

BIOLOGICAL ASSESSMENT

4444 Indian Valley Road
San Miguel, CA 93451

APNs: 027-420-001, -002, -003, -005, -009, -010, -016

Prepared for

Chad Pankey Construction
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EXECUTIVE SUMMARY

Ms. Stephanie Seay conducted a Biological Assessment (“BA”) for the project site identified as Assessor’s Parcel Number (“APN”) 027-420-001, -002, -003, -005, -009, -010 and -016. The BA was requested by Sierra Delta Corporation for Mr. Chad Pankey and conducted between June 22, 2005 and March 16, 2006. The Subject Property is located at 4444 Indian Valley Road in San Miguel, California 93501

The BA findings are summarized in the following section.

Summary of Findings

Based on the site reconnaissance, a search of faunal and floral databases and review of assessments conducted in the vicinity of the Subject Property, It was determined that seven sensitive animal species have the potential to occur on the project site. Based on the site reconnaissance, the size, location, the condition of the project site and surrounding properties, and the proposed project description, impacts to natural communities were determined to be low with no adverse impacts to sensitive species expected.

The following species were identified in the CNDD or during the site reconnaissance as having a potential to occur in the region of the property, however, they were determined to be absent from the project site during the site reconnaissance.

- ***American badger (Taxidea taxus) - No evidence of badger activity or potential burrows were identified in the vicinity of the project site on the Subject Property. The substrate of the Salinas River in general does not support burrowing activity except along the river bank and occasionally on some of the vegetation island. No large mammal burrows were observed along the river bank or the field on the terrace. It is unlikely that American badgers occur in the vicinity of the project site on the Subject Property. The proposed project is not anticipated to have any impacts to American badgers or impacts to associated habitat.***
- ***California horned lark (Eremophila alpestris actis) - No California horned larks were identified during the site reconnaissance. Potential habitat for California horned larks exists on the irrigated field on the terrace. The proposed project is not anticipated to be in operation during the breeding season (March thru May) for California horned larks. If operations will begin during this period of time in any given year, a qualified biologist will conduct a nesting bird survey to determine if California horned larks are present within the area and the project activity will be delayed where they are identified, until nesting has ceased. No impacts to California horned larks are anticipated from the proposed project and less than significant temporary impacts are anticipated to potential habitat for this species.***
- ***Least Bell's vireo (Vireo bellii pusillus) - No least Bell's vireo were identified during the site reconnaissance. No disturbance of potential habitat beyond removal of a few scattered small Fremont cottonwood trees, willow trees and sand bar willow scrub as***

described in Section 5.1.1 and 5.1.2. No areas of continuous canopy or riparian woodland area will be disturbed. Ingress and egress points are located in areas where no vegetation beyond grassland species will require disturbance in order to be utilized. Vegetation removal will be conducted when the vireo is not present (October 1st thru April 15th). If vegetation removal will take place during the nesting and breeding season, a qualified biologist will conduct a nesting bird survey to determine if least Bell's vireos are present. If any nesting birds are observed in the proposed work area, no work will be conducted until the young birds have fledged from the nest or the adults have abandoned the nesting site and no more activity is observed. No vegetation removal will be conducted until the birds have fledged or abandoned the nest site. No impact to least Bell's vireo is expected from the proposed project and impacts to potential habitat will be less than significant.

- *Yellow warbler (Dendroica petechia brewsteri) - No yellow warblers were identified during the site reconnaissance. Appropriate habitat for yellow warblers occurs along the river channel on the project site. No trees or shrubs are planned to be removed by the proposed project except those shown in the Vegetation Removal Plan in Appendix D. Ingress and egress points are located in areas where the existing vegetation will require minimal disturbance, beyond grassland species, in order to be utilized. Vegetation removal will be conducted when yellow warblers and other nesting birds are not present (October 1st thru April 15th). If vegetation removal will take place during the nesting and breeding season, a qualified biologist will conduct a nesting bird survey to determine if yellow warblers are present. No vegetation removal will be conducted until the birds have fledged or abandoned the nest site. No impact to yellow warblers is expected from the proposed project and impacts to potential habitat will be less than significant.*
- *San Joaquin kit fox (Vulpes macrotis mutica) - No evidence of kit fox activity or potential burrows were identified in the vicinity of the project site on the Subject Property. The project proposes the disturbance of less than 42.7 acres of land. The large majority of the disturbance will be in the open primary channel of the riverbed where material will be harvested and the terrace field, where material will be stored then processed. The terrace field is the only habitat present within the project boundaries that could be considered as having any potential as San Joaquin kit fox habitat. The total area of disturbance on the field is 5.3 acres. The field is disturbed on a continual basis each year to harvest multiple alfalfa crops during the spring and summer and for grazing during the fall and winter. Completion of the mitigation for impacts to potential kit fox habitat, in the form of purchased credits or other similar forms of acceptable mitigation, is anticipated to take place in the near future. It is unlikely that San Joaquin kit fox occur in the vicinity of the project site on the Subject Property*
- *Steelhead – South/Central California Coast E.S.U. (Oncorhynchus mykiss irideus) - It is very unlikely that steelhead will be impacted by the proposed project. The project proposes to skim sand to a depth of 2 feet in any season, with a maximum depth of 5 feet from the existing riverbed elevation over the life of the project, which would create*

a depressions along the river channel with up and downstream slopes of 12 degrees or less. The concern would be the potential for steelhead to become entrapped in the excavated area. The proposed project will take place during the late summer while the Salinas River is completely dry. To ensure that no fish entrapment or stranding occurs, a qualified biologist shall observe the pit when static water is present. In the unlikely event that steelhead are identified as stranded in the pit, the National Marine Fisheries Service will be contacted to initiate a fish rescue plan and remove the steelhead to safety. The California Department of Fish and Game will also be contacted. A consultation with Mr. William Stevens, NMFS to review potential impacts to Steelhead from the proposed project and to determine what the specific concerns and comments the agency may have in regards to the proposed project is currently underway. Impacts to steelhead or associated habitat by the proposed project will be less than significant.

- *Monterey woodrat (Neotoma fucipes luciana) - No activities proposed by the project will occur in the vicinity of the area where the woodrat nests were identified. No woodrats, woodrat nests, or habitat in the vicinity of the nests is anticipated to be disturbed by the project. It is unlikely that the proposed project will have any impact to Monterey woodrats. Disturbance within the Fremont cottonwood woodland is limited to two access points proposed to be located in the southern portion of the confluence area. These access points are located where a natural break in the vegetation occurs and impacts and disturbance to the woodland will be limited to hand trimming of trees and removal of a minimal area of shrubs in order to be utilized.*

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- Appendix C – San Joaquin Kit Fox Habitat Evaluation Form
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List of Acronyms

APN	Assessors Parcel Number
BA	Biological Assessment
CESA	California Endangered Species Act
CDFG	California Department of Fish and Game
CNDD	California Natural Diversity Database
CNPS	California Native Plant Society
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FE	Federal-listed Endangered
FESA	Federal Endangered Species Act
FSC	Federal Species of Concern
FT	Federal-listed Threatened
GIS	Geographic Information Systems
MBTA	Migratory Bird Treaty Act
NMFS	National Marine Fisheries Service
SCS	Soil Conservation Service
SDC	Sierra Delta Corporation
ST	State-listed Threatened
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service

1.0 INTRODUCTION

This report presents the results of a Biological Assessment (“BA”) conducted for the Subject Property, APNs: 027-420-001, 002, 003, 005, 009, 010, and 016. Ms. Stephanie Seay was retained by Sierra Delta Corporation to conduct the assessment for Mr. Chad Pankey. Authorization to proceed on the project was granted by Mr. Chad Pankey on June 22, 2005. This report of findings completes the agreed upon scope of services.

1.1 Project Description

Mr. Pankey is proposing a sand and gravel skimming operation on the Salinas River and Vineyard Creek in San Miguel, California. The mining operation consists of two parts, one operation along the Salinas River, and one operation along Vineyard Creek from east of the Vineyard Creek Bridge on Indian Valley Road to the confluence with the Salinas River. The operation will serve two purposes; clean out Vineyard Creek around the Indian Valley Road Bridge, and provide construction material for various projects throughout the County. The approximate anticipated life of the project is 20 years.

The Subject Property is located approximately 2 miles north of the San Miguel Bridge along Indian Valley Road. The Salinas River operation will span approximately 9,000 feet of the Salinas River, with approximately 40 acres of extraction area. The Vineyard Creek operation will span approximately 4,400 feet of the creek with approximately 7 acres of extraction area.

Sand and gravel from the Salinas River, and its tributaries, is considered excellent source material for a wide variety of uses. Sand and gravel material range from very fine grained sand to coarse gravel, with shapes ranging from angular to well rounded. These materials are derived from the wide variety of geologic units along the Salinas River as well as its numerous tributary creeks, streams, and drainages. These units include sandstones, shales, conglomerates, volcanics, and granitics. Grain size and angularity depends primarily on chemical and mechanical weathering properties of each material, meaning the physical and chemical breakdown of the bonds between grains. Chemical weathering typically involves water dissolving specific minerals from a composition, such as calcium or potassium. This dissolution breaks down these chemical bonds and produces chemical weathering. Mechanical weathering, particularly in rivers, typically consists of rocks colliding and breaking apart. In river environments, a well rounded grain has typically been in the river system for a substantial period of time, and through a series of collisions, worn down the angular edges.

Due to the variety of material found in the Salinas River and its tributaries, it has a wide variety of applications. Possible applications include construction materials for building foundations, road base, aggregate for concrete and asphalt, and landscaping. Demand for sand and gravel is very high in San Luis Obispo County, and in relatively short supply. The proposed operation would provide a significant source for this much needed material.

Extracted material will be sorted on site, and then be trucked off site for use or further processing. All trucks will exit the Subject Property and travel south on Indian Valley Road to River Road. They will then travel west on River Road to Mission Street in San Miguel. Depending on the final destination for each individual load, the truck will travel either north or south on Mission Street to the applicable entrance ramp to Highway 101.

1.1.1 Salinas River Operation

The Salinas River portion of the operation will consist of six (6) sorting and stockpiling areas and seven (7) ingress/egress locations to provide access to the riverbed. The Site Plan, included herein as Appendix A, illustrates the location of each of these areas. Sand will be extracted from the river bed with a Caterpillar 623 Paddle Scraper or similar equipment (scraper). The scraper will enter the Salinas River bed from any of the access points illustrated on the Site Plan. Each access point will have a maximum incline of twelve (12) degrees. The scrapers will skim sand and gravel from the riverbed and exit at any of the access points to deposit the extracted material in one of the sorting and stockpiling areas indicated on the Site Plan.

The extraction area for the Salinas River operation consists of approximately 35.7 acres of river bed, with an expected yield of 126,000 cubic yards of material over an average extraction depth of 2 feet. The maximum extraction depth for the Salinas River Operation for the life of the project will be 5 feet below the existing elevation of the riverbed at the start of the first year of mining.

Extracted material will be stockpiled in the designated areas where it will be processed. Processing will be conducted using a screening plant and a radial stacker. One loader will be utilized to provide material to a single hopper / conveyor. Processed material will be stored in piles within the sorting and stockpiling areas until it is transported off-site. On-site equipment will be parked or stored in the sorting and stockpiling areas indicated on the Site Plan.

No extracted material will be processed in the river bed and no material will be stored or stockpiled in the river bed. All processing operations will be set back a minimum of fifty (50) feet from the river bank. No excavation operations will be conducted in the river bed while surface water is present and all operations will be limited to no less than one (1) foot above the level of groundwater. The head and toe of the extraction area boundaries will have slopes of approximately 12 degrees, and the sidewall slopes will be at the angle of repose for dry sand.

1.1.2 Vineyard Creek Operation

The Vineyard Canyon Creek operation will consist of two (2) additional sorting and stockpiling areas and two (2) additional ingress/egress points. The Site Plan, herein Appendix A, provides a graphic representation of the additional access and stockpile areas. The primary objective of the Vineyard Creek Operation will be to maintain the creek channel and protect the Vineyard Creek Bridge from washing out during storm events. High sediment loads carried by Vineyard Creek have caused the level of the creek-bed to rise significantly over relatively short periods of time.

On several occasions in the recent past, the County Department of Public works and the property owners have conducted emergency clean-outs in the immediate vicinity of the bridge. These emergency cleanouts have been focused in the areas immediately upstream, downstream, and beneath the bridge (within the Indian Valley Road Right of Way), and have provided only short-term relief.

The proposed cleanout operation will provide regular maintenance for the channel and prevent the creek bed from rising to levels that jeopardize the integrity of the bridge structure. The County Department of Public Works has provided Mr. Pankey copies of the As-Built Plans for the bridge, which illustrates the finished grade below the bridge at an elevation of 601 and the bottom of the road at 610.35 feet above sea level. The current level of the creek bed beneath the bridge is 608 feet above sea level, reducing the clearance between the bridge and the creek to approximately 2 feet.

In order to effectively prevent the rapid accumulation of sediment beneath the bridge, the cleanout must be extended in both the upstream and downstream direction. Previous cleanouts have focused on the immediate vicinity of the bridge, which created a localized low area in the channel. When surface waters, and the sediments they transported, reached the low area, they immediately slow to a velocity which can no longer transport these sediments. As a result, these low areas refill rapidly and require constant maintenance. By lowering the creek bed level from upstream of the bridge all the way to the confluence with the Salinas River, the creek will be able to deliver its sediment load to the Salinas River, and not accumulate as quickly beneath the bridge. Cleanout operations will be conducted as determined necessary by the operator, and will maintain the natural gradient of the creek throughout the cleanout area. Tom Stokes, of the Department of Public Works, recommended removing 4 feet of material from beneath the bridge. Per this recommendation, material beneath the bridge will be extracted to no lower than an elevation of 604 feet above sea level. The existing gradient is variable along the creek bed, but averages approximately 100:1, or 100 feet of horizontal run for every one 1 foot of elevation change. Maintaining the gradient of the creek will minimize the change in water flow velocity and prevent unnatural levels of sedimentation or erosion from occurring. The sides of the extraction area will be at the angle of repose for dry sand. **NOTE: The gradient at the upstream extent of the cleanout operation will be approximately 12 degrees when the final cleanout depth is reached.**

The extraction area for Vineyard Canyon Creek is approximately 7 acres of streambed, with an expected yield of 44,000 cubic yards of material over an average depth of approximately 3 feet. The maximum depth of the Vineyard Canyon Creek operation will be 4 feet below grade at the start of the first year of mining.

The cleanout operation will require the use of a combination of equipment, including a scraper, backhoe, and front end loader for the area within the Department of Public Works Right of Way. The remainder of the creek material, upstream and downstream from the bridge will be extracted using a combination of the front end loader and scraper. All equipment used for the cleanout will access the creek bed from the access points illustrated on the Site Plan. On-site equipment will be parked or stored in the sorting and stockpiling areas indicated on the Site Plan.

All extracted material will be stockpiled and sorted within the designated processing areas before being transported offsite. No extracted material will be processed in the creek bed and no material will be stored or stockpiled in the creek bed. All processing operations will be set back a minimum of fifty (50) feet from the bank of the creek. No operations will be conducted in the creek bed while surface water is present, and all operations will be limited to no less than one (1) foot above the level of groundwater.

1.1.3 Potential Environmental Impacts

The proposed project has the potential to adversely affect:

- wildlife
- wildlife habitat
- rare and sensitive species of plants
- prime agricultural soils
- traffic and roadways
- noise pollution
- air quality
- erosion
- headcutting
- locating operations areas
- limitations of equipment

The reader is referred to Table (1) attached for comprehensive statistics regarding the impacts and requirements for the proposed operations.

1.1.3.1 Wildlife and Habitat

Potential impacts to specific wildlife and associated habitats including listed rare and sensitive species are discussed in later sections of this Assessment.

The two areas of the project (Vineyard Canyon Creek and the Salinas River), are combined in discussion in the following and all remaining sections unless otherwise specified to avoid confusion.

Wildlife habitat will be impacted by the removal of vegetation along the proposed access routes to the riverbed from the terrace field. Vegetation removal along these access routes will be limited to the removal of shrubs and the trimming of tree limbs at the minimum necessary. Additionally, Five trees with a diameter at breast height of four (4) inches or less are proposed to be removed prior to the initial start of extraction operations from within the riverbed channel. These trees proposed to be removed are all located within the dry wash of the riverbed flood plain and are not part of the continuous riparian canopy that occurs along the east and west of the main channel (the proposed extraction area). The trees proposed for removal are Fremont cottonwood (*Populus fremontii*) and Red willow (*Salix laevigata*). Patches of shrubs are also proposed to be removed along the ingress egress routes from the terrace to the river channel. The

total aerial extent of shrubs and trees proposed for removal is 0.6 acres. A total of 0.57 acres of shrub and 0.03 acres of trees would be removed, based on the aerial extent, as described in Section 5.1.1 below. The vegetation proposed for removal is illustrated on the Vegetation Removal Plan included herein Appendix D. The removed vegetation will be replaced by plantings along the east bank of the Salinas River in various areas between the field terrace and the seasonal flood plain of the river to stabilize the terrace edge. Tree and shrub plantings in this area will also expand the scattered tree canopy that occurs along the bank on the Subject Property. Trees and shrubs removed will be replaced at a 3:1 ratio (3 acre replaced for every 1 acre removed), based on the aerial extent of tree or shrub canopy respectively. This revegetation effort will result in a long term increase in riparian canopy area and habitat quality because the mitigation area will create a continuous canopy area covering the bank to replace the scattered area of vegetation proposed to be removed. Please refer to the Revegetation and Reclamation Plan herein Appendix E for the locations of potential areas for revegetation. The impact of tree removal by the project is considered less than significant when replaced as described. Table 1 below shows the project areas and impacts. Impacts to trees are discussed in 5.1.1.

Table 1: Areas of Impact by Acreage

Project Area Descriptions	Proposed Project (acres)
Agriculture Field	10.6
Sorting Area	7.3
Haul Roads	3.3
Non- Agriculture	5.06
Stockpile Area	1.81
Access Roads	3.25
Vegetation Removal	4.65
Riparian Scrub	0.57
Cottonwoods / Willows	0.3
Non-native Grassland	3.78

1.1.3.2 Rare and Sensitive Species of Plants

Potential impacts to specific rare and sensitive plant species are discussed in Sections 3.3 and 5.2 of this Assessment.

1.1.3.3 Prime Agricultural Soils

The proposed operation will require 5.3 acres of prime agricultural soil be taken out of production for use as sorting and stockpiling as well as access roads. The operation will require stockpiling sand and operating trucks and heavy equipment on the soils, resulting in compaction

of the soil. Though little is known of the long-term impacts to the soil from compaction, the affected area is a small portion of the prime soil available. Approximately 130 acre of prime soil will remain in agricultural production, and will not be disturbed. Only 4% of the prime agriculture soils will be impacted by the project. At the cessation of the project, areas of prime agricultural soils will be reclaimed and placed back into production. Material remaining on the surface will be skimmed off and the soil will be ripped and aerated to eliminate any compaction that has occurred during the life of the project.

1.1.3.4 Traffic and Roadways

The proposed operation will require trucks to transport the excavated material offsite for future use. These trucks will be required to utilize County maintained roads, Indian Valley Road and River Road, in particular for transportation. At a maximum, the operation may run 4 trucks per hour (entering and then leaving the site), or 32 trips in an 8 hour day. The operation will run 5 days per week, with a maximum traffic load of 160 trips per week. Operating hours will be 8 a.m. to 4 p.m. each day. The actual daily traffic load will likely be less than that, depending on the demand for sand and gravel.

1.1.3.5 Noise Pollution

Potential noise impacts would be limited by the noise produced by the equipment. All equipment used on the project will be equipped with mufflers as provided by the equipment manufacturer. Noise impacts depend largely on the distance from the source of the noise to a home or facility that might be impacted. The closest facility to the project site, not owned by the operator occurs approximately 800 feet to the west from the nearest point of the operation. Additionally, that facility is topographically located approximately 15 feet above the operation and is screened by vegetation. The potential impact of noise is minimal and is not considered a significant impact.

1.1.3.6 Air Quality

Potential impacts to air quality stem from dust generated by the moving equipment, as well as exhaust emissions from the equipment. Dust will be controlled utilizing water from a water truck supplied with water from an on-site well. All equipment will meet EPA emission control regulations. A permit will be obtained from the Air Pollution Control District to cover all dust and exhaust emissions generated by this project.

1.1.3.7 Erosion

The proposed operation has the potential to cause some erosion along the banks of the river and creek as well as along the vegetated islands in the river channel. This potential is minimized by implementing a number of different Best Management Practices and revegetation. Stockpiles

will be located on the terrace or field terrace and associated haul roads will be set back a minimum of 50 feet from the top of bank to prevent material from re-entering the creek and river channels. By keeping all operations offset from the features prone to erosion, the potential for causing accelerated erosion is significantly diminished. Skimming operations within the riverbed channel have 20 foot offsets from the banks of the channel. No operations will be conducted within a live stream and no operations will be conducted within 30 feet of any surface water in the riverbed or creekbed. Extraction area slopes along all setbacks will be 3:1 or the angle of repose for sand.

