

**APPENDIX C**

**PHASE 1 CULTURAL RESOURCES ASSESSMENT**

## Phase I Cultural Resources Assessment

### Arroyo Seco Canyon Project



Prepared for

Inge Wiesema  
Carollo Engineers, Inc.  
199 South Los Robles Avenue, Suite 530  
Pasadena, California 91101

Prepared by

Patrick Maxon M.A., RPA  
BonTerra Psomas  
2 Executive Circle, Suite 175  
Irvine, California 92614  
T: (714) 444-9199 F: (714) 444-9199  
[www.BonTerraPsomas.com](http://www.BonTerraPsomas.com)

May 2014



**TABLE OF CONTENTS**

<b><u>Section</u></b>	<b><u>Page</u></b>
Executive/Management Summary.....	MS-1
<b>1.0 Undertaking Information/Introduction .....</b>	<b>1</b>
1.1 Contracting Data .....	1
1.2 Undertaking.....	1
1.2.1 Area 1: Arroyo Seco Headworks Naturalization .....	1
1.2.2 Area 2: Arroyo Seco Intake Structure.....	1
1.2.3 Area 3: Jet Propulsion Laboratory East Parking Lot.....	2
1.2.4 Area 4: Restroom Staging Area .....	2
1.3 Area of Potential Effects .....	3
1.4 Project Personnel .....	3
<b>2.0 Regulatory Setting.....</b>	<b>3</b>
2.1 Federal.....	3
2.2 California Environmental Quality Act .....	4
2.3 City of Pasadena.....	5
2.4 Arroyo Seco Master Plan – Arroyo Seco Design Guidelines.....	6
2.5 Senate Bill 18 .....	6
2.6 Human Remains.....	6
<b>3.0 Setting.....</b>	<b>8</b>
3.1 Natural .....	8
3.2 Cultural.....	9
3.2.1 Prehistory .....	9
3.2.2 Ethnography .....	10
3.2.3 History .....	11
<b>4.0 Methods .....</b>	<b>15</b>
4.1 Cultural Resources Records Search.....	15
4.2 Paleontological Resources Records Search.....	15
4.3 Native American Scoping .....	15
4.4 Archaeological Field Survey .....	15
4.5 Historic Resources Study .....	15
<b>5.0 Results .....</b>	<b>17</b>
5.1 Cultural Resources Records Search.....	17
5.2 Paleontological Resources .....	17
5.3 Native American Sacred Lands File Review .....	18
5.4 Archaeological Field Survey .....	19

5.5	Historic Resources Study .....	20
5.5.1	Area 1.....	20
5.5.2	Area 2.....	20
5.5.3	Bridge No. 3.....	20
5.5.4	Area 3.....	21
5.5.5	Bridge No. 1.....	21
5.5.6	Bridge No. 2.....	21
<b>6.0</b>	<b>Impact Analyses .....</b>	<b>22</b>
6.1	Section 106 Effects Analysis .....	22
6.2	CEQA Impact Analysis .....	22
6.2.1	Significance Criteria.....	22
6.2.2	Project Impact Analysis.....	23
<b>7.0</b>	<b>Recommendations and Mitigation .....</b>	<b>25</b>
7.1	Mitigation Measure 1 .....	25
7.2	Mitigation Measure 2 .....	25
7.3	Mitigation Measure 3 .....	25
7.4	Mitigation Measure 4 .....	26
<b>8.0</b>	<b>Certification .....</b>	<b>26</b>
<b>9.0</b>	<b>References.....</b>	<b>27</b>

**TABLES**

<u>Table</u>		<u>Page</u>
1	Cultural Resources Studies Within Project Site .....	17
2	Cultural Resources Within One Mile of the Project Site .....	17
3	Rock Units by Area.....	18

**EXHIBITS**

<u>Exhibit</u>		<u>Follows Page</u>
1	Project Site.....	3
2	Area of Potential Effects .....	3

**APPENDICES**

- A: South Central Coastal Information Center Bibliography
- B: Los Angeles County Museum Paleontological Records Search
- C: Native American Historic Commission and Native American Consultation
- D: Paleontological Resources Assessment (Roeder 2014)
- E: Historic Resources Assessment Report (Daly 2014)
- F: Personnel Qualifications

---

**NATIONAL ARCHAEOLOGICAL DATABASE (NADB) INFORMATION SHEET**

**PHASE I CULTURAL RESOURCES ASSESSMENT:  
ARROYO SECO CANYON PROJECT**

by

**Patrick Maxon, M.A., RPA**

**May 2014**

**Submitted by:**

BonTerra Psomas  
Patrick Maxon, M.A., RPA  
2 Executive Circle, Suite 175  
Irvine, California 92614  
(714) 444-9199

**Submitted to:**

Inge Wiesema  
Carollo Engineers, Inc.  
199 South Los Robles Avenue, Suite 530  
Pasadena, California 91101

USGS Pasadena 7.5 Minute Quadrangle in Township 1 and 2 North; Range 12 West (*S.B.B.M.*).

