/Reporting

	Specification	Unit	No. Units	Labor rate	Quantity (for 5 years)	Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Land Manager	Annual Reporting and Coordination	L. Hours	40	$100.00	5	$20,000.00	$4,000.00	Preparation of annual report, to include threats assessment, work plan, budget plan, and status of endowment.	**Formula:** (hrs to prepare report) * labor rate * (frequency)
Land Manager	Prepare and update management plan	L. Hours	60	$100.00	3	$18,000.00	$3,600.00	Using results from general condition monitoring and invasive species mapping, prepare/update management plan. Will include threats assessment, prioritization, and work plan. Assumes plan completed in year 3 and updated in years 4 and 5. Some interim land management will occur in years 1 and 2.	**Formula:** (hrs to prepare plan) * labor rate * (frequency)
GIS Specialist	GIS Database Management	L. Hours	12	$90.00	5	$5,400.00	$1,080.00	Data management and produce figures for annual report.	**Formula:** Hrs to conduct GIS work* labor rate * (frequency)
SUBTOTAL REPORTING						***$43,400.00***	***$8,680.00***		

TOTAL	$421,885.00	$84,377.00

Contingencies/ Administration

	Total costs	% of Total				Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Contingencies	$421,885.00	10				$42,188.50	$8,437.70		
Administrative Overhead	$421,885.00	15				$63,282.75	$12,656.55	Accountants, technical, clerical, contract managers, lawyers, etc.	
SUBTOTAL CONTINGENCIES/ADMINISTRATION						***$105,471.25***	***$21,094.25***		

	Total Cost	Annual Cost (Total divided by 5 Yrs)	
GRAND TOTAL	**$527,356.25**	**$105,471.25**	

Long Potrero Annual Cost In-Perpetuity

Facilities Maintenance/Access Control

	Specification	Unit	No. Units	Cost/Unit	Quantity	Total Annual Cost	Assumptions	Comments
Fencing	Smooth strand wire or chain link	Linear Ft.	45	$15.00	1	$675.00	Annual replacement of 10% of fencing installed during start-up	**Formula:** Total Cost = (total perimeter * 1%) * (cost per linear foot)* (number of years installation is needed)
Sign	Boundary 8" x 13.5	Item	4	$15.00	1	$60.00	Average cost for signs. Signs types: boundary, regulations, habitat restoration. Aprox. Replacement at 20% per year.	**Formula:** Total Cost = (20% total number of signs per property) * (cost per sign) * (number of years installation is needed)
SUBTOTAL CAPITAL IMPROVEMENTS						***$735.00***		

Biological Monitoring

Note: in general, these estimates do not include travel time or field prep

	Specification	Unit	No. Units	Cost/Unit	Frequency	Total Cost	Assumptions	Comments
Land Manager	General condition monitoring and wildlife habitat assessment	Acres	1212	$100.00	1	$12,120.00	One visit annually to identify threats to habitat and species (comprehensive). Total acreage = 393.4 ac.; 100 acres/day; 10 hour days (=10 acres/hour)	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (frequency).
Plant Ecologist	Uupdate of vegetation communities and Invasive species mapping	Acres	1212	$90.00	0.33	$4,799.52	Revise mapping for invasive species and vegetation communities every 3 years; 7.5 acres/hour	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (frequency).
Entomologist	Quino Checkerspot	Acres	197	$90.00	1.65	$1,950.30	Every three years to include weekly site visits for 5 weeks (5 visits) ; 15 acres/hour. Acreage based on upland scrub and grassland habitats. **This acreage will drop if a habitat assesment is conducted to determine suitable habitat .**	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (frequency), where freqency = 5 visits every three years (5*0.33)
Herpetologist	Arroyo toad	Acres	25	$90.00	0.99	$891.00	One survey every three years; 3 visits/survey; Acreage based on no nvegetated channel habitat; 5 acres/hr.	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (frequency), where frequency = 3 visits every three years (3*.33)
Surveyors	Data entry, and analysis	N/A	N/A	N/A	N/A	$4,565.21	25% of the total survey effort required for the property.	**Formula:** 25% of time spent for (general condition monitoring; mapping, and species surveys)
SUBTOTAL BIOLOGICAL MONITORING						***$24,326.03***		

Habitat/Land Management

	Specification	Unit	No. Units	Labor Rate	Frequency	Total Cost	Assumptions	
Exotic Plant Control	Difficult to remove species (palms, Eucalyptus trees, artichoke thistle)	Acres	36	$64.00	1	$2,304.00	25 acres/crew day; $1,600 per crew day (5 laborers/crew, $64/ hour labor cost; plus equipment cost); 3% of total property per year; Mowing, herbicide treatment, hand removal, debris removal, etc. Treatment every yr.	**Formula:** Total Cost = (3% total acres/25 ac per crew day) * (labor cost per crew day) * (frequency).
Exotic Plant Control	Other species, Removal by Laborers	Acres	60	$45.00	1	$10,800.00	Laborer 0.25 acre/hour; 5% of total property per year. Cal-IPC high and moderate risk species.	**Formula:** Total Cost = (5% total acres/0.25ac per hour) * (labor cost per hour) * (frequency).
Erosion Control	Materials	Acres	12	$600.00	0.2	$1,440.00	Gravel bags (250 @ $1/bag), fiber rolls and stakes (12 @ $28/roll), silt fencing (500 ft @$25/100 ft roll) = $600/acre per 5 years, 1% property.	**Formula:** Total Cost = 1% total acres * cost per acre * frequency.
Erosion Control/ Road Maintenance	Labor	Acres	60	$45.00	1	$2,700.00	Laborer; 8 hrs/acre; 5% of property per 5 years	**Formula:** Total Cost = (5% total acres/acres per hr) * labor cost per acre * hrss/ac*frequency
Trash Removal	Trash Hauling	Acres	12	$100.00	1	$1,200.00	$100/acre annually for 1% of total property	**Formula:** 1% total acres * cost per acre * frequency
Habitat Remediation	Minor restoration due to erosion, unauthorized access, etc.	Acre	60	$300.00	0.20	$3,600.00	$300/acre; 5% of total property per 5 years (eg. minor habitat remediation may include seeding with native seeds, raking, soil preparation, etc.). Preparation of a restoration plan and project management is not included in this cost.	**Formula:** Total Cost = (acres/acres per hr) * (cost per hr) * frequency
Habitat Management - all tasks	Supervision by qualified biologist	L. Hours	10	$160	1	$1,600.00	A qualified biologist will monitor management activities in areas occupied by, or suitable for, listed species.	**Formula:** Total Cost = (number of hours) *(labor cost per hour) * (frequency).
SUBTOTAL BIOLOGICAL MANAGEMENT						***$23,644.00***		

Plan/Reporting

	Specification	Unit	No. Units	Labor Rate	Frequency	Total Cost	Assumptions	Comments
Land Manager	Annual Reporting and Coordination	L. Hours	10	$100.00	1	$1,000.00	Preparation of annual report, to include threats assessment, work plan, budget plan, and status of endowment.	**Formula:** (hrs to prepare report) * labor rate * (frequency)
Land Manager	Update management plan	L. Hours	30	$100.00	1	$1,500.00	Using results from general condition monitoring and invasive species mapping, update management plan. Will include threats assessment, prioritization, and work plan. Update annually.	**Formula:** (hrs to prepare plan) * labor rate * (frequency)
GIS Specialist	GIS Database Management and reporting	L. Hours	14	$90.00	1	$1,260.00	Data management and produce figures for annual report.	**Formula:** Hrs to conduct GIS work* labor rate * (frequency)
SUBTOTAL REPORTING						***$3,760.00***		

TOTAL	$52,465.03

Contingencies/ Administration

	Total costs	% of Total				Total Cost	Assumptions	Comments
Contingencies	$52,465.03	10				$5,246.50		
Administrative Overhead	$52,465.03	15				$7,869.75	Accountants, technical, clerical, contract managers, lawyers, etc.	
SUBTOTAL CONTINGENCIES/ADMINISTRATION						***$13,116.26***		

GRAND TOTAL	**$65,581.28**	
ENDOWMENT NEEDED	**$3,279,064.06**	Assume 5% return on investment and 3.0% inflation yearly

Suckle Start Up Costs (First Five Years)

* Acreage for parcel is exclusive of substation

Facilities Maintenance/Access Control

	Specification	Unit	No. Units	Cost/Unit	Frequency (for 5 years)	Total 5-Yr Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Vehicle Barrier	Concrete Bollards	Item	8	$75.00	1	$600.00	$120.00	Targeted for access points into the preserve. 4 bollards per gate	
Gates	16 ft. Swinging Arm	Item	2	$5,000.00	1	$10,000.00	$2,000.00	Targeted for access points into the preserve.	
Sign - initial installation	Boundary 8" x 13.5	Item	10	$15.00	1	$150.00	$30.00	Average cost for signs. Sign types: boundary, regulations, habitat restoration. One-time cost for initial installation (10 signs).	
Sign - replacement	Boundary 8" x 13.5	Item	2	$15.00	4	$120.00	$24.00	Average cost for signs. Sign types: boundary, regulations, habitat restoration. Replacement of 20% annually for the remaining 4 years	**Formula:** Total Cost = (20% total number of signs per property) * (cost per sign) * (number of years installation is needed)
SUBTOTAL CAPITAL IMPROVEMENTS						***$10,870.00***	***$2,174.00***		

Biological Inventory (Baseline Surveys)