Best Management Practices (BMP) and erosion control measures will be utilized to prevent erosion and sediment discharges to the Salinas River or Vineyard Creek. During the life of the project erosion control and revegetation efforts will be implemented to stabilize and retain banks at access points from the terrace to the riverbed where bank disturbance focused. Disturbed banks will be hydroseeded and stabilized to prevent erosion typical of that required for new construction projects (i.e. straw wattles, jute mat, and silt fence). Bank disturbance of the river will be limited to these areas. No other bank disturbance will occur due to the project beyond revegetation efforts at the north boundary of the project area and to retire access routes during final reclamation at the cessation of the project.

1.1.3.8 Hydrologic Function

The Salinas River

The Salinas River and river systems in general, serve a hydrologic function of transporting water and sediment to other bodies of water, in this case the Pacific Ocean. That hydrologic function can be altered by introducing significant changes, such as dams or redirecting the channel, to a river's flow characteristics. This operation proposes removing an average of 2 feet of sand and gravel from the river channel. This shallow extraction will have little effect on the hydrologic function, as it results in no significant alteration to the river morphology.

Vineyard Canyon Creek

An important aspect of the proposed project will be to restore and maintain the functionality of the Indian Valley Road Bridge that crosses Vineyard Canyon Creek. The bridge area of the creek requires periodic maintenance to keep the creek from flooding over the bridge due to the accumulation of sediment. Currently, the bottom of the bridge structure is less than 3 feet from the bed of the creek. The original height of the bridge over the bed of the creek was approximately 8 feet. Historically, efforts to maintain the creek channel at the bridge were limited to the removal of material from underneath the bridge itself. This results were a very temporary "fix" because the sediment immediately up stream of the bridge would collapse into the excavated area. Excavation of material from the bed of the creek will be implemented to restore the hydrologic function of the creek that has been impeded by the accumulation of sediment within the channel.

The project proposes to removal sediment from the bridge to the confluence of the creek with the Salinas River, and from the bridge upstream approximately one-quarter (1/4) mile. This will increase the ability of the creek to transport sediment downstream, reduce the potential for sediment to accumulate in the bridge area, and reduce the frequency of necessary maintenance for the bridge.

1.1.3.9 Headcutting

The extent of the headcut induced by sand and gravel mining is a function of volume and depth of the gravel pit, location of the pit, bed material size, flood discharge, and sediment inflow rates and volumes. Studies of headcutting have determined the following:

- Severity of headcut effect is significantly influenced by pit depth
- Headcut dimensions are found to be linearly related to the pit depth
- For Factor of Safety, use a 1.5 multiplier to get ultimate headcut distance
- Headcutting is limited to no more than half the excavated depth

Salinas River

As pit depth is the most significant factor in determining headcut distance, an extremely shallow “pit” (averaging a depth of 2 feet in this case), headcut is not considered a significant factor for this operation. The only bridge that could potentially be impacted is the San Miguel Bridge, approximately 3400 feet upstream and well beyond any potential headcutting from this project.

Vineyard Canyon Creek

No structures are located up or downstream of the bridge over Vineyard Canyon Creek that would be compromised or affected by potential headcutting. As per discussions and a site visit with Tom Stokes, Permit Inspector with the San Luis Obispo County Public Works Department, the allowable excavation depth at the bridge would be four feet from the existing elevation of the streambed to ensure that the bridge is not compromised. The bridge supports were originally constructed when the creekbed was eight feet below the currently existing creekbed. The excavation of the creek would match the existing grade to the confluence and would taper upstream to the existing elevation upstream of the area where material will be removed.

1.1.3.10 Careful Selection for Locations of Operations

Careful selection and location of operational components will minimize the impact and lessen the need for other mitigation measures. The site plan has been specifically designed to minimize impacts to sensitive soils, habitats, vegetation, and wildlife. Where possible, access roads have been located on existing slopes with little to no vegetation. The project requires 5.5 acres of haul road area, and will only require the removal of 0.33 acres of vegetation with hand-trimming required for some of the vegetation. Additionally, the project will require 11.6 acres for the stockpiling, sorting, and storage of material and equipment. Of those 11.6 acres, only 1.5 acres of grassland vegetation must be cleared, and approximately 5.3 acres of prime agricultural soil

will be disturbed. Approximately 130 acres of prime agricultural soil will not be disturbed, and will remain in agricultural production during the mining operation.

1.1.3.11 Equipment Limitations

Several limiting factors, such as that of the equipment, dictate how many access points are required, how many stockpiling areas are required, and where they must be located to make the operation feasible. For example, a typical scraper has a blade width of 7 feet, and the capacity to transport 17 cubic yards of sand. This scraper, scraping 2 inches of material, will be full after approximately 400 feet. At a depth of 6 inches per pass, the scraper will fill after approximately 130 feet. Ideally, access roads and stockpiles would be located as close to that interval as possible for maximum efficiency. Due to topographic and environmental impact restrictions, these features have been located at intervals of approximately 1100 feet.

1.1.4 Methods for Minimizing Impacts

1.1.4.1 Offsets

The project boundaries are illustrated on the Site Plan herein Appendix A. The project will be limited to three areas of the Subject Property as illustrated. These areas will be the extraction area within the riverbed channel, the stockpile and sorting areas on the terrace field, and the office/ parking area also located on the field terrace.

All project operations will have a minimum setback of 20 feet from all property boundaries. Setbacks from “islands” within the riverbed (defined as areas larger than 100 square feet at elevations more than three feet above the riverbed) at the edge of the extraction area will be 10 feet from the toe of slope. Setbacks from any trees or shrubs with a diameter at breast height (dbh) of 4 inches or greater, or clusters of shrubs with an aerial extent of 20 square feet or greater will be 10 feet from the dripline of the canopy. All setbacks associated with the extraction area will have a maximum slope of 3:1 on the inner edge (extraction area side) of the setback. These setbacks will be staked, flagged, or otherwise delineated so that they are clearly visible throughout the material extraction phase of the operation.

1.1.4.2 Revegetation and Reclamation

The project will require the removal of vegetation to accommodate access to the river bed, as well as space for sorting and stockpiling extracted material. Replacing and replanting this vegetation can restore plant and animal habitat, as well as provide erosion control. Several potential areas for revegetation are outlined on the Revegetation and Reclamation Plan, included herein as Appendix E. Portions of the revegetation will occur concurrent with the operation, and will provide replacement habitat as well as erosion control. Areas of prime agricultural soil will be restored by scraping all sand from the surface, ripping the soil, and aerating. This soil will

then be returned to agricultural production. Areas outside of prime soil will be replanted with native vegetation consistent with the surrounding vegetation. The reader is referred to the Revegetation and Reclamation Plan in Appendix E.

1.1.4.3 Road Maintenance

The proposed operation will provide much needed cleanout maintenance beneath the Indian Valley Road Bridge at Vineyard Creek. The creek has become inundated with sediment, and the level of the creek bed has risen nearly to the base of the bridge. According to the County Department of Public Works (CDPW), this accumulation of sediment presents a hazard to the structural integrity of the bridge. By providing maintenance to the creek channel as needed, the CDPW will be relieved of much of the burden, (both financial and physical), of future cleanouts at this site.

1.2 Project Location and Site Description

The Subject Property, APNs: 027-420-001, 002, 003, 005, 009, 010, and 016, is located approximately one and one-half (1.5) miles north of the town of San Miguel, San Luis Obispo County, California. The proposed development is a surface gravel mining operation that will be accessed from the east via Indian Valley Road. The following figures show the parcel location.



Figure 1: Regional Map (Microsoft Corporation, 2004).

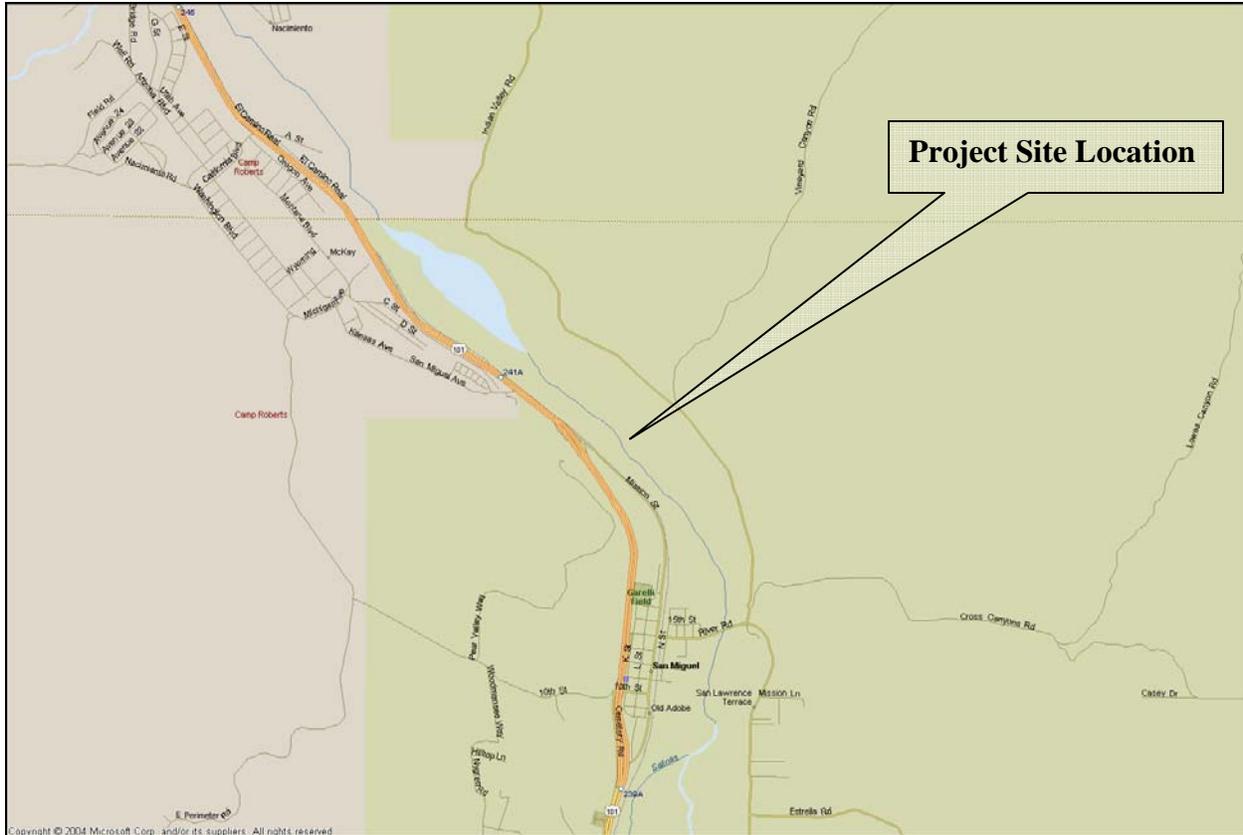


Figure 2: Vicinity Map (Microsoft Corporation, 2004).

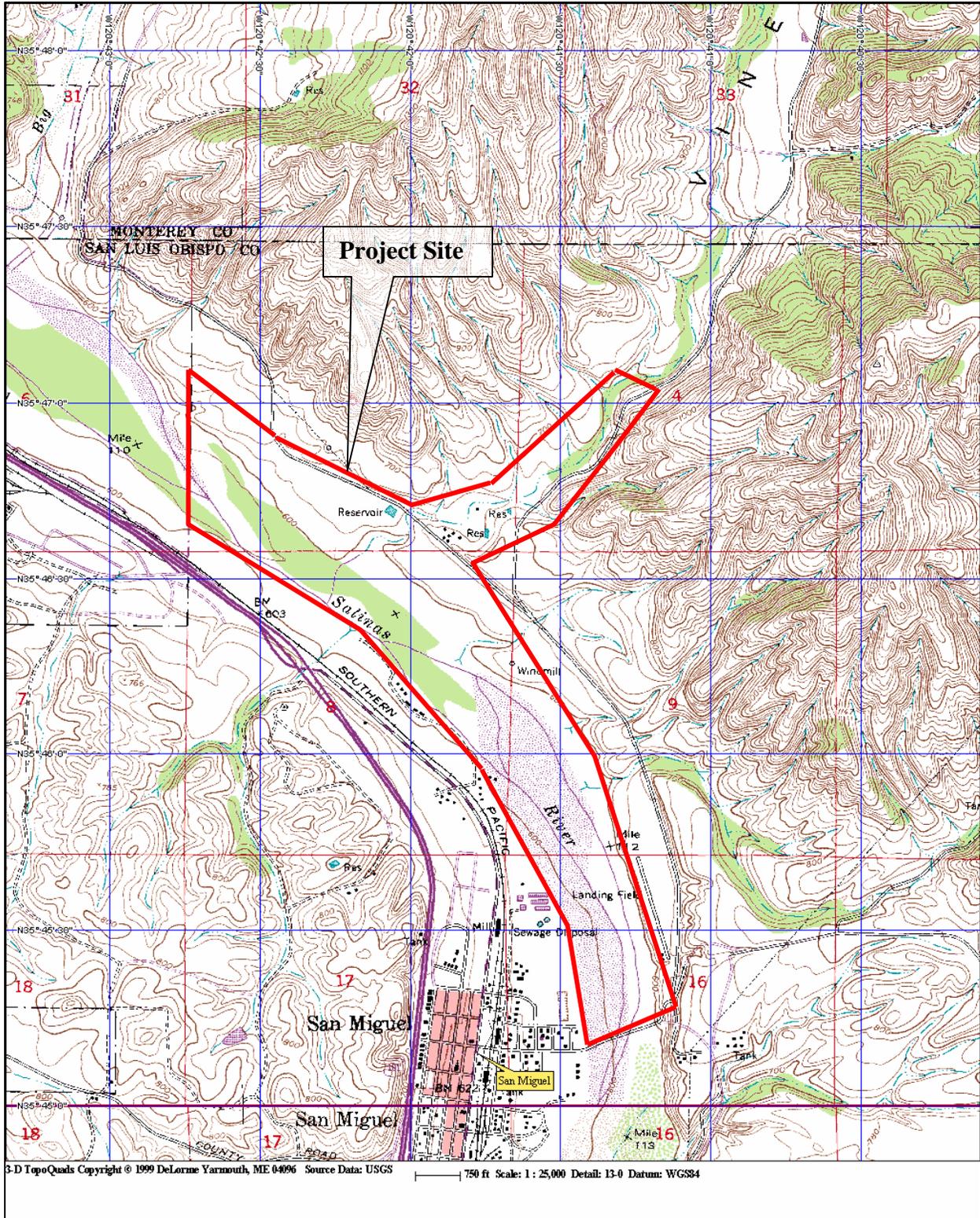


Figure 3: Topographic Map (Delorme Incorporated, 1999).

1.2.1 Land Use

The Subject Property has been historically used as dry and irrigated agricultural land and is currently planted with alfalfa and yeilds multiple harvests annually. The fields were recently harvested and bailed at the time of the site reconnaissance on June 23, 2006. Alfalfa crops are harvested off the field 3-4 times a year during the spring and summer. During the fall and winter the fields are grazed by sheep and maintained to control invasive plant species.

The surrounding properties are currently used for agricultural as grazing land or various crop productions. To the west of the Subject Property is the Salinas riverbed, to the north is dry farm fields with an open field, to the south is dry and irrigated farmland, and to the east is rural residential with rangeland.

1.2.2 Topography

Topography of the project site is variable, with elevations ranging from approximately 570 feet above mean sea level (msl) to 640 feet above msl (Delorme Incorporated, 1999). The area of the project on the Project Site is terraced with relatively flat to gently rolling topography in the riverbed, and flat to slightly sloped topography on the terrace east of the river bed. The banks of the river between the terrace and the riverbed range from a relatively mild transitional gradient at the northern property boundary to steep, bluff type embankments that range from approximately 20 to 40 feet in height. Elevations increase quickly moving from the terrace to the east side of Indian Valley Road. The highest elevations occur in the hills immediately east of Indian Valley Road with some areas reaching more than 1300 above msl. Surface water drains west / northwest toward the Salinas River which occurs on the western portion of the Subject Property.

1.2.3 Movement Corridor

The Salinas Riverbed occurs on the western portion of the Subject Property. The Salinas River is considered a wildlife corridor and supports the movement and migration of many species of wildlife. During the wet season (winter and early spring) the Salinas River flows on the surface as the water table rises enabling fish such as steelhead trout to move up stream into tributary creeks that are suitable for spawning and also enabling out-migrant steelhead that have resided within the river tributaries to reach the ocean. During the dry season (7 to 9 months of the year), the Salinas Riverbed is available as a movement corridor for terrestrial wildlife. Many species of birds utilize the Salinas River corridor for habitat with seasonal migrants utilizing the corridor and the riparian trees and shrubs as nesting habitat during the breeding season.

1.2.4 Soils

Figure 1 below shows the soil types and locations on the Subject Property and Table 2 below shows the typical slopes and total acres of each soil type on the Subject Property.

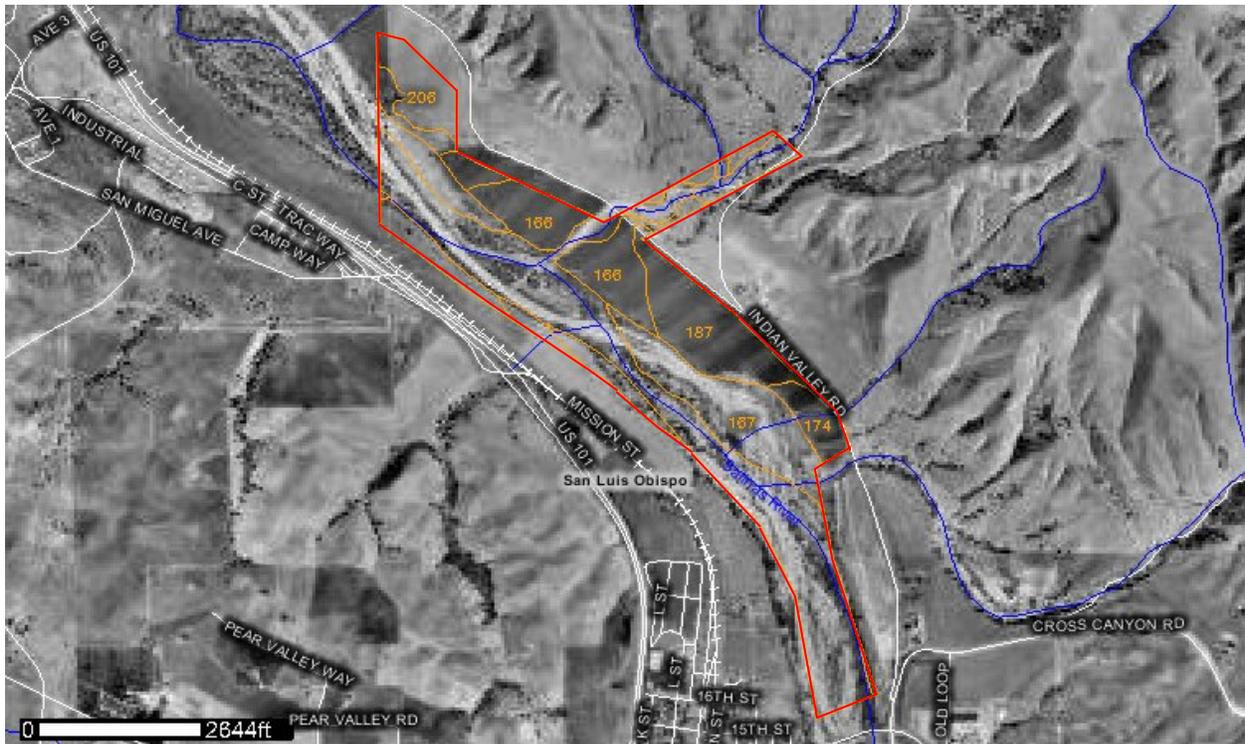


Figure 4: Soils Map of the Subject Property. (N.R.C.S., 2006)

Table 2: Soils of the Subject Property

MapUnit Symbol	Map Unit Name	Acres on Subject Property	Percent of Subject Property
166	Metz loamy sand, 0 to 5 percent slopes	75.1	17.0
167	Metz Tujunga Complex, occasionally flooded, 0 to 5 percent slopes	93.3	21.1
174	Mocho clay loam, 2 to 9 percent slopes	39.9	9.0
187	Rincon clay loam, 0 to 2 percent slopes	71.1	16.1
212	Xerofluvents	162.1	36.7

- **166 – Metz loamy sand, 0 to 5 percent slopes**

The Metz loamy sand is a very deep, somewhat excessively well drained soil formed in alluvium from mixed rocks. This soil has moderate to rapid permeability with low to moderate water capacity. Surface runoff is slow, and the erosion hazard is slight. This soil is used for cultivated crops such as alfalfa, small grain, grain hay, and other irrigated crops. The most significant

limitation with this soil is droughtiness, and is too droughty for dry-farmed crops. (USDA, 1977)

- **167 – Metz Tujunga Complex, occasionally flooded, 0 to 5 percent slopes**

The Metz-Tejunga Complex is a very deep, somewhat excessively well drained soil formed in alluvium from mixed rock. This soil is occasionally flooded, about twice every ten years. This soil has moderate to rapid permeability with low to moderate water capacity. Surface runoff is slow, and erosion hazard is slight. These soils are used for rangeland, but are poorly suited to this use due to droughtiness. (USDA, 1977)

- **174 – Mocho clay loam, 2 to 9 percent slopes**

The Mocho clay loam is a very deep, gently sloping to moderately sloping, well drained soil formed in calcareous alluvium derived from sedimentary rocks. This soil has moderately slow permeability and the water capacity is high to very high. Surface runoff is medium and the erosion hazard is moderate. This soil is used for cultivated crops and occasionally used for rangeland. This soil has few limitations. (USDA, 1977)

- **187 – Rincon clay loam, 0 to 2 percent slopes**

The Rincon clay loam is a very deep, nearly level, well drained soil that formed in alluvium derived from sedimentary rocks. This soil has low permeability and the available water capacity is high to very high. Surface runoff is slow and the erosion hazard is slight. These soils are used for rangeland, and have severe limitations for building sites and roads due to high shrink-swell potential. (USDA, 1977)

- **212 – Xerofluvents**

This group of soils is associated with barren areas on floodplains and river washes. River wash areas are generally flooded every year. Soils in the riverbed areas have very poor potential for the establishment of vegetation useful for wildlife. Value to wildlife depends on the soils proximity to other food and habitat resources. These soils provide excellent source materials for construction applications. (USDA, 1977)

1.3 Purpose of Biological Assessment

The purpose of this Biological Assessment (“BA”) is to determine what sensitive fauna and floral species have the potential for occurring in the vicinity of the project site on the Subject Property, what sensitive species actually occur within the vicinity of the project site on the Subject Property, and if sensitive species are present to define mitigation measures to avoid, minimize or compensate for impacts to those species. This assessment focuses on sensitive communities and sensitive species, and identifies biological constraints.

