APPENDIX B-7

2011 FOCUSED PLANT SURVEY LETTER REPORT

BonTerra CONSULTING
225 South Lake Avenue, Suite 1000 Pasadena, CA 91101
T: (626) 351-2000 F: (626) 351-2030 | www.BonTerraConsulting.com

December 5, 2011

Mr. Philip Siongco
Water Resources Division
Department of Public Works
County of Los Angeles
900 South Fremont Avenue
Alhambra, California 91802-1460

VIA EMAIL AND U.S. MAIL
PSIONGCO@dpw.lacounty.gov

Subject: Results of 2011 Focused Plant Surveys for the Big Tujunga Reservoir Sediment Removal Project, Los Angeles County, California

Dear Mr. Siongco:

This Letter Report presents the findings of 2011 focused plant surveys conducted for the Big Tujunga Reservoir Sediment Removal Project (hereafter referred to as "the Proposed Project") in Los Angeles County, California (Exhibit 1).

Survey Area

Big Tujunga Canyon is located on the southern edge of the San Gabriel Mountains within the Angeles National Forest, and is located on the U.S. Geological Survey's (USGS') Condor Peak 7.5-minute topographic quadrangle at Township 3 North, Range 12 West, Sections 29, 31, and 32 (Exhibit 2). The survey area for special status plants consists of the proposed sediment removal area within the reservoir, the haul route downstream of Big Tujunga Dam, and the proposed fill areas within the existing Maple Canyon Sediment Placement Site (SPS) with a 100-foot buffer around these areas.

Topography in the survey area consists of sheer cliffs and steep slopes to the canyon bottom; elevations range from approximately 2,150 to 3,400 feet above mean sea level (msl). The survey area and surrounding vicinity consist of open space within the Angeles National Forest.

Soils in the survey area consist of Trigo; granitic substratum-Modjeska families association (5 to 60 percent slopes); Rock outcrop-Chilao family-Haploxerolls, warm association (15 to 120 percent slopes); Typic Xerorthents, warm (55 to 90 percent slopes); and Olete-Kilburn-Etsel families complex (50 to 80 percent slopes) (Exhibit 3).

METHODS

Botanical surveys were floristic in nature and conducted following the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFG 2009). A literature search was conducted to identify special status plants and habitats known to occur in the vicinity of the survey area. Sources reviewed include the USGS Sunland, Condor Peak, Chilao Flat, Burbank, Pasadena, and Mount Wilson 7.5-minute quadrangles in the California Native Plant Society's (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPS 2011) and the California Department of Fish and Game's (CDFG's) California Natural Diversity Database (CNDDB) (CDFG 2011).

Reference populations were monitored for annual and difficult-to-detect target species to ensure that the scheduled surveys were comprehensive and conducted during the appropriate blooming period for these species, as shown in Table 1. Reference populations of CNPS List 3 and 4 species, and perennial species that are readily observable were not monitored. Known reference populations of Plummer's mariposa lily (*Calochortus plummerae*), California satintail (*Imperata brevifolia*), fragrant pitcher sage (*Lepechinia fragrans*), Davidson's bush-mallow (*Malacothamnus davidsonii*), and Greata's aster (*Symphyotrichum greatae*) were monitored to confirm their flowering status and to verify that project surveys were conducted during the appropriate blooming period for these species. Based on the reference survey results, the project surveys were conducted during a time frame when the target plant species were observable.

TABLE 1
SPECIAL STATUS PLANT SPECIES REFERENCE POPULATIONS

Species	Status	Date Checked	General Location
Malacothamnus davidsonii Davidson's bush-mallow	Flowering	April 20, 2011	Lower Big Tujunga Canyon, Sunland, California
Calochortus plummerae Plummer's mariposa lily	Flowering	June 9, 2011	Van Tassel Ridge, Azusa, California
Lepechinia fragrans fragrant pitcher sage	Flowering	June 13, 2011	Survey Area
Symphyotrichum greatae Greata's aster	Flowering	August 15, 2011	Monte Cristo Creek, Angeles National Forest
Imperata brevifolia California satintail	Flowering	August 26, 2011	Wildwood picnic area, Angeles National Forest

According to the National Weather Service (NWS), the region (data taken from Burbank) received 19.72 inches of precipitation this season (i.e., July 1, 2010–June 30, 2011), which is 113 percent of the average precipitation between 1971 and 2000 (NWS 2011). Rainfall was recorded at above-average levels throughout the Los Angeles Basin, with many areas receiving the highest rainfall since the 2005–2006 season (NWS 2011).

All potentially suitable habitats for special status plant species within the survey area were systematically surveyed during the site visits. Target species consisted of special status plant species known to occur in the vicinity and with potentially suitable habitat present in the survey area (Table 1). The special status plant species survey was conducted on April 20 and 27, 2011, by BonTerra Consulting Senior Botanist Robert Allen and Consulting Botanist David Bramlet; June 13, 2011, by Mr. Bramlet and Consulting Botanist Sandy Leatherman; and June 15, 16, and August 26, 2011, by Mr. Bramlet. The total number of person-hours spent was 69 hours.

All plant species observed were recorded in field notes. Plant species were identified in the field or collected for later identification. Plants were identified to the taxonomic level necessary to determine whether or not they are a special status species. Plants were identified using taxonomic keys, descriptions, and illustrations in Baldwin et al. (2011), Hickman (1993), and Munz (1974). Taxonomy and nomenclature follows Baldwin et al. (2011), Hickman (1993), and current scientific journals for scientific and common names.

For each special status species population observed, data was collected on the number and phenology of individuals and microsite characteristics such as slope, aspect, soil texture, surrounding habitat, and associated species.

SITE DESCRIPTION

The following vegetation types and land covers were observed in the survey area: coastal sage scrub, chaparral (with chamise chaparral, scrub oak chaparral, and mixed chaparral subassociations), California annual grassland, disturbed freshwater seep, riparian herb, willow riparian scrub, willow riparian forest, white alder – Fremont cottonwood – willow riparian forest, California sycamore woodland, coast live oak stands, bigcone Douglas-fir – canyon live oak woodland (forest), open water, streambed, cliff, and developed (Exhibit 4). Many of these areas were burned in the 2009 Station Fire, but are now recovering.

Coastal Sage Scrub

Coastal sage scrub vegetation is uncommon in the survey area, but was located near some of the disturbed areas below and adjacent to the dam. Common shrub species in this vegetation type include deerweed (*Acmispon glaber* [*Lotus scoparius*]), leafy California buckwheat (*Eriogonum fasciculatum* var. *foliolosum*), thick-leaved yerba santa (*Eriodictyon crassifolium*), poodle-dog bush (*Eriodictyon parryi* [*Turricula parryi*]), California-aster (*Corethrogyne filaginifolia* [*Lessingia filaginifolia*]), black sage (*Salvia mellifera*), white sage (*Salvia apiana*), and our Lord's candle (*Hesperoyucca whipplei* [*Yucca whipplei*]).

Chaparral

Chaparral vegetation is the most common vegetation type within the survey area, occurring along most canyon slopes. This vegetation type is highly variable and has been delineated into various subassociations. The following subassociations were observed in the survey area: (1) chamise chaparral; (2) scrub oak chaparral; and (3) mixed chaparral. Chamise chaparral occurs along most of the canyon slopes in the survey area. This vegetation type has a relatively open canopy and is dominated by the large shrubs chamise (*Adenostoma fasciculatum var. fasciculatum*) and thick-leaved yerba santa. Scrub oak chaparral occurs on the north-facing slopes in the Maple Canyon SPS and on some slopes above the dam. This vegetation type is dominated by scrub oak (*Quercus berberidifolia*) in some areas that were previously burned and is currently regrowing; other areas are dominated by canyon live oak (*Quercus chrysolepis*). The understory includes species such as California poppy (*Eschscholzia californica*), ripgut brome (*Bromus diandrus*), and foxtail chess (*Bromus madritensis* ssp. *rubens*). Mixed chaparral occurs on canyon slopes throughout the survey area. These areas contain a mix of chaparral species, and vegetative cover is sparser than in the chamise chaparral with more exposed rock and bare ground present. Most of the slopes on which this vegetation type is found burned during the 2009 Station Fire and shrubs and trees are commonly sprouting from the base.

California Annual Grassland

California annual grassland occurs between the switchbacks of the access roads near the entrance to the dam facilities and the Maple Canyon SPS. This area has been previously used to deposit sediment from the reservoir. This vegetation type is dominated by a variety of non-native grasses including ripgut brome, foxtail chess, and wild oat (*Avena* sp.). Some scattered California poppy, Spanish broom (*Spartium junceum*), scrub oak, and pine (*Pinus* sp.) are also present.

Disturbed Freshwater Seep

Disturbed freshwater seep occurs downstream of Big Tujunga Reservoir on the slope north of the canyon bottom. While there is an underlying native component of species such as thick-leaved yerba santa, stream orchid (*Epipactis gigantea*), cryptantha (*Cryptantha* sp.), and deerweed, the area contains a large proportion of non-native species such as crofton weed

(*Ageratina adenophora*), Mediterranean schismus (*Schismus barbatus*), fescue (*Festuca* sp. [*Vulpia* sp.]), foxtail chess, ripgut brome, wild oat, red-stemmed filaree (*Erodium cicutarium*), and tree tobacco (*Nicotiana glauca*).

Riparian Herb

Riparian herb vegetation occurs along the canyon bottom above Big Tujunga Reservoir. This vegetation type is generally dominated by herbaceous species such as seep monkeyflower (*Mimulus guttatus*), bentgrass (*Agrostis* sp.), smilo grass (*Piptatherum miliaceum*), long-leaved rush (*Juncus macrophyllus*), great marsh evening primrose (*Oenothera elata*), great water speedwell (*Veronica anagallis-aquatica*), water cress (*Nasturtium officinale* [*Rorippa nasturtium-aquaticum*]), common beggar-ticks (*Bidens pilosa*), annual beard grass (*Polypogon monspeliensis*), willow weed (*Persicaria lapathifolia* [*Polygonum lapathifolium*]), crofton weed, white sweetclover (*Melilotus alba*), scarlet monkeyflower (*Mimulus cardinalis*), barnyard grass (*Echinochloa crus-galli*), false daisy (*Eclipta prostrata*), and tall umbrella-sedge (*Cyperus eragrostis*).

Willow Riparian Scrub

Willow riparian scrub occurs along the canyon bottom and up some side drainages above Big Tujunga Reservoir. This vegetation type is dominated by arroyo willow (*Salix lasiolepis*) and mule fat (*Baccharis salicifolia*) with lesser amounts of red willow (*Salix laevigata*) and black willow (*Salix gooddingii*). The understory contains western poison oak (*Toxicodendron diversilobum*), mugwort (*Artemisia douglasiana*), branching phacelia (*Phacelia ramosissima*), crofton weed, and white sweetclover.

Willow Riparian Forest

Willow riparian forest occurs at the canyon bottom downstream of the dam. This vegetation type is dominated by a mix of arroyo willow and Goodding's black willow with an understory containing tree tobacco, ripgut brome, and chaparral nightshade (*Solanum xanti*). A few scattered white alder (*Alnus rhombifolia*) and Fremont cottonwood (*Populus fremontii* ssp. *fremontii*) are also present. This vegetation type burned during the 2009 Station Fire, and willow trees are re-sprouting from the base.

White Alder – Fremont Cottonwood – Willow Riparian Forest

White alder – Fremont cottonwood – willow riparian forest occurs along some side drainages above Big Tujunga Reservoir. This vegetation type is composed of white alder, Fremont cottonwood, red willow, black willow, and Pacific willow (*Salix lasiandra* var. *lasiandra* [*Salix lucida* ssp. *lasiandra*]), with some tall arroyo willows.

California Sycamore Woodland

California sycamore woodland occurs in smaller drainages within the Maple Canyon SPS. This vegetation type is dominated by scattered stands of California sycamore with arroyo willow, black willow, and red willow in the overstory. Other shrubs and perennial herbs in the understory consist of California brickellbush (*Brickellia californica*), narrow-leaved fuchsia (*Epilobium canum*), branching phacelia, everlasting (*Pseudognaphalium canescens* [*Gnaphalium canescens*]), seep monkeyflower, bentgrass, and showy monkeyflower (*Mimulus floribundus*).

Coast Live Oak Stands

A few stands of coast live oak individuals occur in the survey area. The stand along the access road leading to the Maple Canyon SPS has an understory of chamise, thick-leaved yerba santa, our Lord's candle, black sage, deerweed, and chaparral nightshade. The stand along the access road downstream of the dam contains a sparse understory of non-native grasses with much bare ground. No significant fire damage to oak trees was noted during the field survey.

Bigcone Douglas-fir – Canyon Live Oak Woodland (Forest)

Bigcone Douglas-fir – canyon live oak woodland (forest) occurs on the steep slopes above Big Tujunga Reservoir. This vegetation type is dominated by bigcone Douglas-fir (*Pseudotsuga macrocarpa*) and canyon live oak. This area was inaccessible during the surveys, but other species expected to be present include those found in the mixed chaparral, such as scrub oak and birch-leaf mountain-mahogany (*Cercocarpus betuloides* var. *betuloides*).

Open Water

Open water occurs upstream of Big Tujunga Dam along the active channel. Water levels were high during the initial survey and made much of the canyon (upstream of the dam) inaccessible. Water levels decreased over the course of the season, and the areas above the dam were more accessible. Open water downstream of the dam that was flowing through the willow riparian forest is not included in this category because of the willow canopy and relatively limited extent of open water.

Streambed

Areas mapped as streambed are the portions of Big Tujunga Creek that are currently unvegetated and adjacent to the current active channel. Some of the areas consist of gravel or sandbars while other areas contain woody debris or sediment deposits. Some scattered vegetation, including old "islands" of broad-leaved cattail (*Typha latifolia*) or germinating herbaceous species, are also present in the streambed; these vegetated areas are too small and patchy to be mapped separately.

Cliff

Cliff faces occur on the steep slopes throughout the survey area. These areas are rocky and largely unvegetated. No impacts are expected to this vegetation type as it occurs outside of the proposed sediment excavation limits.

Ornamental

Ornamental plantings along the existing roads include common oleander (*Nerium oleander*), gum (*Eucalyptus* sp.), pine, and coast live oak.

Developed

Developed areas occur throughout the lower portion of the survey area. This consists of the dam facilities, access roads, debris piles, concrete canyon walls, and riprap.

SURVEY RESULTS

Four special status plant species were observed during focused surveys: Plummer's mariposa lily, fragrant pitcher sage, San Gabriel oak, and Greata's aster. Table 2 summarizes the survey results and characterizes the habitat suitability for each special status plant species in the survey area. A list of all plants observed during the 2011 surveys is included in Appendix A.

Special status plant observations are discussed in more detail below and are shown in Exhibit 5. Voucher specimens were collected and deposited in the herbarium at Rancho Santa Ana Botanical Gardens. Representative photographs of each species are included in Appendix B. Details on individual populations are included in Appendix C. A CNDDB Field Survey Form for each species' occurrences is included in Appendix D.