	Specification	Unit	No. Units	Labor rate	Frequency (for 5 years)	Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Land Manager	General condition monitoring and wildlife assessment	Acres	199.4	$100.00	5	$9,970.00	$1,994.00	One visit annually to identify threats to habitat and species (comprehensive). 100 acres/day; 10 hour days (=10 acres/hour)	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (number of surveys in 5 year period).
Plant Ecologist	Update of vegetation communities and invasive species mapping	Acres	199.4	$90.00	5	$11,964.00	$2,392.80	Baseline mapping of vegetation communities and invasive species; to be conducted concurrently; 7.5 acres/hour	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (number of surveys in 5 year period).
Herpetologist	Barefoot banded gecko	Acres	20	$90.00	20	$14,400.00	$2,880.00	Baseline surveys: annually for 5 years. 4 visits/year May 1 - July 31. Assume 10% of property surveyed per year @ 2.5 acres per hour. Annual habitat assessments will be conducted during vegetation communities surveys	**Formula:** Total Cost = (habitat acres/acres per hour) * (labor cost per hour) * (number of visits in 5 year period).
Mammalogist	Peninsular bighorn sheep	L. Hours	16	$90.00	5	$7,200.00	$1,440.00	1 survey locations, 2 times per year, 4 hours per location plus 2 hours travel time; to be conducted annually. Annual habitat assessments will be conducted during vegetation communities surveys.	**Formula:** Hours/year * labor rate
Surveyors	Data entry, analysis and reporting	N/A	N/A	N/A	N/A	$10,883.50	$2,176.70	(25%) * (total survey effort)	**Formula:** 25% of time spent for (general condition monitoring; mapping, and species surveys)
SUBTOTAL BIOLOGICAL MONITORING						***$54,417.50***	***$10,883.50***		

Habitat /Land Management

* or cost per unit

	Specification	Unit	No. Units	Labor rate*	Frequency (for 5 years)	Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Exotic Plant Control	Other species, labor	Acres	10	$45.00	5	$9,000.00	$1,800.00	Laborer; 0.25 acre/hour; 5% of total property annually. Cal-IPC high and moderate risk species.	**Formula:** Total Cost = (5% total acres/ac per hour) * (labor cost per hour) * (no. treatments in 5 year period).
Erosion Control	Materials	Acres	2	$600.00	5	$6,000.00	$1,200.00	Gravel bags (250 @ $1/bag), fiber rolls and stakes (12 @ $28/roll), silt fencing (500 ft @$25/100 ft roll) = $600/acre per 5 years, 1% property.	**Formula:** Total Cost = 1% total acres * cost per acre * no. treatments in 5 year period.
Erosion Control/ Road Maintenance	Labor	Acres	10	$45.00	5	$2,250.00	$450.00	Laborer; 8 labor hrs/acre; 5% of property per 5 years	**Formula:** Total Cost = (5% total acres) * 8 labor hrs/acre* labor cost per acre * no. treatments in 5 year period.
Trash Removal	Trash Hauling-load	Acres	10	$100	1	$1,000.00	$200.00	$100/acre every 1 years for 5% of total property	**Formula:** 5% total acres * cost per acre * frequency
Habitat Remediation	Minor habitat enhancement	Acres	10	$300	3	$9,000.00	$1,800.00	$300/acre; 5% of total property every other year. (eg. may include maintenance of water sources for BHS etc.). Preparation of a restoration plan and project management is not included in this cost.	**Formula:** Total Cost = (5% total acres) * (cost per acrer) * no. treatments in 5 year period.
Habitat Management - all tasks	Supervision by qualified biologist	L. Hours	5	$160.00	5	$4,000.00	$800.00	A qualified biologist will monitor management activities in areas occupied by or suitable for listed species. Approximately 5 hours annually.	**Formula:** Total Cost = (number of hours) *(labor cost per hour) * (annually for 5 year period).
SUBTOTAL BIOLOGICAL MANAGEMENT						***$31,250.00***	***$6,250.00***		

Plan/Reporting

	Specification	Unit	No. Units	Labor rate	Quantity (for 5 years)	Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Land Manager	Annual Reporting and Coordination	L. Hours	20	$100.00	5	$10,000.00	$2,000.00	Preparation of annual report, to include threats assessment, work plan, budget plan, and status of endowment.	**Formula:** hrs to update report * labor rate * frequency
Land Manager	Prepare and update management plan	L. Hours	30	$100.00	3	$9,000.00	$1,800.00	Using results from general condition monitoring and invasive species mapping, prepare and update management plan. Will include threats assessment, prioritization, and work plan. Assumes plan completed in year 3 and updated in years 4 and 5. Some interim land management will occur in years 1 and 2.	**Formula:** hrs to update plan * labor rate * frequency
GIS Specialist	GIS Database Management and reporting	L. Hours	8	$90.00	5	$3,600.00	$720.00	Data management and produce figures and maps for annual report and management plan.	**Formula:** hrs to conduct GIS work * labor rate * frequency
SUBTOTAL REPORTING						***$22,600.00***	***$4,520.00***		

TOTAL	$119,137.50	$23,827.50

Contingencies/ Administration

	Total costs	% of Total				Total Cost	Annual Cost (Total divided by 5 Yrs)	Assumptions	Comments
Contingencies	$119,137.50	10				$11,913.75	$2,382.75		
Administrative Overhead	$119,137.50	15				$17,870.63	$3,574.13	Accountants, technical, clerical, contract managers, lawyers, etc.	
SUBTOTAL CONTINGENCIES/ADMINISTRATION						***$29,784.38***	***$5,956.88***		

	Total Cost	Annual Cost (Total divided by 5 Yrs)	
GRAND TOTAL	**$148,921.88**	**$29,784.38**	

Suckle Annual Cost In-Perpetuity

Facilities Maintenance/Access Control

	Specification	Unit	No. Units	Cost/Unit	Quantity	Total Annual Cost	Assumptions	Comments
Vehicle Barrier	Concrete Bollards	Linear Ft.	8	$75.00	0.1	$60.00	Targeted for access points into the preserve. 4 bollards per gate. To be replaced every 10 years.	
Gates	16 ft. Swinging Arm	Item	2	$5,000.00	0.05	$500.00	Targeted for access points into the preserve. To be replaced every 20 years.	
Sign	Boundary 8" x 13.5	Item	2	$15.00	1	$30.00	Average cost for signs. Signs types: boundary, regulations, habitat restoration. Aprox. Replacement at 20% per year	**Formula:** Total Cost = (20% total number of signs per property) * (cost per sign) * (number of years installation is needed)
SUBTOTAL CAPITAL IMPROVEMENTS						***$590.00***		

Biological Monitoring

Note: in general, these estimates do not include travel time or field prep

	Specification	Unit	No. Units	Cost/Unit	Frequency	Total Cost	Assumptions	Comments
Land Manager	General condition monitoring and wildlife habitat assessment	Acres	199.4	$100.00	1	$1,994.00	One visit annually to identify threats to habitat and species (comprehensive). Total acreage = 705.86 ac.; 100 acres/day; 10 hour days (=10 acres/hour)	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (frequency).
Plant Ecologist	Update of vegetation communities and Invasive species mapping	Acres	199.4	$90.00	0.33	$789.62	Baseline mapping of vegetation communities and invasive species (general) to be conducted concurrently; 7.5 acres/hour. Once every three years.	**Formula:** Total Cost = (total acres/acres per hour) * (labor cost per hour) * (frequency).
Herpetologist	Barefoot banded gecko	Acres	20	$90.00	1.3	$936.00	Baseline surveys: every three years. 4 visits/ysurvey May 1 - July 31. Assume 10% of property surveyed per year @ 2.5 acres per hour. Annual habitat assessments will be conducted during vegetation communities surveys	**Formula:** Total Cost = (habitat acres/acres per hour) * (labor cost per hour) * (number of visits annually).
Mammalogist	Peninsular bighorn sheep	L. Hours	16	$90.00	1	$1,440.00	1 survey locations, 2 times per year, 4 hours per location plus 2 hours travel time; to be conducted annually. Annual habitat assessments will be conducted during vegetation communities surveys.	**Formula:** Hours/year * labor rate
Surveyors	Data entry, and analysis	N/A	N/A	N/A	N/A	$1,289.91	25% of the total survey effort required for the property.	**Formula:** 25% of time spent for (general condition monitoring; mapping, and species surveys)
SUBTOTAL BIOLOGICAL MONITORING						***$6,449.53***		

Habitat/Land Management

	Specification	Unit	No. Units	Labor Rate	Frequency	Total Cost	Assumptions	
Exotic Plant Control	Difficult to remove species (palms, Eucalyptus trees, artichoke thistle)	Acres	0	$64.00	0.00	$0.00	25 acres/crew day; $1,600 per crew day (5 laborers/crew, $64/ hour labor cost; plus equipment cost); 5% of total property per year, total property acreage 705.86. Mowing, herbicide treatment, hand removal, debris removal, etc. Treatment every 5 yrs.	
Exotic Plant Control	Other species, Removal by Laborers	Acres	10	$45.00	1	$1,800.00	Laborer; 0.25 acre/hour; 5% of total property per year. Cal-IPC high and moderate risk species.	**Formula:** Total Cost = (5% total acres/ac per hour) * (labor cost per hour) * (frequency).
Erosion Control	Materials	Acres	2	$600.00	1	$1,200.00	Gravel bags (250 @ $1/bag), fiber rolls and stakes (12 @ $28/roll), silt fencing (500 ft @$25/100 ft roll) = $600/acre per 5 years, 1% property.	
Erosion Control/ Road Maintenance	Labor	Acres	10	$45.00	1	$450.00		
Trash Removal	Trash Hauling	Acres	2	$100.00	1	$200.00	$100/acre annually for 5% of total property	**Formula:** 1% total acres * cost per acre * frequency
Habitat Remediation	Minor habitat enhancement	Acre	2	$300.00	1	$600.00	$300/acre; 1% of total property per annually (eg. minor habitat remediation and maintenance of water sources for BHS etc.).	**Formula:** Total Cost = (1% total acre) * (cost per acre) * frequency
Habitat Management - all tasks	Supervision by qualified biologist	L. Hours	5	$160	1	$800.00	A qualified biologist will monitor management activities in areas occupied by or suitable for listed species. Approximately 5 hours annually.	**Formula:** Total Cost = (number of hours) *(labor cost per hour) * (frequency).
SUBTOTAL BIOLOGICAL MANAGEMENT						***$5,050.00***		