1.4 Report Format

All information obtained for this BA, including the database review, site inspection (along with site photographs) and maps, has been compiled into a formal report and organized as follows:

- **Section 1.0 – Introduction:** Provides information about the project’s purpose, special terms and conditions, limitations and exceptions and the procedures employed to compile the BA. Section 1 also outlines the report format.
- **Section 2.0 – Methods:** Discusses the methods used to conduct this BA.
- **Section 3.0 – Existing Conditions:** Summarizes the condition that currently exists on the Subject Property.
- **Section 4.0 – Regulatory Overview:** Provides the reader with information regarding the review of records pertaining to federal and state regulations.
- **Section 5.0 - Impact Assessment:** Assesses the impacts of the proposed project on the Subject Property.
- **Section 6.0 - Findings and Conclusions:** Details the findings and observations of the BA with reference to the scope of the investigation.
- **Section 7.0 – References:** List the sources of information used to compile this BA.

Appendix A – Site Plan

Appendix B – Site Photos

Appendix C – San Joaquin Kit Fox Habitat Evaluation Form

Appendix D – Vegetation Removal Plan

Appendix E – Reclamation and Revegetation Plan

Appendix F – Plant Communities Map

2.0 METHODS

A search of the State of California, Department of Fish and Game's ("CDFG") Natural Diversity Database ("CNDD") for the Bradley, Estrella, Paso Robles, Ranchito Canyon, and San Miguel USGS 7.5-minute quadrangles was conducted to identify reported occurrences of sensitive habitats, plant and animal species. The results of the CNDD search were then reviewed to evaluate the potential for occurrence of sensitive species on, or near the project site on the Subject Property. The California Native Plant Society's ("CNPS") *Inventory of Rare and Endangered Plants of California* (Tibor, 2001) and the *Jepson Manual, Higher Plants of California* (Hickman, 1996) were also reviewed to provide information on rare plants that are expected to occur in the area. Vegetation/habitat types were classified based on CDFG's *Preliminary Descriptions of the Terrestrial Natural Communities of California* (R. Holland, 1986) *A Manual of California Vegetation* (Sawyer, Keeler-Wolf, 1995).

Stephanie Seay and Sierra Delta Corporation (SDC) biologist, Mr. Cletis England conducted a site visit on February 14, 2006 to determine the location and extent of plant communities and the potential for the occurrence of sensitive plant and wildlife species. Additionally, SDC biologists, Mr. Kelly Gillogly and Mr. Cletis England conducted a site reconnaissance on June 23, 2005 to preliminarily determine the location and extent of plant communities and the potential for the occurrence of sensitive plant and wildlife species. Additional visits were made on July 21st, by Mr. England and Mr. Mike McGovern, and August 1st by Mr. England. During the site surveys, vegetative communities were documented, and photographs were taken (see Appendix B: Photographs).

The weather condition during the initial visits was a sunny and warm morning with little to no breeze, resulting in the temperature around 90°F on June 23. During the additional visits the weather conditions were sunny with a slight breeze on both occasions (August 1st and July 21, 2005), and the temperatures were closer to 95°F and above. During the final site reconnaissance on February 14, 2006, the weather was partly cloudy with an air temperature of approximately 72°F.

During the site reconnaissance visits, the area of the proposed project was surveyed in portions largely based on the topography that occurs within the project boundaries. The project area was broken up into 3 areas and each area was surveyed individually on the July 21st, August 1st, 2005 and the February 14, 2006 visits. Generally, these areas were the field on the terrace, the bank below the terrace, and the secondary and primary channels of the riverbed. Walking transects were conducted in the vicinity and within the project site boundaries on the Subject Property at intervals of 20 to 50 feet apart depending on the density of vegetation and overall visibility of the surrounding area. The entire Subject Property east of and including the low flow channel and west of Indian Valley Road was surveyed by this method to determine the potential of rare and sensitive plant and wildlife species to occur within and adjacent to the project boundaries. The remainder of the property to the west of the low flow channel was not surveyed because it is not part of the proposed project area. Plant communities, soil types, topography, seasonal aquatic habitat, and current conditions were observed and evaluated to determine the potential for rare and sensitive plant and animal species to occur on the site.

If deemed necessary, an additional reconnaissance may be necessary to further determine the potential for the occurrence of rare and sensitive plant species on the project site. This reconnaissance should be conducted sometime between March and May when annuals that are not growing during the summer will be present

3.0 EXISTING CONDITIONS

3.1 Plant Communities and Wildlife Habitats

Three dominant natural vegetation types were identified during the site reconnaissance. These plant communities can best be described as Fremont Cottonwood Riparian Woodland, Central Coast Riparian Scrub, and Non-native Annual Grasslands. The Project Site occurs on the field terrace and the bed of the Salinas River. The eastern portion of the Project Site is irrigated crop field which was currently planted with alfalfa. The natural plant communities present on the Project Site are within the Salinas riverbed and the bank below the field terrace. The plant communities identified, occur as overlapping canopies in many areas. The communities identified typically create a mosaic pattern in areas where one dominant community changes or blends into an area dominated by another. Large areas of the river bed and specifically the main channel are devoid of any vegetation and consist of bare sand. Fremont cottonwoods and red willows occur in dense patches and open stands interspersed with Central Coast Riparian Scrub and Non-native Annual Grassland along the banks and secondary channels of the riverbed within the project boundaries.

The Plant communities, characteristic plants expected and identified as occurring within each community, and the wildlife species typically associated with the plant community habitat at the project site are discussed below. A Plant Communities Map is included herein Appendix F.

3.1.1 *Fremont Cottonwood Riparian Woodland*

This community occurs along waterways from near sea level to the lower elevations of the foothills below elevations where montane coniferous forests occur. It ranges from broad valley flood plain forests to narrow steep canyon streams. The elevation that this community typically occurs corresponds roughly with that of grassland and woodland-chaparral communities in California. The climate is comparatively warm in the winter with precipitation occurring generally as rain and long, dry summers. Riparian woodlands can have many different tree species occurring as dominants; almost all of them are deciduous. Fremont cottonwood (*Populus fremontii*) tends to be most common and often dominant in drier areas of the state. Fremont cottonwood riparian should be considered a specific type of the Central Coast cottonwood-willow riparian forest described by R.F. Holland, used by the California Natural Diversity Database (CNDD) and the valley foothill riparian described in the Wildlife Habitat Relationships System used by the California Department of Fish and Game to classify and predict habitat value for vertebrate animals.

The Fremont cottonwood riparian woodland on and adjacent to the Project Site consists of one large main stand of mature cottonwoods that occurs on a flood terrace immediately adjacent to and east of the primary river channel associated with the confluence area of Vineyard Canyon Creek and the Salinas River. Fremont cottonwood riparian woodland also occurs in smaller stands on island within the riverbed and scattered along the east and west banks of the riverbed

throughout the reach on the Project Site. Many large and old individual Fremont cottonwoods occur within the stand, scattered along the remainder of the east bank, and along the west bank. These areas are all outside of the project area. Other species of trees that occur within the Fremont cottonwood riparian woodland within the project boundaries include red willow (*Salix laevigata*) and other *Salix* species. Red willows of different age classes are common and scattered throughout the Fremont cottonwood riparian woodland. Common shrubs that were identified within the woodland are the same as those described in Section 3.1.2 below. Central Coast riparian scrub occurs very sporadically as an understory to the Fremont cottonwood riparian woodland and in areas of the riparian zone where trees are absent.

Non-native annual grassland strongly dominates the understory of the woodland. Non-native grassland species form an understory to the Fremont cottonwood riparian woodland on the Project Site along the bank and in the bed of the river. Fluvial events and periods of drought create conditions that can be highly variable in the river bed and the surrounding flood plains. The density of individual trees and shrubs and the composition are variable, ranging from overlapping canopies to open canopy with 10 feet or more between driplines of trees and shrubs. In most areas of the understory, hemlock (*Conium maculatum*) dominates shaded areas and perennial mustard (*Hirschfeldia incana*) dominates more open areas where sunlight penetrates to the substrate. In areas on and adjacent to the bank of the riverbed and the primary flood terrace, where the canopy is open, grasses such as ripgut brome (*Bromus diandrus*), soft chess brome (*Bromus mollis*), and wild oats (*Avena spp.*) dominate. These grasses grow thick and exclude many other species. Further to the west, in most of the open areas of the riverbed, the grassland understory is dominated by white sweetclover (*Melilotus alba*).

Riparian woodlands, including Fremont cottonwood, typically provide important habitat for a variety of wildlife species. Passerine birds including seasonal migrants and resident birds breed, forage, and roost in the canopy of the woodland. Raptors, such as the red-tailed hawk (*Buteo jamaicensis*), barn owl (*Tyto alba*), great-horned owl (*Bubo virginianus*) and American kestrel (*Falco sparverius*), commonly use these woodland not only for foraging purposes but also as roosting and nesting sites. At times when the substrate of the woodland is not inundated with water, a variety of small mammals utilize the area for forage and cover. In areas with appropriate substrate, some will burrow and reside there.

3.1.2 Central Coast Riparian Scrub

This plant community is described as a scrubby streamside thicket, varying from open to impenetrable, dominated by any of several willows. This early seral community may succeed to any of several riparian woodland or forest types absent due to severe flooding disturbance. The Manual of California Vegetation by Sawyer Keeler-Wolfe more accurately describes the plant community present on the Subject Property as Sandbar Willow Series. This plant community typically occurs on relatively fine-grained sand and gravel bars that are closed to river channels and therefore close to ground water. Coarser substrates or greater depths to the water table favor dominance by *Baccharis*.

On the project site, small patches of riparian scrub dominated by sandbar willow (*Salix sessilifolia*) were identified along the river bank and also in association with the aforementioned Fremont cottonwood riparian woodland community. Patches are typically dense and impenetrable. Common associates to the patches in the riverbed are Fremont cottonwood (*Populus fremontii*), red willow (*Salix laevigata*), mule fat (*Baccharis salicifolia*), white sweetclover (*Melilotus alba*), and possibly other willow species (*Salix* spp) in areas that are more frequently inundated or closer to the groundwater table. Saltbush (*Atriplex* sp.) and coyote brush (*Baccharis pilularis*) dominate areas further from the channel or farther from the groundwater table. Common associates to the saltbush and coyote brush are tree tobacco (*Nicotiana glauca*), California wild rose (*Rosa californica*), horehound (*Marrubium vulgare*), blue elderberry (*Sambucus mexicana*), and Jimson weed (*Datura stramonium*). Other species that occur commonly in areas further from the channel or farther from the groundwater table include poison hemlock (*Conium maculatum*), milk thistle (*Silybum marianum*), Italian thistle (*Carduus pycnocephalus*), and annual grassland species listed in section 3.1.3 below.

3.1.3 *Non-native Annual Grassland*

Plants identified during the site reconnaissance indicate that the plant community associated with the highwater and primary channels of the river and the river bank where riparian scrub and riparian woodland do not occur should be described as non-native annual grassland. Seasonal flooding, seasonal hot dry conditions and the sand substrate promote a plant community that favors disturbance followers and colonizers, mostly aggressive non-native species.

Non-native annual grasslands occur in areas having relatively little (ten to twenty inches) rainfall that occurs in winter and spring. Typically there are four to eight months per year of summer drought when the soils dry out thoroughly and the temperatures often rise above 100°F. These areas are too hot and dry for woodlands and forests. However, where more moisture is available, often on north-facing slopes, in ravines or near springs, trees such as valley oaks (*Quercus lobata*) may grow among the grasses and forbs. Many of the common species present in this plant community are introduced non-natives.

The non-native annual grassland within the project boundaries occurs along the bank and in the bed of the river. Fluvial events and periods of drought create conditions that are highly variable. The density of individual plants and the composition are variable. In areas on and adjacent to the bank of the riverbed where the substrate is higher in nutrient value, stable for longer periods of time, and moisture is retained for extended durations, grasses such as ripgut brome (*Bromus diandrus*), soft chess brome (*Bromus mollis*), and wild oats (*Avena* spp.) dominate. These grasses grow thick and exclude many other species. Patches of the grassland community along the river bank are also dominated by hemlock (*Conium maculatum*). Perennial mustard (*Hirschfeldia incana*) dominates most of the area of the lower terrace below the alfalfa field. This is the area where the Fremont cottonwood woodland occurs. Further to the west, in the riverbed, the non-native grassland community is dominated by yellow star-thistle (*Centaurea solstitialis*) and white sweetclover (*Melilotus alba*). Species that occur in the river bed grassland area include those previously mentioned.

Grasslands typically provide important habitat for a variety of wildlife species. Raptors, such as the red-tailed hawk (*Buteo jamaicensis*), barn owl (*Tyto alba*), and American kestrel (*Falco sparverius*), commonly use open grassland for foraging purposes, while other birds such as the western meadowlark (*Sturnella neglecta*) use grasslands for nesting. Reptiles that often occur in grassland habitats include western fence lizard (*Sceloporus occidentalis*) and gopher snakes (*Pituophis melanoleucus*). Mammals with potential to occur in or frequent grassland habitats include California ground squirrel (*Spermophilus beecheyi*) and Botta's pocket gopher (*Thomomys bottae*).

Other species of plants identified as common within this community on the Subject Property are filaree (*Erodium spp.*), miniature lupine (*Lupinus bicolor*), bur-clover (*Medicago hispida*), clover species (*Trifolium spp.*), telegraph weed (*Heterotheca grandiflora*), tocolate (*Centaurea melitensis*), California poppy (*Eschscholzia californica*) and perennial mustard (*Hirschfeldia incana*).

3.2 Sensitive Habitats

Scattered Fremont cottonwoods (*Populus fremontii*) and red willows (*Salix laevigata*) were identified within the southern portion of the proposed extraction area boundaries and along the eastern bank of the Salinas River between the terrace field and the proposed extraction area (as shown on the Site Plan included herein Appendix A). The only trees that are anticipated to be impacted or removed by the project are within the extraction area of the riverbed and along two of the proposed ingress / egress routes. The trees proposed for removal within the extraction area are not contiguous with the well developed Fremont cottonwood riparian woodland that occurs at and adjacent to the confluence of Vineyard Canyon Creek and the Salinas River and the west bank of the Salinas river just outside of the proposed extraction area. The trees within the extraction area are proposed for removal as discussed in Section 5.1.1. The location of vegetation proposed for removal is depicted in the Vegetation Removal Plan included in Appendix D. The trees along the bank and within the confluence woodland area will not be impacted or removed and will be protected by project setbacks.

No other sensitive habitats were observed within the project boundaries during the site reconnaissance.

3.3 Sensitive Species

For the purposes of this BA, sensitive species are defined as plants and animals that are; A) listed as endangered or threatened under the Federal or California Endangered Species Acts ("ESA"), B) considered rare under the California Native Plant Protection Act, or C) are afforded protection under acts or codes other than the state or federal ESA's (e.g. Migratory Bird Treaty Act, Fish and Game Code).

The CNDD lists thirty-two sensitive species (fourteen plants and seventeen animals) as occurring within the Bradley, Estrella, Paso Robles, Ranchito Canyon and San Miguel quadrangles. Of these thirty-two species, five sensitive wildlife species were determined to have a reasonable

potential for occurring in the vicinity of the Subject Property based on proximity to other known populations, habitat requirements, and the natural characteristics of the region; American badger (*Taxidea taxus*), California horned lark (*Eremophila alpestris actis*), least Bell's vireo (*Vireo bellii pusillus*), yellow warbler (*Dendroica petechia brewsteri*), and San Joaquin kit fox (*Vulpes macrotis mutica*). It was determined that none of the sensitive plant species had a reasonable potential to occur within the project boundaries based on proximity to other known populations, elevation, natural characteristics of the area, and the general conditions of the site. The Salinas River is known as a movement corridor for steelhead trout (*Oncorhynchus mykiss irideus*). South/Central California coast ESU steelhead trout have the potential to occur within the channel of the Salinas River during periods of moderate to high flows. Steelhead are not listed by the CNDD as occurring within the quadrangles searched. Additionally, evidence of the presence of Monterey woodrats (*Neotoma fucipes luciana*), in the form of stick nests and latrines, was identified in the riparian woodland adjacent to the confluence of Vineyard Canyon Creek and the Salinas River. This is outside of the project boundaries. The Monterey woodrat is also not listed by the CNDD in the Quadrangles mentioned. The site reconnaissance did not reveal any rare, threatened, or endangered plants or animals in the vicinity of the project on the Subject Property.

Table 3 below lists the species that were determined to have a potential to occur within the vicinity of the project in the quadrangles searched.

Table 3: Rare and Sensitive Plant and Animals Expected to Occur in the Project Vicinity

<i>Scientific Name/ Common Name</i>	<i>Status Fed/State /Other</i>	<i>Habitat Description</i>	<i>Distribution in Project vicinity</i>
PLANTS			
<i>Aristocapsa insignis</i> Indian Valley spineflower	-/-/1B	Cismontane Woodland on sandy soils, Foothill Woodland	One occurrence in the Indian Valley area near the Salinas River in 1885 approximately 0.5 miles north of the SLO Monterey County line. No foothill woodland habitat within the project boundaries.
<i>Camissonia hardhamiae</i> Hardham's evening-primrose	-/-/1B	Chaparral and Cismontane Woodland Limestone, Disturbed Oak Woodland	Multiple sightings in 2002 and 2003 in the vicinity of the town of Bradley on Camp Roberts National Guard Facility. No chaparral or oakwoodland within the project boundaries.
<i>Castilleja densiflora ssp. obispoensis</i> Obispo Indian paintbrush	-/-/1B	Valley Foothill Grassland, Generally coastal environs.	Occurrence in the Paso Robles area at the southwest corner of Airport and Dry Creek Road in 2005, nine miles away and Camp Roberts 2002, five miles away . No habitat within the project boundaries.

<i>Caulanthus coulteri</i> var. <i>lemmonii</i> Lemmon's jewelflower	-/-/1B	Pinyon-Juniper Woodland and Foothill Grassland	Two occurrences: 1929 and 1932 approximately 6 miles north of Paso Robles along Highway 101. No habitat within the project boundaries.
<i>Entosthodon kochii</i> Koch's cord-moss	-/-/1B	Cismontane Woodland	One occurrence in 2001 along the Nacimiento River in shaded oakwoodland. No habitat within project boundaries.
<i>Horkelia cuneata</i> ssp. <i>sericea</i> Kellogg's horkelia	-/-/1B	Closed Cone Coniferous Forest, Coastal Scrub, Chaparral; old dunes, sandhills and openings.	One occurrence in 1877 in the vicinity of San Miguel. No habitat within the project boundaries.
<i>Lepidium jaredii</i> ssp. <i>jaredii</i> Jared's pepper-grass	-/-/1B	Valley and Foothill Grassland; alkali flats and sinks, sandy, alkaline, sometimes adobe soils.	One occurrence in the late 1800's, not specific, in the Estrella area. No habitat within the project boundaries.
<i>Malacothamnus davidsonii</i> Davidson's bush mallow	-/-/1B	Coastal Scrub, Riparian Woodland, Chaparral , sandy washes	One occurrence in 2001 on the San Antonio River upstream of the Highway 101 crossing. No bush mallow identified within the project boundaries.
<i>Malacothrix saxatilis</i> var. <i>arachnoidea</i> Carmel Valley malacothrix	-/-/1B	Chaparral rock outcrops or steep rocky roadcuts and open banks	One occurrence in 2003 along the Nacimiento River near the western boundary of Camp Robert National Guard Facility. No habitat within the project boundaries.
<i>Plagiobothrys uncinatus</i> hooked popcorn-flower	-/-/1B	Chaparral, Cismontane Woodland, Valley and Foothill Grassland Coastal Bluff Scrub. Sandstone Outcrops and canyon sides often in burned areas	Two occurrences in 2003 at Camp Roberts 4 miles away. No Habitat within project boundaries.
<i>Navarretia prostrate</i> prostrate navarretia	-/-/1B	Coastal scrub, Valley and Foothill Grassland, Vernal Pools, Alkaline Soils	Three occurrences in 2001- 2003 on Camp Roberts in Vernal Pool areas with clay substrate. No habitat with the project boundaries.
<i>Chlorogalum purpureum</i> var. <i>purpureum</i> purple amole	T/-/1B	Alkaline Soils in Cismontane Woodland, Valley and Foothill Grassland, Blue Oak Woodland	One occurrence in 2003 on Camp Roberts 4 miles away. No habitat within the project boundaries.