**BonTerra Psomas**

Project Number: Carollo J0041

Key Words: Arroyo Seco, Pasadena, Hahamongna, JPL,

## EXECUTIVE/MANAGEMENT SUMMARY

### PURPOSE AND SCOPE

BonTerra Psomas undertook this project to identify and evaluate any cultural resources located on the project site and to assess adverse effects to any historic properties that would result from implementation of the Arroyo Seco Canyon Project. This document has been prepared to satisfy the U.S. Army Corps of Engineers' (USACE's) compliance responsibilities under Section 106 of the National Historic Preservation Act (NHPA) of 1966 (16 *United States Code* 470f), as amended, and its implementing regulations found at 36 *Code of Federal Regulations* (CFR) Part 800. The format of this report follows the Office of Historic Preservation's (OHP's) *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format* (Office of Historic Preservation 1990).

The City of Pasadena Department of Water and Power (PWP) currently operates several structures in the Arroyo Seco Canyon that capture and convey stream water to a series of groundwater recharge basins that are located adjacent to the National Aeronautics and Space Administration's (NASA's) Jet Propulsion Laboratory (JPL). These facilities include the Arroyo Seco Headworks structure and adjacent sedimentation basins, the Arroyo Seco Intake Dam, the Millard Creek Intake Dam, and the associated pipelines that convey water to the existing spreading basins. A large number of these facilities were entirely or severely damaged due to debris flows following the Station Fire in 2009. The proposed project is intended to upgrade, modify, naturalize, restore, and expand various structures to increase the utilization of surface water rights in the Arroyo Seco.

### DATES OF INVESTIGATION

Patrick O. Maxon, M.A., RPA conducted a cultural resources literature review on March 18, 2013, at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton (Appendix A). A paleontological review request was completed by Dr. Samuel McLeod of the Natural History Museum of Los Angeles on April 5, 2013 (Appendix B). Native American consultation was initiated on March 20, 2013, with a letter to the Native American Heritage Commission (NAHC). The NAHC responded on March 21, 2013, with its Sacred Lands File Search and contacts list. Letters were sent to Native American tribes and individuals on the contacts list on March 21, 2013 (Appendix C). Mark Roeder completed the paleontological resources assessment on January 7, 2014 (Appendix D). Pamela Daly of Daly and Associates completed the historic resources report on January 10, 2014 (Appendix E). Mr. Maxon completed a cultural resources survey of the property on May 1, 2013 and November 21, 2013. Mr. Maxon prepared and completed this technical report in February 2014. Staff resumes are located in Appendix F.

### FINDINGS OF THE INVESTIGATION

No archaeological or paleontological resources were discovered; however there is sensitivity within the area of potential effect (APE) for both resources and mitigation measures have been developed to account for their possible presence and exposure during ground disturbing activities related to project construction.

There are no built-environment resources in the proposed Project Areas (APE) 1 or 3 that will be substantially changed as a result of the project. *Bridge No. 3* is situated within the boundary of Project Area (APE) 2, and *Bridge No. 2* is located on the Gabrielino Trail (Arroyo Boulevard) between APEs 2 and 3.

---

## RECOMMENDATIONS AND MITIGATION

### Mitigation Measure 1

The cast concrete baluster railing of Bridge No. 2 shall be protected from project-related construction activities (including the movement of heavy and large motor vehicles and machinery over Bridge No. 2 to gain access to APEs 1 and 2). Each baluster railing, from the bridge deck to the top of the railing, shall be clad with solid plywood panels that have a minimum thickness of ¾-inch or equally effective measures shall be installed to protect against unintentional impacts from passing over the bridge. The plywood barriers shall be secured without damaging the balusters or railing.