Plan/Reporting

	Specification	Unit	No. Units	Labor Rate	Frequency	Total Cost	Assumptions	Comments
Land Manager	Annual Reporting and Coordination	L. Hours	10	$199.00	1.00	$1,990.00	Preparation of annual report, to include threats assessment, work plan, budget plan, and status of endowment.	**Formula:** hrs to update report * labor rate * frequency
Land Manager	Update management plan	L. Hours	10	$100.00	1.0	$1,000.00	Using results from general condition monitoring and invasive species mapping, update management plan. Will include threats assessment, prioritization, and work plan. Update annually.	**Formula:** hrs to update plan * labor rate * frequency
GIS Specialist	GIS Database Management and reporting	L. Hours	5	$90.00	1.00	$450.00	Data management and produce figures and maps for annual report and management plan.	**Formula:** hrs to conduct GIS work * labor rate * frequency
SUBTOTAL REPORTING						***$3,440.00***		

TOTAL	$15,529.53

Contingencies/ Administration

	Total costs	% of Total				Total Cost	Assumptions	Comments
Contingencies	$15,529.53	10				$1,552.95		
Administrative Overhead	$15,529.53	15				$2,329.43	Accountants, technical, clerical, contract managers, lawyers, etc.	
SUBTOTAL CONTINGENCIES/ADMINISTRATION						***$3,882.38***		

GRAND TOTAL	**$19,411.91**	
ENDOWMENT NEEDED	**$970,595.63**	Assume 5% return on investment and 3.0% inflation yearly

PART 4

PROPERTY LEGAL DESCRIPTIONS

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Nabi

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Lakeside Ranch

To be inserted

EXHIBIT "A"

All that certain real property situated in the County of San Diego, State of California, described as follows:

Lots 3 and 4 and the North half of the Northwest Quarter of Fractional Section 8, Township 15 South, Range 1 East, San Bernardino Base and Meridian, in the County of San Diego, State of California, according to the Official Plat thereof, more particularly described as follows:

Beginning at the Northwest corner of said Fractional Section 8 as shown on County of San Diego Tract No. 3702-2, according to the Map thereof No. 10202 on file in the Office of the County Recorder of said County, said Northwest corner also being a corner on the boundary of Lot 266 of said Map No.10202;
Thence Southwesterly along the Westerly line of said Fractional Sectional 8, also being the Easterly line of said Lot 266, to the Southeasterly corner of said Lot 266;
Thence continuing Southwesterly along said Westerly line of Fractional Section 8 to a point on the Northerly line of Rancho El Cajon, according to United States government Survey, said line also being the Southerly line of said Fractional Section 8;
Thence Northeasterly along said Rancho Boundary and said Southerly line to the Southeasterly corner of said Lot 3;
Thence Northerly along the Easterly line of said Lot 3 and the Easterly line of said North half of the Northwest Quarter to the Northerly line of said Fractional Section 8;
Thence Westerly along said Northerly line to the said Northwest corner of Fractional Section 8, said point being the point of beginning.

Assessor's Parcel Number: **391-030-09**

14763

Exhibit A

All that certain real property situated in the County of San Diego, State of California, described as follows:

Parcel 1:

The South one-half of the South-East Quarter, Tract 55, Section 36, Township 14 South, Range 1 East, San Bernardino Base and Meridian, in the County of San Diego, State of California, according to the Official Plat thereof.

Reserving to the State of California all oil, gas, oil shale, coal, phosphate, sodium, gold, silver and all other mineral deposits contained in said land, and further reserving to the State of California and persons authorized by the State, the right to drill for and extract such deposits of oil and gas, or gas, and to prospect for, mine and remove such deposits of other minerals from land to occupy and use so much of the surface of said land as may be required therefor, upon compliance with the conditions and subject to the provisions and limitations of Chapter 5, Part I, Division 6 of the Public Resources Code.

Parcel 2:

The North one-half of the South-East one-quarter of Tract 55, Section 36, Township 14 South, Range 1 East San Bernardino Base and Meridian Line and Meridian in the County of San Diego, State of California, according to the Official Plat thereof.

Reserving to the State of California all oil, gas, oil shale, coal, phosphate, sodium, gold, silver and all other mineral deposits contained in said land, and further reserving to the State of California and persons authorized by the State, the right to drill for and extract such deposits of oil and gas, or gas, and to prospect for, mine and remove such deposits of other minerals from land to occupy and use so much of the surface of said land as may be required therefor, upon compliance with the conditions and subject to the provisions and limitations of Chapter 5, Part I, Division 6 of the Public Resources Code.

Parcel 3:

The East one-half of the Southwest Quarter of Tract 55, Section 36 Township 14 Range 1 East, San Bernardino Base and Meridian, in the County of San Diego, State of California, according to the Official Plat thereof.

Reserving to the State of California all oil, gas, oil shale, coal, phosphate, sodium, gold, silver and all other mineral deposits contained in said land, and further reserving to the State of California and persons authorized by the State, the right to drill for and extract such deposits of oil and gas, or gas, and to prospect for, mine and remove such deposits of other minerals from land to occupy and use so much of the surface of said land as may be required therefor, upon compliance with the conditions and subject to the provisions and limitations of Chapter 5, Part I, Division 6 of the Public Resources Code.

Parcel 4:

The North East Quarter of Tract 55, Section 36, Township 14 South, Range 1 East, San Bernardino Base and Meridian, in the County of San Diego, State of California, according to the Official Plat thereof.

Reserving to the State of California all oil, gas, oil shale, coal, phosphate, sodium, gold, silver and all other mineral deposits contained in said land, and further reserving to the State of California and persons authorized by the State, the right to drill for and extract such deposits of oil and gas, or gas, and to prospect for, mine and remove such deposits of other minerals from land to occupy and use so much of the surface of said land as may be required therefor, upon compliance with the conditions and subject to the provisions and limitations of Chapter 5, Part I, Division 6 of the Public Resources Code.

Assessor's Parcel Nos.: 330-110-12; 330-110-13; 330-110-14 and 330-111-02

File No: 05724235

EXHIBIT "A"

All that certain real property situated in the County of San Diego, State of California, described as follows:

Parcel 1: 402-211-01

All that portion of the Northwest quarter of the Southwest quarter of Section 20, Township 15 South, Range 2 East, San Bernardino Meridian and that portion of the Northeast quarter of the Southeast quarter of Section 19, Township 15 South, Range 2 East, San Bernardino Meridian in the County of San Diego, State of California, according to the United States Government Survey, described as follows:

Beginning at station 12 plus 34.42 in the centerline of the 60 foot county road, as shown on the map thereof of Road Survey No. 836, on the file in the Office of the County Surveyor of the County of San Diego, State of California;
Thence North 61°53' west, 30 feet to a point on the Westerly line of said county road;
Thence North 50°12'30" west, 650 feet;
Thence South 33°24'15" west, 524.51 feet to the westerly line of said section 20, and the True Point of Beginning;
Thence continuing South 33°24'15" West, 137.95 feet;
Thence South 50°12'30" East, 352.28 feet to a point on the Northerly right-of-way line of California Interstate Route 8;
Thence Northwesterly along said right-of-way line to a point on the Northerly line of the Northeast quarter of the Southeast quarter of said Section 19, distant thereon South 89°32'37" West, 627.84 feet, along said Northerly line, from the East quarter corner of said Section 19;
Thence North 89°32'37" East, along said Northerly line, 627.84 feet to said quarter corner;
Thence South 03°26'05" East, 628.31 feet to the True Point of Beginning.

Parcel 1A:

A 40.00 foot wide strip of land lying within that portion of the Southeast quarter of Section 19, and of that portion of the Southwest quarter of Section 29, both in Township 15 South, Range 2 East, San Bernardino Meridian, according to the Official Plat thereof, the centerline of said 40.00 foot strip described as follows:

Beginning at the West quarter corner of said Section 20 as shown on Record of Survey Map No. 14076 on file in the Office of the County Recorder of San Diego County;
Thence along the Westerly line of said Section 20, South 03°26'05" East, 586.03 feet to the True Point of Beginning of said centerline being a point on the arc of a 30.00 foot radius curve, concave Southwesterly, the radial of which bears South 28°28'36" East;

File No: 05724235

Thence Southeasterly along the arc of said curve, through a central angle of 84°38'36" a distance of 44.32 feet;
Thence tangent to said curve South 33°50' East, 32.77 feet to the beginning of a tangent 100.00 foot radius curve, concave southwesterly;
Thence Southeasterly along the arc of said curve through a central angle 22°20', a distance of 38.98 feet;
Thence tangent to said curve South 11°30'East, 85.43 feet to the beginning of a tangent 30.00 foot radius curve, concave Northerly;
Thence Easterly along the arc of said curve through a central angle of 127°30', a distance of 66.76 feet;
Thence tangent to said curve North 41° East, 36.88 feet to the beginning of a tangent 35.00 foot radius curve, concave Southerly;
Thence Northeasterly along the arc of said curve through a central angle of 88°50' a distance of 54.27 feet;
Thence tangent to said curve South 50°10' East, 154.54 feet to the beginning of a tangent 200.00 foot radius curve, concave Northeasterly;
Thence Easterly along the arc of said curve through a central angle of 20°30' a distance of 71.56 feet;
Thence tangent to said curve South 70°39'59" East, 43.55 feet to the beginning of a tangent 115.00 foot radius curve, concave Southwesterly;
Thence easterly along the arc of said curve through a central angle of 20°, a distance of 40.14 feet;
Thence tangent to said curve South 50°40' East, 41.37 feet to the beginning of a tangent 60.00 foot radius curve, concave Northerly;
Thence Easterly along the arc of said curve through a central angle of 65°10' a distance of 68.24 feet;
Thence tangent to said curve South 64°10' East, along the centerline of an existing bridge, 61.02 feet to the beginning of a tangent 59.73 foot radius curve, concave Northwesterly;
Thence Northeasterly along the arc of said curve through a central angle of 41°30' a distance of 43.26 feet;
Thence tangent to said curve North 22°40' East 132.50 feet to the beginning of a tangent 400.00 foot radius curve, concave Easterly;
Thence Northerly along said curve through a central angle of 11°40' a distance of 81.45 feet;
Thence tangent to said curve North 34°19'57" East, 24.08 feet to the beginning of a tangent 35.00 foot radius curve, concave Southeasterly;
Thence Northeasterly along said curve through a central angle of 43°03'36" a distance of 26.30 feet to an intersection with the Northerly right-of-way line of Peutz Valley Road. The sidelines of said 40.00 foot strip to commence on a line bearing South 03°26'05" East from the Point of Beginning and the end of the Northerly right-of-way line of Peutz Valley Road.