<i>Erodium macrophyllum</i> round-leaved filaree	-/-/1B	Cismontane Woodland, Valley and Foothill Grassland on Clay Soils	One occurrence in 1897 in the Estrella area between Estrella and Parkfield. No habitat within the project boundaries.
<i>Navarretia nigelliformis ssp.</i> <i>radians</i> shining navarretia	-/-/1B	Cismontane Woodland, Valley and Foothill Grassland, Vernal Pools	One occurrence in San Miguel 1891. Multiple occurrences on Camp Roberts in 2000 – 2003 on vernal pools and seasonally wet clay soil area. No habitat within the project boundaries.
<i>Stebbinsoseris decipiens</i> Santa Cruz microseris	-/-/1B	Closed-cone coniferous forest, Chaparral, Coastal prairie, Coastal scrub, Valley and foothill grassland/open areas, sometimes serpentinite.	One occurrence in 2003 east of the Salinas River on Camp Roberts Facility in an open meadow. No suitable habitat within the project boundaries.
WILDLIFE			
BIRDS			
<i>Ardea herodias</i> great blue heron	-/-/-	Beaches, estuaries, marshes, lakes, reservoirs, and large streams.	Uncommon, permanent resident. Unsuitable nesting habitat within the project boundaries.
<i>Athene cunicularis</i> burrowing owl	-/CSC/-	Open grasslands or agricultural land.	Uncommon, permanent resident. Marginal nesting and foraging habitat in project area. No evidence of burrows within project boundaries
<i>Falco mexicanus</i> prairie falcon	-/CSC/-	Grasslands, chaparral and coastal sage scrub, and sagebrush.	Uncommon, seasonal migrant. Unsuitable nesting habitat within the project boundaries.
<i>Dendroicca petechia brewsteri</i> yellow warbler	-/CSC/-	Riparian and woodlands.	Common, Seasonal migrant. Suitable nesting and foraging habitat in the project area.
<i>Eremophila alpestris actia</i> California horned lark	-/CSC/-	Open grassland.	Common, Permanent resident. Marginal nesting and foraging habitat in project area of the terrace field.

<i>Vireo bellii pusillus</i> least bell's vireo	E/E/-	Dense Riparian Woodland.	One occurrence identified by word of mouth from the Wellsona Road Salinas River crossing as per correspondence from Ms. Julie Eliason, San Luis Obispo County Envir. Seasonal migrant. Potential nesting and foraging habitat in project area (only edge habitat in project area).
<i>Agelaius tricolor</i> tricolor blackbird	-/CSC/-	Nesting Colony Requires Open Water, Protected Nesting Substrate, and Foraging Area with Insect Prey Within a Few Kilometers of the Colony.	One occurrence on Camp Roberts Facility at the mouth of Hare Canyon in 1998. No suitable habitat within the project boundaries.
INVERTEBRATES			
<i>Polyphylla nubile</i> Atascadero june beetle	-/-/-	Old Sand Dunes in Atascadero and San Luis Obispo.	One observation in the Paso Robles area in 1956. No habitat within the project boundaries.
<i>Trimerotropis occulens</i> Lompoc grasshopper	-/-/-	No ecological information was available regarding this species.	One observation from the Paso Robles area in 1909. Known only from Santa Barbara and San Luis Obispo County. Not likely to occur in the project area.
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	T/-/-	Endemic to Grasslands of the Central Valley, Central Coastal Mountains, and South Coast Mountains, in Static Rain-filled Pools	Multiple occurrences in the area 1995 – 2001 in vernal pool and swale type habitat. No habitat within the project boundaries.
MAMMALS			
<i>Antrozous pallidus</i> pallid bat	-/CSC/-	Roosts in rock crevices, caves, mine shafts, under bridges, in buildings and tree hollows.	No suitable roost sites in project area.
<i>Neotoma fucipes luciana</i> Monterey woodrat	-/CSC/-	Chaparral, coastal sage-scrub, pinyon-juniper, oak and riparian woodlands and mixed conifer forests.	Woodrat nests were observed on the Subject Property outside of the project boundaries. No evidence of woodrats within the project boundaries.

<i>Perognathus inornatus psammophilus</i> Salinas pocket mouse	-/CSC/-	Grasslands and Oak Savannas. Needs friable soils to burrow.	Multiple occurrences in 1993 - 1995 on Camp Roberts Facility. No suitable habitat within the project boundaries.
<i>Perognathus inornatus inornatus</i> San Joaquin pocket mouse	-/-/-	Grasslands and Oak Savannas. Needs friable soils to burrow.	One observation in 1918 two miles south of San Miguel. No suitable habitat within the project boundaries.
<i>Taxidea taxus</i> American badger	-/CSC/-	Open grassland, chaparral, and oak woodland with friable soils. Needs sufficient food and open, uncultivated ground.	One observation recorded along Highway 101, 1.5 miles north of Templeton. Marginal habitat in project area. No burrows or sign identified. Suitable habitat within the project vicinity.
<i>Vulpes macrotis mutica</i> San Joaquin kit fox	E/T/-	Annual grassland or grassy open stages with scattered shrubby vegetation.	Marginal habitat in project area. No burrows or sign identified. Suitable habitat within the project vicinity and boundaries.
REPTILES			
<i>Emys marmorata pallida</i> southwestern pond turtle	-/CSC/-	Permanent to Nearly Permanent Bodies of Water with suitable Basking Sites and Structure	Multiple Occurrences in the Bradley Quadrangle. No pool habitat or other suitable habitat within the project boundaries.
<i>Spea hammondi</i> western spadefoot toad	-/CSC/-	Endemic to Grassland of the Central Valley, Central Coast and South Coast Mountains, in Static Rain-filled Pools	Multiple occurrences from 1995 – 2002 on Camp Roberts Facility. No suitable habitat within the project boundaries.
FISH			
<i>Oncorhynchus mykiss irideus</i> South/Central California coast ESU steelhead trout	T/-/-	Gravel bedded rivers and streams with shaded deep pools and perennial water available	Known to occur in the Salinas River watershed. Utilize the Salinas River as a movement corridor to tributary creeks with spawning habitat

Sources: CNDDDB (2005); CNPS (2001); Hickman (1993)

Federal Status (determined by U.S. Fish and Wildlife Service):

E Endangered. In danger of extinction throughout all or a significant portion of its range.

T Threatened. Likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

FSC Federal Species of Concern, formerly List 2 Candidate Species (designation in not used by CNPS or CDFG). Species of Concern is an informal term used by some but not all U.S. Fish & Wildlife Service offices. Species of Concern receive no legal protection and the use of the term does not necessarily mean that the species will eventually be proposed for listing as a threatened or endangered species (USFWS, 2002).

MNBMC Migratory Non-game Birds of Management Concern

State Status (determined by California Department of Fish and Game):

E Endangered

T Threatened

CSC Species of Special Concern

FP Fully Protected

California Native Plant Society List (CNPS) List:

1B Plants considered rare or endangered in California and elsewhere.

2 Plants considered rare or endangered in California but more common elsewhere.

3 Plants for which more information is needed.

4 Plants of limited distribution-a watch list.

3.3.1 Sensitive Wildlife

The CNDD lists seventeen sensitive wildlife species as occurring in the Bradley, Estrella, Paso Robles, Ranchito Canyon and San Miguel quadrangles. Five species, American badger (*Taxidea taxus*), California horned lark (*Eremophila alpestris actis*), least Bell's vireo (*Vireo bellii pusillus*), yellow warbler (*Dendroica petechia brewsteri*), and San Joaquin kit fox (*Vulpes macrotis mutica*) were determined to have a reasonable potential to occur in the area of the Subject Property based on the proximity to known sightings. The Salinas River is known as a movement corridor for steelhead trout (*Oncorhynchus mykiss irideus*). South/Central California coast ESU steelhead trout have the potential to occur within the channel of the Salinas River during periods of moderate to high flows. Steelhead are not listed by the CNDD as occurring within the quadrangles searched. Additionally, evidence of the presence of Monterey woodrats (*Neotoma fucipes luciana*), in the form of stick nests and latrines, was identified in the riparian woodland adjacent to the confluence of Vineyard Canyon Creek and the Salinas River. This is outside of the project boundaries. The Monterey woodrat is also not listed by the CNDD in the Quadrangles mentioned. It was determined that seven total sensitive wildlife species had a potential to occur on the Subject Property; American badger (*Taxidea taxus*), California horned lark (*Eremophila alpestris actis*), least Bell's vireo (*Vireo bellii pusillus*), South/Central California coast ESU steelhead trout (*Oncorhynchus mykiss irideus*), yellow warbler (*Dendroica petechia brewsteri*), Monterey woodrats (*Neotoma fucipes luciana*), and San Joaquin kit fox (*Vulpes macrotis mutica*).

Table 4: Sensitive wildlife species with the potential to occur in the project area

SCIENTIFIC NAME	COMMON NAME	LEGAL STATUS Federal / State / Other
<i>Taxidea taxus</i>	American badger	-- / SC/ --
<i>Eremophila alpestris actis</i>	California horned lark	-- / SC/ --
<i>Vireo bellii pusillus</i>	least Bell's vireo	FE / SE / --
<i>Dendroica petechia brewsteri</i>	yellow warbler	-- / SC/ --
<i>Vulpes macrotis mutica</i>	San Joaquin kit fox	FE / ST / --
<i>Neotoma fucipes Luciana</i>	Monterey woodrat	-- / SC / --
<i>Oncorhynchus mykiss irideus</i>	South/Central California coast esu steelhead trout	FT / -- /--
Status Codes:		
<i>Federal:</i>	<i>State:</i>	<i>CDFG:</i>
FT = Federal Listed Threatened FE = Federal Listed Endangered	ST = State Listed Threatened SE = Sate Listed Endangered	SC = Species of Concern

3.3.1.1 American Badger (*Taxidea taxus*)



Figure 5: American Badger

The American badger is listed by the State of California as a Species of Special Concern. Species of Special Concern is not a classification under any California Administrative Code, and a species so listed is not afforded any additional protection under State law.

Historically, the badger is known to occur throughout the State of California except for the humid forested region in the extreme northwestern corner. Badgers recently were included on the Department of Fish and Game's list of Mammalia Species of Special Concern, since it appears that there has been a substantial reduction in range and abundance in several areas where it was formerly common (CDFG, 2005).

Current data indicate that badgers are still distributed throughout their range, but recent sightings are not evenly distributed, indicating some potential probable areas. Sighting reports indicate that

the greatest badger abundance occurs in the northeastern region of the state and along the south coastal area, and a moderate number occurs in the southeastern desert areas, on the east side of the southern Sierra Nevada, and in the southernmost portion of the San Joaquin Valley. Reported occurrences of badgers were lowest in the mid-Central Valley region and moderately low in the northern Coast Range.

Although the badger is a large mustelid found throughout almost the entire state, little is known about its status, current distribution and relative abundance. No studies of its distribution and status in California have been completed since 1937. Prior to 1956 the badger was considered a predatory mammal with no season or bag limit. In 1957 it was classified as a furbearer and it may now be taken statewide during the designated trapping season with no bag or possession limit. In addition, the badger has long been considered a pest, especially in agricultural situations, and thus the target of many years of animal control activity.

In California, badgers occupy a diversity of habitats. The principal requirements seem to be sufficient food, friable soils, and relatively open, uncultivated ground. Grasslands, savannas, and mountain meadows near timberline are preferred. Badgers prey primarily on burrowing rodents such as gophers (*Thomomys sp.*), Ground Squirrels (*Spermophilus sp.*, *Ammospermophilus sp.*), marmots (*Marmota sp.*), and kangaroo rats (*Dipodomys sp.*). They are predatory specialists on these rodents, although they will eat a variety of other animals, including mice, woodrats, reptiles, birds and their eggs, bees and other insects, etc. Researchers have recounted reports of badgers breaking open bee hives to eat both the brood and honey. They regularly dig out nests of bumble bees.

Walking transects were conducted on the in and around the project area of the Subject Property at intervals of 20 to 50 feet apart depending on the density of vegetation and overall visibility of the surrounding area. The eastern terrace of the Salinas River within the project boundaries is considered very marginal habitat due to the nature of the land use. The field is farmed regularly each year, irrigated, disked, and turned under after harvest. Multiple crops are harvested on the field each year. During the fall and winter months the field is grazed by sheep to keep noxious weeds from invading the field.

The non-native annual grassland, riparian scrub, and the riparian woodland were determined to be potential habitat where the substrate is friable in areas and will support burrowing. The field on the terrace is the only area where small mammal burrows occurred. A few ground squirrel and pocket gopher burrows were identified in this area and also observed at the margins of the field, but were absent from the riverbed and flood plain where the riparian woodland, riparian scrub, or non-native annual grassland occurs. No burrows were observed in the riverbed or below the bank of the terrace during the site reconnaissance. The sand substrate of the river bed is not stable enough to support any burrowing activity and no mammal burrows were observed within the riverbed where removal of material is proposed. No burrows over three inches were identified anywhere in the vicinity of the project site on the Subject Property.

No American badger burrows, signs, or tracks were observed in the vicinity of the project site on the Subject Property. Prey base is determined to be low in the area due to the lack of appropriate

substrate, the limited availability of water, and the lack of small mammal burrows observe in most areas.

No evidence of badger burrows or potential burrows was identified in the vicinity of the project site on the Subject Property. The substrate of the Salinas River does not support burrowing activity except along the river bank and occasionally on the terrace above. No large mammal burrows were observed along the river bank or the field on the terrace. It is unlikely that American badgers occur in the vicinity of the project site on Subject Property. The proposed project is not anticipated to have any impacts to American badgers and low to no impacts to potential habitat.

3.3.1.2 *California horned lark (Eremophila alpestris actis)*



Figure 6: California horned lark

The California horned lark is listed by the State of California Department of Fish and Game as a Species of Concern. Species of Special Concern is not a classification under any California Administrative Code, and a species so listed is not afforded any additional protection under State law. The California horned lark is a widespread occupant of open habitats across North America, Horned Larks prefer areas with sparse vegetation and exposed soil. In eastern North America, most pairs occupy tilled fields, overgrazed pastures, the grassy fields bordering airports, and similar habitats. Occasionally they are found in vacant lots within cities, parks, and other urban areas. On the Great Plains, they prefer agricultural fields and short-grass prairies. In western North America, this species is associated with desert brushlands, grasslands, and similar open habitats, as well as alpine meadows. Throughout their range, Horned Larks avoid all habitats

dominated by dense vegetation and become scarce and locally distributed in heavily forested areas.

In California, the California horned lark is a common to abundant resident in a variety of open habitats, usually where trees and large shrubs are absent. Found from grasslands along the coast and deserts near sea level to alpine dwarf-shrub habitat above treeline. In winter, flocks in desert lowlands and other areas augmented by winter visitants, many migrating from outside the state (CDFG, 2005).

California horned larks eat mostly insects, snails, and spiders during breeding season; adds grass and forb seeds and other plant matter to diet at other seasons. During foraging, California horned larks can be observed walking along ground, searching for food. Cover for these birds consists typically of grasses, shrubs, forbs, rocks, litter, clods of soil, and other surface irregularities that provide cover and nesting sites. California horned larks build grass-lined nests; cup-shaped in a depression on ground in the open during the breeding season from March through July, with peak activity in May. Pairs nest solitarily laying 2-5 eggs and average 3-4 eggs per pair.

California horned larks are present yearlong and are considered resident birds within the state. After breeding, they become very gregarious; often forms large flocks that forage and roost together. Migrants from outside of California join these wintering flocks, especially in the southeastern desert region of the state (CDFG, 2005).

Although potential habitat for California horned larks exists in the alfalfa field on the terrace, no horn larks were observed in the alfalfa field during the site reconnaissance. The proposed project is not anticipated to be in operation during the breeding season (March thru May) for California horned larks. If operations will begin during this period of time in any given year, a qualified biologist shall conduct a nesting bird survey to determine if California horned larks are present within the area of the field to be disturbed and the project activity should be delayed until nesting has ceased within the area. No impacts to California horned larks are anticipated from the proposed project and less than significant impacts are anticipated to potential habitat for this species.

3.3.1.3 *Least Bell's Vireo (Vireo bellii pusillus)*



Figure 7: least Bell's vireo

The least Bell's vireo is one of four recognized subspecies of Bell's vireo and breeds in southwest California, below Santa Barbara, and northwest Baja California. The least Bell's vireo is listed as an endangered species by the United States Fish and Wildlife Service and the California Department of Fish and Game. Vireos are small birds (4.5-5.3 inches in length) with short rounded wings and short, straight bills. Plumage is mostly gray above and pale below, with a faint white eye ring. They feed on insects and spiders, and some vegetable matter (fruit) (CDFG, 2006)

The least Bell's vireo habitat in California consists of dense, low, shrubby vegetation, generally early successional stages in riparian area, brushy fields, young second-growth forest or woodland, scrub oak, coastal chaparral, and mesquite brushlands, often near water in arid regions. The most critical structural component of the least Bell's Vireo breeding habitat in California is a dense shrub layer, 2 – 3.5 feet above ground. They are chiefly nocturnal migrants. They leave the breeding range in August and September and return in the spring, mid-March to May. Least Bell's vireos winter in riparian gallery forests along the west coast of north and central Mexico.

First eggs are laid in April and most young fledge 10-12 days after hatching. A second brood begins in a newly constructed nest immediately after the first brood fledges, or if the nest is destroyed or eggs taken by a predator. Up to four broods/season occasionally produced in California. The average clutch size is 4 eggs and successful pairs fledge at least one young/nest. The oldest recorded individual is 7 years; most live 3-4 years (CDFG, 2006).

The range of the subspecies consists of the southwestern coastline of the United States in California below Santa Barbara, extending inland approximately to the edge of the Imperial Valley. The breeding range for this species encompasses greater Los Angeles and other metropolitan areas of southern California. The wintering habitat includes Baja California, Mexico, and the western coastline of northern and central Mexico. Other occurrences of least Bell's vireo have been recorded to the north of the given range, including along the Salinas River in the vicinity of the Monterey / San Luis Obispo county line. Critical habitat for the least Bell's vireo has been designated along the southwestern coastline of California below Santa Barbara (CDFG, 2006).

Loss of riparian habitats from land use changes has strongly affected breeding. Over 95 percent of historic riparian habitat has been lost throughout its former breeding range in the Central valley of California, which may have accounted for 50-80 percent of the original population. Widespread habitat losses are mainly attributable to flood control and water development projects, agricultural development, livestock grazing, invasive exotic plants, off-road vehicles, and urban development resulting from rapidly expanding human populations (CDFG, 2006).

Continuing threats to the sub-species where they breed include large water releases from dams and reservoirs in April, May, and June can inundate low-lying vireo nests in downstream areas, causing high nest losses and egg/nestling mortalities. Brood parasitism by brown-headed cowbirds is common. The least Bell's vireo abundance is primarily affected by availability of suitable nesting habitat and secondarily by rates of cowbird parasitism (CDFG, 2006).

During a review of the CNDD, it was determined that least Bell's vireos have been identified to the north of the project site in the vicinity of the Bradley bridge. Two different surveys identified this sub-species in this area during surveys in 1983 and 1985. This sight is approximately 10.5 miles to the northwest of the project site. Another sighting, which seems anecdotal, is rumored to have occurred in the area of the Wellsona Road crossing. The sighting was not found to be documented in the CNDD at the time this Biological Assessment was prepared. Information on this sighting is limited to a brief statement made by Ms. Julie Eliason, San Luis Obispo County Environmental Division. When contacted for additional information, Ms. Eliason supplied Ms. Seay with a rough map of the sighting location. This sighting is approximately 6 miles to the south of the project area. No other sightings have occurred in the area, and no other sightings have occurred within the last twenty years in the vicinity of the project.

The project site was surveyed to determine where potential habitat for least Bell's vireos may occur. During the site reconnaissance, it was determined that appropriate habitat for least Bell's vireos does exist along the bank and riverbed channels west of the alfalfa fields where shrub habitat occurs. Proposed disturbance areas are largely limited to the alfalfa field and the open channels of the riverbed where no shrub habitat occurs. Some individual shrubs along the bank where access points to the riverbed are proposed will be removed. Isolated individual shrubs are also proposed for removal from the middle of the channels of the riverbed. The vegetation removal will be conducted during October 1st thru February 30th when the vireo is not likely to be present.