TABLE 2
SPECIAL STATUS PLANT SPECIES KNOWN TO OCCUR IN THE VICNITY OF THE SURVEY AREA

Species	Status[a]				Likelihood for Occurrence
	USFWS	CDFG	CNPS	USFS	
Astragalus brauntonii Braunton's milk-vetch	FE	—	1B.1	—	Not expected to occur; outside known range.
Atriplex parishii Parish's brittlescale	—	—	1B.1	—	Not expected to occur; no suitable habitat.
Berberis nevinii Nevin's barberry	FE	SE	1B.1	—	May occur; potentially suitable habitat. Not observed during focused surveys.
California macrophylla round-leaved filaree	—	—	1B.1	—	Not expected to occur; no suitable habitat.
Calochortus clavatus var. *gracilis* slender mariposa lily	—	—	1B.2	FSS	May occur; potentially suitable habitat. Not observed during focused surveys.
Calochortus plummerae **Plummer's mariposa lily**	**—**	**—**	**1B.2**	**FSS**	**Suitable habitat present. Observed during focused surveys.**
Calochortus striatus alkali mariposa lily	—	—	1B.2	FSS	Not expected to occur; no suitable habitat; outside known range.
Castilleja gleasonii Mount Gleason paintbrush	—	SR	1B.2	FSS	Not expected to occur; no suitable habitat; outside known range.
Centromadia parryi ssp. *australis* southern tarplant	—	—	1B.1	—	Not expected to occur; no suitable habitat.
Chorizanthe parryi var. *fernandina* San Fernandino Valley spineflower	FC	SE	1B.1	FSS	Not expected to occur; outside known range.
Chorizanthe parryi var. *parryi* Parry's spineflower	—	—	1B.1	FSS	May occur; potentially suitable habitat. Not observed during focused surveys.
Cladium californicum California saw-grass	—	—	2.2	—	May occur; potentially suitable habitat. Not observed during focused surveys.
Dodecahema leptoceras slender-horned spineflower	FE	SE	1B.1	—	Not expected to occur; no suitable habitat.
Dudleya multicaulis many-stemmed dudleya	—	—	1B.2	FSS	Not expected to occur; no suitable habitat.
Galium grande San Gabriel bedstraw	—	—	1B.2	FSS	Not expected to occur; no suitable habitat.
Helianthus nuttallii ssp. *parishii* Los Angeles sunflower	—	—	1A	—	Not expected to occur; no suitable habitat; presumed extinct.
Horkelia cuneata ssp. *puberula* mesa horkelia	—	—	1B.1	FSS	May occur; potentially suitable habitat. Not observed during focused surveys.
Imperata brevifolia California satintail	—	—	2.1	FSS	May occur; potentially suitable habitat. Not observed during focused surveys.

TABLE 2 (Continued)
SPECIAL STATUS PLANT SPECIES KNOWN TO OCCUR IN THE VICNITY OF THE SURVEY AREA

Species	Status[a]				Likelihood for Occurrence
	USFWS	CDFG	CNPS	USFS	
Lasthenia glabrata ssp. *coulteri* Coulter's goldfields	—	—	1B.1	—	Not expected to occur; no suitable habitat.
***Lepechinia fragrans* fragrant pitcher sage**	**—**	**—**	**4.2**	**FSS**	**Suitable habitat present. Observed during focused surveys.**
Lepidium virginicum var. *robinsonii* Robinson's pepper-grass	—	—	1B.2	—	Not expected to occur; no suitable habitat.
Linanthus concinnus San Gabriel linanthus	—	—	1B.2	FSS	Not expected to occur; outside known elevational range.
Malacothamnus davidsonii Davidson's bush-mallow	—	—	1B.2	—	May occur; potentially suitable habitat. Not observed during focused surveys.
Muhlenbergia californica California muhly	—	—	4.3	—	Not expected to occur; no suitable habitat.
Opuntia basilaris var. *brachyclada* short-joint beavertail	—	—	1B.2	—	Not expected to occur; no suitable habitat.
Pseudognaphalium leucocephalum white rabbit-tobacco	—	—	2.2	—	May occur; potentially suitable habitat. Not observed during focused surveys.
***Quercus durata* var. *gabrielensis* San Gabriel oak**	**—**	**—**	**4.2**	—	**Suitable habitat present. Observed during focused surveys.**
Ribes divaricatum var. *parishii* Parish's gooseberry	—	—	1A	—	Not expected to occur; no suitable habitat; presumed extinct.
***Symphyotrichum greatae* Greata's aster**	**—**	**—**	**1B.3**	—	**Suitable habitat present. Observed during focused surveys.**
Symphyotrichum defoliatum San Bernardino aster	—	—	1B.2	FSS	May occur; potentially suitable habitat. Not observed during focused surveys.
Thelypteris puberula var. *sonorensis* Sonoran maiden fern	—	—	2.2	FSS	May occur; potentially suitable habitat. Not observed during focused surveys.

[a] **Status Definitions**

Federal (USFWS)
FE Endangered
FC Candidate

State (CDFG)
SE Endangered
SR Rare

Federal (USFS)
FSS Forest Service Sensitive

California Native Plant Society (CNPS) List Categories
List 1A Plants Presumed Extinct in California
List 1B Plants Rare, Threatened, or Endangered in California and Elsewhere
List 2 Plants Rare, Threatened, or Endangered in California But More Common Elsewhere
List 4 Plants of Limited Distribution – A Watch List

California Native Plant Society (CNPS) Threat Code Extensions
None Plants lacking any threat information
.1 Seriously Endangered in California (over 80% of occurrences threatened; high degree and immediacy of threat)
.2 Fairly Endangered in California (20–80% of occurrences threatened)
.3 Not Very Threatened in California (low degree/immediacy of threat or no current threats known)

Agency Abbreviations:
CDFG: California Department of Fish and Game
CNPS: California Native Plant Society
USFS: United States Forest Service
USFWS: United States Fish and Wildlife Service

PROJECT IMPACTS

A preliminary discussion of project impacts is presented below. The proposed impact area is still being developed and may change prior to issuance of the project's environmental document. Table 3 summarizes the Proposed Project's potential impact on special status plant species that were observed during the survey.

TABLE 3
SUMMARY OF SPECIAL STATUS PLANT SPECIES OCCURRENCES WITHIN SURVEY AREA

Species	Number of Occurrences		Total Individual Plants		Mitigation Required
	Within Survey Area	Within Impact Boundary	Within Survey Area	Within Impact Boundary	
Calochortus plummerae Plummer's mariposa lily	5	2 (40%)	30	25 (83%)	yes, if impacted[1]
Lepechinia fragrans fragrant pitcher sage	3	3 (100%)	14	14 (100%)	yes, if impacted[1]
Symphyotrichum greatae Greata's aster	2	0 (0%)	5	0 (0%)	no[2]
Quercus durata var. *gabrielensis* San Gabriel oak	3	3 (100%)	48	48 (100%)	no[3]

[1] Plummer's mariposa lily and fragrant pitcher plant occur in portions of the Maple Canyon SPS, but outside of the expected footprint for sediment placement.
[2] Greata's aster is located adjacent to the route for transporting sediment to Maple Canyon SPS and no impacts are expected to this species.
[3] San Gabriel oak is a CNPS List 4 species. Impacts to List 4 species do not typically require mitigation under CEQA. This species is also located outside of the expected footprint for sediment placement.

Plummer's Mariposa Lily

Plummer's mariposa lily is a CNPS List 1B.2 species and is listed as a sensitive species for the Angeles National Forest by the U.S. Forest Service (USFS). It typically blooms between May and July (CNPS 2011). This perennial bulbiferous herb occurs in coastal sage scrub; dry, rocky chaparral; and yellow-pine forest at elevations between sea level and approximately 5,580 feet above msl (Baldwin et al. 2011). This species is known from the South Coast and Peninsular Ranges (Baldwin et al. 2011). Thirty individuals were observed in five populations in the survey area on rocky cliff faces and burned chaparral (Exhibit 5). Three populations are located along the haul route between Big Tujunga Reservoir and the Maple Canyon SPS, and two others are in the extreme upper portions of the Maple Canyon SPS. The plants along the haul route are not expected to be affected by the Proposed Project because no ground disturbing activities are planned for this area. The populations located within the Maple Canyon SPS are not expected to be impacted as they occur outside of the expected footprint for sediment placement. Potential impacts on Plummer's mariposa lily would be considered potentially significant under the California Environmental Quality Act (CEQA), and therefore, may require mitigation. Additionally, Plummer's mariposa lily is listed as USFS Sensitive by the Angeles National Forest; therefore, impacts to this species may require mitigation under the National Environmental Policy Act (NEPA) and/or as a condition of a USFS Special Use Permit for the Proposed Project.

Fragrant Pitcher Sage

Fragrant pitcher sage is a CNPS List 4.2 species and is listed as a sensitive species for the Angeles National Forest by the U.S. Forest Service (USFS). It typically blooms between March and October (CNPS 2011). This perennial shrub occurs in chaparral vegetation at elevations between sea level and approximately 4,265 feet above msl (Baldwin et al. 2011). It is known from the Western Transverse Ranges, the San Gabriel Mountains, the South Coast, and the northern Channel Islands (Baldwin et al. 2011). Fourteen individuals were observed in three populations in the survey area (Exhibit 5) in mixed-scrub oak chaparral and coastal sage scrub in the survey area. These populations are located in the Maple Canyon SPS though no impacts are expected as these populations are located outside of the planned footprint for sediment placement. Fragrant pitcher sage is listed as USFS Sensitive by the Angeles National Forest; therefore, impacts to this species may require mitigation under the NEPA and/or as a condition of a USFS Special Use Permit for the Proposed Project.

Greata's Aster

Greata's aster is a CNPS List 1B.3 species. It typically blooms between June and October (CNPS 2011). This rhizomatous perennial herb occurs in damp places in canyons at elevations between approximately 985 and 6,560 feet above msl (Baldwin et al. 2011). It is known from the south slopes of the San Gabriel Mountains (Baldwin et al. 2011). Five individuals were observed in two populations in freshwater seep in the survey area (Exhibit 5). These populations are located along the haul route between Big Tujunga Reservoir and the Maple Canyon SPS and are not expected to be affected by the proposed Project because no ground disturbing activities are planned for this area. Therefore, no mitigation would be necessary.

San Gabriel Oak

San Gabriel oak is a CNPS List 4.2 species. It occurs on granitic soil in chaparral at elevations between approximately 1,475 and 3,280 feet above msl (Baldwin et al. 2011). It is known from the southeast Western Transverse Ranges and south slopes of the San Gabriel Mountains (Baldwin et al. 2011). Forty-eight individuals were observed in three populations in the Maple Canyon SPS in mixed chaparral, chamise chaparral, and burned mixed chaparral (Exhibit 5). These populations are located outside of the expected footprint for sediment placement and no impacts are anticipated. This species is on a "watch list" for plants of limited distribution. Due to the relatively common distribution of this species in the region, any potential impacts are not expected to reduce its regional populations to below self-sustaining levels. Therefore, potential impacts would likely be considered adverse but less than significant under CEQA and mitigation would not be required.

RECOMMENDATIONS

Recommended mitigation measures for Plummer's mariposa lily and fragrant pitcher sage include the following:

- ***Avoidance.*** Populations shall be avoided to the extent possible.
- ***Compensation.*** If avoidance is not possible, a potential mitigation strategy is the off-site purchase of mitigation sites that contain substantial populations of the species in question. The potential mitigation sites shall be in open spaces and shall be permanently preserved to complement existing open space areas.

- ***Propagation.*** If avoidance and compensation are not viable options, then a program will be developed to collect and transplant seeds/bulbs to an appropriate mitigation site. A mitigation plan would be developed to include the following topics: (1) identification of an appropriate mitigation site; (2) methods of seed/bulb collection and application/ transplant; (3) methods for site maintenance and monitoring; and (4) a description of performance standards that will indicate successful completion of the mitigation program.

Recommended mitigation measures for San Gabriel oak include the following:

- ***Avoidance.*** Populations shall be avoided to the extent possible.
- ***Propagation.*** If avoidance is not a viable option, then a program should be developed to collect acorns from San Gabriel oaks within the impact area for use in revegetation efforts associated with the Proposed Project's mitigation requirements. Possible future threats to on-site preserved special status species include horticultural plant collection, access road widening and maintenance, fire clearance, additional sediment removal, fire, erosion, and increased distribution of non-native invasive plant species. Any special status plants preserved on site should be protected from these threats to the extent practicable through the use of best management practices to minimize fire, erosion, and the spread of invasive non-native plant species.

If you have any comments or questions, please call David Hughes at (626) 351-2000.

Sincerely,

BONTERRA CONSULTING

for David T. Hughes
Senior Project Manager

for Robert L. Allen
Senior Botanist

Enclosures: Exhibit 1 – Project Location
Exhibit 2 – U.S. Geological Survey 7.5-Minute Quadrangle
Exhibit 3 – Soil Types
Exhibit 4 – Vegetation Types and Other Areas
Exhibit 5 – Special Status Plant Species Locations
Appendix A – Plant Compendium
Appendix B – Special Status Plant Photographs
Appendix C – Special Status Plant Population Details
Appendix D – California Natural Diversity Database Forms

cc: David Bramlet
Sandy Leatherman

REFERENCES

Baldwin, B.G., et al. (Eds.), 2011. *The Jepson Manual: Vascular Plants of California* (Second ed.). Berkeley, CA: University of California Press. http://ucjeps.berkeley.edu/jepsonmanual/review/ on July 1, 2011.

California Department of Fish and Game (CDFG). 2011. California Natural Diversity Database. Records of Occurrence for the USGS Sunland, Condor Peak, Chilao Flat, Burbank, Pasadena, and Mount Wilson 7.5-minute quadrangles. Sacramento, CA: CDFG, Natural Heritage Division.

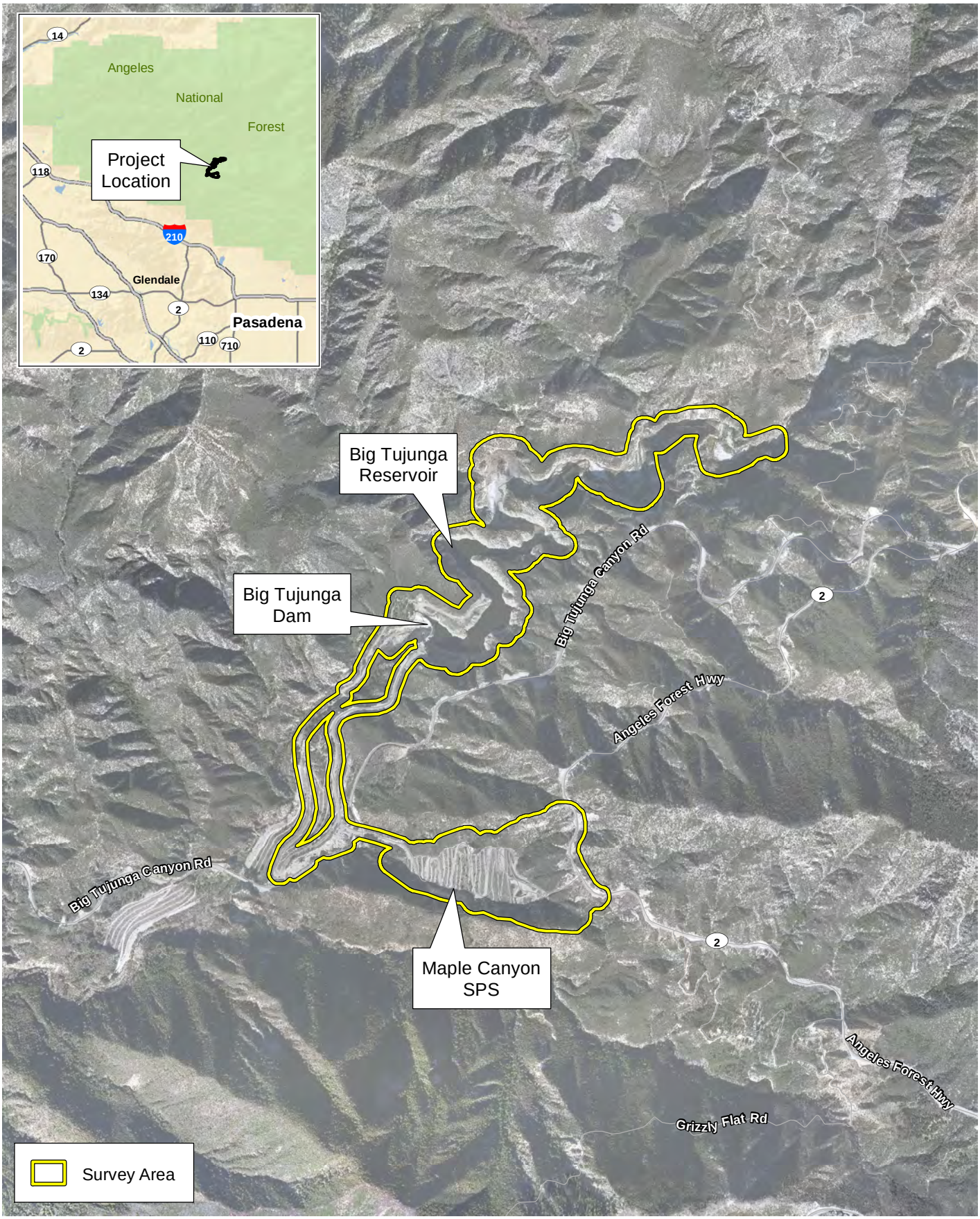
———. 2009 (November 24). *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*. Sacramento, CA: CDFG.