File No: 05724235

Parcel 2: 402-220-11

All that portion of the Northwest quarter of the Southwest quarter of Section 20, Township 15 South, Range 2 East, San Bernardino Meridian and that portion of the Northeast quarter of the Southeast quarter of Section 19, Township 15 South, Range 2 East, San Bernardino Meridian in the County of San Diego, State of California, according to the United States Government Survey, described as follows:

Beginning at Station 12 Plus 34.42 in the centerline of the 60 foot county road, as shown on the map thereof of Road Survey No. 836, on file in the Office of the County Surveyor of the County of San Diego, State of California;
Thence North 61°53', West 30 feet to a point on the Westerly line of said county road, which is the True Point of Beginning;
Thence North 50°12'30" West, 650 feet;
Thence South 33°24'15" West, 662.50 feet;
Thence South 50°12'30" East, 352.38 feet to a point on the Northerly right-of-way line of California Interstate Route 8;
Thence Easterly along said right-of-way line South 63°28'37" East, 335.8 feet to a point on the Westerly line of said 60 foot county road;
Thence Northeasterly along the Westerly line of said 60 foot county road to the True Point of Beginning.

Parcel 3: 402-220-09 and 402-220-10

All that portion of the Northwest Quarter of the Southwest Quarter of Section 20, Township 15 South, Range 2 East, San Bernardino Base and Meridian, in the County of San Diego, State of California, according to United States Government Survey, described as follows:

Beginning at Station 12 plus 34.42, in the Centerline of the 60 foot County Road, as shown on the map thereof of Road Survey No. 836, on file in the Office of the County Surveyor of the County of San Diego, State of California;
Thence North 61° 53' West, 30 feet to a point on the Westerly line of said County Road, which is the True Point of Beginning;
Thence North 50° 12' 30" West, 650 feet;
Thence South 33° 24' 15" West, 524.51 feet to the Westerly line o said Section 20;
Thence Northerly along said Westerly line of said Section 20, North 03° 26' 05" West, 628.831 feet to the West Quarter Corner of said Section 20;
Thence Easterly along the Northerly line of the Southwest Quarter of said Section 20, South 89° 10' 41" East, 1093.95 feet to the Northwesterly boundary of afore mentioned Road Survey No. 836;
Thence Southwesterly along the Northwesterly boundary of said Road Survey 836 to the True Point of Beginning.

Assessor's Parcel Number: **402-211-01, 402-220-09, 402-220-10 402-220-11**

EXHIBIT "A"

All that certain real property situated in the County of San Diego, State of California, described as follows:

PARCEL 1:

THAT PORTION OF THE WEST HALF OF THE NORTHWEST QUARTER OF SECTION 20, TOWNSHIP 15 SOUTH, RANGE 2 EAST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO UNITED STATES GOVERNMENT SURVEY, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHWEST CORNER OF SAID SECTION 20; THENCE EASTERLY ALONG THE NORTH LINE OF SECTION 20 TO THE NORTHEAST CORNER OF THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 20; THENCE SOUTHERLY ALONG THE EAST LINE OF THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER, 1138 FEET; THENCE DEFLECTING TO THE RIGHT 66°30' 400 FEET; THENCE DEFLECTING TO THE RIGHT 33°00' TO A POINT ON THE WEST LINE OF SAID SECTION 20; THENCE NORTHERLY AlONG THE WEST LINE OF SAID SECTION 20, 1076 FEET, MORE OR LESS, TO THE POINT OF BEGINNING. EXCEPTING THEREFROM ALL COAL AND OTHER MINERALS AS RESERVED BY UNITED STATES OF AMERICA IN PATENT RECORDED MARCH 26, 1928 IN BOOK 15, PAGE 29 OF PATENTS, RECORDS OF SAN DIEGO COUNTY.

PARCEL 2:

AN EASEMENT AND RIGHT OF WAY FOR ROAD AND UTILITY PURPOSES OVER, UNDER, ALONG AND ACROSS A STRIP OF LAND 40 FEET IN WIDTH LYING WITHIN THE NORTHEAST QUARTER OF SECTION 19, TOWNSHIP 15 SOUTH, RANGE 2 EAST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE NORTH LINE OF THE SOUTHEAST QUARTER OF SAID NORTHEAST QUARTER, DISTANT THEREOF NORTH 87°25'55" WEST, 807.05 FEET (RECORD NORTH 87°47'11" WEST, 807.11 FEET) FROM THE NORTHEAST CORNER THEREOF, BEING THE SOUTHEASTERLY CORNER OF LAND DESCRIBED IN DEED TO JOHN FRANKLIN HEIN, RECORDED JUNE 13, 1977 AS FILE NO. 77-230444 OF OFFICIAL RECORDS; THENCE ALONG THE BOUNDARY OF SAID HEIN LAND NORTH 01°56'09" WEST (RECORD NORTH 2°17'25" WEST) 80.31 FEET; NORTH 67°03'10" WEST, 368.82 FEET. (RECORD 375.00 FEET) TO THE TRUE POINT OF BEGINNING; THENCE CONTINUING ALONG SAID HEIN BOUNDARY (DEED FILE NO. 77-230444) SOUTH 88°46'47" WEST 117.84 FEET; THENCE SOUTH 1°13'13" EAST 20.00 FEET; THENCE SOUTH 75°19'34" WEST TO A POINT OF INTERSECTION WITH A LINE THAT IS PARALLEL WITH AND 40 FEET, MEASURED AT RIGHT ANGLES FROM THAT NORTHERLY LINE OF SAID HEIN' S LAND, BEING BEARING SOUTH 88°46'47" WEST, DESCRIBED ABOVE; THENCE ALONG SAID PARALLEL LINE NORTH 88°46'47" EAST TO A LINE THAT BEARS SOUTH 67°03'10" EAST FROM THE TRUE POINT OF BEGINNING; THENCE NORTH 67°03'10" WEST TO THE TRUE POINT OF BEGINNING.

PARCEL 3:

AN EASEMENT AND RIGHT OF WAY FOR ROAD AND UTILITY PURPOSES OVER, UNDER, ALONG AND ACROSS A STRIP OF LAND 60 FEET IN WIDTH LYING WITHIN THE NORTHEAST

EXHIBIT "A" - Continued

QUARTER OF SECTION 19, TOWNSHIP 15 SOUTH, RANGE 2 EAST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF, THE CENTERLINE OF SAID 60 FOOT STRIP BEING DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST EASTERLY CORNER OF THAT LAND DESCRIBED IN DEED TO JOHN FRANKLIN HEIN, RECORDED JUNE 13, 1977 AS FILE NO. 77-230444 OF OFFICIAL RECORDS, SAID POINT BEING NORTH 87°25'55" WEST 807.05 FEET (DEED - NORTH 87°47'11" EAST 807.11 FEET) FROM THE SOUTHEAST CORNER OF THE NORTH HALF OF THE SAID NORTHEAST QUARTER; THENCE ALONG THE SOUTH LINE OF HEIN'S LAND NORTH 87°25'55" WEST, 32.13 FEET TO A POINT HEREIN DESIGNATED POINT "A"; THENCE RETRACING ALONG SAID SOUTH LINE OF HEIN' S LAND SOUTH 87°25'55'" EAST 32.13 FEET TO THE SOUTHEASTERLY CORNER OF HEIN' S LAND; THENCE ALONG THE EASTERLY AND NORTHERLY BOUNDARY OF SAID HEIN' S LAND NORTH 01°56'09" WEST (RECORD NORTH 2°17'25" WEST) 80.31 FEET, NORTH 67°03'10" WEST, 368.82 FEET (RECORD 375.00 FEET) AND SOUTH 88°46'47" WEST, (RECORD SOUTH 88°29'50" WEST) 75.00 FEET TO THE TRUE POINT OF BEGINNING OF THE HEREIN DESCRIBED CENTERLINE; THENCE SOUTH 67°03'10" EAST, ALONG A LINE THAT IS PARALLEL WITH AND 30 FEET MEASURED AT RIGHT ANGLES FROM THE NORTHEASTERLY BOUNDARY OF SAID HEIN LAND (SAID NORTHEASTERLY BOUNDARY BEING BEARING NORTH 67°03'10" WEST AS DESCRIBED ABOVE) 391.73 FEET TO A LINE THAT BEARS NORTH 18°25'55" WEST FROM SAID POINT "A"; THENCE SOUTH 18°25 '55" EAST 72.03 FEET, MORE OR LESS, TO SAID POINT "A"; THENCE CONTINUING SOUTH 18°25 '55" EAST 100 FEET TO THE BEGINNING OF A TANGENT 150 FOOT RADIUS CURVE, CONCAVE WESTERLY; THENCE SOUTHERLY ALONG THE ARC OF SAID CURVE THROUGH AN ANGLE OF 55°20'00", A DISTANCE OF 139.30 FEET TO THE BEGINNING OF A REVERSE 150 FOOT RADIUS CURVE, CONCAVE; THENCE SOUTHERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 47°00'00" A DISTANCE OF 119.63 FEET; THENCE TANGENT TO SAID CURVE SOUTH 10°05'55" EAST, 135 FEET TO THE BEGINNING OF A TANGENT 500 FOOT RADIUS CURVE, CONCAVE WESTERLY; THENCE SOUTHERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 34°00'00", A DISTANCE OF 292.37 FEET; THENCE TANGENT TO SAID CURVE SOUTH 23°54 '05" WEST 100 FEET, MORE OR LESS, TO A POINT OF INTERSECTION WITH A LINE THAT IS PARALLEL WITH AND 30 FEET NORTHEASTERLY MEASURED AT RIGHT ANGLES FROM THAT COURSE IN THE SOUTHWESTERLY BOUNDARY OF THE LAND DESCRIBED IN DEED TO JOHN FRANKLIN HEIN, ET AL, RECORDED NOVEMBER 22, 1976 AS FILE NO. 76-389904 OF OFFICIAL RECORDS, SAID COURSE IN THE SOUTHWESTERLY BOUNDARY BEING SOUTH 30°56'03" EAST 70.00 FEET FROM SAID POINT OF INTERSECTION AND PARALLEL WITH AND 30 FEET NORTHEASTERLY MEASURED AT RIGHT ANGLES FROM THE SOUTHWESTERLY BOUNDARY OF HEIN'S LAND (FILE NO. 76-389904) SOUTH 30°56'03" EAST 107.46 FOOT AND SOUTH 02°45'00" EAST 37.53 FOOT TO POINT OF TERMINUS.