Areas of potential disturbance from the project were evaluated for potential least Bell's vireo habitat. The majority of potential disturbance was determined to be limited to areas where no least Bell's vireo habitat occurs. The proposed project's operations will be limited to the field terrace, the open riverbed channels, and specific ingress and egress points along the bank. Ingress and egress points are located in areas where the terrain and the existing vegetation will require a minimum of disturbance in order to be utilized. Ingress / egress points may require some trimming or removal of scrub vegetation. Vegetation removal will be conducted during periods when the vireo is not present. This work will be done outside of the breeding season for least Bell's vireo (March 1 thru September 30), or a qualified biologist will conduct nesting bird surveys immediately prior to clearing of vegetation in areas where disturbance is required to ensure that no nesting birds are present in vegetation that will be trimmed or removed. Vegetation will be removed at the minimum level necessary for the function of the project. All vegetation removed by the project will be replaced as part of the revegetation and reclamation process. The reader is referred to Section 5.1.1 Tree Removal for a discussion of vegetation removal. No other manipulation of potential habitat will be necessary for the proposed project. No least Bell's vireos were observed during the site reconnaissance. The proposed project is expected to have no impact to least Bell's vireo and less than significant impacts to potential habitat.

3.3.1.4 Yellow Warbler (*Dendroica petechia brewsteri*)



Figure 8: yellow warbler

The yellow warbler is listed as a Species of Concern by the California Department of Fish and Game. Species of Special Concern is not a classification under any California Administrative Code, and a species so listed is not afforded any additional protection under State law. The yellow warbler is an uncommon to common, summer resident in the north; locally common in the south.

The yellow warbler is rare but regular in winter in the south. Yellow warblers breed in riparian woodlands from coastal areas, as far inland as the desert, and range in elevation from lowlands, up to 8000 feet in Sierra Nevada. Yellow warblers breed in montane chaparral, and in open ponderosa pine and mixed conifer habitats with substantial amounts of brush. Numbers of yellow warbler breeding pairs have declined dramatically in recent decades in many lowland

areas (southern coast, Colorado River, San Joaquin and Sacramento valleys). Yellow warblers are now rare to uncommon in many lowland areas where formerly common (CDFG, 2006).

Yellow warblers glean and hover in upper canopy of deciduous trees and shrubs to feed on insects and spiders. Occasionally they hawk insects from air, or eats berries (CDFG, 2005). Yellow warblers are usually found in riparian deciduous habitats in summer: cottonwoods, willows, alders, and other small trees and shrubs typical of low, open-canopy riparian woodland. Yellow warblers also breed in montane shrubbery in open conifer forests. In migration, they visit woodlands, forests, and shrub habitats to forage. They frequent open to medium-density woodlands and forests with a heavy brush understory in breeding season.

Yellow warblers build nests that are an open cup placed 2 to 16 feet above ground in a deciduous sapling or shrub. Territory often includes tall trees for singing and foraging and a heavy brush understory for nesting. Yellow warblers usually arrive in California in April, and leave by October. Small numbers regularly overwinter in southern California lowlands (CDFG, 2006).

They breed from mid-April into early August with peak activity in June. Pairs breed solitarily. Yellow warblers lay 3 to 6 eggs (usually 4 or 5); incubated by the female for 11 days. Altricial young are tended by both parents until fledging at 9-12 days.

Yellow warblers are subject to predation by small mammals, accipiters, corvids, and snakes. Brood parasitism by brown-headed cowbirds is heavy and apparently has been a major cause of the drastic decline in numbers in lowland localities in recent decades.

The Fremont Cottonwood Riparian Woodland habitat that occurs along the river channel on the project site is good habitat for yellow warblers. Many large mature cottonwoods and red willows occur within the woodland between the terrace and the primary channel of the river adjacent to the confluence of Vineyard Canyon Creek. No mature trees are planned to be removed by the proposed project. No shrubs are planned to be removed, except at access points to the riverbed and scattered shrubs in the riverbed channel as depicted herein Appendix D: Vegetation Removal Plan. Proposed ingress and egress points are located in areas where the terrain and the existing vegetation will require a minimum of disturbance in order to be utilized. Vegetation removal will be conducted by hand when yellow warblers and other nesting birds are not present (October 1st thru February 28th). If the vegetation removal cannot be conducted during this time, a qualified biologist will conduct nesting bird surveys immediately prior to clearing of vegetation in areas where disturbance is required to ensure that no nesting birds are present in vegetation that will be trimmed or removed. No yellow warblers were identified during the site reconnaissance. No impact to yellow warblers is expected from the proposed project and impacts to potential habitat will be less than significant.

3.3.1.5 San Joaquin Kit Fox (*Vulpes macrotis mutica*)



Figure 9: San Joaquin kit fox

The San Joaquin kit fox is listed as a Federally Endangered Species and a California State Threatened Species. The kit fox (*Vulpes macrotis*) is the smallest canid species in North America. San Joaquin kit foxes have an average body length of 20 inches, an average tail length of 12 inches and stand about nine to 12 inches at the shoulder. These slender-built mammals are characterized by relatively long legs and large, conspicuous ears. Adult males weigh about five pounds and adult females weigh about 4.6 pounds. The historic range of the San Joaquin kit fox included most of the San Joaquin Valley from the vicinity of Tracy, San Joaquin County southward to southern Kern County. Currently, kit foxes occur in the remaining native valley and foothill grasslands and chenopod scrub communities of the valley floor and surrounding foothills from southern Kern County north to Los Baños, Merced County. Depending on extent of agricultural development, distribution is spotty within this broad range.

In addition, smaller, less dense populations may be found further north and in the narrow corridor between Interstate 5 and the Interior Coast Range from Los Baños to Contra Costa County. Portions of Monterey, Santa Clara, San Benito and Santa Barbara counties are also included in the range of the San Joaquin kit fox. Studies and information from various sources

indicate that a density of one kit fox per square mile in suitable habitat is a reasonable figure to use to estimate populations based on known acreage of habitat, although densities can range from less than one to over six foxes per square mile.

Loss of native habitat to various kinds of agriculture (e.g., cotton fields and vineyards), and residential and commercial developments remain the principal threats to this species. DFG-funded research and studies by cooperators, beginning in the mid-1990s and continuing to the present, are yielding more information about the habitat needs and biology of the kit fox. A failed population study in the northern range is being reattempted on public lands of the East Bay Regional Park where access is not an impediment to research. To date, however, no foxes have been live-captured in this effort, possibly indicating that the population is very low. The recovery options for the kit fox are contained in USFWS's Recovery Plan for Upland Species of the San Joaquin Valley, California, completed in 1998. The kit fox is described as a keystone species (i.e., a species essential to the health of the natural community), and efforts to save habitat for this species will result in benefits to other endangered plant and animal populations.

Long-term ecological studies at the Elk Hills Naval Petroleum Reserve in western Kern County have been terminated due to the sale of the Reserve to private interests. The landmark research that was conducted over a period of more than a decade is being published in a number of journal articles and will make valuable contributions to our understanding of the biology, ecology, and management of the species. This information will be invaluable in the years to come as we attempt to recover the species. A study on the role of various agricultural crops as habitat for the kit fox was begun in 1998 and continues under federal Section 6 funding grants to the DFG. Genetic research of this species and its role in recovery planning is a component of the agricultural lands/kit fox study. Another study, begun in 1997 and continuing, examines the special case of the kit fox in the urban environment. Kit foxes are being captured, radio-collared and their movements monitored within the city of Bakersfield, Kern County. Finally, an additional study examines the kit fox population on the Carrizo Plain Natural Area. Studies at two military bases in Monterey County (Camp Roberts and Fort Hunter-Liggett) are currently yielding little data due to a decline of local kit fox populations during 1998 and 1999 and suspected problems with the introduced red fox. Control of nonnative introduced red fox populations and habitat management options available at Camp Roberts were discussed in an interagency meeting in 1999 (CDFG, 2005).

Walking transects were conducted within the project boundaries and in the vicinity of the project site at intervals of 20 to 50 feet apart depending on the density of vegetation and overall visibility of the surrounding area. The riverbed does not support burrowing efforts due to the consistency of the substrate. The lower flood terrace appears to have some very limited areas where the soil is friable and could support burrowing by small mammals, mainly along the bank adjacent to the alfalfa field edge. No evidence of any burrows was observed during site reconnaissance. The alfalfa field on the terrace of the Salinas River within the project boundaries has been interpreted as being potential habitat, but is unlikely to be available habitat due to the nature of the land use. The alfalfa field is farmed regularly each year, irrigated, disked, and turned under after harvest. Multiple (four or more) crops are harvested from the field each year. During the fall and winter months the field is grazed by sheep to keep noxious weeds from invading the field.

The non-native annual grassland, riparian scrub, and the riparian woodland was not determined to be potential habitat because the substrate will not support burrowing. The field on the terrace is the only area where small mammal burrows were identified. The field is disturbed on a continual basis each year and no burrows larger than three inches in diameter were identified within the area of the field. A few ground squirrel and pocket gopher burrows were identified in this area and also observed at the margins of the field, but were absent from the riverbed and flood plain where the riparian woodland, riparian scrub, or non-native annual grassland occurs. No burrows were observed in the riverbed or below the bank of the terrace during the site reconnaissance. The sand substrate of the river bed is not stable enough to support any burrowing activity and no mammal burrows were observed within the riverbed where removal of material is proposed. No burrows over three inches were identified anywhere within the project boundaries or in the vicinity of the project site on the Subject Property.

No San Joaquin kit fox prey items, scat, or tracks were observed on the project site. Prey base is determined to be low in the area due to the lack of appropriate substrate habitat, the limited availability of water, and the lack of small mammal burrows on the project site. The alfalfa field on the terrace is the only area that has a slight potential as kit fox habitat on the project site. A San Joaquin kit fox evaluation form was completed by Mr. Mike McGovern for the project and is attached as Appendix C. The total score for the disturbance of potential habitat within the boundaries of the project on the Subject Property is 73.

Mitigation related to impacts to potential habitat within the project boundaries will be based on the San Joaquin kit fox Habitat Evaluation Form completed by Mr. Mike McGovern (refer to Appendix C). This evaluation produced a total score of 73. This translates to a 3:1 mitigation ratio for the impacts of the project to potential kit fox habitat (irrigated field). The total impact to potential kit fox habitat will be approximately 7.3 acres. Completion of the mitigation for impacts to potential kit fox habitat, in the form of purchased credits or other similar forms of acceptable mitigation, is anticipated to take place in the near future.

It is unlikely that San Joaquin kit fox occur in the vicinity of the project site on the Subject Property. The project proposes the disturbance of approximately 7.3 acres of potential kit fox habitat. The large majority of the disturbance will be in the open channels of the riverbed where material will be harvested, and in the field on the terrace where the material will be processed. It is unlikely that the Project proposed for the site will have any direct impact on San Joaquin kit fox. Disturbance to potential habitat on the terrace field will take place during the period of stockpiling occurring annually on the terrace (typically June 1st to October 31 or shortly after the water table recedes), during the remainder of the year during processing, and while the material is sold and removed. Impacts to potential kit fox habitat will be limited to the irrigated alfalfa field on the terrace where sand and gravel will be stockpiled until it is hauled off site. Stockpiled material would be present on the field for a period of 6 to 12 months of each year depending on harvest volumes and demand. A reclamation plan is currently being developed for the proposed project and no permanent impact to potential habitat will occur.

3.3.1.6 South/Central California Steelhead Trout (*Oncorhynchus mykiss irideus*)



Figure 10: South/Central California coast esu steelhead trout

Steelhead are sea-run rainbow trout that have large mouths with well-developed teeth. Steelhead of the south/central California coast ecologically significant unit are currently listed by the Federal government as a threatened run of steelhead that have specific genetic differences that separate them from other runs of steelhead in northern California. Southern steelhead are considered a winter run of steelhead that takes advantage of the high winter storm flows of southern California creeks to spawn.

Southern steelhead have received little study, although the life-history characteristics of steelhead in general are well known. Winter steelhead in California typically spawn from December to May, but mostly in January-March, and spent fish may return to the ocean and spawn again in a later year.

The Salinas River is considered a movement corridor for steelhead trout of the region. The Salinas River is not considered critical habitat for steelhead trout. The channels of the Salinas River were observed to be dry during the site reconnaissance. The Salinas River within the project site was walked to observe and document potential habitat available to steelhead during

periods when the Salinas River has surface flow and is inundated. The riverbed within the project boundaries was observed to be composed of fine to coarse sand and gravels, with no cobble. The substrate is generally flat with only slight depressions, 1 to 2 feet deep, where some minor scouring occurs. No undercut banks, large woody debris, rootwads, exposed bedrock, or other suitable habitat or cover exists within the project boundaries reach of the Salinas River.

Potential impacts to steelhead trout from fish entrapment is a concern for sand and gravel pits within the Salinas River channel. The proposed project is not expected to have any impacts to steelhead trout. The proposed project will skim sand to a maximum depth of 5 feet with the upper and lower ends of the pit having maximum inclines of 12 degrees. Steelhead typically move up river during medium to high flows immediately after the larger storm events of the year, when the channel becomes completely inundated. When flows recede toward the end of the wet season, the pit is expected to be filled by recruitment of sand from up stream and would not be likely to trap fish. Low flows that may occur at the beginning of the season would be prior to the initial movement of steelhead moving upstream from the ocean.

To ensure that no fish entrapment or stranding occurs, a qualified biologist should observe the pit when static water is present after moderate to high flows have receded. In the unlikely event that steelhead are identified as stranded in the pit, the National Marine Fisheries Service (NMFS) will be contacted to initiate a fish rescue plan and remove the steelhead to safety. The California Department of Fish and Game will also be contacted.

It is unlikely that steelhead will be impacted by the proposed project. The project proposes to skim sand down 2 feet per year, with a maximum depth of 5 feet of depth below the existing elevation of the riverbed prior to the start of operations for the life of the project. This would create a shallow depression along the river channel with upstream and downstream slopes of 12 degrees or less. The proposed project will take place during the late summer while the Salinas River is completely dry. No work will be conducted within the live stream. Steelhead typically move through the Salinas River by following the deepest flows of the thalweg (low flow channel) during moderate to high flows when the entire channel is inundated. The moderate to high flows utilized by steelhead for migration are the same flows that recruit material to (fill-in) the extraction area. No work will be conducted within the live stream channel. No impacts to steelhead are expected and potential impacts to associated habitat by the proposed project will be less than significant.

3.3.1.7 Monterey woodrat (*Neotoma fuscipes luciana*)



Figure 11: Monterey woodrat

Monterey woodrats are listed by the California Department of Fish and Game as a State Species of Concern. Species of Special Concern is not a classification under any California Administrative Code, and a species so listed is not afforded any additional protection under State law.

The species range extends from the Columbia River and the Willamette Valley in Oregon to north-western Baja California. It is generally found in dense chaparral, oak and riparian woodland, and in mixed coniferous forest that has a well developed understory. *Neotoma fuscipes* prefers fairly moist habitat but it is also found in drier communities such as pinyon-juniper woodland. In all locations, it seems to favor brushy habitat or woodland that has an oak component.

The Central Valley of California is the only area of California where woodrats do not normally occur. The riparian woodrat is the only subspecies found on the floor of the Central Valley and it is restricted today to small remnant patches of riparian forest along the Stanislaus river.

In outward appearance, the dusky-footed woodrat is almost identical to the Old World rats. Similarity, however, stops there. Taxonomically the two species are unrelated and very different ecologically. Unlike the Old World rats, the dusky-footed woodrat is native to North America. From Washington State southward to California, they live in dense vegetation, preferably among oak trees (*Quercus spp.*). Dusky-footed woodrats have the unusual habit of collecting and accumulating woody debris and most any available small object into piles or nests which serve as living quarters, hence, the name packrat.

Researchers at UC Berkeley recently found that in northern California, dusky-footed woodrats serve as the primary wildlife host for the tick vector of the Lyme disease spirochete. The Monterey dusky-footed woodrat (*N. f. luciana*), a subspecies which occurs in coastal central California, is also considered a California Species of Special Concern.

Information is largely lacking on dusky-footed woodrat demographics and habitat associations in California oak woodland. Vegetative structure affects dusky-footed woodrat abundance, with brush cover apparently contributing most to high wood-rat numbers. Some evidence indicates woodrats are as abundant in deciduous oak woodland as they are in mixed conifer forests of the Pacific Northwest and the Sierra Nevada. Dusky-footed woodrats are undoubtedly an important contributor to the richness and abundance of the wildlife in California oak woodland. It follows that management activities in oak woodland that result in more live trees, brushy cover, and dead-and-down material will result in an increase in the abundance of woodrats and, associated wildlife.

Dusky-footed woodrats live in loosely-cooperative societies and have a matrilineal (mother-offspring associations; through the maternal line) social structure. Unlike males, adjacent females are usually closely related and, unlike females, males disperse away from their birth den and are highly territorial and aggressive, especially during the breeding season. Consequently, populations are typically female-biased and, because of pronounced polygyny (mating pattern in which a male mates with more than one female in a single breeding season), the effective population size (i.e., successful breeders) is generally much smaller than the actual population size.

Dusky-footed woodrats are highly arboreal. Evergreen or live oaks and other thick-leaved trees and shrubs are important habitat components for this species. They are most numerous where shrub cover is dense and least abundant in open areas. In riparian areas, highest densities of woodrats and their nests are often encountered in willow thickets with an oak overstory. Woodrats are, for the most part, generalist herbivores. They consume a wide variety of nuts and fruits, fungi, foliage and some forbs.

Dusky-footed woodrats are well known for their large terrestrial stick nests, some of which can last for more than 20 years after being abandoned. Observations of dusky-footed woodrat houses show the size of the stick homes range from 2 ft to 5 ft in height, and can be 4 ft to 8 ft in basal diameter. Houses typically are placed on the ground against or straddling a log or exposed roots of a standing tree and are often located in dense brush. Nests also are placed in the crotches and cavities of trees and in hollow logs. Sometimes nests are constructed off the ground in the branches of a tree. This is more common in habitat with evergreen trees such as live oak.

Three woodrat nests were identified in the Fremont cottonwood woodland that occurs adjacent to the confluence of Vineyard Canyon Creek. The nests were located in the northern portion of the woodland at the base of large Fremont cottonwoods. It was not apparent whether the nests were active but latrine areas typical in the vicinity of an active woodrat nest were identified nearby. Latrines were located in the crotch of an adjacent tree and on the top of dead snags in the immediate area of the nest location.

No activities proposed by the project will occur in the vicinity of the area where the woodrat nests were identified. No woodrats, woodrat nests, or habitat in the vicinity of the nests is anticipated to be disturbed by the project. It is unlikely that the proposed project will have any impact to Monterey woodrats. Disturbance within the Fremont cottonwood woodland is limited to two access points proposed to be located in the southern portion of the confluence area. These access points are located where a natural break in the vegetation occurs and impacts and disturbance to the woodland will be limited to hand trimming of trees and removal of a minimal area of shrubs in order to be utilized.

4.0 REGULATORY OVERVIEW

4.1 Endangered Species Act of 1973

The Federal Endangered Species Act (“FESA”), U.S. Code Title 16, Chapter 35, provides legislation to protect federally listed plant and animal species. Impacts to listed species resulting from the implementation of a project would require the responsible agency or individual to formally consult with the United States Fish and Wildlife Service (“USFWS”) or National Marine Fisheries Service (“NMFS”) to determine the extent of impact to a particular species. If the USFWS or NMFS determines that impacts to a species would likely occur, alternatives and measures to avoid or reduce impacts must be identified. Three federally listed animals have the potential to occur on the project site; the least Bell's vireo, the San Joaquin kit fox, and steelhead trout.

Disturbance of potential least Bell's vireo habitat will be required to implement the proposed project. Disturbance of potential habitat will be limited to removal of vegetation within the extraction area of the riverbed. Ingress and egress points are located in areas where the terrain will require a minimum of disturbance in order to be utilized and disturbance of the existing vegetation will be limited to annual grassland vegetation. Vegetation removal will be conducted during periods when the vireo is not present (outside of the April 1st thru September 30 breeding and nesting window). If vegetation removal cannot be timed to avoid the breeding window, a qualified biologist will conduct nesting bird surveys immediately prior to clearing of vegetation in areas where disturbance is required to ensure that no nesting birds are present. Any vegetation that is removed will be replaced along the bank of the river.

Impacts to potential kit fox habitat will be temporary and limited to the irrigated field on the terrace where sand and gravel will be stockpiled temporarily until it is hauled off site. Stockpiled material would be present on the field for a period of 6 - 12 months of each year depending on harvest volumes and demand.

It is unlikely that steelhead will be impacted by the proposed project. The project proposes to a depth of 2 feet per season with a maximum depth over the life of the project of 5 feet below the existing elevation of the riverbed prior to the start of operations. This would create shallow depressions along the river channel with upstream and downstream slopes of 12 degrees or less. The proposed project will take place during the late summer while the Salinas River is dry. The concern would be the potential for steelhead to become entrapped in the excavated area. Steelhead typically move through the Salinas River by following the deepest flows of the thalweg (low flow channel). To ensure that no fish entrapment or stranding occurs, a qualified biologist should observe the pit when static water is present. In the unlikely event that steelhead are identified as stranded in the pit, the National Marine Fisheries Service will be contacted to initiate a fish rescue plan and remove the steelhead to safety. The California Department of Fish and Game will also be contacted.