California Native Plant Society (CNPS). 2011. Electronic Inventory of Rare and Endangered Vascular Plants of California. Records of Occurrence for the USGS Sunland, Condor Peak, Chilao Flat, Burbank, Pasadena, and Mount Wilson 7.5-minute quadrangles. Sacramento, CA: CNPS. http://www.cnps.org/inventory.

Hickman, J.C., Ed. 1993. *The Jepson Manual of Higher Plants of California*. Berkeley, CA: University of California Press.

Munz, P.A. 1974. *A Flora of Southern California*. Berkeley, CA: University of California Press.

National Weather Service (NWS). 2011 (June 30). Daily Climate Report (data taken from Burbank). Silver Spring, MD: NWS, National Oceanic and Atmospheric Administration. http://www.weather.gov/climate/index.php.



D:\Projects\CoLADPW\J162\MXD\Ex_LV_Aerial.mxd

Project Location

Exhibit 1

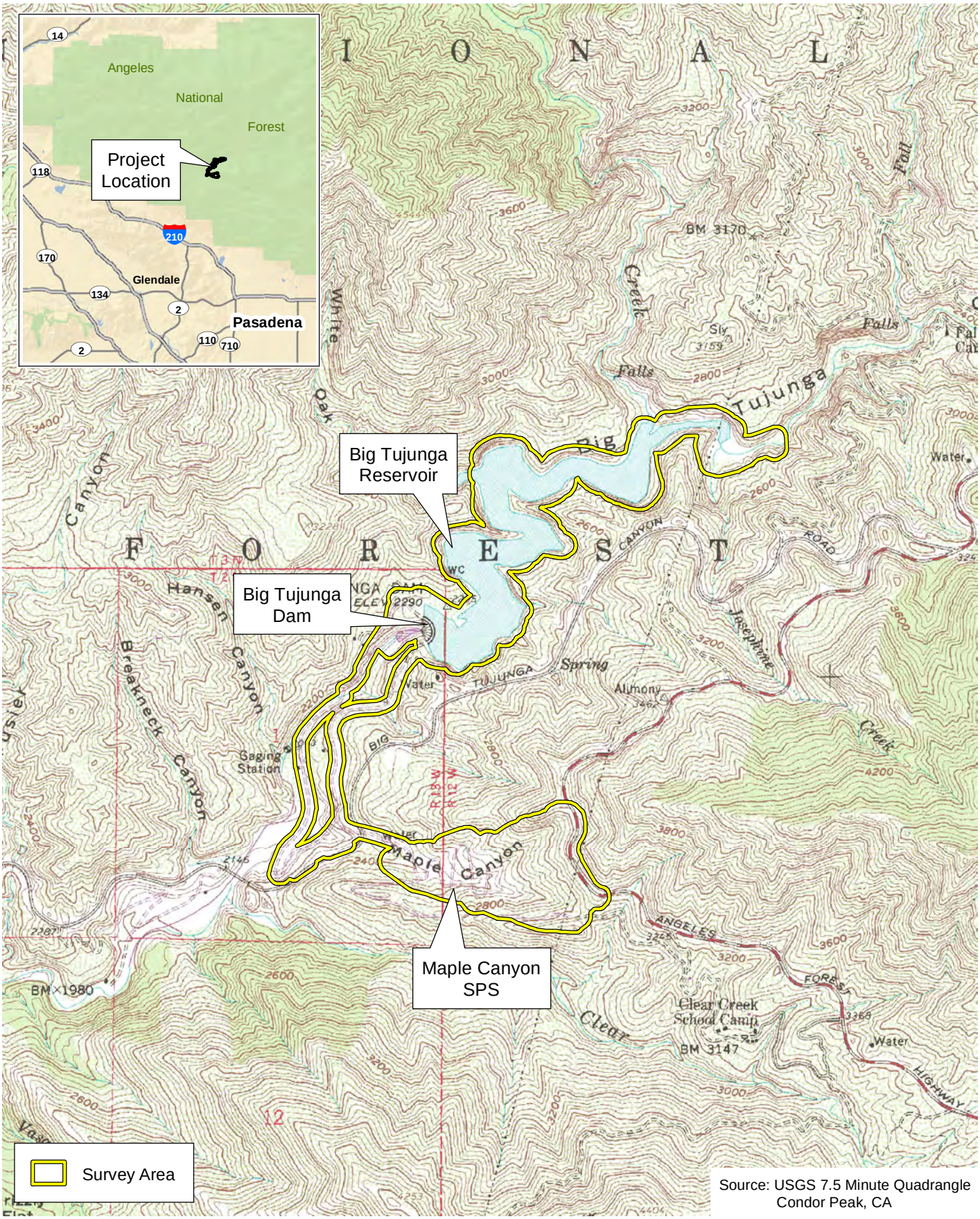
Big Tujunga Reservoir Sediment Removal Project

N W E S

2,000 1,000 0 2,000 Feet

BonTerra CONSULTING

(Rev: 10-10-2011 JCD) R:\PAS\Projects\CoLADPW\J162\Graphics\Bio\Constraints\Plant\Ex1_LV_aerial.pdf



Source: USGS 7.5 Minute Quadrangle
Condor Peak, CA

D:\Projects\CoLADPW\J162\MXD\Ex_LV_usgs.mxd

U.S. Geological Survey 7.5-Minute Quadrangle

Exhibit 2

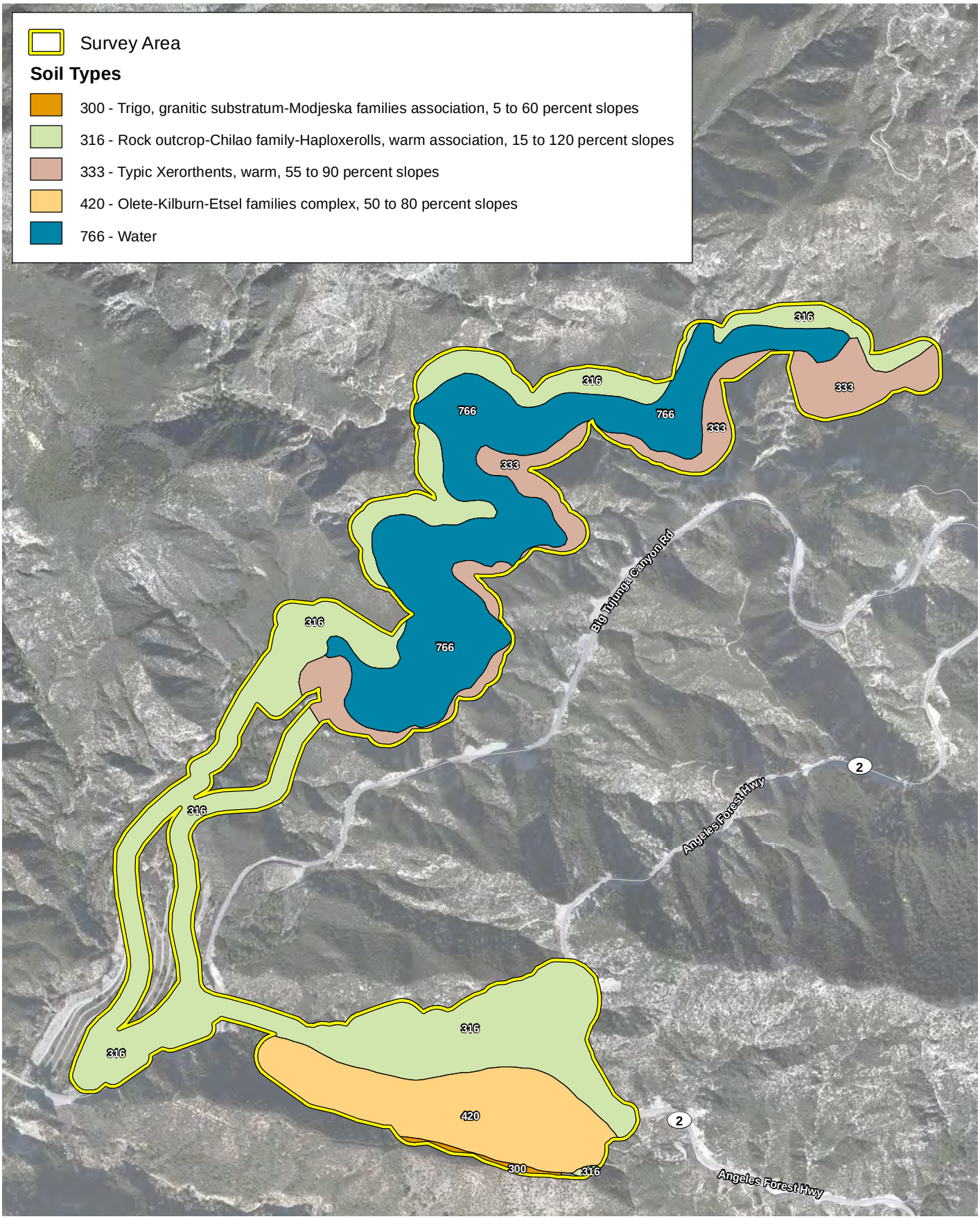
Big Tujunga Reservoir Sediment Removal Project

N W E S

2,000 1,000 0 2,000 Feet

BonTerra CONSULTING

(Rev: 10-03-2011 JCD) R:\PAS\Projects\CoLADPW\J162\Graphics\Bio\Constraints\Plant\Ex2_LV_usgs.pdf



D:\Projects\CoLADPW\J162\MXD\Ex_soils.mxd

Soil Types

Exhibit 3

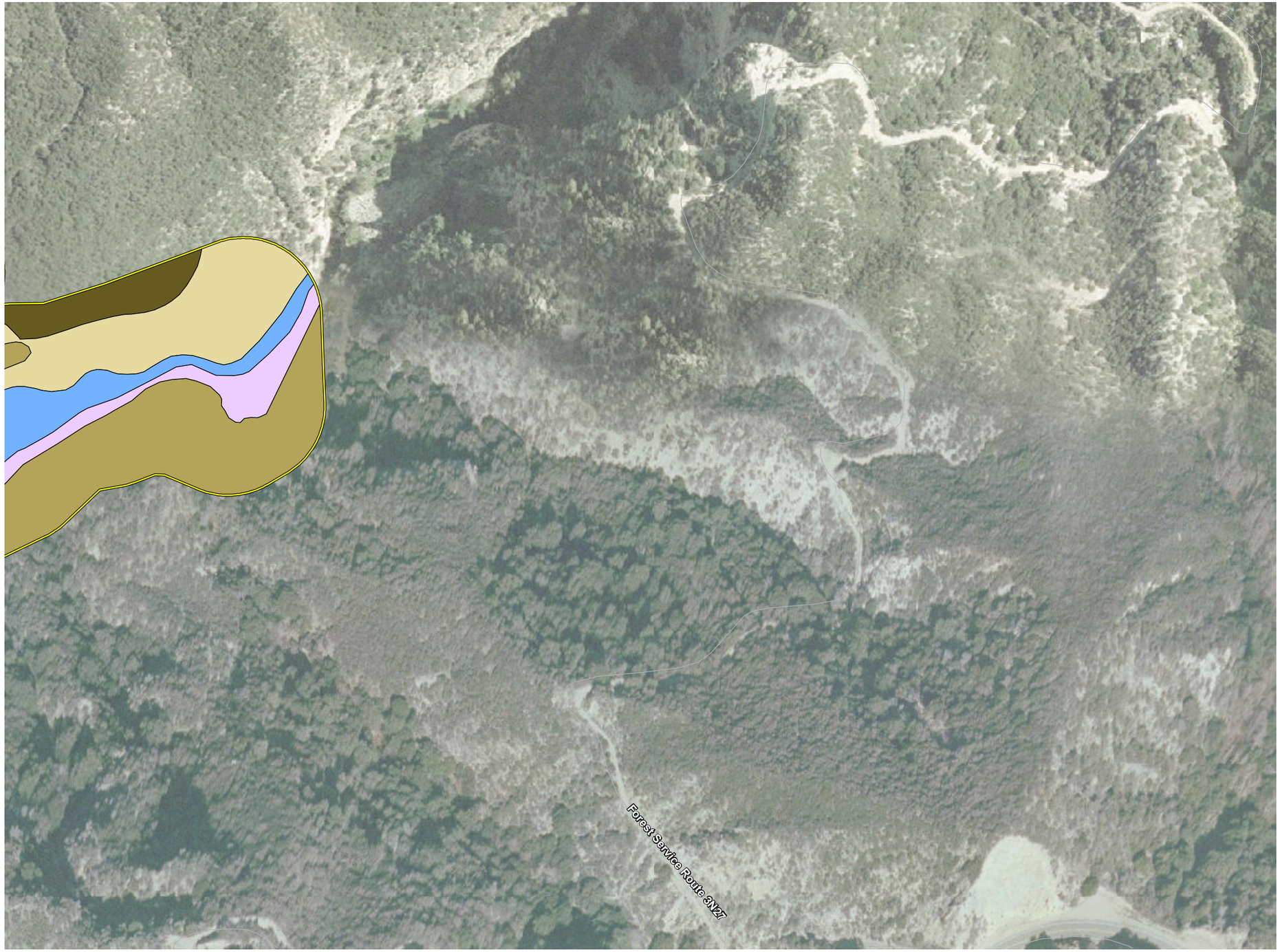
Big Tujunga Reservoir Sediment Removal Project

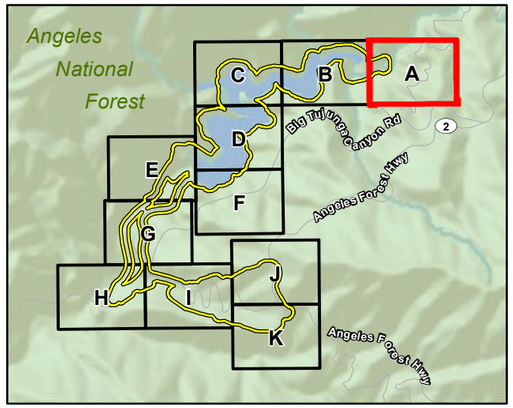
N W E S

1,200 600 0 1,200 Feet

BonTerra CONSULTING

(Rev: 10-10-2011 JCD) R:\PAS\Projects\CoLADPW\J162\Graphics\Bio\Constraints\Plant\Ex3_soils.pdf