THE SIDE LINES OF SAID 60 FOOT STRIP TO LENGTHEN OR SHORTEN NORTHERLY TO INTERSECT THE NORTHWESTERLY BOUNDARY OF HEIN'S LAND (FILE NO. 77-230444).

PARCEL 4:

AN EASEMENT AND RIGHT OF WAY FOR ROAD PURPOSES, 40.00 FOOT IN WIDTH, ACROSS AND THROUGH THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 19, AND THE NORTHWEST QUARTER OF SECTION 20, ALL IN TOWNSHIP 15 SOUTH, RANGE 2 EAST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, AS GRANTED TO THE CITY OF SAN DIEGO, JULY 27, 1932 IN BOOK 145, PAGE

EXHIBIT "A" - Continued

162 OF OFFICIAL RECORDS, THE CENTER LINE OF SAID 40.00 FOOT EASEMENT BEING DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE EASTERLY RIGHT OF WAY LINE OF EXISTING STATE HIGHWAY DIV. VII, ROUTE 12, SECTION C AS SHOWN ON PLAT OF SAID STATE HIGHWAY, APPROVED MARCH 8, 1920, SAID POINT BEING NORTH 81°55'45" EAST 147.24 FROM THE SOUTHWEST CORNER OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 19, TOWNSHIP 15 SOUTH, RANGE 2 EAST; THENCE NORTH 67°01'18" EAST 11.2 FEET; THENCE NORTH 3°18'18" EAST 143.8 FEET; THENCE NORTH 19° 15' EAST 72.0 FEET; THENCE NORTH 5°52' WEST 74.33 FEET; THENCE NORTH 38°00'42" WEST 38.0 FEET TO A POINT OF CURVATURE; THENCE ALONG A CURVE THE RIGHT, HAVING A RADIUS OF 30 FEET, FOR A DISTANCE OF 94.25 FEET ; THENCE SOUTH 38°00'42" EAST 52.69 FEET ; THENCE SOUTH 42°17'42" EAST 182.58 FEET; THENCE SOUTH 79°47'42" EAST 60.67 FEET; THENCE NORTH 61°36'18" EAST 122.10 FEET; THENCE NORTH 24°36'18" EAST 167.26 FEET; THENCE NORTH 71°9'18" EAST 202.13 FEET; THENCE NORTH 19°13'18" EAST 108.40 FEET; THENCE NORTH 26°46'42" WEST 39.67 FEET TO A POINT OF CURVATURE; THENCE ALONG A CURVE TO THE RIGHT, HAVING A RADIUS OF 40 FEET, FOR A DISTANCE OF 95.00 FEET; THENCE SOUTH 70°57'12" EAST 77.61 FEET; THENCE SOUTH 85°53'12" EAST 115.41 FEET; THENCE NORTH 56°32'48" EAST 220.03 FEET; THENCE NORTH 53°45'48" EAST 200.00 FEET; THENCE NORTH 43°03'48" EAST 148.74 FEET; THENCE SOUTH 83°46'12" EAST 208.86 FEET; THENCE NORTH 68°45'48" EAST 207.40 FEET; THENCE NORTH 32°10'48" EAST 180.00 FEET; THENCE NORTH 39°22'12" WEST 66.90 FEET; THENCE NORTH 57°7'12" WEST 63.60 FEET TO A POINT OF CURVATURE; THENCE ALONG A CURVE TO THE RIGHT WITH A RADIUS OF 40 FEET A DISTANCE OF 74.50 FEET; THENCE NORTH 49°57'18" EAST 425.00 FEET; THENCE SOUTH 88°3'28" EAST 134.54 FEET; THENCE NORTH 27°34'28" EAST 188.81 FEET; THENCE NORTH 57°33'18" EAST 30.24 FEET; THENCE NORTH 45°18'3" EAST 53.73 FEET; THENCE NORTH 6°11'13" EAST 114.66 FEET ; THENCE NORTH 42°21'53" EAST 159.00 FEET; THENCE NORTH 8°59'7" WEST 41.24 FEET; THENCE NORTH 51°29'53" EAST 167.39 FEET; THENCE NORTH 36°45'48" EAST 102.00 FEET ; THENCE NORTH 48°04'18" EAST 100.00 Ebb THENCE NORTH 59°22'48" EAST 102.00 FEET ; THENCE NORTH 40°43'48" EAST 78.24 FEET; THENCE NORTH 8°45'42" WEST 39.50 FEET; THENCE NORTH 55°55'42" WEST 74.01 TO A POINT OF CURVATURE; THENCE ALONG A CURVE TO THE RIGHT, WITH A RADIUS OF 30 FEET, FOR A DISTANCE OF 61.40 FEET ; THENCE NORTH 61°20 '18" EAST 110.91 FEET; THENCE NORTH 88°14'48" EAST 196.64 FEET; THENCE NORTH 47°29'18" EAST 44.09 FEET. TO AN INTERSECTION WITH THE SOUTH LINE OF SECTION 17, TOWNSHIP 15 SOUTH, RANGE 2 EAST, SAID INTERSECTION BEING NORTH 87°44'15" WEST 843.04 FEET FROM THE SOUTH QUARTER CORNER OF SECTION 17, TOWNSHIP 15 SOUTH, RANGE 2 EAST, SAN BERNARDINO BASE AND MERIDIAN.

EXCEPTING THEREFROM ALL THAT PORTION LYING WESTERLY AND SOUTHWESTERLY OF THE FOLLOWING DESCRIBED LINE:

BEGINNING AT A CONCRETE MONUMENT, WITH BRASS PLATE MARKED L. S. 2341, SET FOR THE NORTHWEST CORNER OF SAID SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 19; THENCE ALONG THE FOLLOWING NUMBERED COURSES:

(1) SOUTH 05°20'22" WEST, 121.76 FEET;
(2) SOUTH 30°58'36" EAST, 62.44 FEET;
(3) SOUTH 20°33'15" EAST, 173.86 FEET;
(4) SOUTH 31°31'31" EAST, 313.02 FEET;
(5) SOUTH 13°11'18" EAST, 237.63 FEET;

EXHIBIT "A" - Continued

(6) SOUTH 30°56'00" EAST, 42.62 FEET;
(7) SOUTH 52°44'07" EAST, 87.30 FEET;
(8) SOUTH 30°56'00" EAST, 70.00 FEET;
(9) SOUTH 02°45'18" EAST, 158.82 FEET;
(10) SOUTH 26°21'33" EAST, 125.40 FEET;
(11) SOUTH 30°56'00" EAST, 111.96 FEET TO A POINT ON THE SOUTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION 19, DISTANT SOUTH 89°32'37" WEST, 627.84 FEET FROM A STONE, WITH A CHISELED "X" ON THE WEST FACE, SET FOR THE EAST QUARTER CORNER OF SAID SECTION 19;
(12) SOUTH 30°56'00" EAST, 606.02 FEET TO A POINT DISTANT NORTH 59°04'00" EAST, 116.00 FEET FROM ENGINEER'S STATION 444+52.98 B.C. ON THE CENTERLINE OF THE STATE FREEWAY, ROAD 11-SD-8 BETWEEN EL CAJON AND ALPINE.

THE BEARING AND DISTANCE USED IN THE ABOVE DESCRIPTION ARE ON THE CALIFORNIA COORDINATE SYSTEM, ZONE 6. MULTIPLY DISTANCES SHOWN BY 1.0000682 TO OBTAIN GROUND LEVEL DISTANCES.

EXCEPTING THEREFROM THAT PORTION LYING WITHIN PARCEL 1 HEREINABOVE DESCRIBED.