Implementation of the proposed project is not expected to result in direct impacts to these or any other federal-listed species.

4.2 California Endangered Species Act

The State of California Endangered Species Act (“CESA”), California Fish and Game Code Section 2050, Division 3, Chapter 1.5, ensures legal protection for plants listed as rare or endangered and species of wildlife formally listed as endangered or threatened. The state also lists “Species of Special Concern” based on limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. Under state law, the California Department of Fish and Game is empowered to review projects for their potential to impact state-listed species and California Special Concern species, and their habitats. Three state-listed animals have the potential to occur on the Subject Property. Implementation of the proposed project is not expected to result in direct impacts to any state-listed species beyond those mentioned in Section 4.1 above.

4.3 Other Sections of the State of California Fish and Game Code

Fully Protected and Protected species may not be taken or possessed without a permit from the Fish and Game Commission and / or the CDFG. Information on these species can be found within Section 3511 (birds), Section 4700 (mammals), Section 5050 (reptiles and amphibians), and Section 5515 (fish) of the Fish and Game Code. The project will need to obtain a 1603 Streambed Alteration Agreement from the Department of Fish and Game. The proposed project has been planned to follow the anticipated conditions of a 1603 Agreement. An application for a 1603 permit was currently being completed for the project at the time this Biological Assessment was being prepared.

4.4 Migratory Bird Treaty Act of 1918

The Migratory Bird Treaty Act (“MBTA”) protects all migratory birds, including their eggs, nests, and feathers. The MBTA statute was originally implemented in 1916 Convention between the U.S. and Great Britain (for Canada) for the protection of migratory birds. Later amendments implemented treaties between the U.S. and Mexico, Japan and the Soviet Union (now Russia). The MBTA was originally drafted to put an end to the commercial trade in bird feathers popular in the latter part of the 1800’s. Within the scope of the present BA, the MBTA protects raptors and migratory nesting birds within the vicinity of the project site. The MBTA is enforced by the USFWS. Project related activities which may result in impacts to migratory nesting birds or raptors will be timed to avoid the presence of these species. If project related activities cannot be timed to avoid the time when these species are present and nesting (April 1st thru September 30 breeding and nesting window), a qualified biologist will conduct nesting bird surveys immediately prior to clearing of vegetation in areas where disturbance is required to ensure that no nesting birds are present.

5.0 IMPACT ASSESSMENT

This impact assessment focuses on identifying potential impacts associated with implementation of the proposed project. The emphasis is on determining the effects of the proposed project on sensitive species that have the potential for occurring on the property. Adverse impacts are expected to occur where proposed construction or development activities would result in temporary or permanent modification to sensitive habitats, or to habitats occupied by sensitive species. Where potential project-related impacts (either direct or indirect) to sensitive resources have been identified, measures for avoiding, minimizing, or mitigating adverse effects to these resources have been identified.

5.1 Sensitive Communities and Habitat Types

Large continuous areas of habitat occur adjacent but outside of the proposed project boundaries including the above mentioned riparian woodland and riparian scrub habitat. Limited areas of sensitive habitat communities were identified within the project boundaries. The project design has limited disturbance of natural communities by careful planning and consideration of possibilities. Disturbance from the proposed project will be limited to the field on the terrace and the open channels of the river where some non-native grassland, and scattered trees and shrubs occur. Disturbance on the terrace is anticipated to be long term but not permanent, with portable structures, stockpiling of material for 6 - 12 months annually, and equipment storage.

Disturbance of the riparian zone, (including the Fremont cottonwood riparian woodland and the central coast riparian scrub) will be limited to removal of vegetation within the proposed extraction area of the riverbed and at specific access points as illustrated on the Site Plan (Appendix A) and the Vegetation Removal Plan (Appendix D). Ingress and egress points are located in areas where the terrain will require a minimum of disturbance in order to be utilized and disturbance of the existing vegetation outside of the banks will be limited to removal of a few shrubs and trimming of a few trees. Some scattered trees and shrubs within the pit boundaries of the main river channel will also be removed to the minimum extent necessary. Vegetation removal will be conducted during periods when the vireo and other nesting birds are not present (the breeding and nesting window of April 1st thru September 30). If vegetation removal cannot be timed to avoid the breeding window, a qualified biologist will conduct nesting bird surveys immediately prior to clearing of vegetation in areas where disturbance is required to ensure that no nesting birds are present.

5.1.1 *Impacts to Trees*

Five (5) trees are proposed to be removed from the river channels prior to the initial start of extraction operations. These trees are all located within the dry wash of the riverbed flood plain and are not part of the continuous riparian canopy that occurs to the west or east of the proposed extraction area. No trees are proposed to be removed outside of the river channel in the area of

the access routes from the terrace to the riverbed. The trees proposed for removal are Fremont cottonwood (*Populus fremontii*) and Red willow (*Salix laevigata*). Some areas of tree canopy along access routes, that are not proposed to be removed, may require trimming with hand tools. Please refer to Appendix D for the Vegetation Removal Plan showing the location of the trees and shrubs proposed for removal trimming. The areas proposed for mitigation are illustrated in Appendix E: Reclamation and Revegetation Plan.

5.1.2 Long Term Impacts and Mitigation

Disturbance of less than 60 acres of the Subject Property is anticipated with temporary structures and equipment. The project life is proposed at 20 years, however, the annual volume of extracted material may vary (up to the 125,000 cubic yards annually) depending on recruitment and the demand for such material.

Potential impacts to sensitive habitats for the proposed project are limited to an initial removal of riparian trees and shrubs within the extraction area as shown on the Vegetation Removal Plan herein Appendix D. A total of area of 4.65 acres of natural vegetation will be removed prior to the start of the project. The total aerial extent of the tree and shrub vegetation to be removed is 0.57 acres of shrubs and 0.3 acres of tree canopy. No large mature trees with a diameter at breast height of four inches or greater will be removed by the project.

The removed vegetation will be replaced by plantings in any of a number of proposed areas available on the Subject Property along the east bank of the Salinas River, between the field terrace and the seasonal flood plain of the river to stabilize the terrace edge and to expand the aerial extent of the tree canopy that occurs along the east bank on the Subject Property. The Reclamation and Revegetation Map herein Appendix E shows the areas of the bank proposed for revegetation. Trees and shrubs removed will be replaced based on the aerial extent of tree or shrub canopy respectively. This revegetation effort will result in a long term increase in riparian habitat quality because the mitigation area will create a continuous canopy area covering areas of the bank to replace the scattered area of vegetation proposed to be removed. The impact of tree removal by the project is considered less than significant when replaced as described.

Mitigation areas are located in four (4) separate areas of the project site. The areas are referred to as the Southern drainage (the drainage that occurs along the east bank of the river at the southern portion of the operation at the outlet of a box culvert crosses under Indian Valley Road (referred to as "R4" on the Revegetation and Reclamation Plan)), The Eroding Terrace (the terrace bank in and around the erosion gully that has formed over many years and the toe of the slope of the terrace itself along the east bank of the river, below the alfalfa field (referred to as "R3" on the Revegetation and Reclamation Plan)), the Vineyard Canyon Creek Field Edge (along the north and south banks of Vineyard Canyon Creek (referred to as "R2" on the Revegetation and Reclamation Plan)), and the North Boundary (between the field edge and the main river channel at the northern boundary of the project area (referred to as "R1" on the Revegetation and Reclamation Plan)). Table 6 below shows the areas available for revegetation as illustrated on the Revegetation and Reclamation Plan (Appendix E).

If riparian trees are to be removed between April 1st and September 30th, a nesting bird survey will be conducted by a qualified biologist to determine if any birds are currently nesting in the area. If birds are found to be nesting in the vegetation to be removed the birds will be allowed to either fledge their young or abandon the vegetation on their own prior to vegetation removal efforts. If vegetation removal is proposed outside of the above mentioned time period, a nesting bird survey will not be necessary. Proposed removal of shrub vegetation will be conducted in a similar method to ensure that no least Bell's vireos or other nesting birds are impacted by the removal. The removal of riparian trees will have a temporary impact to nesting birds. Due to the mitigation efforts proposed, a long-term increase in quality nesting habitat would result as described above.

Exotic species occurring in the extraction area will be removed during the initial preparation of the area. The top 2 to 3 inches of substrate along with the annual vegetation that occurs there will be skimmed off and removed because it is not useable material when mixed with organic matter. This will also reduce the growth of star thistle and sweet clover that dominate these areas. Removal of the existing seed bank associated with these species will inhibit recruitment in the area. This will be a one-time removal and the vegetation is not anticipated to require removal on an annual basis. On going control of exotic species will occur by hand or mechanical means to control the colonization of disturbed areas within the project boundaries as necessary.

Temporary pooling of water may occur in the extraction area seasonally as the water table rises during the winter prior to pluvial events which will fill the extraction area with newly recruited material. The extent and duration of this occurrence will depend largely upon the rainfall totals for the season and the size of each pluvial event. To ensure that no fish entrapment or stranding occurs, a qualified biologist should observe the pit when static water is present after moderate to high flows. In the unlikely event that steelhead are identified as stranded in the pit, the National Marine Fisheries Service (NMFS) will be contacted to initiate a fish rescue plan and remove the steelhead to safety. The California Department of Fish and Game will also be contacted. A consultation with Mr. William Stevens, NMFS, to review potential impacts to Steelhead from the proposed project and to determine what the specific concerns and comments the agency may have in regards to the proposed project is currently underway.

Potential San Joaquin kit fox habitat on the field terrace will be impacted each year by stockpiling and processing of material. The duration of the impact will be approximately six (6) to twelve (12) months of the year or when material is present. This portion of the field will still be available as a movement corridor and for foraging but would not be suitable for burrowing because of the presence of sand and gravel. The total impact to potential kit fox habitat will be approximately 7.3 acres. No project related disturbance will take place in this area during the night. All operations will be conducted between 8:00 a.m. and 5:00 p.m., Monday thru Friday. Mitigation related to impacts to potential habitat within the project boundaries will be based on the San Joaquin kit fox Habitat Evaluation Form completed by Mr. Mike McGovern (refer to Appendix C). This evaluation produced a total score of 73. This translates to a 3:1 mitigation ratio for the impacts of the project to potential kit fox habitat (irrigated field). The total impact to potential kit fox habitat will be approximately 7.3 acres. Completion of the mitigation for impacts to potential kit fox habitat, in the form of purchased credits or other similar forms of acceptable mitigation, is anticipated to take place in the near future.

A reclamation plan is currently being developed that includes replacement of any riparian vegetation that is proposed for removal in the extraction area and restoration of all other areas of the project site back to pre-project conditions. Stockpile areas and access roads located outside of the agriculture field on the southern portion of the project area, will be graded back to the original contours and then hydroseeded with a seed mix composed of the native vegetation that occurs in the vicinity of the area. The stockpile areas located outside of the agriculture field boundaries will be seeded with a composition that duplicates shrub species and native and naturalized grass species already. At the cessation of the project, stockpile and haul road areas located within the boundaries of the agriculture field will be graded to remove any road base or other material remaining on top of the agriculture soils. The soil will then be ripped to eliminate any compaction that has occurred during the project. These areas will then be put back into irrigated crop production.

Impacts from the proposed project to the riparian habitats that exists within the project boundaries is expected to be less than significant based on the proposed mitigation replacement along the bank. Table 5 below shows the areas of impact from the proposed project.

Appropriate erosion control and Best Management Practices (BMPs) will be implemented where necessary to minimize the potential for erosion in any and all areas where vegetation will be removed or operations will occur. Erosion control measures will also be implemented in revegetation areas to stabilize the substrate and minimize loss of the applied seed mix.

Table 5: Areas of Impact by Acreage

Project Area Descriptions	Proposed Project (acres)
Agriculture Field	10.6
Sorting Area	7.3
Haul Roads	3.3
Non- Agriculture	5.06
Stockpile Area	1.81
Access Roads	3.25
Vegetation Removal	4.65
Riparian Scrub	0.57
Cottonwoods / Willows	0.3
Non-native Grassland	3.78

Mitigation plantings will begin in mid to late winter and continue until warm weather starts in mid to late spring. No mitigation work will be conducted after the summer heat begins to avoid the loss of material to stress prior to establishment. Mitigation areas will be monitored every week during the first spring and summer to determine that the plantings have sufficient water and to insure successful establishment of vegetation. During the first winter, mitigation monitoring

will be conducted following large storm events to note and correct any erosion control problems and to replace any lost material. Monitoring during the second spring will be bi-weekly or as determined necessary. Success of the planting will be determined by the aerial extent achieved by the growth of the vegetation. It is anticipated that the tree stakes and shrubs should achieve an aerial extent close to the 3:1 replacement goal by the end of the second growth season. By the end of the third season, the material is anticipated to have surpassed the 3:1 aerial extent. The success of the vegetation will be photo documented from established photo points to be included in reports to the various permitting agencies concerned.

Table 6: Areas Proposed for Revegetation

Revegetation Areas	area (acres)
Southern drainage	0.50
Eroding Terrace	1.60
Vineyard Creek field edge south	0.50
Vineyard Creek field edge north	0.50
North Boundary	1.50
Total Available Area	4.60

5.2 Sensitive Species

Seven sensitive species were determined to have a reasonable potential to occur on the project site within the proposed project limits based on the site reconnaissance, characteristics of the property, and the review of the CNDD.

Disturbance of potential habitat for San Joaquin kit fox and American badger within the irrigated alfalfa field on the terrace will be temporary and occur only during the summer and fall months of the year. Pre-disturbance surveys will be conducted immediately prior to any new disturbance on the field terrace to ensure that no potential San Joaquin kit fox or American badger dens occur within the area.

Disturbance of habitat within the banks of the Salinas River will be limited to removal of vegetation only to the extent necessary to create ingress / egress points from the field terrace to the riverbed. Vegetation removal will be timed to occur when nesting birds are not present. If vegetation removal work is proposed during the breeding season March 1st thru September 30th, a qualified biologist will conduct a nesting bird survey within three day prior to the start of work. If nesting birds are identified in proposed work areas, work will be postponed until the young birds have successfully fledged.

Potential impact to steelhead trout from fish entrapment is a concern for sand and gravel pits within the Salinas River channel. The proposed project is not expected to have any impacts to steelhead trout. The proposed project will skim sand to a depth of 2 feet per season with a

maximum depth over the life of the project of 5 feet below the existing elevation of the riverbed prior to the start of operations. The upper and lower edges of the pit will have a maximum inclines of 12 degrees. No work will be conducted within the live stream channel. To ensure that no fish entrapment or stranding occurs, a qualified biologist should observe the pit when static water is present after moderate to high flows. In the unlikely event that steelhead are identified as stranded in the pit, the National Marine Fisheries Service (NMFS) will be contacted to initiate a fish rescue plan and remove the steelhead to safety. The California Department of Fish and Game will also be contacted. A consultation with Mr. William Stevens, NMFS, to review potential impacts to Steelhead from the proposed project and to determine what the specific concerns and comments the agency may have in regards to the proposed project is currently underway.

As described in Section 3.3.1 above, no significant impacts to these species is expected from the implementation of the proposed project.

6.0 FINDINGS AND CONCLUSIONS

Based on the site reconnaissance, a search of faunal and floral databases and review of assessments conducted in the vicinity of the Subject Property, It was determined that five sensitive animal species have the potential to occur on the project site. Based on the site reconnaissance, the size, location, and condition of the project site and surrounding properties, impacts to natural communities were determined to be low with no adverse impacts to sensitive species expected.

The following species were identified in the CNDD or during the site reconnaissance as having a potential to occur in the region of the property, however, they were determined to be absent from the project site during the site reconnaissance.

- *American badger (Taxidea taxus) - No evidence of badger activity or potential burrows were identified in the vicinity of the project site on the Subject Property. The substrate of the Salinas River in general does not support burrowing activity except along the river bank and occasionally on some of the vegetation island. No large mammal burrows were observed along the river bank or the field on the terrace. It is unlikely that American badgers occur in the vicinity of the project site on the Subject Property. The proposed project is not anticipated to have any impacts to American badgers or impacts to associated habitat.*
- *California horned lark (Eremophila alpestris actis) - No California horned larks were identified during the site reconnaissance. Potential habitat for California horned larks exists on the irrigated field on the terrace. The proposed project is not anticipated to be in operation during the breeding season (March thru May) for California horned larks. If operations will begin during this period of time in any given year, a qualified biologist will conduct a nesting bird survey to determine if California horned larks are present within the area and the project activity will be delayed where they are identified, until nesting has ceased. No impacts to California horned larks are anticipated from the proposed project and less than significant temporary impacts are anticipated to potential habitat for this species.*
- *Least Bell's vireo (Vireo bellii pusillus) - No least Bell's vireo were identified during the site reconnaissance. No disturbance of potential habitat beyond removal of a few scattered small Fremont cottonwood trees, willow trees and sand bar willow scrub as described in Section 5.1.1 and 5.1.2. No areas of continuous canopy or riparian woodland area will be disturbed. Ingress and egress points are located in areas where no vegetation beyond grassland species will require disturbance in order to be utilized. Vegetation removal will be conducted when the vireo is not present (October 1st thru April 15th). If vegetation removal will take place during the nesting and breeding season, a qualified biologist will conduct a nesting bird survey to determine if least Bell's vireos are present. If any nesting birds are observed in the proposed work area, no work will be conducted until the young birds have fledged from the nest or the adults have abandoned the nesting site and no more activity is observed. No vegetation*

removal will be conducted until the birds have fledged or abandoned the nest site. No impact to least Bell's vireo is expected from the proposed project and impacts to potential habitat will be less than significant..

- *Yellow warbler (Dendroica petechia brewsteri) - No yellow warblers were identified during the site reconnaissance. Appropriate habitat for yellow warblers occurs along the river channel on the project site. No trees or shrubs are planned to be removed by the proposed project except those shown in the Vegetation Removal Plan in Appendix D. Ingress and egress points are located in areas where the existing vegetation will require minimal disturbance, beyond grassland species, in order to be utilized. Vegetation removal will be conducted when yellow warblers and other nesting birds are not present (October 1st thru April 15th). If vegetation removal will take place during the nesting and breeding season, a qualified biologist will conduct a nesting bird survey to determine if yellow warblers are present. No vegetation removal will be conducted until the birds have fledged or abandoned the nest site. No impact to yellow warblers is expected from the proposed project and impacts to potential habitat will be less than significant.*
- *San Joaquin kit fox (Vulpes macrotis mutica) - No evidence of kit fox activity or potential burrows were identified in the vicinity of the project site on the Subject Property. The project proposes the disturbance of less than 42.7 acres of land. The large majority of the disturbance will be in the open primary channel of the riverbed where material will be harvested and the terrace field, where material will be stored then processed. The terrace field is the only habitat present within the project boundaries that could be considered as having any potential as San Joaquin kit fox habitat. The total area of disturbance on the field is 5.3 acres. The field is disturbed on a continual basis each year to harvest multiple alfalfa crops during the spring and summer and for grazing during the fall and winter. Completion of the mitigation for impacts to potential kit fox habitat, in the form of purchased credits or other similar forms of acceptable mitigation, is anticipated to take place in the near future. It is unlikely that San Joaquin kit fox occur in the vicinity of the project site on the Subject Property*
- *Steelhead – South/Central California Coast E.S.U. (Oncorhynchus mykiss irideus) - It is very unlikely that steelhead will be impacted by the proposed project. The project proposes to skim sand to a depth of 2 feet in any season, with a maximum depth of 5 feet from the existing riverbed elevation over the life of the project, which would create shallow depressions along the river channel with up and downstream slopes of 12 degrees or less. The concern would be the potential for steelhead to become entrapped in the excavated area. The proposed project will take place during the late summer while the Salinas River is completely dry. To ensure that no fish entrapment or stranding occurs, a qualified biologist shall observe the pit when static water is present. In the unlikely event that steelhead are identified as stranded in the pit, the National Marine Fisheries Service will be contacted to initiate a fish rescue plan and remove the steelhead to safety. The California Department of Fish and Game will also be contacted. A consultation with Mr. William Stevens, NMFS to review potential impacts*

to Steelhead from the proposed project and to determine what the specific concerns and comments the agency may have in regards to the proposed project is currently underway. Impacts to steelhead or associated habitat by the proposed project will be less than significant.