Survey Area

Vegetation Types and Other Areas

- Coastal Sage Scrub
- Chamise Chaparral
- Scrub Oak Chapparal
- Mixed Chaparral
- California Annual Grassland
- Disturbed Freshwater Seep
- Riparian Herb
- Willow Riparian Forest
- Willow Riparian Scrub
- White Alder - Fremont Cottonwood - Willow Riparian Forest
- Coast Live Oak Stands
- Bigcone Douglas Fir - Canyon Live Oak Woodland (Forest)
- Open Water
- Streambed
- Cliff
- Ornamental
- Developed

D:\Projects\CoLADPW\J162\MXD\ex_veg.mxd

Vegetation Types and Other Areas

Exhibit 4A

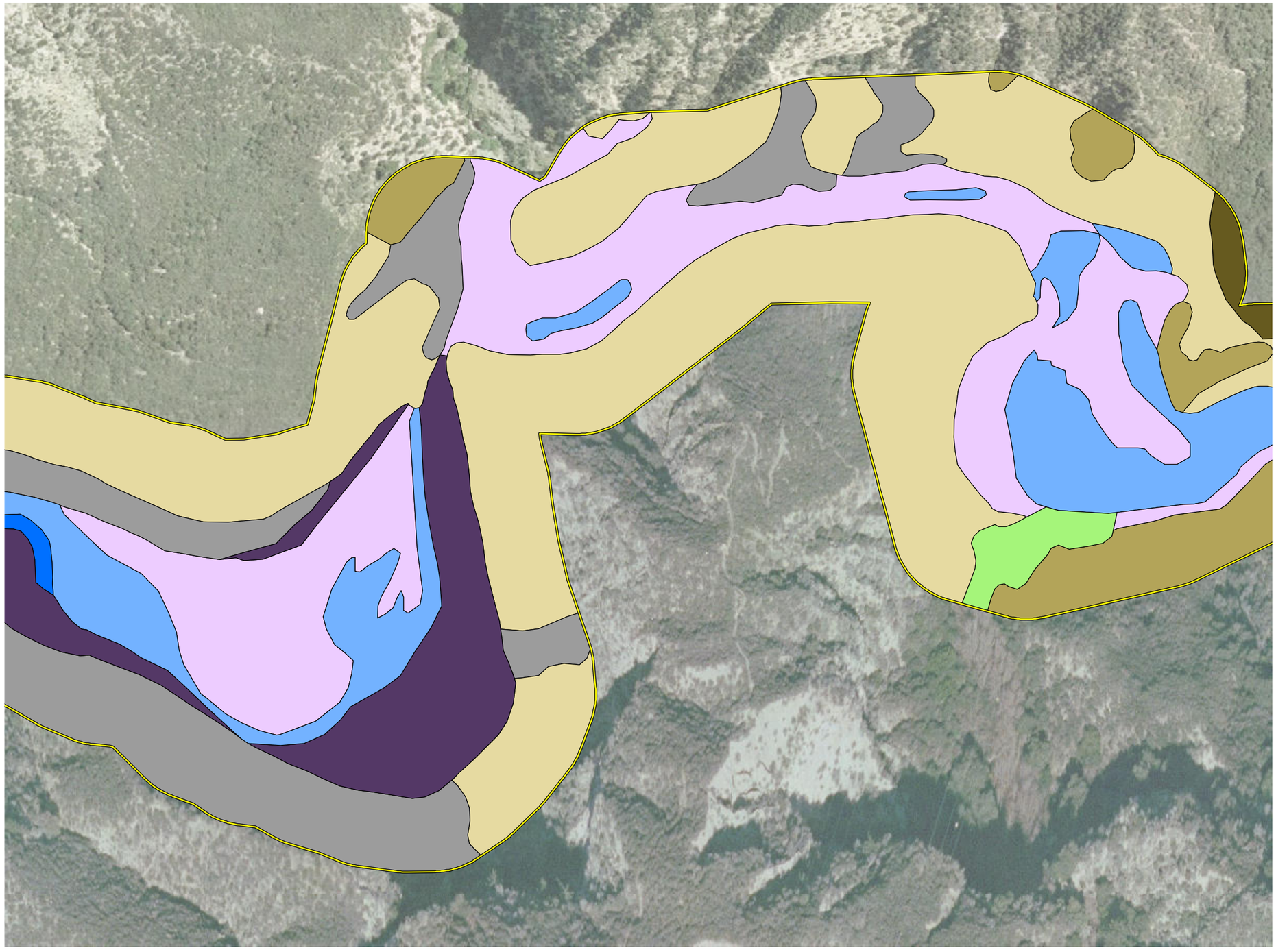
Big Tujunga Reservoir Sediment Removal Project

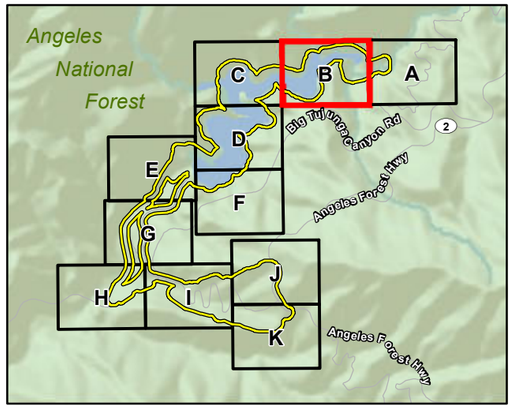
N W E S

200 100 0 200 Feet

BonTerra CONSULTING

(Rev: 10-12-2011 JCD) R:\PAS\Projects\CoLADPW\J162\Graphics\Bio\Constraints\Plant\Ex4_veg.pdf





Survey Area

Vegetation Types and Other Areas

- Coastal Sage Scrub
- Chamise Chaparral
- Scrub Oak Chapparal
- Mixed Chaparral
- California Annual Grassland
- Disturbed Freshwater Seep
- Riparian Herb
- Willow Riparian Forest
- Willow Riparian Scrub
- White Alder - Fremont Cottonwood - Willow Riparian Forest
- Coast Live Oak Stands
- Bigcone Douglas Fir - Canyon Live Oak Woodland (Forest)
- Open Water
- Streambed
- Cliff
- Ornamental
- Developed

D:\Projects\CoLADPW\J162\MXD\ex_veg.mxd

Vegetation Types and Other Areas

Exhibit 4B

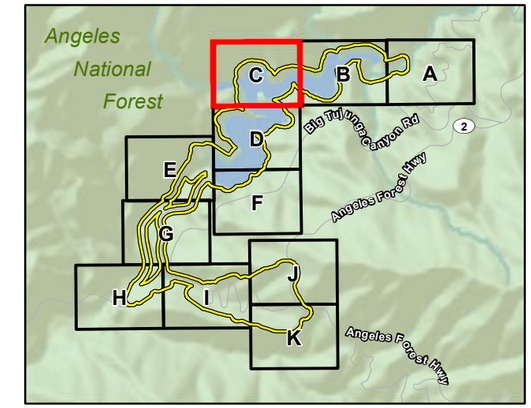
Big Tujunga Reservoir Sediment Removal Project

N W E S

200 100 0 200 Feet

BonTerra CONSULTING

(Rev: 10-12-2011 JCD) R:\PAS\Projects\CoLADPW\J162\Graphics\Bio\Constraints\Plant\Ex4_veg.pdf



Survey Area

Vegetation Types and Other Areas

- Coastal Sage Scrub
- Chamise Chaparral
- Scrub Oak Chapparal
- Mixed Chaparral
- California Annual Grassland
- Disturbed Freshwater Seep
- Riparian Herb
- Willow Riparian Forest
- Willow Riparian Scrub
- White Alder - Fremont Cottonwood - Willow Riparian Forest
- Coast Live Oak Stands
- Bigcone Douglas Fir - Canyon Live Oak Woodland (Forest)
- Open Water
- Streambed
- Cliff
- Ornamental
- Developed

D:\Projects\CoLADPW\J162\MXD\ex_veg.mxd

Vegetation Types and Other Areas

Exhibit 4C

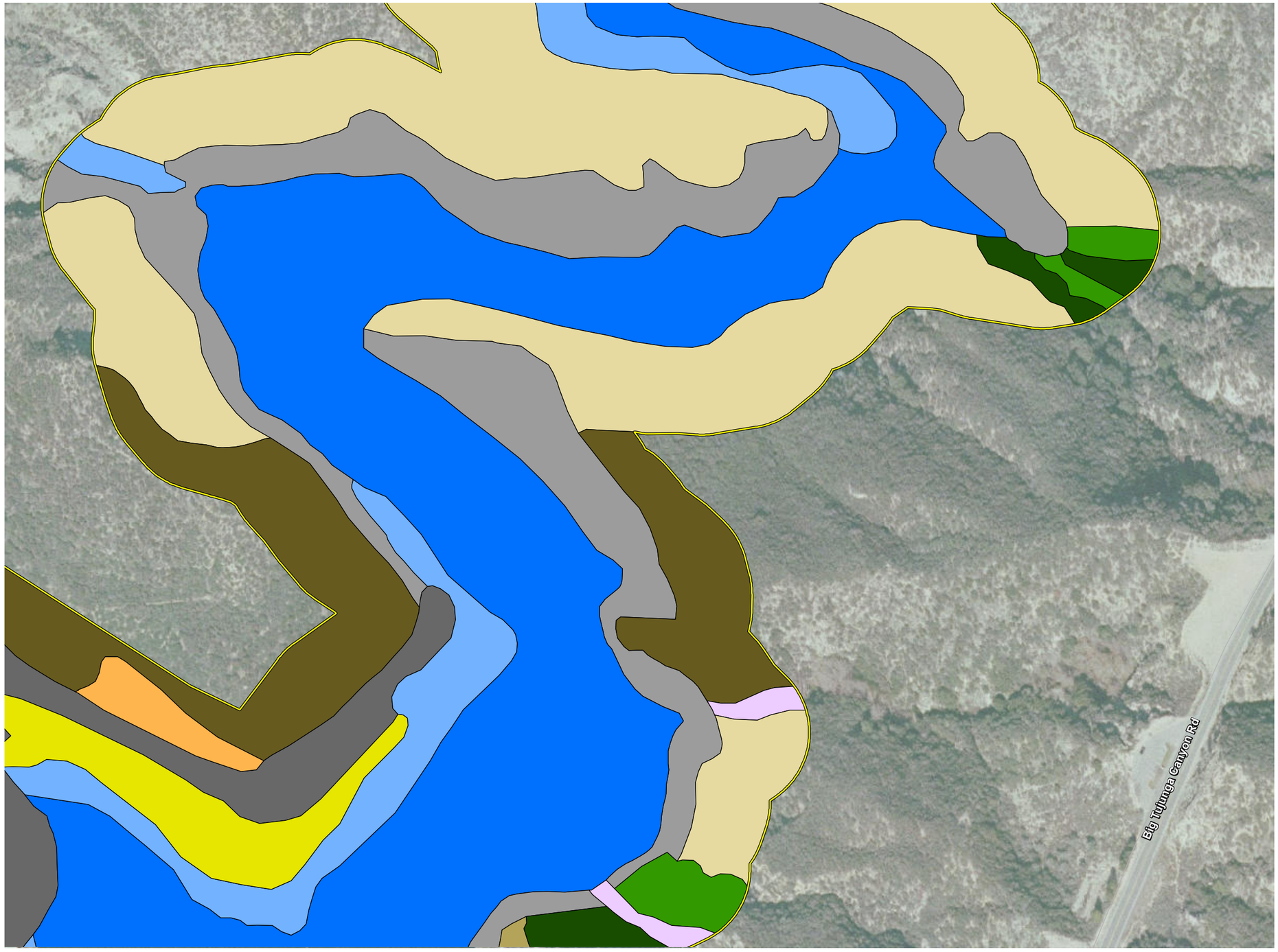
Big Tujunga Reservoir Sediment Removal Project

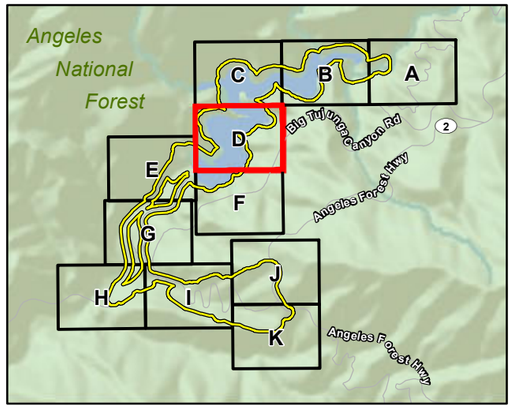
N W E S

200 100 0 200 Feet

BonTerra CONSULTING

(Rev: 10-12-2011 JCD) R:\PAS\Projects\CoLADPW\J162\Graphics\Bio\Constraints\Plant\Ex4_veg.pdf





Survey Area

Vegetation Types and Other Areas

- Coastal Sage Scrub
- Chamise Chaparral
- Scrub Oak Chapparal
- Mixed Chaparral
- California Annual Grassland
- Disturbed Freshwater Seep
- Riparian Herb
- Willow Riparian Forest
- Willow Riparian Scrub
- White Alder - Fremont Cottonwood - Willow Riparian Forest
- Coast Live Oak Stands
- Bigcone Douglas Fir - Canyon Live Oak Woodland (Forest)
- Open Water
- Streambed
- Cliff
- Ornamental
- Developed

D:\Projects\CoLADPW\J162\MXD\ex_veg.mxd

Vegetation Types and Other Areas

Exhibit 4D

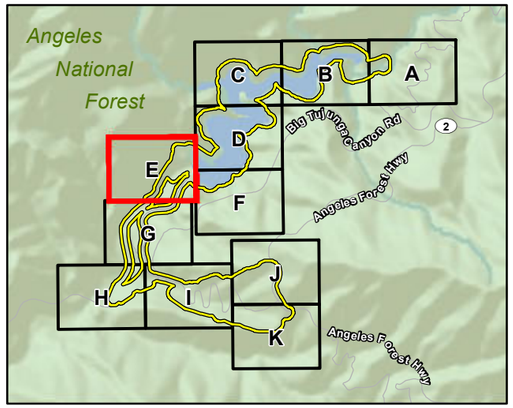
Big Tujunga Reservoir Sediment Removal Project

N W E S

200 100 0 200 Feet

BonTerra CONSULTING

(Rev: 10-12-2011 JCD) R:\PAS\Projects\CoLADPW\J162\Graphics\Bio\Constraints\Plant\Ex4_veg.pdf



Survey Area

Vegetation Types and Other Areas

- Coastal Sage Scrub
- Chamise Chaparral
- Scrub Oak Chapparal
- Mixed Chaparral
- California Annual Grassland
- Disturbed Freshwater Seep
- Riparian Herb
- Willow Riparian Forest
- Willow Riparian Scrub
- White Alder - Fremont Cottonwood - Willow Riparian Forest
- Coast Live Oak Stands
- Bigcone Douglas Fir - Canyon Live Oak Woodland (Forest)
- Open Water
- Streambed
- Cliff
- Ornamental
- Developed

D:\Projects\CoLADPW\J162\MXD\ex_veg.mxd

Vegetation Types and Other Areas

Exhibit 4E

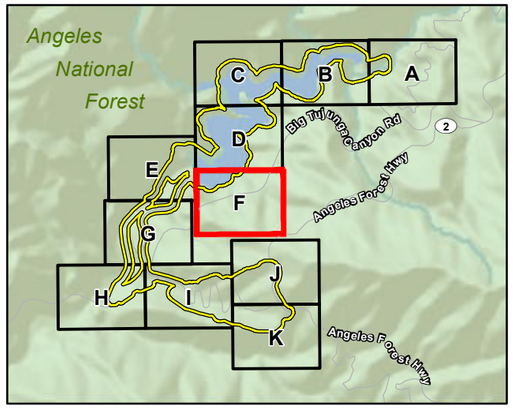
Big Tujunga Reservoir Sediment Removal Project