Assessor's Parcel Number: **402-221-08**

EXHIBIT "A"

All that certain real property situated in the County of San Diego, State of California, described as follows:

Parcel 1:

All of the Southeast quarter of the Northeast quarter of Section 19, Township 15 South, Range 2 East, San Bernardino Meridian, in the County of San Diego, State of California, according to United States Government Survey.

Excepting therefrom that portion lying Northwesterly of a line described as follows:

Commencing at the Southwest corner of the Southeast quarter of the Northeast quarter of said Section 19;
Thence along the Westerly line of said Southeast quarter of the Northeast quarter, North 04°58'10" East 152.87 feet to the most Southerly corner of land described in deed to Gayle Ratcliff, et ux, recorded December 13, 1950 in Book 3896, Page 77 of Official Records and the True Point of Beginning;
Thence along the Southerly and Southeasterly boundary of said Ratcliff's land as follows: North 85°18'30" East 964.87 feet to an angle point therein and North 32°53'00" East 757.98 feet to an intersection with the Easterly line of said Section 19.

Also excepting therefrom that portion lying Southwesterly of a line, described as follows:

Beginning at the intersection of the South line of the Northeast quarter of said Section and the Northeasterly line of the land described in the deed to the State of California, recorded January 29, 1932 in Book 80, Page 258 San Diego County Official Records, said Intersection bearing North 89°32'37" East, 351.50 feet from a one-inch iron pipe set for the Southwest corner of the Southeast quarter of the Northeast quarter of said section, said Southwest corner being at Coordinates X-249, 672.763 feet and X-1827, 862.743 feet;
Thence along said Northeasterly line, North 29°39'56" West, 193.01 feet to the Southerly line of the land described in the deed to Martha H. Ratcliff, et al, recorded December 13, 1950 in Book 3896, Page 77 of San Diego County, Official Records;
Thence along said Southerly line North 85°40'04" East 316.16 feet to the True Point of Beginning of the herein described line, being also a point in the Northeasterly line of land described in deeds to the State of California, recorded April 27, 1968 as File Nos. 74038 and 74039, respectively or Official Records;
Thence Southeasterly along said Northeasterly boundary as follows:

South 26°21'33" East, 103.77 feet;
Thence South 30°56'00" East, 111.96 feet to the South line of said Southeast quarter of the Northeast quarter and the termination of the herein described line.

Parcel 2: (Intentionally deleted)

Parcel 3:

All that portion of the West half of the Northwest quarter of Section 20, Township 15 North, Range 2 East, San Bernardino Meridian, in the County of San Diego, State of California, according to United States Government Survey, lying Northerly and Northwesterly of the

EXHIBIT "A" - Continued

Southerly and Southeasterly line of Old Road Survey Nos. 27 and 188, according to plat thereof, filed in the Office of the County Engineer of San Diego County, as said Old Road Surveys existed December 16, 1968.

Excepting therefrom all coal and other minerals as reserved by the United State of America in deed recorded March 26, 1928 in Book 15, Page 29 of Patents, Records of San Diego County.

Also excepting therefrom that portion lying Easterly of the following described line:

Beginning at the Northeast corner of the Southeast quarter of the Northwest quarter of said Section 20;
Thence Westerly along the North line of the Southeast quarter of the Northwest quarter of said Section 20, to the Northwest corner of the Southeast quarter of the Northwest quarter of said Section 20;
Thence deflecting to the left 53°00' 490 feet;
Thence deflecting to the left 73°00' to a point on the West line of the Southeast quarter of the Northwest quarter of said Section 20;
Thence Southerly along the West line of the Southeast quarter of the Northwest quarter of said Section 20, to a point on the Southerly line of Old Road Survey Nos. 27 and 188, according to plat thereof, filed in the Office of the County Engineer of San Diego County, as said Old Road Surveys existed December 16, 1968.

Also excepting therefrom that portion lying Northerly of the following described line:

Beginning at the Northeast corner of the Northwest quarter of the Northwest quarter of said Section 20;
Thence Southerly along the East line of the Northwest quarter of the Northwest quarter, 1138 feet;
Thence deflecting to the right 66°30', 400 feet;
Thence deflecting to the right 33°00' to a point on the West line of said Section 20.

Parcel 4:

An easement and right-of-way for road and utility purposes over, under, along and across that portion of the easement and right-of-way for road purposes, 40 feet in width, granted to the City of San Diego recorded July 27, 1932, in Book 145, Page 162 of Official Records lying within that parcel of land described in deed to John Franklin Hein, et al, recorded November 22, 1976 as File No. 76-389904 of Official Records in Section 19, Township 15 North, Range 2 East, San Bernardino Meridian, in the County of San Diego, State of California, according to United States Government Survey.

Excepting therefrom those portion lying within Parcels 1 and 3 above.

Parcel 5:

An easement and right-of-way for road and utility purposes over, under, along and across a strip of land 40 feet in width lying within the Northeast quarter of Section 19, Township 15 South, Range 2 East, San Bernardino Meridian, in the County of San Diego, State of California, according to Official Plat thereof, described as follows:

Beginning at a point on the North line of the Southeast quarter of said Northeast quarter, distant thereof North 87°25'55" West, 807.05 feet (record North 87°47'11" West, 807.11

feet) from the Northeast corner thereof; being the Southeasterly corner of land described in deed to John Franklin Hein, recorded June 13, 1977 as File No. 77-230444 of Official Records;
Thence along the boundary of said Hein land North 01°56'09" West (record North 2°17'25" West) 80.31 feet;
North 67°03'10" West, 368.82 feet (recorded 375.00 feet) to the True Point of Beginning;
Thence continuing along said Hein boundary (Deed File No. 77-230444) South 88°46'47" West 117.84 feet;
Thence South 1°13'13" East 20.00 feet;
Thence South 75°19'34" West to a point of intersection with a line that is parallel with and 40 feet, measured at right angles from that Northerly line of said Hein's Land, being bearing South 88°46'47" West, described above;
Thence along said parallel line North 88°46'47" East to a line that bears South 67°03'10" East from the True Point of Beginning;
Thence North 67°03'10" West to the True Point of Beginning.

Parcel 6:

An easement and right-of-way for road and utility purposes over, under, along and across a strip of land 60 feet in width lying within the Northeast quarter of Section 19, Township 15 South, Range 2 East, San Bernardino Meridian, in the County of San Diego, State of California, according to Official Plat thereof, the centerline of said 60 foot strip being described as follows:

Beginning at the most Easterly corner of that land described in deed to John Franklin Hein, recorded June 13, 1977 as File No. 77-230444 of Official Records, said point being North 87°25'55" West 807.05 feet (Deed - North 87°47'11" East 807.11 feet) from the Southeast corner of the North half of the said Northeast quarter;
Thence along the South line of Hein's land North 87°25'55" West 32.13 feet to a point herein designated Point "A";
Thence retracing along said South line of Hein's land South 87°25'55" East 32.13 feet to the Southeasterly corner of Hein's land;
Thence along the Easterly and Northerly boundary of said Hein land North 01°56'09" West (record North 2°17'25" West) 80.31 feet; North 67°03'10" West, 368.82 feet (record 375.00 feet) and South 88°46'47" West, record South 88°29'50" West) 75.00 feet to the True Point of Beginning of the herein described centerline;
Thence South 67°03'10" East, along a line that is parallel with and 30 feet measured at right angles from the Northeasterly boundary of said Hein land (said Northeasterly boundary being bearing North 67°03'10" West as described above) 391.73 feet to a line that bears North 18°25'55" West from said Point "A";
Thence South 18°25'55" East 72.03 feet, more or less, to said Point "A";
Thence continuing South 18°25'55" East 100 feet to the beginning of a tangent 150 foot radius curve, concave Westerly;
Thence Southerly along the arc of said curve through an angle of 55°20'00", a distance of 139.30 feet to the beginning of a reverse 150 foot radius curve;
Thence Southerly along the arc of said curve through a central angle of 47°00'00", a distance of 119.63 feet;
Thence tangent to said curve South 10°05'55" East, 135 feet to the beginning of a tangent 500 foot radius curve, concave Westerly;
Thence Southerly along the arc of said curve through a central angle of 34°00'00", a distance of 292.37 feet;
Thence tangent to said curve South 23°54'05" West 100 feet, more or less, to a point of intersection with a line that is parallel with and 30 feet Northeasterly measured at right

EXHIBIT "A" - Continued

angles from that course in the Southwesterly boundary of the land described in deed to John Franklin Hein, et al, recorded November 22, 1976 as File No. 76-389904, said course in the Southwesterly boundary being South 30°56'03" East 70.00 feet;
Thence from said point of intersection and parallel with and 30 feet Northeasterly measured at right angles from the Southwesterly boundary of Hein's Land (File No. 76-389904) South 30°56'03" East 107.46 feet and South 02°45'10" East 37.53 feet to point of terminus.

The side lines of said 60 foot strip to lengthen or shorten Northerly to intersect the Northwesterly boundary of Hein's Land (File No. 77-230444).

EXHIBIT "A"

All that certain real property situated in the County of San Diego, State of California, described as follows:

PARCEL 1: (523-020-01)

THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 5, TOWNSHIP 16 SOUTH, RANGE 3 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

PARCEL 1A:

AN EASEMENT FOR ROAD, ACCESS AND UTILITIES THIRTY (30) FEET IN WIDTH OVER AND ACROSS THE NORTH HALF OF SECTION 3, TOWNSHIP 16 SOUTH, RANGE 3 EST, THE CENTERLINE OF THE EASEMENT BEING THE CENTERLINE OF THE EXISTING "BELL BLUFF TRUCK TRAIL" AS MORE FULLY DESCRIBED IN DEED RECORDED FEBRUARY 7, 2001 AS FILE NO. 2001-0071903 OF OFFICIAL RECORDS. THIS EASEMENT IS APPURTENANT TO PARCEL 1 ABOVE.