- *Monterey woodrat (Neotoma fucipes luciana) - No activities proposed by the project will occur in the vicinity of the area where the woodrat nests were identified. No woodrats, woodrat nests, or habitat in the vicinity of the nests is anticipated to be disturbed by the project. It is unlikely that the proposed project will have any impact to Monterey woodrats. Disturbance within the Fremont cottonwood woodland is limited to two access points proposed to be located in the southern portion of the confluence area. These access points are located where a natural break in the vegetation occurs and impacts and disturbance to the woodland will be limited to hand trimming of trees and removal of a minimal area of shrubs in order to be utilized.*

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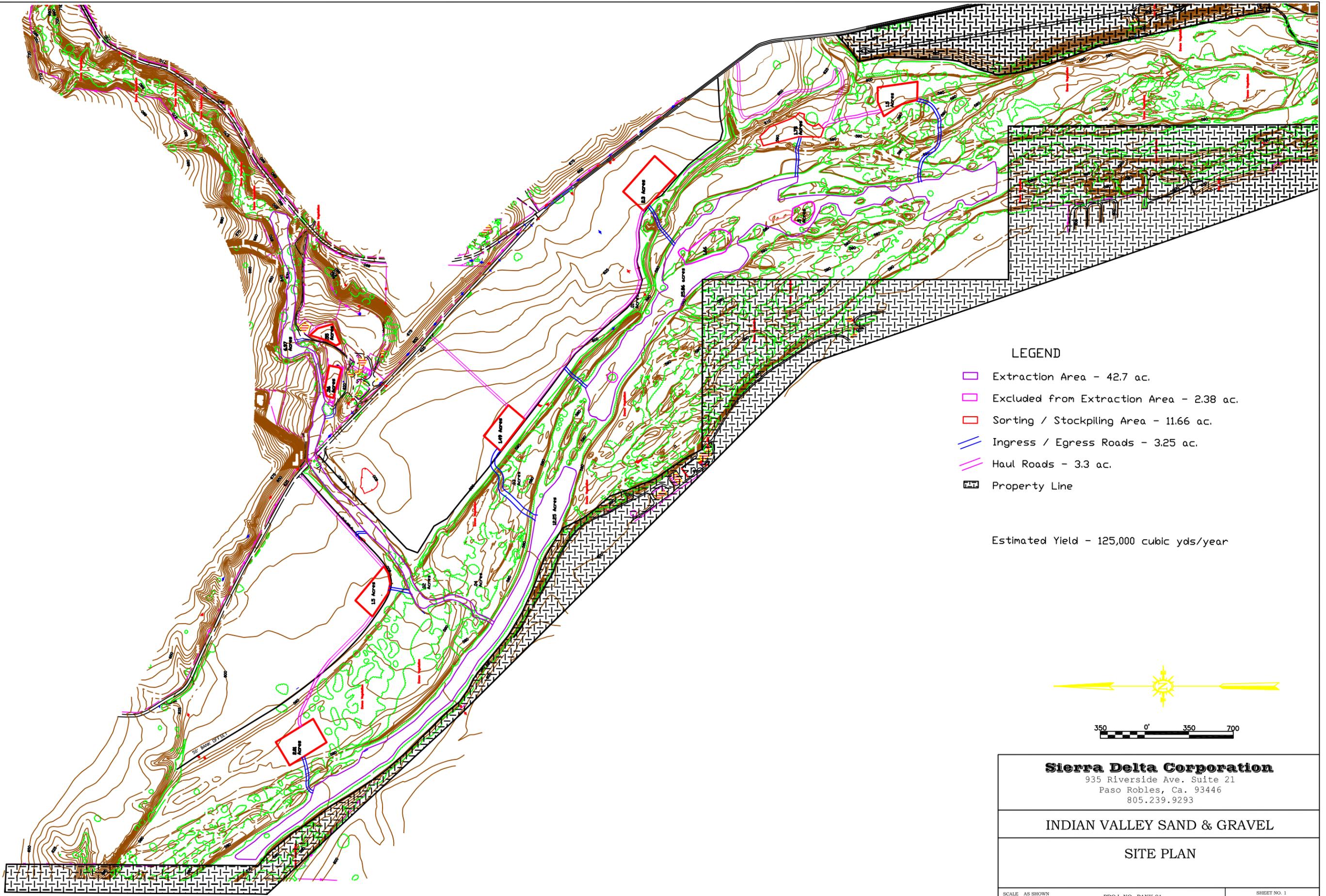
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APPENDIX A

Site Map



LEGEND

- Extraction Area - 42.7 ac.
- Excluded from Extraction Area - 2.38 ac.
- Sorting / Stockpiling Area - 11.66 ac.
- Ingress / Egress Roads - 3.25 ac.
- Haul Roads - 3.3 ac.
- Property Line

Estimated Yield - 125,000 cubic yds/year



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INDIAN VALLEY SAND & GRAVEL

SITE PLAN

SCALE AS SHOWN	PROJ. NO. PANK.01	SHEET NO. 1 OF 3 SHEETS
DESIGNED BY S.D.C.	DATE MARCH 23, 2006	CAD FILE DATE REV. 1
DRAWN BY B.C.		

APPENDIX B

Site Photographs



Photograph 1: View facing east showing the irrigated alfalfa field that occurs along the eastern terrace of the Salinas River.



Photograph 2: View facing west showing the existing access road to the riverbed along the south edge of the alfalfa fields. The riverbed flood plain is shown at the center of the photograph.



Photograph 3: View facing north showing the bank along the terrace below the southern portion of the alfalfa fields.



Photograph 4: View facing north showing one of the open secondary channels that occurs west of the southern portion of the alfalfa fields.



Photograph 5: View showing the eastern most secondary channel and the terrace bank in the background.



Photograph 6: View facing southeast showing the bank of the terrace along the southern alfalfa field.



Photograph 7: View showing the typical condition of the Fremont cottonwood riparian habitat that occurs along the flood plain of the river adjacent to the northern alfalfa fields.



Photograph 8: View facing west from the Indian Valley Road bridge showing the channel of Vineyard Canyon Creek. Occasional areas of Central Coast riparian scrub occur along the lower portion of the channel.



Photograph 9: View showing the Indian Valley Road bridge that crosses Vineyard Canyon Creek. Note the elevation of the sand in the channel compared to the bridge elevation.



Photograph 10: View showing the typical Fremont cottonwood riparian habitat that occurs along the primary channel of the river.



Photograph 11: View showing the typical non-native annual grassland habitat and the northern boundary of the property. The property beyond the fenceline shown is State Wildlife Area.

APPENDIX C

San Joaquin Kit Fox Habitat Evaluation Form

**Mike McGovern
Consulting Biologist
1788 Corbett Highlands Pl.
Arroyo Grande, CA 93420
805-489-0660**

October 3, 2005

Mr. Cletis England
Sierra Delta Corporation
935 Riverside Drive
Suite 21
Paso Robles, CA

Dear Cletis,

Please find enclosed a San Joaquin Kit Fox Habitat Evaluation Form for a property that I reviewed this morning in and east of the Salinas River channel immediately north of the San Miguel Bridge, San Miguel, CA. It is my understanding that the owner of the property proposes to extract sand from one of the channels of the Salinas River and stockpile it in two locations on adjacent portions of the property. The property from where the sand is to be extracted is sandy river channel and does not seem appropriate habitat for construction of dens by kit fox. The area where the sand is proposed to be stockpiled is, however, on land that can be considered potential habitat for kit fox although it is presently in agricultural use. It is this area that the form addresses.

The area, in general, where the property is located is within a domain that the California Department of Fish and Game considers important to kit fox and asks that mitigation be met at a 3:1 ratio if you choose to do so. An alternative is to have a Kit Fox Habitat Evaluation Form completed if it is thought that there may be a more appropriate ratio applied. I am submitting a completed form that garnered a score of 73 points. This score equates to a 3:1 ratio. This is the same ratio that is proposed by the California Department of Fish and Game to be automatically selected for a project in this area if you choose. Question #10 on the Kit Fox Habitat Evaluation Form offers a score of 0 if no kit fox have been spotted within three miles of the proposed project within the last ten years. The CNDDDB report suggests that this may be the case, as I believe that you mentioned to me, but there are kit fox known to inhabit the southern portions of Camp Roberts not far from Highway 101 that is within three miles of the proposed project. Therefore, the score for question #10 is ten points. Because of the time constraints involved here I have not the time to confirm with the biologist at Camp Roberts the most recent sightings of kit fox on the base. If I am in error then the score on the form will suggest a 2:1 ratio.

Sincerely,

Mike McGovern



Kit FOX Habitat Evaluation Form

Sierra Delta Cover Sheet

Project Name PanK101 Date 10-3-05

Project Location* INDIAN Valley Rd 1/2 mile North of Viney

*{include project vicinity map and project boundary on copy of U.S.G.S. 75 minute map (size may be reduced)}

U.S.G.S. Quad Map Name SAN Miguel

Lat/Long or UTM coordinates (if available) 0768000 / 3961500

Project Description: SAND mining

Project Size: _____ Acres Amount of Kit Fox Habitat Affected: _____ Acres

Quantity of WHR Habitat Types Impacted (ie. -2 acres annual grassland, 3 acres blue oak woodland)

WHR type Agricultural _____ Acres

WHR type _____ Acres

WHR type _____ Acres

WHR type _____ Acres

Comments: _____

Form Completed By: MIKE MCGOVERN

San Joaquin Kit Fox Habitat Evaluation Form

Is the project area within 10 miles of a recorded San Joaquin kit fox observation or within contiguous suitable habitat as defined in Question 2(A-E)?

YES - Continue with evaluation form

NO - Evaluation form/surveys not necessary.

1. Importance of the project area relative to *Recovery Plan for Upland Species of the San Joaquin Valley, California* (Williams et al., 1998).

- A. Project would block or degrade an existing corridor linking core populations or a core population to a subpopulation (20)
- B. Project is within core population (15)
- C. Project area is identified within satellite population (12)
- D. Project area is within a corridor linking satellite populations (10)
- E. Project area is not within any of the previously described areas but is within known kit fox range (5)

2. Habitat characteristics of project area.

- A. Annual grassland or saltbush scrub present >50 % of site (15)
- B. Grassland or saltbush scrub present but comprises <50% of project area (10)
- C. Oak savannah present on >50 % of site (8)
- D. Fallow ag fields or grain/alfalfa crops (7)
- E. Orchards/vineyards (5)
- F. Intensively maintained row crops or suitable vegetation absent (0)

3. Isolation of project area.

- A. Project area surrounded by contiguous kit fox habitat as described in Question 2a-e (15)
- B. Project area adjacent to at least 40 acres of contiguous habitat or part of an existing corridor (10)
- C. Project area adjacent to <40 acres of habitat but linked by existing corridor (i.e.-river, canal, aqueduct) (7)
- D. Project area surrounded by ag but less than 200 yards from habitat (5)
- E. Project area completely isolated by row crops or development and is greater than 200 yards from potential habitat (0)

4. Potential for increased mortality as a result of project implementation. Mortality may come from direct (e.g. - construction related) or indirect (e.g. - vehicle strikes due to increases in post development traffic) sources.

- A. Increase mortality likely (10)
- B. Unknown mortality effects (5)
- C. No long term effect on mortality (0)

5. Amount of potential kit fox habitat affected

- A. > 320 acres (10)
- B. 160 - 319 acres (7)
- C. 80 - 159 acres (5)
- D. 40 - 79 acres (3)
- E. 1 - 40 acres (1)
- F. < 1 acre (0)

6. Results of project implementation.

- A. Project site will be permanently converted and will no longer support foxes (10)
- B. Project area will be temporarily impacted but will require periodic disturbance for ongoing maintenance (7)
- C. Project area will be temporarily impacted and no maintenance necessary (5)
- D. Project will result in changes to agricultural crops (2)
- E. No habitat impacts (0)

7. Project Shape

- A. Single block (10)
- B. Linear with >40 foot right-of-way (5)
- C. Linear with <40 foot right-of-way (3)

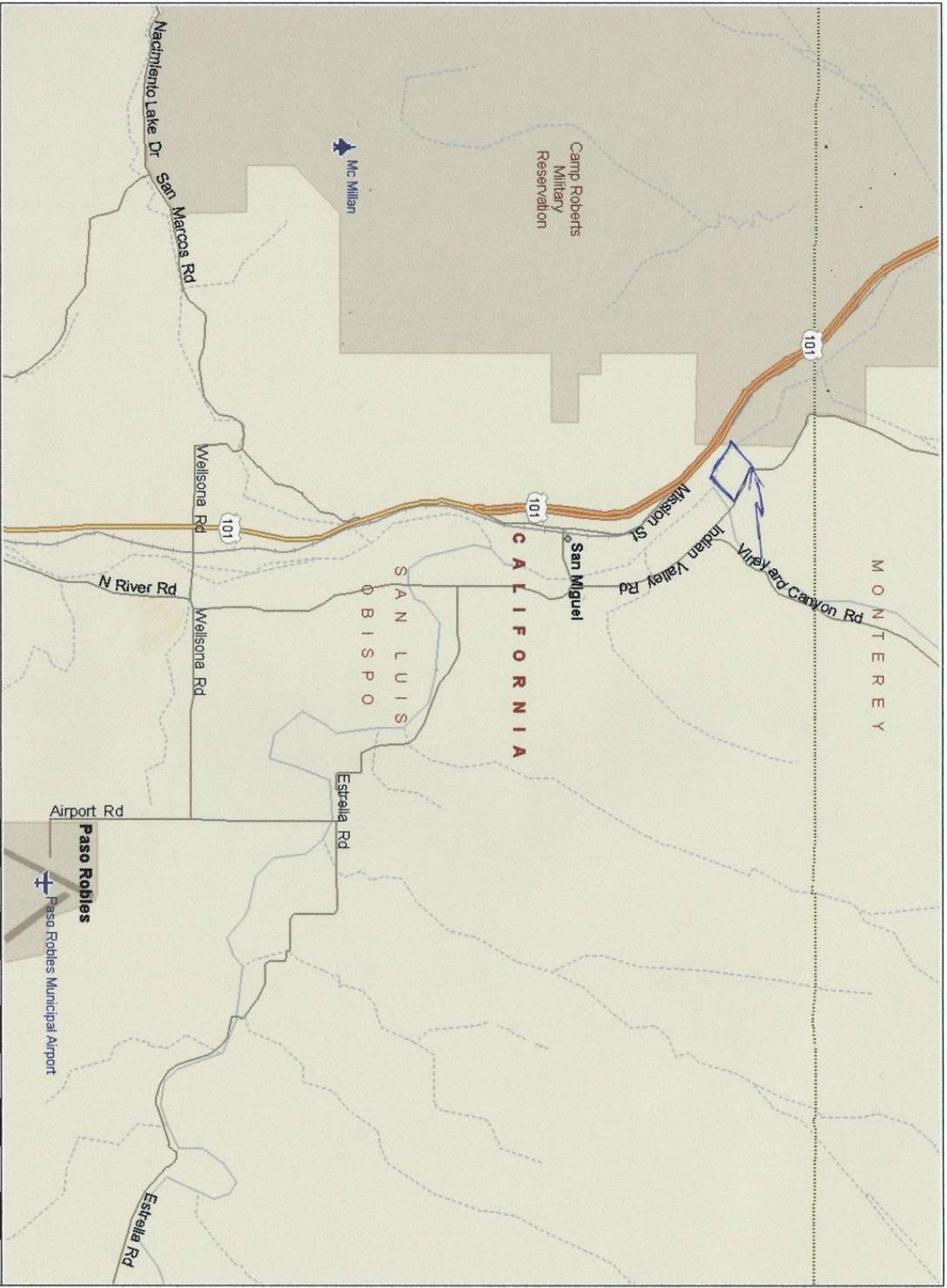
8. Have San Joaquin kit foxes been observed within 3 miles of the project area within the last 10 years?

- A. Yes (10)
- B. No (0)

Scoring

1. Recovery importance	<u>20</u>
2. Habitat condition	<u>7</u>
3. Isolation	<u>10</u>
4. Mortality	<u>5</u>
5. Quantity of habitat impacted	<u>1</u>
6. Project results	<u>10</u>
7. Project shape	<u>10</u>
8. Recent observations	<u>10</u>
TOTAL	<u>73</u>

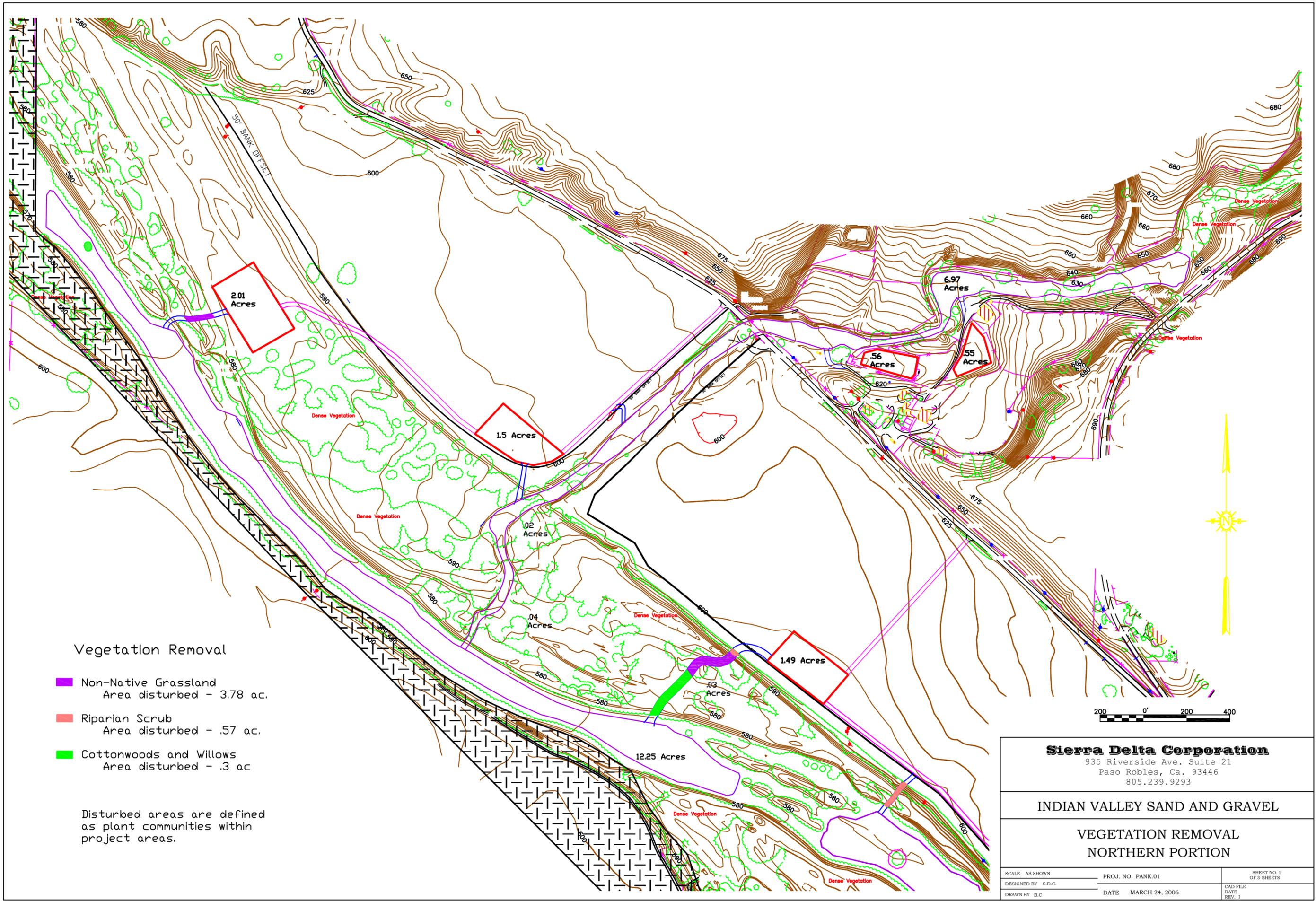
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APPENDIX D

Vegetation Removal Plan



Vegetation Removal

- Non-Native Grassland
Area disturbed - 3.78 ac.
- Riparian Scrub
Area disturbed - .57 ac.
- Cottonwoods and Willows
Area disturbed - .3 ac

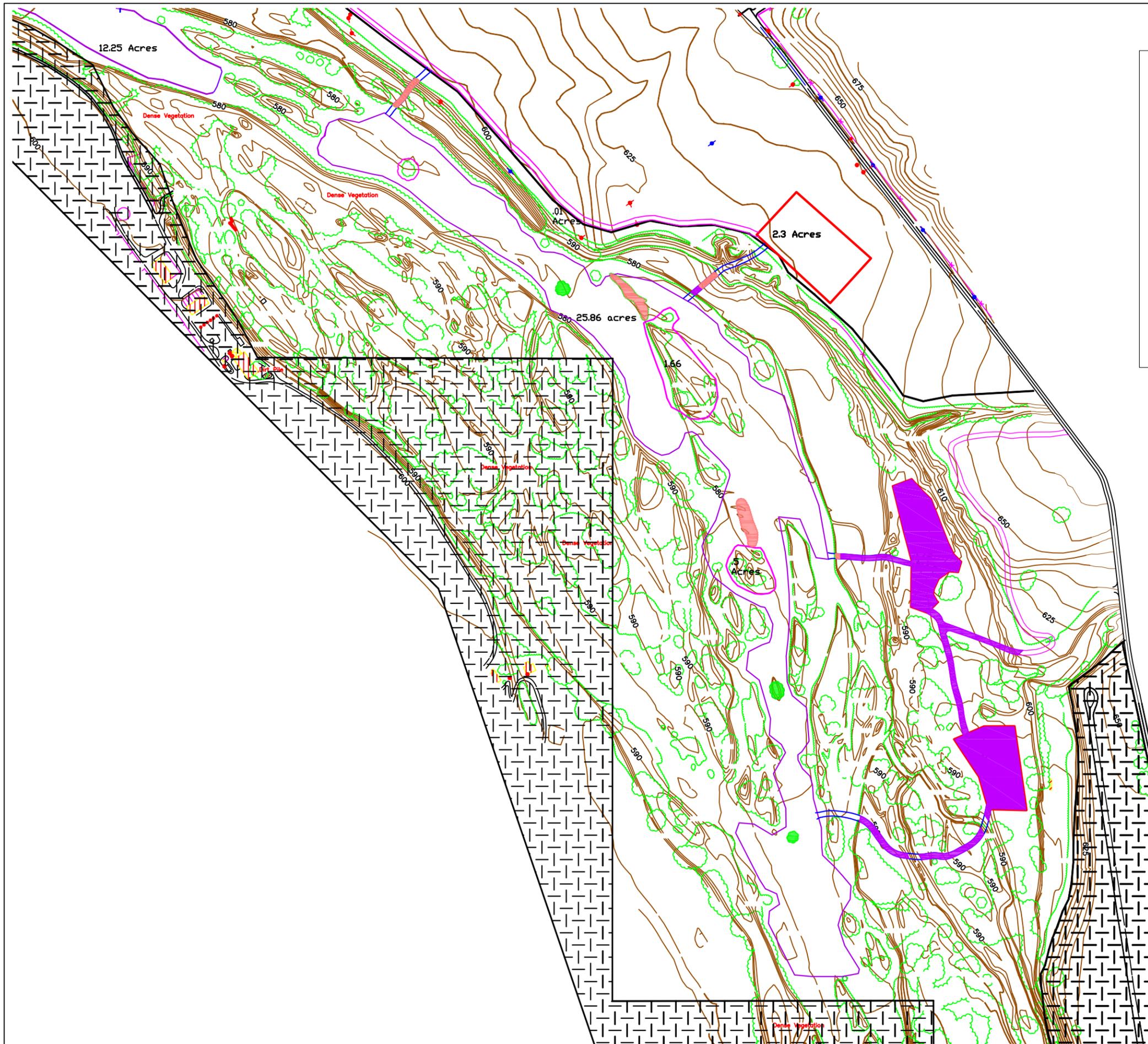
Disturbed areas are defined as plant communities within project areas.