The design and construction (and eventual removal) of the protective barriers at Bridge No. 2 and design and construction (and eventual removal) of a temporary bridge at Bridge No. 3 shall be prepared in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*. The plans for the temporary barriers and temporary bridge shall be reviewed by an architectural historian, historic architect, and structural or civil engineer that has experience with the physical components of historic bridges and stone walls. Prior to implementation of project activities, a qualified architectural historian (who meets the Secretary of Interior's Professional Qualification Standards) shall be retained to provide construction monitoring of the proposed installation/construction and removal plan documents for the temporary bridge on Bridge No. 3 and protective barriers on Bridge No. 2. An installation/construction/repair methodology to protect the historic resources shall be developed prior to project activities to ensure that the protective measures would adequately safeguard Bridges No. 2 and 3.

A pre-construction and a post-construction survey shall be prepared to ensure that adverse effects or significant impacts have not occurred to the bridges. The installation/construction methodology and post-construction survey shall be submitted to the City of Pasadena Department of Planning – Historic Preservation.

### Mitigation Measure 2

Prior to commencement of earthmoving activities, the City shall retain a qualified Archaeologist to observe grading activities. The Archaeologist shall be present at the pre-grade conference; shall establish procedures for archaeological resource surveillance; and shall establish, in cooperation with the Contractor, procedures for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of the artifacts, as appropriate. Should archaeological resources be found during ground-disturbing activities for the Project, the Archaeologist shall first determine whether it is a "unique archaeological resource" pursuant to the California Environmental Quality Act (CEQA, i.e., Section 21083.2[g] of the *California Public Resources Code*) or a "historical resource" pursuant to Section 15064.5(a) of the State CEQA Guidelines. If the archaeological resource is determined to be a "unique archaeological resource" or a "historical resource", the Archaeologist shall formulate a mitigation plan in consultation with the City of Pasadena that satisfies the requirements of the above-referenced sections. The Archaeologist shall prepare a report of the results of any study prepared as part of a testing or mitigation plan, following guidelines of the California Office of Historic Preservation, and s/he shall record the site and submit the recordation form to the City of Pasadena and the California Historic Resources Information System (CHRIS) at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton. Work may proceed in other areas of the site, subject to the direction of the Archaeologist.

### **Mitigation Measure 3**

Prior to issuance of a grading permit, a qualified Paleontologist (one with training in the recognition of paleontological resources) shall be retained to observe grading activities in paleontologically sensitive sediments and conduct salvage excavation of paleontological resources as necessary. The Paleontologist shall be present at the pre-grading conference, shall establish procedures for paleontological resources surveillance, and shall establish, in cooperation with the contractor, procedures for temporarily halting or redirecting work to permit the sampling, identification and evaluation of any fossils discovered as appropriate. If paleontological resources are discovered, the paleontologist shall report such findings to the City of Pasadena. If the paleontological resources are found to be significant, the paleontologist shall determine appropriate actions, in cooperation with the City, for exploration and/or salvage. These actions, as well as final mitigation and disposition of the resources, shall be subject to the approval of the City. All recovered fossils shall be deposited in an accredited institution or museum, such as the Natural History Museum of Los Angeles County.

### **Mitigation Measure 4**

If human remains are encountered during excavation activities, all work shall halt in the immediate vicinity of the discovery and the County Coroner shall be notified (*California Public Resources Code* §5097.98). The Coroner shall determine whether the remains are of forensic interest. If the Coroner, with the aid of the County-approved Archaeologist, determines that the remains are prehistoric, s/he will contact the Native American Heritage Commission (NAHC). The NAHC shall be responsible for designating the most likely descendant (MLD), who will be responsible for the ultimate disposition of the remains, as required by Section 7050.5 of the *California Health and Safety Code*. The MLD shall make his/her recommendation within 48 hours of being granted access to the site. The MLD's recommendation shall be followed if feasible, and may include scientific removal and non-destructive analysis of the human remains and any items associated with Native American burials (*California Health and Safety Code*, Section 7050.5). If the landowner rejects the MLD's recommendations, the landowner shall rebury the remains with appropriate dignity on the property in a location that will not be subject to further subsurface disturbance (*California Public Resources Code*, Section 5097.98).

### **DISPOSITION OF DATA**

This report will be filed with the City of Pasadena; with the U.S. Army Corps of Engineers (USACE); and at BonTerra Psomas. All field notes and other documentation related to the study are on file at BonTerra Psomas.

## **1.0 UNDERTAKING INFORMATION/INTRODUCTION**

### **1.1 CONTRACTING DATA**

Carollo Engineers, Inc. retained BonTerra Psomas to conduct a Cultural Resources Study for the Arroyo Seco Canyon Project that is compliant with Section 106 of the National Historic Preservation Act (NHPA). This report details the findings of the investigation and offers management recommendations and mitigation measures to reduce project effects.