PARCEL 1B:

A NONEXCLUSIVE EASEMENT FOR INGRESS, EGRESS, ROAD AND UTILITY PURPOSES, OVER A PORTION OF THE EAST HALF AND THE SOUTHERLY 495 FEET OF THE WEST HALF OF THE NORTHWEST QUARTER OF SECTION 2, TOWNSHIP 16 SOUTH, RANGE 3 EAST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA ACCORDING TO THE OFFICIAL PLAT THEREOF, AS CONVEYED TO THE COUNTY OF SAN DIEGO PER DEED RECORDED IN THE OFFICE OF THE SAN DIEGO COUNTY RECORDER DECEMBER 01, 1976 AS INSTRUMENT NO. 76400536 AND LAND PATENT RECORDED IN SAID RECORDERS OFFICE, JUNE 06, 1977 AS INSTRUMENT NO. 77219429 OF OFFICIAL RECORDS, ALONG AND ACROSS THE EXISTING ROAD KNOWN AS "BELL BLUFF TRUCK TRAIL", BEING A STRIP OF LAND 40 FEET IN WIDTH, LYING 20 FEET ON EITHER SIDE AS MEASURED AT RIGHT ANGLES AND PERPENDICULAR TO THE FOLLOWING DESCRIBED CENTERLINE:

BEGINNING AT A POINT ON THE EASTERLY LINE OF SAID EASTERLY HALF OF THE NORTHWEST QUARTER OF SECTION 2 BEING APPROXIMATELY 2640

FEET, SOUTH 9° WEST FROM THE NORTH QUARTER CORNER OF SAID SECTION 2, SAID POINT ALSO BEING THE BEGINNING OF A 30 FOOT EASEMENT RESERVED TO THE UNITED STATES OF AMERICA IN SAID LAND PATENT; THENCE WESTERLY ALONG THE ALIGNMENT OF THE DIRT ROAD AS IT EXISTS AT THE TIME OF THE RECORDATION OF THIS DOCUMENT, TO A POINT ON THE WESTERLY LINE OF SAID SECTION 2 AND THE POINT OF TERMINUS AS MORE PARTICULARLY DESCRIBED IN DEED RECORDED OCTOBER 3, 2005 AS FILE NO. 20050853224 OF OFFICIAL RECORDS.

THIS EASEMENT IS APPURTENANT TO PARCEL 1 ABOVE.

PARCEL 1C:

A NONEXCLUSIVE EASEMENT FROM THE EASTERN LIMIT OF SECTION 4, TOWNSHIP 16 SOUTH, RANGE 3 EAST TO THE EASTERN LIMIT OF SECTION 5, TOWNSHIP 16 SOUTH, RANGE 3 EAST FOR ROAD, ACCESS, AND UTILITIES OVER AND ACROSS SAN DIEGO COUNTY TAX ASSESSOR'S PARCEL NOS. 52303009 AND 52303010 AND LYING WITHIN THE NORTH HALF OF SAID SECTION 4, TOWNSHIP 16 SOUTH, RANGE 3 EAST IN THE COUNTY OF SAN DIEGO. THIS EASEMENT SHALL BE 30 FEET IN WIDTH WITH THE CENTERLINE BEING THE CENTERLINE OF THE EXISTING ROAD LYING WITHIN THE SOUTH 50 FEET OF APN 52303009 AND THE NORTH 700 FEET OF APN 52303010. THIS EASEMENT IS APPURTENANT TO PARCEL 1 ABOVE.

PARCEL 2: (523-020-06)

PARCEL "C" OF A CERTIFICATE OF COMPLIANCE RECORDED AUGUST 12, 2004, AS FILE NO. 20040766910 OF OFFICIAL RECORDS, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

THE NORTH HALF OF THE NORTHEAST QUARTER; THE NORTH HALF OF THE NORTH HALF OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER; THE NORTH HALF OF SOUTHWEST QUARTER OF THE NORTHEAST QUARTER AND THE NORTH HALF OF THE SOUTH HALF OF SOUTHWEST QUARTER OF THE NORTHEAST QUARTER ALL IN SECTION 5, TOWNSHIP 16 SOUTH, RANGE 3 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

PARCEL 2A:

AN EASEMENT FOR ROAD, ACCESS AND UTILITIES THIRTY (30) FEET IN WIDTH OVER AND ACROSS THE NORTH HALF OF SECTION 3, TOWNSHIP 16 SOUTH, RANGE 3 EAST, THE CENTERLINE OF THE EASEMENT BEING THE CENTERLINE OF THE EXISTING "BELL BLUFF TRUCK TRAIL", AS MORE FULLY DESCRIBED IN DEED RECORDED FEBRUARY 7, 2001 AS FILE NO. 20010071903 OF OFFICIAL RECORDS.

THIS EASEMENT IS APPURTENANT TO PARCEL 2 ABOVE.

PARCEL 2B:

A NONEXCLUSIVE EASEMENT FOR INGRESS, EGRESS, ROAD AND UTILITY PURPOSES, OVER A PORTION OF THE EAST HALF AND THE SOUTHERLY 495 FEET OF THE WEST HALF OF THE NORTHWEST QUARTER OF SECTION 2, TOWNSHIP 16 SOUTH, RANGE 3 EAST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA ACCORDING TO THE OFFICIAL PLAT THEREOF, AS CONVEYED TO THE COUNTY OF SAN DIEGO PER DEED RECORDED IN THE OFFICE OF THE SAN DIEGO COUNTY RECORDER DECEMBER 01, 1976 AS INSTRUMENT NO. 76400536 AND LAND PATENT RECORDED IN SAID RECORDERS OFFICE, JUNE 06, 1977 AS INSTRUMENT NO. 77219429 OF OFFICIAL RECORDS, ALONG AND ACROSS THE EXISTING ROAD KNOWN AS "BELL BLUFF TRUCK TRAIL", BEING A STRIP OF LAND 40 FEET IN WIDTH, LYING 20 FEET ON EITHER SIDE AS MEASURED AT RIGHT ANGLES AND PERPENDICULAR TO THE FOLLOWING DESCRIBED CENTERLINE:

BEGINNING AT A POINT ON THE EASTERLY LINE OF SAID EASTERLY HALF OF THE NORTHWEST QUARTER OF SECTION 2 BEING APPROXIMATELY 2640 FEET, SOUTH 9° WEST FROM THE NORTH QUARTER CORNER OF SAID SECTION 2, SAID POINT ALSO BEING THE BEGINNING OF A 30 FOOT EASEMENT RESERVED TO THE UNITED STATES OF AMERICA IN SAID LAND PATENT; THENCE WESTERLY ALONG THE ALIGNMENT OF THE DIRT ROAD AS IT EXISTS AT THE TIME OF THE RECORDATION OF THIS DOCUMENT, TO A POINT ON THE WESTERLY LINE OF SAID SECTION 2 AND THE POINT OF TERMINUS, AS MORE PARTICULARLY DESCRIBED IN DEED RECORDED OCTOBER 3, 2005 AS FILE NO. 20050853224 OF OFFICIAL. RECORDS

THIS EASEMENT IS APPURTENANT TO PARCEL 2 ABOVE.

PARCEL 2C:

A NONEXCLUSIVE EASEMENT FROM THE EASTERN LIMIT OF SECTION 4, TOWNSHIP 16 SOUTH, RANGE 3 EAST TO THE EASTERN LIMIT OF SECTION 5, TOWNSHIP 16 SOUTH, RANGE 3 EAST FOR ROAD, ACCESS, AND UTILITIES OVER AND ACROSS SAN DIEGO COUNTY TAX ASSESSOR'S PARCEL NOS. 52303009 AND 52303010 AND LYING WITHIN THE NORTH HALF OF SAID SECTION 4, TOWNSHIP 16 SOUTH, RANGE 3 EAST IN THE COUNTY OF SAN DIEGO. THIS EASEMENT SHALL BE 30 FEET IN WIDTH WITH THE CENTERLINE BEING THE CENTERLINE OF THE EXISTING ROAD LYING WITHIN THE SOUTH 50 FEET OF APN 52303009 AND THE NORTH 700 FEET OF APN 52303010.

THIS EASEMENT IS APPURTENANT TO PARCEL 2 ABOVE.

PARCEL 3: (523-020-07)

PARCEL "D" OF A CERTIFICATE OF COMPLIANCE RECORDED AUGUST 12, 2004, AS FILE NO. 20040766910 OF OFFICIAL RECORDS, MORE PARTICULARLY DESCRIBED FOLLOWS:

THE NORTH HALF OF THE SOUTHEAST QUARTER; THE SOUTH HALF OF THE SOUTH HALF OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER; THE SOUTH HALF OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER AND THE SOUTH HALF OF THE NORTH HALF OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER ALL IN SECTION 5, TOWNSHIP 16 SOUTH, RANGE 3 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDTNG TO THE OFFICIAL PLAT THEREOF.

PARCEL 3A:

AN EASEMENT FOR ROAD, ACCESS AND UTILITIES THIRTY (30) FEET IN WIDTH OVER AND ACROSS THE NORTH HALF OF SECTION 3, TOWNSHIP 16 SOUTH, RANGE 3 EAST, THE CENTERLINE OF THE EASEMENT BEING THE CENTERLINE OF THE EXISTING "BELL BLUFF TRUCK TRAIL", AS MORE FULLY DESCRIBED IN DEED RECORDED FEBRUARY 7, 2001 AS FILE NUMBER 2001-0071903 OF OFFICIAL RECORDS.

THIS EASEMENT IS APPURTENANT TO PARCEL 3 ABOVE.