N W E S

200 100 0 200 Feet

BonTerra CONSULTING

(Rev: 10-12-2011 JCD) R:\PAS\Projects\CoLADPW\J162\Graphics\Bio\Constraints\Plant\Ex4_veg.pdf



Survey Area

Vegetation Types and Other Areas

- Coastal Sage Scrub
- Chamise Chaparral
- Scrub Oak Chapparal
- Mixed Chaparral
- California Annual Grassland
- Disturbed Freshwater Seep
- Riparian Herb
- Willow Riparian Forest
- Willow Riparian Scrub
- White Alder - Fremont Cottonwood - Willow Riparian Forest
- Coast Live Oak Stands
- Bigcone Douglas Fir - Canyon Live Oak Woodland (Forest)
- Open Water
- Streambed
- Cliff
- Ornamental
- Developed

D:\Projects\CoLADPW\J162\MXD\ex_veg.mxd

Vegetation Types and Other Areas

Exhibit 4F

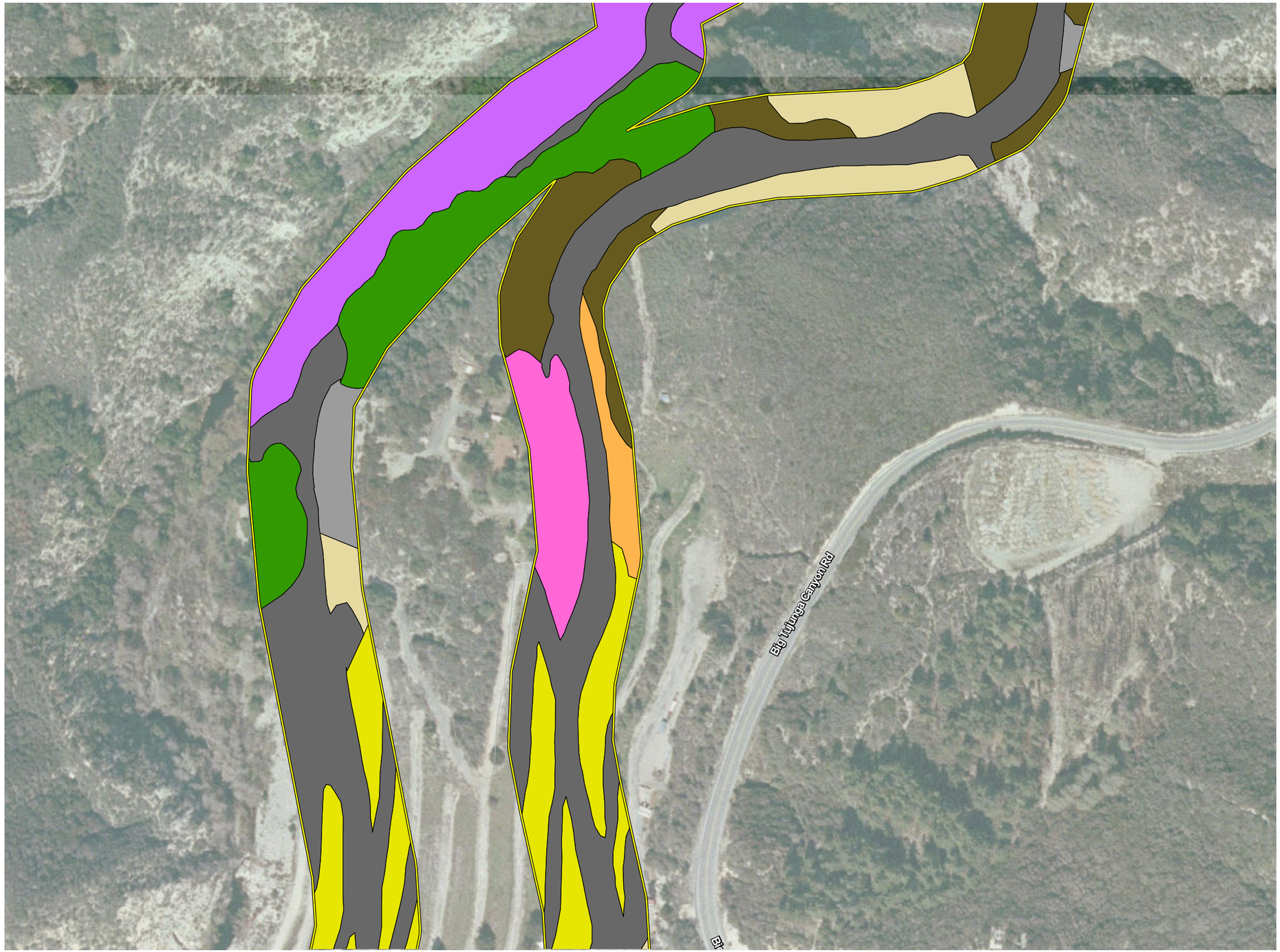
Big Tujunga Reservoir Sediment Removal Project

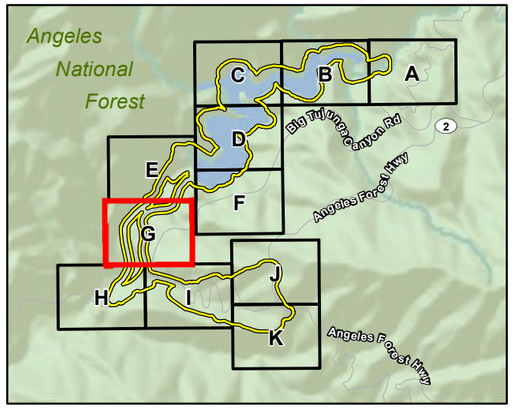
N W E S

200 100 0 200 Feet

Bonterra CONSULTING

(Rev: 10-12-2011 JCD) R:\PAS\Projects\CoLADPW\J162\Graphics\Bio\Constraints\Plant\Ex4_veg.pdf





Survey Area

Vegetation Types and Other Areas

- Coastal Sage Scrub
- Chamise Chaparral
- Scrub Oak Chapparal
- Mixed Chaparral
- California Annual Grassland
- Disturbed Freshwater Seep
- Riparian Herb
- Willow Riparian Forest
- Willow Riparian Scrub
- White Alder - Fremont Cottonwood - Willow Riparian Forest
- Coast Live Oak Stands
- Bigcone Douglas Fir - Canyon Live Oak Woodland (Forest)
- Open Water
- Streambed
- Cliff
- Ornamental
- Developed

D:\Projects\CoLADPW\J162\MXD\ex_veg.mxd

Vegetation Types and Other Areas

Exhibit 4G

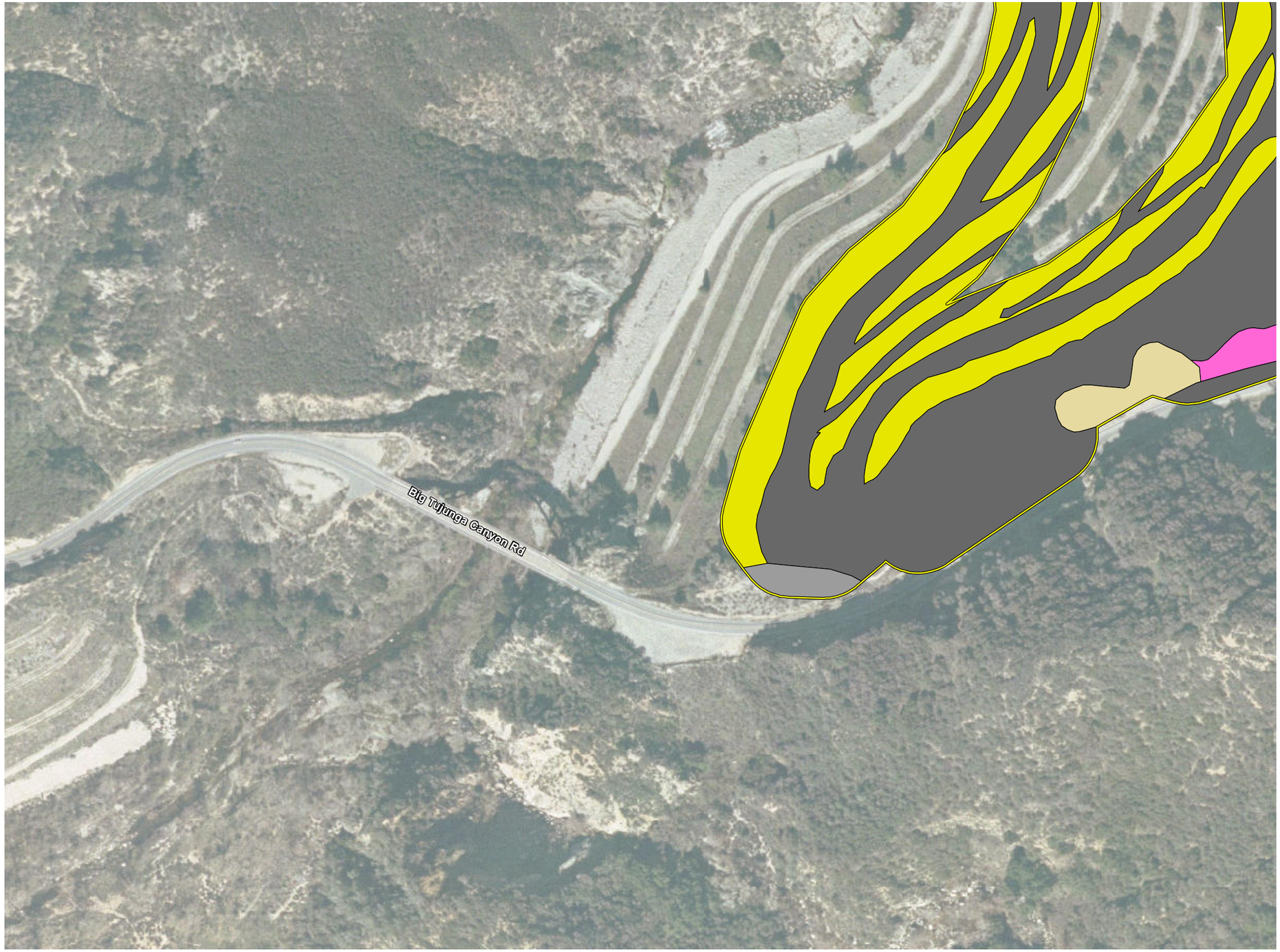
Big Tujunga Reservoir Sediment Removal Project

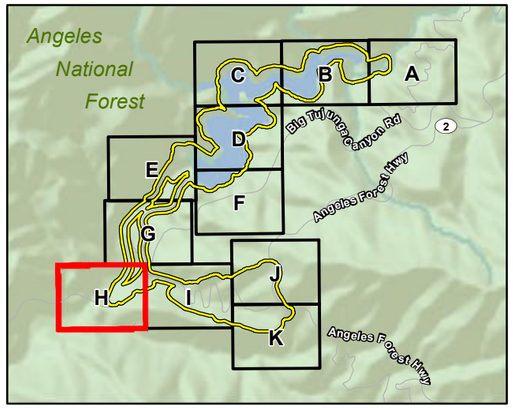
N W E S

200 100 0 200 Feet

Benterra CONSULTING

(Rev: 10-12-2011 JCD) R:\PAS\Projects\CoLADPW\J162\Graphics\Bio\Constraints\Plant\Ex4_veg.pdf





Survey Area

Vegetation Types and Other Areas

- Coastal Sage Scrub
- Chamise Chaparral
- Scrub Oak Chapparal
- Mixed Chaparral
- California Annual Grassland
- Disturbed Freshwater Seep
- Riparian Herb
- Willow Riparian Forest
- Willow Riparian Scrub
- White Alder - Fremont Cottonwood - Willow Riparian Forest
- Coast Live Oak Stands
- Bigcone Douglas Fir - Canyon Live Oak Woodland (Forest)
- Open Water
- Streambed
- Cliff
- Ornamental
- Developed

D:\Projects\CoLADPW\J162\MXD\ex_veg.mxd

Vegetation Types and Other Areas

Exhibit 4H

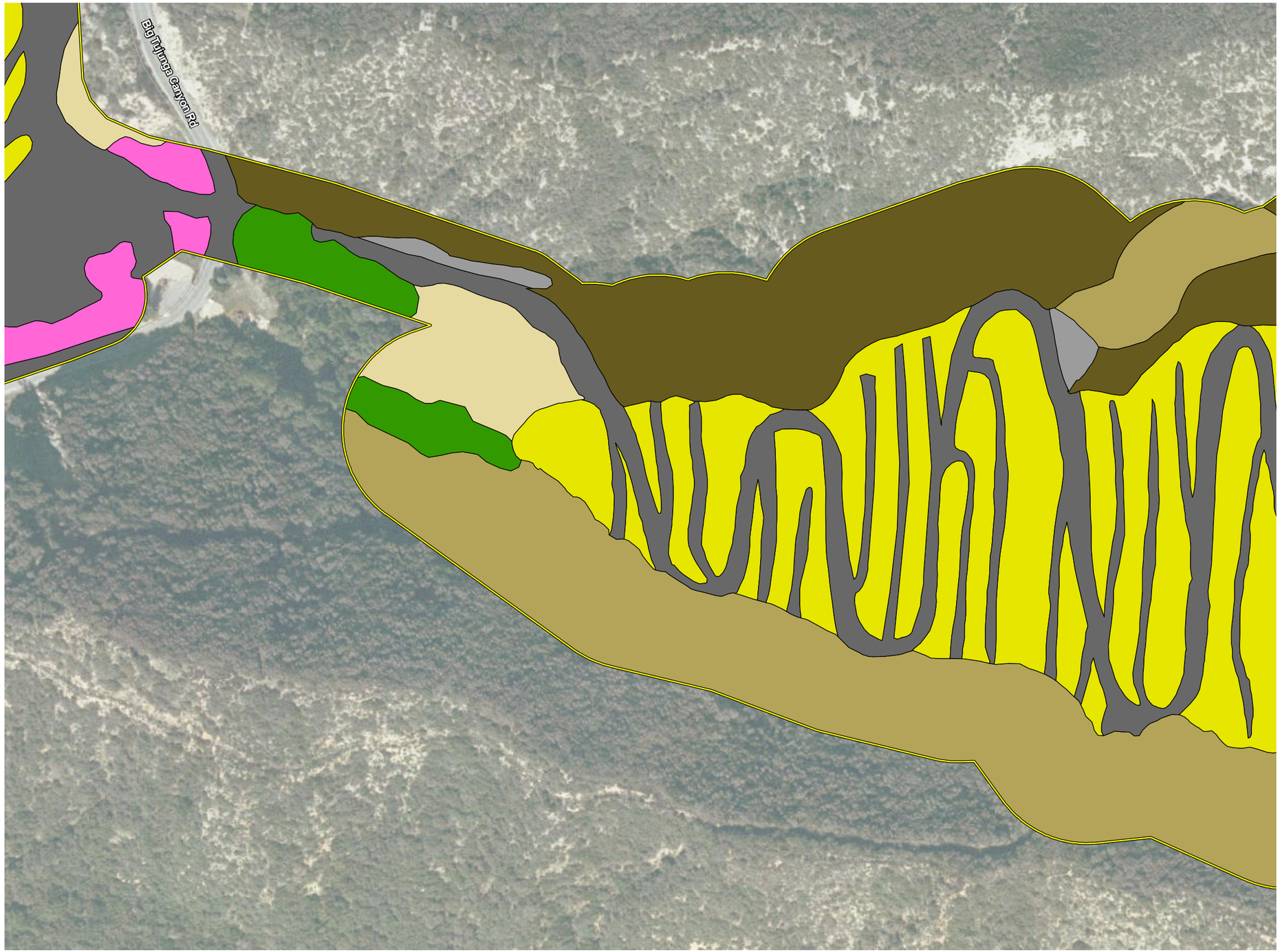
Big Tujunga Reservoir Sediment Removal Project