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INDIAN VALLEY SAND AND GRAVEL

**VEGETATION REMOVAL
 NORTHERN PORTION**

SCALE AS SHOWN	PROJ. NO. PANK.01	SHEET NO. 2 OF 3 SHEETS
DESIGNED BY S.D.C.	DATE MARCH 24, 2006	CAD FILE DATE REV. 1
DRAWN BY B.C.		



Vegetation Removal

- Non-Native Grassland
Area disturbed - 3.78 ac.
- Riparian Scrub
Area disturbed - .57 ac.
- Cottonwoods and Willows
Area disturbed - .3 ac

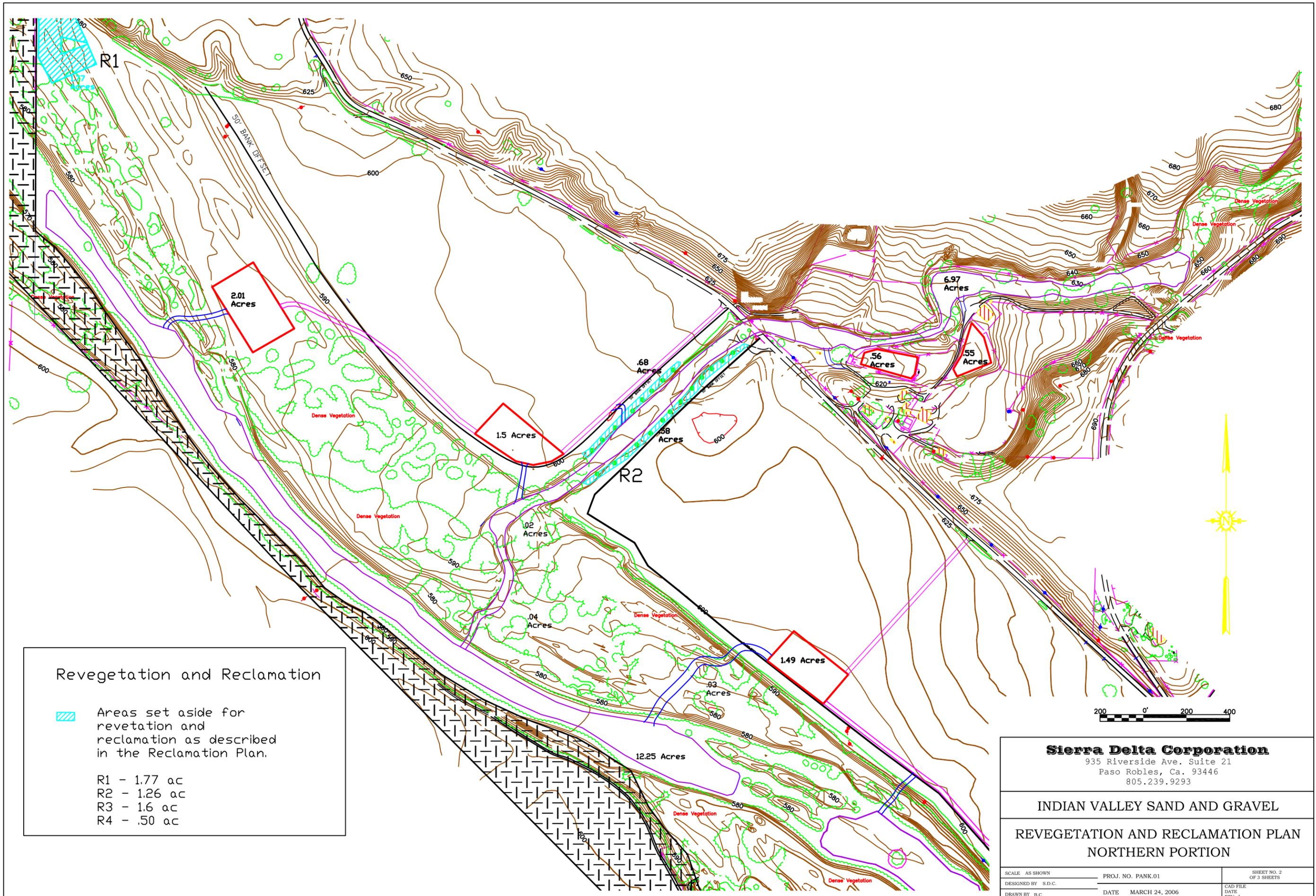
Disturbed areas are defined as plant communities within project areas.



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VEGETATION REMOVAL SOUTHERN PORTION		
SCALE AS SHOWN	PROJ. NO. PANK.01	SHEET NO. 3 OF 3 SHEETS
DESIGNED BY S.D.C.	DATE MARCH 24, 2006	CAD FILE DATE REV. 1
DRAWN BY B.C.		

APPENDIX E

Reclamation and Revegetation Plan



Revegetation and Reclamation

 Areas set aside for revegetation and reclamation as described in the Reclamation Plan.

- R1 - 1.77 ac
- R2 - 1.26 ac
- R3 - 1.6 ac
- R4 - .50 ac

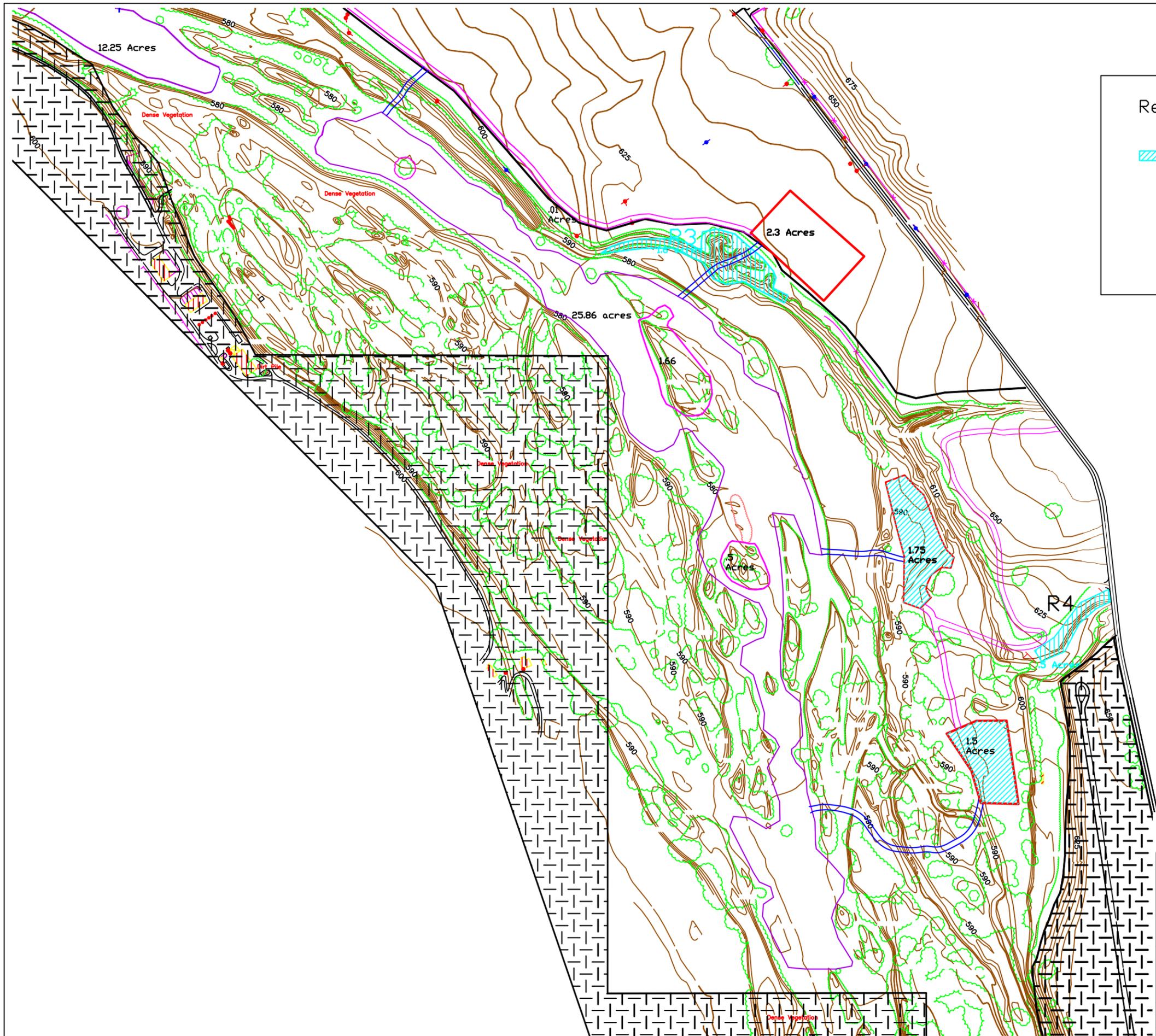
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INDIAN VALLEY SAND AND GRAVEL

REVEGETATION AND RECLAMATION PLAN
 NORTHERN PORTION

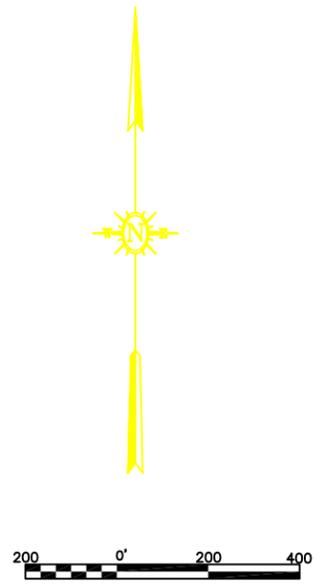
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DESIGNED BY S.D.C.	DATE MARCH 24, 2006	CAD FILE DATE REV. 1
DRAWN BY B.C.		



Revegetation and Reclamation

 Areas set aside for revegetation and reclamation as described in the Reclamation Plan.

R1 - 1.77 ac
 R2 - 1.26 ac
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 R4 - .50 ac



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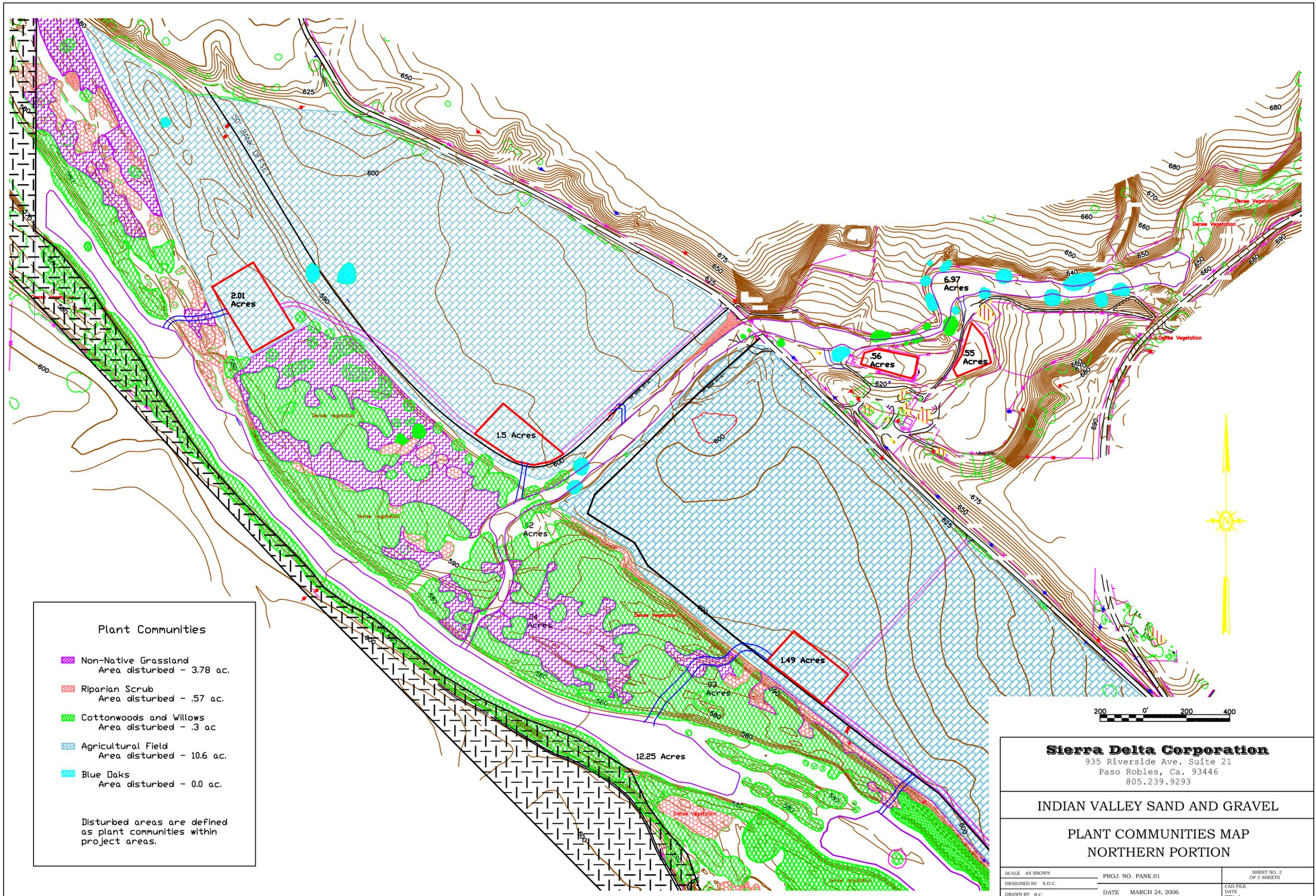
INDIAN VALLEY SAND & GRAVEL

RECLAMATION AND REVEGETATION PLAN
 SOUTHERN PORTION

SCALE AS SHOWN	PROJ. NO. PANK.01	SHEET NO. 3 OF 3 SHEETS
DESIGNED BY S.D.C.	DATE MARCH 24, 2006	CAD FILE
DRAWN BY B.C.		DATE REV. 1

APPENDIX F

Plant Communities Map



Plant Communities

	Non-Native Grassland Area disturbed - 3.78 ac.
	Riparian Scrub Area disturbed - .57 ac.
	Cottonwoods and Willows Area disturbed - .3 ac.
	Agricultural Field Area disturbed - 10.6 ac.
	Blue Oaks Area disturbed - 0.0 ac.

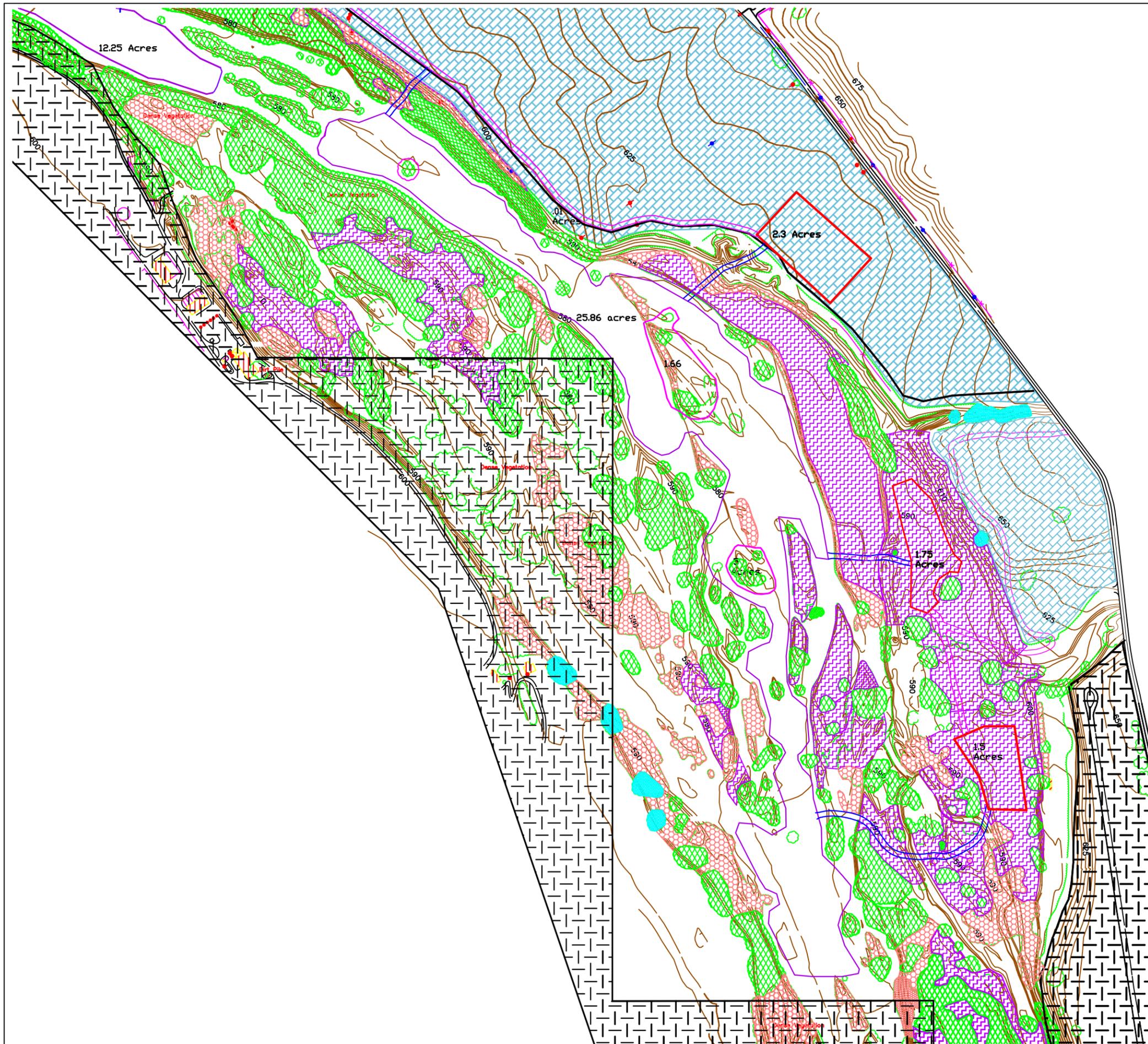
Disturbed areas are defined as plant communities within project areas.

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INDIAN VALLEY SAND AND GRAVEL

**PLANT COMMUNITIES MAP
 NORTHERN PORTION**

SCALE AS SHOWN	PROJ. NO. PANK.01	SHEET NO. 2 OF 3 SHEETS
DESIGNED BY S.D.C.	DATE MARCH 24, 2006	CAD FILE DATE REV. 1
DRAWN BY B.C.		



Plant Communities	
	Non-Native Grassland Area disturbed - 3.78 ac.
	Riparian Scrub Area disturbed - .57 ac.
	Cottonwoods and Willows Area disturbed - .3 ac
	Agricultural Field Area disturbed - 10.6 ac.
	Blue Oaks Area disturbed - 0.0 ac.

Disturbed areas are defined as plant communities within project areas.



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INDIAN VALLEY SAND & GRAVEL

PLANT COMMUNITIES MAP
 SOUTHERN PORTION

SCALE AS SHOWN	PROJ. NO. PANK.01	SHEET NO. 3 OF 3 SHEETS
DESIGNED BY S.D.C.	DATE MARCH 24, 2006	CAD FILE DATE REV. 1
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