PARCEL 3B:

A NONEXCLUSIVE EASEMENT FOR INGRESS, EGRESS, ROAD AND UTILITY PURPOSES, OVER A PORTION OF THE EAST HALF AND THE SOUTHERLY 495 FEET OF THE WEST HALF OF THE NORTHWEST QUARTER OF SECTION 2, TOWNSHIP 16 SOUTH, RANGE 3 EAST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA ACCORDING TO THE OFFICIAL PLAT THEREOF, AS CONVEYED TO THE COUNTY OF SAN DIEGO PER DEED RECORDED IN THE OFFICE OF THE SAN DIEGO COUNTY RECORDER DECEMBER 01, 1976 AS INSTRUMENT NO. 76400536 AND LAND PATENT RECORDED IN SAID RECORDERS OFFICE, JUNE 06, 1977 AS INSTRUMENT NO. 77219429 OF OFFICIAL RECORDS, ALONG AND ACROSS THE EXISTING ROAD KNOWN AS "BELL BLUFF TRUCK TRAIL", BEING A STRIP OF LAND 40 FEET IN WIDTH, LYING 20 FEET ON EITHER SIDE AS MEASURED AT RIGHT ANGLES AND PERPENDICULAR TO THE FOLLOWING DESCRIBED CENTERLINE:

BEGINNING AT A POINT ON THE EASTERLY LINE OF SAID EASTERLY HALF OF THE NORTHWEST QUARTER OF SECTION 2 BEING APPROXIMATELY 2640 FEET, SOUTH 9° WEST FROM THE NORTH QUARTER CORNER OF SAID SECTION 2, SAID POINT ALSO BEING THE BEGINNING OF A 30 FOOT EASEMENT RESERVED TO THE UNITED STATES OF AMERICA IN SAID LAND PATENT; THENCE WESTERLY ALONG THE ALIGNMENT OF THE DIRT ROAD AS IT EXISTS AT THE TIME OF THE RECORDATION OF THIS DOCUMENT, TO A POINT ON THE WESTERLY LINE OF SAID SECTION 2 AND THE POINT OF TERMINUS, AS MORE PARTICULARLY DESCRIBED IN DEED RECORDED OCTOBER 3, 2005 AS FILE NO. 20050853224 OF OFFICIAL. RECORDS.

THIS EASEMENT IS APPURTENANT TO PARCEL 3 ABOVE.

PARCEL 3C:

A NONEXCLUSIVE EASEMENT FROM THE EASTERN LIMIT OF SECTION 4, TOWNSHIP 16 SOUTH, RANGE 3 EAST TO THE EASTERN LIMIT OF SECTION 5, TOWNSHIP 16 SOUTH, RANGE 3 EAST FOR ROAD, ACCESS, AND UTILITIES OVER AND ACROSS SAN DIEGO COUNTY TAX ASSESSOR'S PARCEL NOS. 52303009 AND 52303010 AND LYING WITHIN THE NORTH HALF OF SAID SECTION 4, TOWNSHIP 16 SOUTH, RANGE 3 EAST IN THE COUNTY OF SAN DIEGO. THIS EASEMENT SHALL BE 30 FEET IN WIDTH WITH THE CENTERLINE BEING THE CENTERLINE OF THE EXISTING ROAD LYING WITHIN THE SOUTH 50 FEET OF APN 52303009 AND THE NORTH 700 FEET OF APN 52303010.

THIS EASEMENT IS APPURTENANT TO PARCEL 3 ABOVE.

PARCEL 4: (523-030-12)

LOT 2 AND THE EASTERLY ONE THIRD OF LOT 3, WITH THE WESTERLY LINE OF SAID EASTERLY ONE THIRD PARALLEL TO THE WESTERLY LINE OF LOT 3, OF SECTION 4, TOWNSHIP 16 SOUTH, RANGE 3 EAST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO, AS SHOWN ON RECORD OF SURVEY NO. 9006.

PARCEL 5: (523-030-13)

ALL OF SECTION 4, TOWNSHIP 16 SOUTH, RANGE 3 EAST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO, AS SHOWN ON RECORD OF SURVEY NO. 9006, EXCEPTING THEREFROM THE FOLLOWING FIVE PARCELS:

1. 1. LOT I OF THE SAID SECTION 4, TOWNSHIP 16 SOUTH, RANGE 3 EAST, SAN BERNARDINO MERIDIAN;
2. 2. LOT 2 AND THE EASTERLY ONE THIRD OF LOT 3, WITH THE WESTERLY LINE OF SAID EASTERLY ONE THIRD PARALLEL TO THE WESTERLY LINE OF LOT 3, OF THE SAID SECTION 4, TOWNSHIP 16 SOUTH, RANGE 3 EAST. SAN BERNARDINO MERIDIAN;
3. 3. THE EASTERLY ONE HALF OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER AND THE WESTERLY ONE HALF OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF THE SAID SECTION 4, TOWNSHIP 18 SOUTH, RANGE 3 EAST, SAN BERNARDINO MERIDIAN;
4. 4. THE EAST HALF OF THE SOUTHEAST QUARTER OF THE SAID SECTION 4, TOWNSHIP 16 SOUTH, RANGE 3 EAST, SAN BERNARDINO MERIDIAN;
5. 5. THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER AND THE SOUTH HALF OF THE SOUTHWEST QUARTER OF THE SAID SECTION 4, TOWNSHIP 16 SOUTH, RANGE 3 EAST, SAN BERNARDINO MERIDIAN.

PARCEL 5: (523-030-14)

THE EASTERLY ONE HALF OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER AND THE WESTERLY ONE HALF OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 4, TOWNSHIP 16 SOUTH, RANGE 3 EAST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO, AS SHOWN ON RECORD OF SURVEY NO.

9006.

PARCEL 6: (523-030-09)

LOT 1 OF FRACTIONAL SECTION 4, TOWNSHIP 16 SOUTH, RANGE 3 EAST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, AS SHOWN ON RECORD OF SURVEY MAP NO. 9006, RECORDED IN THE OFFICE OF SAN DIEGO COUNTY RECORDER, APRIL 22, 1982 AS INSTRUMENT NO. 1982114805 OF OFFICIAL RECORDS , DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SAID SECTION 4; THENCE ALONG THE NORTHERLY LINE OF SECTION 4 NORTH 89°22'48" WEST, 1307.33 FEET; THENCE LEAVING SAID NORTHERLY LINE, SOUTH 07°26'55" WEST, 1524.82 FEET; THENCE SOUTH 88°54'16" EAST, 1309.29 FEET TO THE EASTERLY LINE OF SAID SECTION 4; THENCE ALONG SAID EASTERLY LINE NORTH 07°19'45" WEST, 1535.39 FEET TO THE POINT OF BEGINNING, AS DESCRIBED AS PARCEL "A" IN CERTIFICATE OF COMPLIANCE, RECORDED FEBRUARY 22, 2007 AS INSTRUMENT NO. 20070120606, OF OFFICIAL RECORDS, AND IDENTIFIED THEREIN AS A.P.N. 52303009.

Day Parcel A: (523-020-03)

THE NORTH ONE-HALF OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 5, TOWNSHIP 16 SOUTH, RANGE 3 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO UNITED STATES GOVERNMENT SURVEY THEREOF.

Day Parcel B: (523-020-04)

THE SOUTH HALF OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 5, TOWNSHIP 16 SOUTH, RANGE 3 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO UNITED STATES GOVERNMENT SURVEY THEREOF.

Lightner

4240

EXHIBIT "A" TO GRANT DEED
LEGAL DESCRIPTION OF THE PROPERTY

PARCEL A: (APN 604-110-01)

THE NORTH HALF OF THE NORTHWEST QUARTER AND THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 33, TOWNSHIP 17 SOUTH, RANGE 4 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF.

PARCEL B: (APN 604-110-04)

THE EAST HALF OF THE NORTHEAST QUARTER OF SECTION 33, TOWNSHIP 17 SOUTH, RANGE 4 EAST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

PARCEL C: (APN 604-110-05)

THE NORTH HALF OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER AND THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 33 IN TOWNSHIP 17 SOUTH, RANGE 4 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF.

PARCEL D: (APN 604-120-03)

THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 34, (SAID NORTHWEST QUARTER OF THE NORTHWEST QUARTER NOW PURPORTED TO BE TRACT 64 PER GOVERNMENT RESURVEY APPROVED NOV. 26, 1927), IN TOWNSHIP 17 SOUTH, RANGE 4 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF.

EXCEPTING FROM SAID NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 34 THAT PORTION LYING WITHIN THE FOLLOWING DESCRIBED BOUNDARY:

BEGINNING AT CORNER NO. 4 OF SAID TRACT NO. 64, AS SHOWN ON UNITED STATES GOVERNMENT INDEPENDENT RESURVEY OF TOWNSHIP 17 SOUTH, RANGE 4 EAST, SAN BERNARDINO BASE AND MERIDIAN, APPROVED NOVEMBER 26,1927; THENCE ALONG THE SOUTH LINE OF SAID TRACT 64, WEST, 700.00 FEET; THENCE, PARALLEL WITH THE EAST LINE OF SAID TRACT 64, NORTH 620.00 FEET; THENCE, PARALLEL WITH THE SOUTH LINE OF SAID TRACT 64, EAST 700.00 FEET TO THE EAST LINE OF SAID TRACT 64; THENCE, ALONG SAID EAST LINE, SOUTH 620.00 FEET TO THE POINT OF BEGINNING.

PARCEL E: (APN 604-110-07)

THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 28, AND THE WEST HALF OF THE NORTHEAST QUARTER, AND THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 33, TOWNSHIP 17 SOUTH, RANGE 4 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF.

END OF LEGAL DESCRIPTION

Suckle

To be inserted

Desert Cahuilla

To be inserted