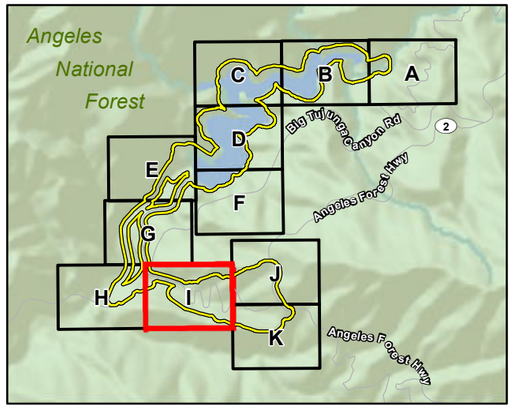
N W E S

200 100 0 200 Feet

BonTerra CONSULTING

(Rev: 10-12-2011 JCD) R:\PAS\Projects\CoLADPW\J162\Graphics\Bio\Constraints\Plant\Ex4_veg.pdf





Survey Area

Vegetation Types and Other Areas

- Coastal Sage Scrub
- Chamise Chaparral
- Scrub Oak Chapparal
- Mixed Chaparral
- California Annual Grassland
- Disturbed Freshwater Seep
- Riparian Herb
- Willow Riparian Forest
- Willow Riparian Scrub
- White Alder - Fremont Cottonwood - Willow Riparian Forest
- Coast Live Oak Stands
- Bigcone Douglas Fir - Canyon Live Oak Woodland (Forest)
- Open Water
- Streambed
- Cliff
- Ornamental
- Developed

D:\Projects\CoLADPW\J162\MXD\ex_veg.mxd

Vegetation Types and Other Areas

Exhibit 4I

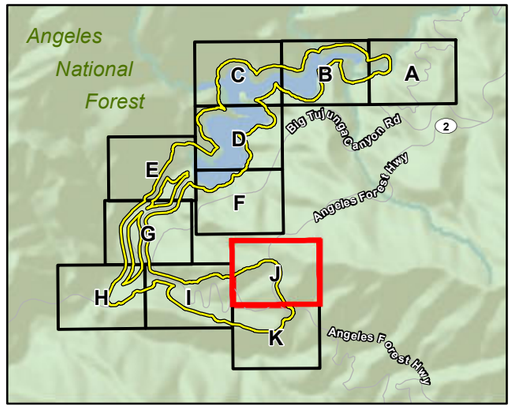
Big Tujunga Reservoir Sediment Removal Project

N W E S

200 100 0 200 Feet

Bonterra CONSULTING

(Rev: 10-12-2011 JCD) R:\PAS\Projects\CoLADPW\J162\Graphics\Bio\Constraints\Plant\Ex4_veg.pdf



Survey Area

Vegetation Types and Other Areas

- Coastal Sage Scrub
- Chamise Chaparral
- Scrub Oak Chapparal
- Mixed Chaparral
- California Annual Grassland
- Disturbed Freshwater Seep
- Riparian Herb
- Willow Riparian Forest
- Willow Riparian Scrub
- White Alder - Fremont Cottonwood - Willow Riparian Forest
- Coast Live Oak Stands
- Bigcone Douglas Fir - Canyon Live Oak Woodland (Forest)
- Open Water
- Streambed
- Cliff
- Ornamental
- Developed

D:\Projects\CoLADPW\J162\MXD\ex_veg.mxd

Vegetation Types and Other Areas

Exhibit 4J

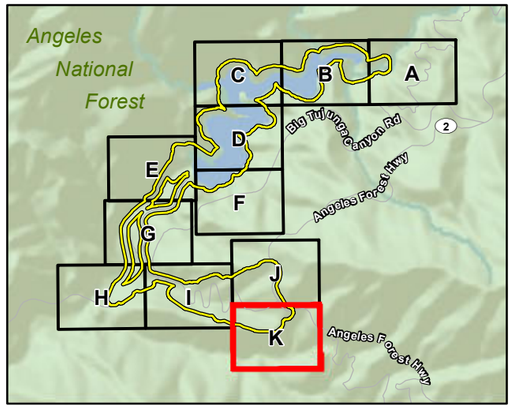
Big Tujunga Reservoir Sediment Removal Project

N W E S

200 100 0 200 Feet

BonTerra CONSULTING

(Rev: 10-12-2011 JCD) R:\PAS\Projects\CoLADPW\J162\Graphics\Bio\Constraints\Plant\Ex4_veg.pdf



Survey Area

Vegetation Types and Other Areas

- Coastal Sage Scrub
- Chamise Chaparral
- Scrub Oak Chapparal
- Mixed Chaparral
- California Annual Grassland
- Disturbed Freshwater Seep
- Riparian Herb
- Willow Riparian Forest
- Willow Riparian Scrub
- White Alder - Fremont Cottonwood - Willow Riparian Forest
- Coast Live Oak Stands
- Bigcone Douglas Fir - Canyon Live Oak Woodland (Forest)
- Open Water
- Streambed
- Cliff
- Ornamental
- Developed

D:\Projects\CoLADPW\J162\MXD\ex_veg.mxd

Vegetation Types and Other Areas

Exhibit 4K

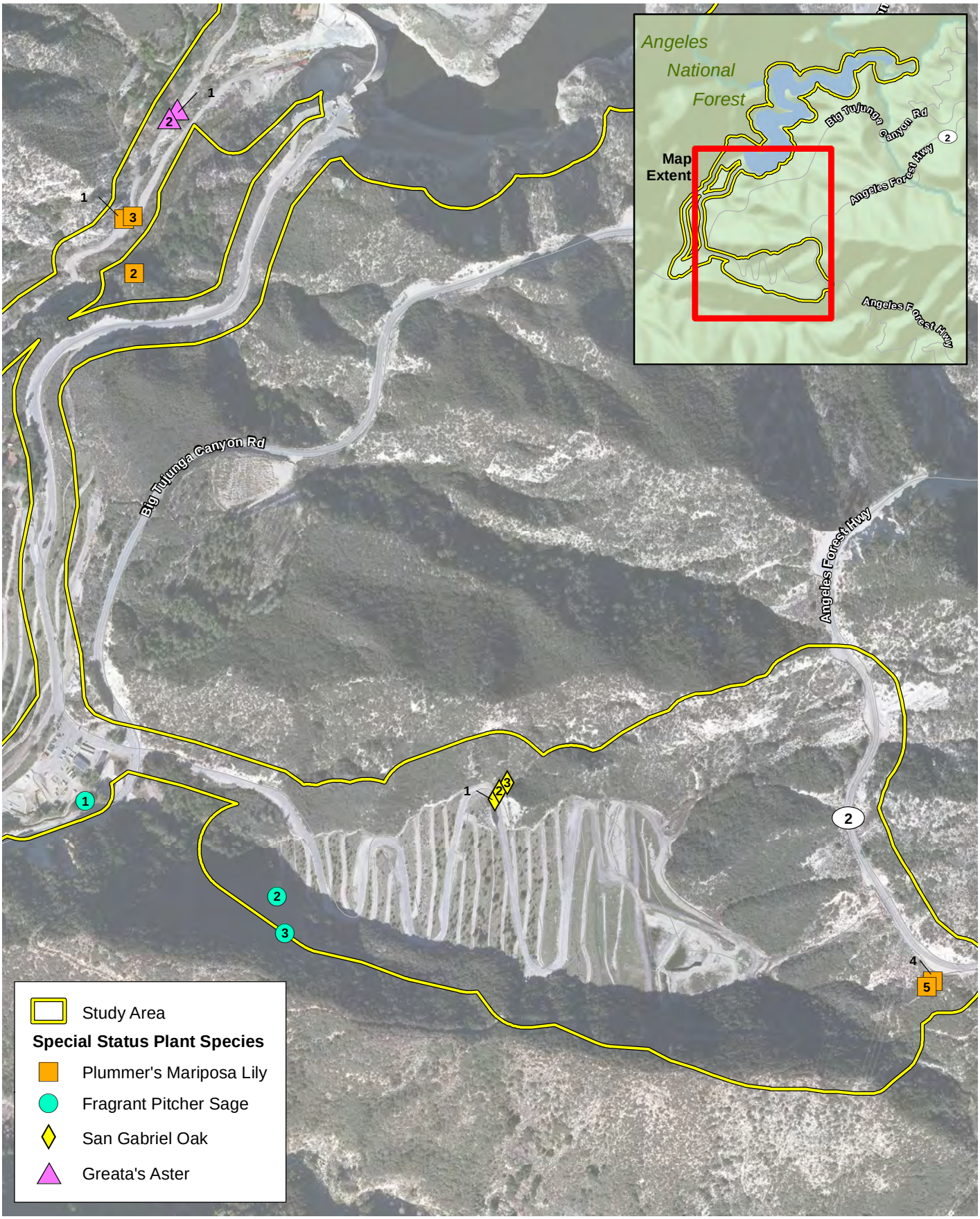
Big Tujunga Reservoir Sediment Removal Project

N W E S

200 100 0 200 Feet

Bonterra CONSULTING

(Rev: 10-12-2011 JCD) R:\PAS\Projects\CoLADPW\J162\Graphics\Bio\Constraints\Plant\Ex4_veg.pdf



D:\Projects\CoLADPW\J162\MXD\Ex_SSPlants.mxd

Special Status Plant Species

Exhibit 5

Big Tujunga Reservoir Sediment Removal Project

N W E S

600 300 0 600 Feet

BonTerra CONSULTING

(Rev: 10-10-2011 JCD) R:\PAS\Projects\CoLADPW\J162\Graphics\Bio\Constraints\Plant\Ex5_SSPlants.pdf

APPENDIX A

PLANT COMPENDIUM

PLANTS SPECIES OBSERVED WITHIN THE SURVEY AREA DURING FOCUSED SURVEY

Species	
***PTERIDOPHYTES* – FERNS AND ALLIES**	
***Blechnaceae* – Deer Fern Family**	
Woodwardia fimbriata	giant chain fern
***Dryopteridaceae* – Wood Fern Family**	
Dryopteris arguta	coastal wood fern
***Polypodiaceae* – Polypody Family**	
Polypodium californicum	California polypody
***Pteridaceae* – Brake Family**	
Adiantum jordanii	California maidenhair
Notholaena californica	California cloak-fern
Pellaea andromedifolia	coffee fern
Pellaea mucronata	bird's foot fern
Pellaea mucronata var. *mucronata*	bird's-foot fern
Pentagramma triangularis ssp. *triangularis*	goldenback fern
***Selaginellaceae* – Spike-Moss Family**	
Selaginella bigelovii	Bigelow's or bushy spike-moss
GYMNOSPERMS	
***Pinaceae* – Pine Family**	
Pinus coulteri	coulter pine
Pinus canariensis	Canary Island pine
Pinus halepensis	Aleppo pine
Pseudotsuga macrocarpa	bigcone douglas-fir
***ANGIOSPERMAE* – FLOWERING PLANTS**	
DICOTYLEDONES	
***Adoxaceae* – Muskroot Family**	
Sambucus nigra ssp. *caerulea*	blue elderberry
***Amaranthaceae* – Amaranth Family**	
*Amaranthus albus**	tumbleweed
***Anacardiaceae* – Sumac Family**	
Malosma laurina	laurel sumac
Rhus integrifolia	lemonade berry
Rhus ovata	sugar bush
Rhus aromatica [*Rhus trilobata*]	skunkbush
Toxicodendron diversilobum	western poison oak
***Apocynaceae* – Dogbane Family**	
*Nerium oleander**	common oleander
***Asteraceae* – Sunflower Family**	
*Ageratina adenophora**	crofton weed
Agoseris retrorsa	spear-leaved agoseris
Ambrosia acanthicarpa	annual bur-sage
Ambrosia psilostachya	western ragweed
Artemisia douglasiana	mugwort
Artemisia dracunculus	tarragon

PLANTS SPECIES OBSERVED WITHIN THE SURVEY AREA DURING FOCUSED SURVEYS (Continued)

Species	
Baccharis salicifolia ssp. *salicifolia* [*Baccharis salicifolia*]	mule fat
*Bidens pilosa**	common beggar-ticks
Brickellia californica	California brickellbush
Brickellia nevinii	Nevin's brickellia
*Centaurea melitensis**	tocalote/Maltese star thistle
Chaenactis artemisiifolia	white pincushion
Chaenactis glabriuscula	yellow pincushion
Cirsium occidentale	cobweb thistle
Erigeron bonariensis [*Conyza bonariensis*]*	flax-leaved horseweed
Erigeron canadensis [*Conyza canadensis*]	common horseweed
Corethrogyne filaginifolia [*Lessingia filaginifolia*]	California-aster
Eclipta prostrata	false daisy
Ericameria parishii var. *parishii*	Parish's goldenbush
Erigeron foliosus	leafy flebane
Eriophyllum confertiflorum	golden-yarrow
Gutierrezia californica	California matchweed
Hazardia squarrosa	saw-toothed goldenbush
Helianthus annuus	western sunflower
Heterotheca grandiflora	telegraph weed
Heterotheca sessiliflora	sessileflower goldenaster
Heterotheca sessiliflora ssp. *fastigiata*	fastigiate golden aster
*Hypochaeris glabra**	smooth cat's-ear
*Lactuca serriola**	prickly lettuce
Lasthenia californica	California goldfields
Lepidospartum squamatum	scale-broom
Logfia filaginoides [*Filago californica*]	California cottonrose
Malacothrix saxatilis var. *tenuifolia*	slender-leaved malacothrix
Matricaria discoidea [*Chamomilla suaveolens*]*	pineapple weed
Pseudognaphalium californicum [*Gnaphalium californicum*]	California everlasting
Pseudognaphalium canescens [*Gnaphalium canescens*]	Wright's cudweed
Pseudognaphalium luteoalbum [*Gnaphalium luteoalbum*]*	weedy cudweed
Rafinesquia californica	California chicory
Senecio flaccidus var. *douglasii*	Douglas' threadleaf ragwort
*Senecio vulgaris**	common groundsel
Solidago velutina ssp. *californica* [*Solidago californica*]	California goldenrod
Sonchus asper ssp. *asper**	prickly sow thistle
*Sonchus oleraceus**	common sow thistle
Stephanomeria virgata ssp. *virgata*	tall wreath plant
Symphyotrichum greatea	Greata's aster
Uropappus lindleyi	silver puffs
Xanthium strumarium	cocklebur

PLANTS SPECIES OBSERVED WITHIN THE SURVEY AREA DURING FOCUSED SURVEYS (Continued)

Species	
***Betulaceae* – Birch Family**	
Alnus rhombifolia	white alder
***Boraginaceae* – Borage Family**	
Cryptantha intermedia	common cryptantha
Cryptantha microstachys	Tejon cryptantha
Cryptantha muricata	prickly cryptantha
Emmenanthe penduliflora	whispering bells
Eriodictyon crassifolium	thick-leaved yerba santa
Eriodictyon parryi [*Turricula parryi*]	poodle-dog bush
Eucrypta chrysanthemifolia	common eucrypta
Nemophila menziesii var. *menziesii*	baby blue-eyes
Phacelia brachyloba	short-lobed phacelia
Phacelia cicutaria	caterpillar phacelia
Phacelia minor	wild canterbury-bell
Phacelia ramosissima	branching phacelia
***Brassicaceae* – Mustard Family**	
Arabis sparsiflora	rock cress
Caulanthus heterophyllus	San Diego jewel flower
*Hirschfeldia incana**	shortpod mustard
Nasturtium officinale [*Rorippa nasturtium-aquaticum*]*	water cress
*Sisymbrium orientale**	hare's ear cabbage
Thysanocarpus curvipes	hairy lacepod
***Campanulaceae* – Bellflower Family**	
Lobelia dunnii var. *serrata*	rothrock lobelia
***Caprifoliaceae* – Honeysuckle Family**	
Lonicera subspicata var. *denudata*	southern honeysuckle
***Chenopodiaceae* – Goosefoot Family**	
*Chenopodium album**	lamb's quarters
Chenopodium berlandieri	pitseed goosefoot
Dysphania ambrosioides [*Chenopodium ambrosioides*] *	Mexican tea
Dysphania botrys [*Chenopodium botrys*] *	Jerusalum oak
Dysphania pumilio [*Chenopodium pumilio*] *	Tasmanian goosefoot
*Salsola tragus**	Russian thistle
***Cistaceae* – Rock-Rose Family**	
Helianthemum scoparium	peak rush-rose
***Crassulaceae* – Stonecrop Family**	
Crassula connata	pygmy-weed
Dudleya cymosa ssp. *pumila*	canyon liveforever
Dudleya lanceolata	lance-leaved dudleya
***Cucurbitaceae* – Gourd Family**	
Marah macrocarpus	chilicothe

PLANTS SPECIES OBSERVED WITHIN THE SURVEY AREA DURING FOCUSED SURVEYS (Continued)

Species	
***Ericaceae* – Heath Family**	
Arctostaphylos glauca	bigberry manzanita
***Euphorbiaceae* – Spurge Family**	
*Chamaesyce maculata**	spotted spurge
*Ricinus communis**	castor bean
***Fabaceae* – Legume Family**	
Acmispon glaber [*Lotus scoparius* var. *scoparius*]	deerweed
*Gleditsia triacanthos**	honey locust
Lathyrus vestitus ssp. *vestitus*	chaparral sweet pea
*Lotus unifoliolatus**	Spanish lotus
Lupinus hirsutissimus	stinging lupine
Lupinus truncatus	truncate lupine/collar lupine
*Melilotus alba**	white sweetclover
*Melilotus indica**	sourclover
*Spartium junceum**	Spanish broom
*Trifolium hirtum**	rose clover
*Vicia villosa**	hairy vetch/winter vetch
***Fagaceae* – Oak / Beech Family**	
Quercus agrifolia	coast live oak
Quercus berberidifolia	scrub oak/California scrub oak
Quercus chrysolepis	maul oak/canyon live oak
Quercus durata ssp. *gabrielensis*	San Gabriel Mountains leather oak
***Geraniaceae* – Geranium Family**	
*Erodium botrys**	long-beaked filaree
*Erodium cicutarium**	red-stemmed filaree
***Grossulariaceae* – Gooseberry Family**	
Ribes indecorum	white-flowered currant
***Lamiaceae* – Mint Family**	
Lepechinia fragrans	fragrant pitcher-sage
*Marrubium vulgare**	common horehound
Pycnanthemum californicum	California mountain mint
Salvia apiana	white sage
Salvia columbariae	chia
Salvia mellifera	black sage
***Loasaceae* – Loasa Family**	
Mentzelia affinis	hydra stick-leaf
Mentzelia micrantha	small-flowered stick-leaf
***Lythraceae* – Loosestrife Family**	
*Lythrum hyssopifolia**	grass poly
Montiaceae	
Calyptridium monandrum	common pussypaws
***Myrtaceae* – Myrtle Family**	
*Eucalyptus camaldulensis**	river red gum

PLANTS SPECIES OBSERVED WITHIN THE SURVEY AREA DURING FOCUSED SURVEYS (Continued)

Species	
***Oleaceae* – Olive Family**	
Fraxinus velutina	velvet ash
***Onagraceae* – Evening Primrose Family**	
Camissonia bistorta	California sun cup
Camissonia californica	false mustard
Camissonia ignota	petioled primrose
Camissonia micrantha	small primrose
Epilobium canum	California fuchsia
***Orobanchaceae* – Broomrape Family**	
Castilleja affinis ssp. *affinis*	coastal/Indian paintbrush
Castilleja foliolosa	woolly indian paintbrush
Orobanche fasciculata	clustered broomrape
***Papaveraceae* – Poppy Family**	
Dendromecon rigida	bush poppy
Ehrendorferia chrysantha [*Dicentra chrysantha*]	golden ear-drops
Eschscholzia caespitosa	tufted poppy
Eschscholzia californica	California poppy
Meconella denticulata	small-flowered meconella
Papaver californicum	fire poppy
***Phrymaceae* – Lopseed Family**	
Mimulus aurantiacus	bush monkeyflower
Mimulus brevipes	slope semaphore
Mimulus cardinalis	scarlet monkeyflower
Mimulus floribundus	showy monkeyflower
Mimulus pilosus	downy monkeyflower
***Plantaginaceae* – Plantain Family**	
Antirrhinum coulterianum	white snapdragon
Antirrhinum multiflorum	perennial snapdragon
Keckiella cordifolia	heart-leaved bush-penstemon
Keckiella ternata ssp. *ternata*	blue-stemmed bush-penstemon
Penstemon spectabilis	royal penstemon
*Plantago major**	common plantain
*Veronica anagallis-aquatica**	water speedwell
***Platanaceae* – Sycamore Family**	
Platanus racemosa	western sycamore
***Polemoniaceae* – Phlox Family**	
Allophyllum glutinosum	blue false-gilia
Saltugilia splendens [*Gilia splendens*]	splendid woodland-gilia
Linanthus californicum [*Leptodactylon californicum*]	prickly phlox
***Polygonaceae* – Buckwheat Family**	
Erigonum fasciculatum var. *polifolium*	Mojave Desert California buckwheat
Eriogonum elongatum var. *elongatum*	long-stemmed wild buckwheat
Eriogonum fasciculatum var. *foliolosum*	leafy California buckwheat
Persicaria lapathifolia [*Polygonum lapathifolium*]	willow weed

PLANTS SPECIES OBSERVED WITHIN THE SURVEY AREA DURING FOCUSED SURVEYS (Continued)

Species	
*Polygonum argyrocoleon**	Persian knotweed
Pterostegia drymarioides	woodland threadstem
*Rumex conglomeratus**	whorled dock
*Rumex crispus**	curly dock
***Portulacaceae* – Purslane Family**	
Claytonia perfoliata	miner's lettuce
***Ranunculaceae* – Crowfoot Family**	
Clematis lasiantha	chaparral clematis, pipestem clematis
Delphinium cardinale	scarlet larkspur
Delphinium parryi ssp. *parryi*	Parry's larkspur/blue larkspur
***Rhamnaceae* – Buckthorn Family**	
Ceanothus crassifolius	hoaryleaf ceanothus
Frangula californica [*Rhamnus californica*]	California coffee berry
Ceanothus leucodermis	chaparral whitethorn
Ceanothus oliganthus	hairy ceanothus
Rhamnus ilicifolia	hollyleaf redberry
***Rosaceae* – Rose Family**	
Adenostoma fasciculatum var. fasciculatum	chamise
Cercocarpus betuloides var. *betuloides*	birch-leaf mountain-mahogany
Heteromeles arbutifolia	toyon/christmas berry
Prunus ilicifolia	holly-leaved cherry
Rubus ursinus	California blackberry
***Rubiaceae* – Madder Family**	
Galium angustifolium	narrowly leaved bedstraw
Galium aparine	goose grass
***Salicaceae* – Willow Family**	
Populus fremontii ssp. *fremontii*	Fremont cottonwood
Salix gooddingii	Goodding's black willow
Salix laevigata	red willow
Salix lasiolepis	arroyo willow
Salix lasiandra var. *lasiandra* [*Salix lucida* ssp. *lasiandra*]	pacific willow
***Sapindaceae* – Soap Berry Family**	
Acer macrophyllum	big-leaf maple
***Saxifragaceae* – Saxifrage Family**	
Lithophragma affine	woodland star
***Scrophulariaceae* – Figwort Family**	
Scrophularia californica	California figwort
*Verbascum virgatum**	wand mullein
***Solanaceae* – Nightshade Family**	
Datura wrightii	jimson weed
*Nicotiana glauca**	tree tobacco
Solanum douglasii	Douglas' nightshade
Solanum xanti	chaparral nightshade

PLANTS SPECIES OBSERVED WITHIN THE SURVEY AREA DURING FOCUSED SURVEYS (Continued)

Species	
***Tamaricaceae* – Tamarisk Family**	
*Tamarix ramosissima**	Mediterranean tamarix
***Ulmaceae* – Elm Family**	
*Ulmus parvifolia**	Chinese elm
***Urticaceae* – Nettle Family**	
Urtica dioica ssp. *holosericea*	hoary nettle
***Zygophyllaceae* – Caltrop Family**	
*Tribulus terrestris**	puncture vine
***MONOCOTYLEDONES* – MONOCOTS**	
***Agavaceae* – Century Plant Family**	
Hesperoyucca whipplei [*Yucca whipplei*]	our Lord's candle
***Araceae* – Arum Family**	
Lemna minor	water lentil/lesser duckweed
***Cyperaceae* – Sedge Family**	
Cyperus eragrostis	tall umbrella-sedge
***Iridaceae* – Iris Family**	
Sisyrinchium bellum	western blue-eyed grass
***Juncaceae* – Rush Family**	
Juncus bufonius	toad rush
Juncus macrophyllus	long-leaved rush
Juncus xiphioides	iris-leaved rush
***Liliaceae* – Lily Family**	
Calochortus plummerae	Plummer's mariposa lily
***Orchidaceae* – Orchid Family**	
Epipactis gigantea	stream orchid
***Poaceae* – Grass Family**	
Stipa coronata [*Achnatherum coronatum*]	crested needlegrass
*Agrostis viridis**	water bentgrass
*Avena barbata**	slender wild oat
*Avena fatua**	wild oat
*Bromus diandrus**	ripgut grass
*Bromus hordeaceus**	soft chess
Bromus madritensis ssp. *rubens**	foxtail chess
*Bromus tectorum**	cheat grass
*Cynodon dactylon**	bermuda grass
*Echinochloa colona**	jungle rice
*Echinochloa crus-galli**	barnyard grass
Elymus condensatus [*Leymus condensatus*]	giant wild rye
Elymus glaucus	blue wild-rye
Festuca microstachys [*Vulpia microstachys* var. *pauciflora*]	Pacific fescue
Festuca myuros [*Vulpia myuros* var. *myuros*]*	rattail fescue
Festuca octoflora [*Vulpia octoflora* var. *hirtella*]	hairy six-weeks fescue
Hordeum murinum var. *leporinum**	hare barley
*Lamarckia aurea**	goldentop

PLANTS SPECIES OBSERVED WITHIN THE SURVEY AREA DURING FOCUSED SURVEYS (Continued)

Species	
Leptochloa fusca ssp. *uninervia* [*Leptochloa uninervia*]	Mexican sprangletop
*Lolium perenne**	perennial ryegrass
Muhlenbergia rigens	deergrass
*Piptatherum miliaceum**	smilo grass/millett ricegrass
Poa secunda	one-sided bluegrass/malpais bluegrass
*Polypogon monspeliensis**	annual beard grass
*Schismus barbatus**	Mediterranean schismus
***Themidaceae* – Brodiaea Family**	
Dichelostemma capitatum	blue dicks
***Typhaceae* – Cattail Family**	
Typha domingensis	southern cattail
Typha latifolia	broad-leaved cattail
* non-native species	

APPENDIX B

SPECIAL STATUS PLANT PHOTOGRAPHS

Plummer's mariposa lily (*Calochortus plummerae*) observed during focused surveys.

Fragrant pitcher sage (*Lepechinia fragrans*) observed during focused surveys.

D:\Projects\CoLADPW\J162\Graphics\AppB_1.ai

Special Status Plant Photographs

Appendix B-1

Big Tujunga Reservoir Sediment Removal Project

BonTerra CONSULTING

(Rev: 10-10-11 JCD) R:\PAS\Projects\CoLADPW\J162\Graphics\Bio\Constraints\Plant\AppB_1.pdf

San Gabriel oak (*Quercus durata* var. *gabrielensis*) observed during focused surveys.

Greta's aster (*Symphyotrichum greatae*) observed during focused surveys.

D:\Projects\CoLADPW\J162\Graphics\AppB_2.ai

Special Status Plant Photographs

Appendix B-2

Big Tujunga Reservoir Sediment Removal Project

BonTerra CONSULTING

(Rev: 10-10-11 JCD) R:\PAS\Projects\CoLADPW\J162\Graphics\Bio\Constraints\Plant\AppB_2.pdf

APPENDIX C

SPECIAL STATUS PLANT POPULATION DETAILS

TABLE C-1
PLUMMER'S MARIPOSA LILY POPULATIONS OBSERVED IN THE SURVEY AREA

Population	Number of Individuals	Percent Phenology			Habitat	Soil	Slope	Aspect	Associated Species
		Vegetative	Flowering	Fruiting					
1	3	—	100	—	rocky cliff face	rocky outcrops	flat above sheer cliff	W	everlasting (*Pseudognaphalium canescens* [*Gnaphalium canescens*]), white sage (*Salvia apiana*), cliff malacothrix (*Malacothrix saxatilis*), deerweed (*Acmispon glaber* [*Lotus scoparius*]), our Lord's candle (*Hesperoyucca whipplei* [*Yucca whipplei*]), slender wild oat (*Avena barbata*), California buckwheat (*Eriogonum fasciculatum*), branching phacelia (*Phacelia ramosissima*), Bigelow's spike-moss (*Selaginella bigelovii*), one-sided bluegrass (*Poa secunda*)
2	1	—	100	—	rocky cliff face	rocky outcrops	flat above sheer cliff	W	everlasting, white sage, cliff malacothrix, deerweed, our Lord's candle, slender wild oat, California buckwheat, branching phacelia, Bigelow's spike-moss, one-sided bluegrass
3	1	—	100	—	rocky cliff face	rocky outcrops	flat above sheer cliff	W	everlasting, white sage, cliff malacothrix, deerweed, our Lord's candle, slender wild oat, California buckwheat, branching phacelia, Bigelow's spike-moss, one-sided bluegrass
4	10	80	20	—	burned chaparral	rocky loamy sand	35%	S	chamise (*Adenostoma fasciculatum*), California buckwheat, thick-leaved yerba santa (*Eriodictyon crassifolium*), our Lord's candle, chia (*Salvia columbariae*), white pincushion (*Chaenactis artemisifolia*)
5	15	80	20	—	burned chaparral	rocky loamy sand	40%	S	chamise, deerweed, hoaryleaf ceanothus (*Ceanothus crassifolius*), thick-leaved yerba santa, our Lord's candle, bush poppy (*Dendromecon rigida*)
Total	**30**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

N/A: not applicable

TABLE C-2
FRAGRANT PITCHER SAGE POPULATIONS OBSERVED IN THE SURVEY AREA

Population	Number of Individuals	Percent Phenology			Habitat	Soil	Slope	Aspect	Associated Species
		Vegetative	Flowering	Fruiting					
1	7	14	86	—	scrub oak chaparral/ coastal sage scrub	rocky loam	10–15%	N, NW	California buckwheat, birch-leaf mountain-mahogany (*Cercocarpus betuloides* var. *betulodies*), deerweed, hoaryleaf ceanothus, narrowly leaved bedstraw (*Galium angustifolium*), heart-leaved bush-penstemon (*Keckiella cordifolia*), bush monkeyflower (*Mimulus aurantiacus*)
2	4	75	25	—	mixed – scrub oak chaparral	rocky loam	10–20%	N	cliff malacothrix, golden-yarrow (*Eriophyllum confertiflorum*), heart-leaved bush-penstemon, toyon (*Heteromeles arbutifolia*), bush monkeyflower, little California melic grass (*Melica imperfecta*)
3	3	—	100	—	mixed – scrub oak chaparral	rocky loam	10–20%	N	cliff malacothrix, golden-yarrow, heart-leaved bush-penstemon, deerweed, our Lord's candle, slender wild oat
Total	**14**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

N/A: not applicable

TABLE C-3
SAN GABRIEL OAK POPULATIONS OBSERVED IN THE SURVEY AREA

Population	Number of Individuals	Percent Phenology			Habitat	Soil	Slope	Aspect	Associated Species
		Vegetative	Flowering	Fruiting					
1	5	40	30	30	mixed chaparral	rocky sandy loam	15%	W	holly-leaved cherry (*Prunus ilicifolia*), California buckwheat, long-stemmed wild buckwheat (*Eriogonum elongatum*), bush poppy, our Lord's candle, bush monkeyflower
2	3	100	—	—	chamise chaparral	rock	45%	N	chamise, California buckwheat, bush monkeyflower, our Lord's candle, threadleaf ragwort (*Senecio flaccidus*)
3	40	80	—	20	burned mixed chaparral	rocky sandy loam	45%	N	toyon, hollyleaf redberry (*Rhamnus ilicifolia*), our Lord's candle, bush poppy, coastal wood fern (*Dryopteris arguta*), cliff malacothrix, common miner's-lettuce (*Claytonia perfoliata*), hairy lilac (*Ceanothus oliganthus*), chilicothe (*Marah macrocarpus*), California everlasting (*Pseudognaphalium californicum* [*Gnaphalium californicum*])
Total	**48**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

N/A: not applicable

TABLE C-4
GREATA'S ASTER POPULATIONS OBSERVED IN THE SURVEY AREA

Population	Number of Individuals	Percent Phenology			Habitat	Soil	Slope	Aspect	Associated Species
		Vegetative	Flowering	Fruiting					
1	1	—	100	—	freshwater seep	rock (cliff face)	150%	E	crofton weed (*Ageratina adenophora*), bentgrass (*Agrostis* sp.), stream orchid (*Epipactis gigantea*), scarlet monkeyflower (*Mimulus cardinalis*), western blue-eyed grass (*Sisyrinchium bellum*), California maidenhair (*Adiantum jordanii*), smilo grass (*Piptatherum miliaceum*)
2	4	25	75	—	freshwater seep	rock (cliff face)	150%	E	crofton weed, California fuchsia (*Epilobium canum*), western blue-eyed grass, stream orchid, smilo grass, Fremont cottonwood (*Populus fremontii*), scarlet monkeyflower
Total	**5**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

N/A: not applicable

APPENDIX D

CALIFORNIA NATURAL DIVERSITY DATABASE FORMS

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): 06/16/2011

For Office Use Only

Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Calochortus plummerae*

Common Name: Plummer's mariposa lily

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 25 Subsequent Visit? ☐ yes ☑ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: David Bramlet
Address: 1691 Mesa Drive, No. A-2
Newport Beach, CA 92660
E-mail Address: debramlet@earthlink.net
Phone: (714) 549-0647

Plant Information

Phenology: 80 % vegetative, 20 % flowering, 0 % fruiting

Animal Information

_____ # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

In Maple Canyon near Big Tujunga Dam.

County: Los Angeles Landowner / Mgr.: Angeles National Forest
Quad Name: Condor Peak Elevation: 3158 ft
T 2N R 12W Sec 6, ____ ¼ of ____ ¼, Meridian: H☐ M☐ S☑ Source of Coordinates (GPS, topo. map & type): GPS
T____ R____ Sec ____, ____ ¼ of ____ ¼, Meridian: H☐ M☐ S☐ GPS Make & Model Garmin 60CSX
DATUM: NAD27 ☐ NAD83 ☑ WGS84 ☐ Horizontal Accuracy 10-20 feet meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☑ *OR* Geographic (Latitude & Longitude) ☐
Coordinates: Population 1: 0391454mE, 3794102mN; Population 2: 0391446mE, 3794095mN

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Population 1 has 10 individuals and population 2 has 15 individuals. Plants in burned chaparral on rocky loamy sand substrate with 35% slope and southern aspect. Population 1 associated species are chamise (Adenostoma fasciculatum), California buckwheat (Eriogonum fasciculatum), thick-leaf yerba santa (Eriodictyon crassifolium), our Lord's candle (Hesperoyucca whipplei [Yucca whipplei]), chia (Salvia columbariae), and white pincushion (Chaenactis artemisifolia). Population 2 associated species are chamise, deerweed (Acmispon glaber [Lotus scoparius]), hoaryleaf ceanothus (Ceanothus crassifolius), thick-leaf yerba santa, our Lord's candle, and bush poppy (Dendromecon rigida).

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☑ Fair ☐ Poor

Immediate AND surrounding land use: Big Tujunga Dam sediment placement site and access road; open space

Visible disturbances: access road, sediment placement

Threats: sediment removal and transport from above Big Tujunga Dam to the Maple Canyon sediment placement site

Comments:

Determination: *(check one or more, and fill in blanks)*

☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☑ Other: familiarity with species

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☑
Habitat	☐	☐	☑
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☑ no ☐

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): 06/13/2011

For Office Use Only

Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Calochortus plummerae*

Common Name: Plummer's mariposa lily

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 5 Subsequent Visit? ☐ yes ☑ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: David Bramlet
Address: 1691 Mesa Drive, No. A-2
Newport Beach, CA 92660
E-mail Address: debramlet@earthlink.net
Phone: (714) 549-0647

Plant Information

Phenology: _____% vegetative, 100% flowering, _____% fruiting

Animal Information

_____ # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)

In Big Tujunga Canyon downstream of Big Tujunga Dam.

County: Los Angeles Landowner / Mgr.: Angeles National Forest
Quad Name: Condor Peak Elevation: 2,200 feet
T 2N R 13W Sec 1, ____ ¼ of ____ ¼, Meridian: H☐ M☐ S☑ Source of Coordinates (GPS, topo. map & type): GPS
T____ R____ Sec ____, ____ ¼ of ____ ¼, Meridian: H☐ M☐ S☐ GPS Make & Model Garmin 60CSX
DATUM: NAD27 ☐ NAD83 ☑ WGS84 ☐ Horizontal Accuracy 10-20 feet meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☑ *OR* Geographic (Latitude & Longitude) ☐
Coordinates: Population 1: 0390384mE, 3795131mN; Population 2: 0390396mE, 3795058mN; Population 3: 0390395mE, 3795134mN

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Population 1 has 3 individuals and populations 2 and 3 each have 1 individual. Plants on flat area above rocky cliff face with western aspect. Associated species are everlasting (Pseudognaphalium canescens [Gnaphalium canescens]), white sage (Salvia apiana), cliff malacothrix (Malacothrix saxatilis), deerweed (Acmispon glaber [Lotus scoparius]), our Lord's candle (Hesperoyucca whipplei [Yucca whipplei]), slender wild oat (Avena barbata), California buckwheat (Eriogonum fasciculatum), branching phacelia (Phacelia ramosissima), Bigelow's spike-moss (Selaginella bigelovii), and one-sided bluegrass (Poa secunda).

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☑ Fair ☐ Poor

Immediate AND surrounding land use: Big Tujunga Dam and access road; open space

Visible disturbances: adjacent access road to Big Tujunga Dam

Threats: sediment removal above Big Tujunga Dam and transport to Maple Canyon

Comments:

Determination: *(check one or more, and fill in blanks)*

☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☑ Other: familiarity with species

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☑
Habitat	☐	☐	☑
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☑ no ☐

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): 06/13/2011

For Office Use Only

Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Lepechinia fragrans*

Common Name: fragrant pitcher sage

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 14 Subsequent Visit? ☐ yes ☑ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: David Bramlet
Address: 1691 Mesa Drive, No. A-2
Newport Beach, CA 92660
E-mail Address: debramlet@earthlink.net
Phone: (714) 549-0647

Plant Information

Phenology: 29 % vegetative, 71 % flowering, 0 % fruiting

Animal Information

_____ # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

Maple Canyon near Big Tujunga Dam

County: Los Angeles Landowner / Mgr.: Angeles National Forest

Quad Name: Condor Peak Elevation: 2,420

T 2N R 13W Sec 1, ____ ¼ of ____ ¼, Meridian: H☐ M☐ S☑ Source of Coordinates (GPS, topo. map & type): GPS

T____ R____ Sec ____, ____ ¼ of ____ ¼, Meridian: H☐ M☐ S☐ GPS Make & Model Garmin 60CSX

DATUM: NAD27 ☐ NAD83 ☑ WGS84 ☐ Horizontal Accuracy 10-20 feet meters/feet

Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☑ *OR* Geographic (Latitude & Longitude) ☐

Coordinates: Population 1: 0390324mE, 3794354mN; Population 2: 0390579mN, 3794224mN; Population 3: 0390589mE, 3794175mN

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Population 1 (1 individual) in scrub oak chaparral/coastal sage scrub, rocky loam substrate, 10-15% slope, N/NW aspect. Population 2 (4 individuals) and Population 3 (3 individuals) in mixed scrub oak chaparral, rocky loam substrate, 10-20% slope, N aspect. Associated species: California buckwheat (Eriogonum fasciculatum), birch-leaf mountain-mahogany (Cercocarpus betuloides var. betuloides), deerweed (Acmispon glaber), hoaryleaf ceanothus (Ceanothus crassifolius), narrowly leaved bedstraw (Galium angustifolium), heart-leaved bush-penstemon (Keckiella cordifolia), bush monkeyflower (Mimulus aurantiacus), cliff malacothrix (Malacothrix saxatilis), golden-yarrow (Eriophyllum confertiflorum), toyon (Heteromeles arbutifolia), little California melic grass (Melic imperfecta)

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☑ Fair ☐ Poor

Immediate AND surrounding land use: Big Tujunga Dam sediment placement site and access road; open space

Visible disturbances: access road, sediment placement

Threats: sediment removal and transport from above Big Tujunga Dam to the Maple Canyon sediment placement site

Comments:

Determination: *(check one or more, and fill in blanks)*

☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☑ Other: familiarity with species

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☑
Habitat	☐	☐	☑
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☑ no ☐

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): 06/16/2011

For Office Use Only

Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Quercus durata var. gabrielensis*

Common Name: San Gabriel oak

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 49 Subsequent Visit? ☐ yes ☑ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: David Bramlet
Address: 1691 Mesa Drive, No. A-2
Newport Beach, CA 92660
E-mail Address: debramlet@earthlink.net
Phone: (714) 549-0647

Plant Information

Phenology: 75 % vegetative, 3 % flowering, 22 % fruiting

Animal Information

_____ # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

In Maple Canyon near Big Tujunga Dam.

County: Los Angeles Landowner / Mgr.: Angeles National Forest
Quad Name: Condor Peak Elevation: 2,880 feet
T 2N R 13W Sec 1, ____ ¼ of ____ ¼, Meridian: H☐ M☐ S☑ Source of Coordinates (GPS, topo. map & type): GPS
T____ R____ Sec ____, ____ ¼ of ____ ¼, Meridian: H☐ M☐ S☐ GPS Make & Model Garmin 60CSX
DATUM: NAD27 ☐ NAD83 ☑ WGS84 ☐ Horizontal Accuracy 10-20 feet meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☑ *OR* Geographic (Latitude & Longitude) ☐
Coordinates: Population 1: 390871mE, 3794351mN; Population 2: 390877nE, 3794361mN; Population 3: 390888mE, 3794373mN; Population 4: 390888mE, 3794373mN

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Population 1 (5 individuals) in mixed chaparral, rocky sandy loam substrate, 15% slope, W aspect. Population 2 (3 individuals) in chamise chaparral, rocky substrate, 45% slope, N aspect. Population 3 (1 individual) in mixed chaparral, rocky loamy sand substrate, 20% slope, S aspect. Population 4 (40 individuals) in burned mixed chaparral, rocky sandy loam, 45% slope, N aspect. Associated species: Prunus ilicifolia, Eriogonum fasciculatum, Eriogonum elongatum, Dendromecon rigida, Hesperoyucca whipplei (Yucca whipplei), Mimulus aurantiacus, Adenostoma fasciculatum, Senecio flaccidus, Salvia mellifera, Ceanothus crassifolius, Heteromeles arbutifolia, Rhamnus ilicifolia, Dryopteris arguta, Malacothrix saxatilis, Claytonia perfoliata, Ceanothus oliganthus, Marah macrocarpus

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☑ Fair ☐ Poor

Immediate AND surrounding land use: Big Tujunga Dam sediment placement site and access road; open space

Visible disturbances: access road, sediment placement

Threats: sediment removal and transport from above Big Tujunga Dam to the Maple Canyon sediment placement site

Comments:

Determination: *(check one or more, and fill in blanks)*

☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☑ Other: familiarity with species

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☑
Habitat	☐	☐	☑
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☑ no ☐

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): 08/26/2011

For Office Use Only

Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Symphyotrichum greatae*

Common Name: Greata's aster

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 5 Subsequent Visit? ☐ yes ☑ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: David Bramlet
Address: 1691 Mesa Drive, No. A-2
Newport Beach, CA 92660
E-mail Address: debramlet@earthlink.net
Phone: (714) 549-0647

Plant Information

Phenology: 20 % vegetative, 80 % flowering, 0 % fruiting

Animal Information

_____ # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

In Big Tujunga Canyon immediately downstream of Big Tujunga Dam.

County: Los Angeles Landowner / Mgr.: Angeles National Forest

Quad Name: Condor Peak Elevation: 2,200 ft

T 2N R 13W Sec 1, ____ ¼ of ____ ¼, Meridian: H☐ M☐ S☑ Source of Coordinates (GPS, topo. map & type): GPS

T____ R____ Sec ____, ____ ¼ of ____ ¼, Meridian: H☐ M☐ S☐ GPS Make & Model Garmin 60CSX

DATUM: NAD27 ☐ NAD83 ☑ WGS84 ☐ Horizontal Accuracy 10-20 feet meters/feet

Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☑ *OR* Geographic (Latitude & Longitude) ☐

Coordinates: Population 1: 0390456mE, 3795277mN; Population 2: 0390445mE, 3795265nM

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Population 1 has 1 individual and Population 2 has 4 individuals. Individuals located on rock substrate (cliff face) of freshwater seep. Slope is 150% and aspect is east. Population 1 associated species are crofton weed (Ageratina adenophora), bentgrass (Agrostis sp.), stream orchid (Epipactis gigantea), scarlet monkeyflower (Mimulus cardinalis), western blue-eyed grass (Sisyrinchium bellum), California maidenhair (Adiantum jordanii), and smilo grass (Piptatherum miliaceum). Population 2 associated species are crofton weed, California fuchsia (Epilobium canum), western blue-eyed grass, stream orchid, smilo grass, Fremont cottonwood (Populus fremontii), and scarlet monkeyflower.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☑ Fair ☐ Poor

Immediate AND surrounding land use: Big Tujunga Dam and access road; open space

Visible disturbances: adjacent access road to Big Tujunga Dam

Threats: sediment removal and transport from above Big Tujunga Dam to the Maple Canyon sediment placement site

Comments:

Determination: *(check one or more, and fill in blanks)*

☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☑ Other: familiarity with species

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☑
Habitat	☐	☐	☑
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☑ no ☐