### **1.2 UNDERTAKING**

The Arroyo Seco Canyon project is a multi-purpose project that includes a diversion structure on the Arroyo Seco Creek to beneficially utilize water rights held by the City of Pasadena and the Lincoln Avenue Water Company; spreading basins capable of recharging the diverted water to replenish the local groundwater supply; naturalization of the Arroyo Seco Creek; and a new public restroom facility and amenities for those recreating in the Arroyo Seco Canyon area. Four areas, including one staging area, will be impacted by the project. They include: Area 1 (Arroyo Seco Headworks Naturalization), Area 2 (Arroyo Seco Intake Structure), Area 3 (the Jet Propulsion Laboratory [JPL] East Parking Lot), and Area 4 (Restroom Staging Area).

Pasadena Water and Power (PWP) has received a portion of the Greater Los Angeles Region's Integrated Regional Water Management (IRWM) implementation grant from the State of California to design and construct this project. Additional funding for this project is also available through a Federal Emergency Management Agency (FEMA) grant to remove debris and to repair roads and structures in the Arroyo Seco Canyon area.

#### **1.2.1 Area 1: Arroyo Seco Headworks Naturalization**

Area 1 is the northernmost and furthest upstream area, approximately 0.7 mile north and upstream of the JPL East Parking Lot (Area 3). It includes the existing Headworks structure across the stream; an approximate 1,000-foot long portion of the Arroyo Seco streambed and associated sedimentation basins; naturally vegetated areas; and the Gabrielino Trail. The Arroyo Seco Headworks structure was designed to divert flows into adjacent sedimentation basins to reduce the amount of suspended solids in the stream flow. The Headworks and sedimentation basins were substantially damaged due to the debris flows following the 2009 Station Fire and are essentially non-functional.

The Headworks structure would be removed and improvements in Area 1 would focus on rehabilitating an approximate 6-acre area of Arroyo Seco Floodplain that was significantly impacted by flooding in 2010. Stream restoration would involve native plant revegetation and invasive species removal on approximately 1,000 feet of the stream. In addition, the project includes the reconstruction of the existing rock bank revetment; bank stabilization; creation of planting islands; and installation of woody debris clusters.

An area to the east of the stream channel and outside the five-year floodplain would be designated as a rest area that would be improved with picnic tables, benches, a drinking fountain, an equestrian water trough, garbage cans, and a pet waste station. A new trail is proposed across the Arroyo Seco from the lower portion of Area 1 to the picnic area.

#### **1.2.2 Area 2: Arroyo Seco Intake Structure**

Area 2 is located approximately 0.3 mile downstream from the Arroyo Seco Headworks and 0.4 mile upstream from the JPL East Parking Lot (Area 3). The primary structures in Area 2 include the diversion structure and intake structure, equipment building, the Gabrielino Trail, and a historic

bridge (Bridge No. 3) over the Arroyo Seco. The diversion structure has historically diverted stream flows into the intake structure, which could accommodate up to approximately 32 cubic feet per second (cfs) of water. The water is piped from the intake downstream approximately 3,000 feet to the PWP's spreading basins. The diversion structure and intake structure were substantially damaged due to the debris flows following the 2009 Station Fire and are essentially non-functional.

There is also a small building pad north of the intake structure that supported an equipment building. Approximately 150 feet of the Trail's protective embankment between diversion structure and Bridge No. 3 has eroded, causing the edge of the paved road to break and fall apart. Currently, K-rails are used as a temporary means to prevent vehicle or foot traffic from approaching the drop-off adjacent to the Trail.

Bridge No. 1 spans Millard Creek, and Bridge No. 2 crosses the Arroyo Seco just north of the Millard Creek confluence. Approximately 620 feet north of the JPL East Parking Lot is an area that may be used as a temporary staging site for construction activities. Construction materials, equipment, and vehicles may be temporarily located in this area during construction of Areas 1 and 2.

Area 2 improvements mainly involve the replacement of the diversion weir and intake structures and reconstruction of the access road. In addition, a temporary bridge would be constructed over Bridge No. 3 to allow heavy equipment to reach Areas 1 and 2, north of the bridge, during project construction. This temporary bridge would accommodate construction vehicles and prevent any damage to Bridge No. 3. It would be removed after the construction of the proposed improvements in Areas 1 and 2.

### **1.2.3 Area 3: Jet Propulsion Laboratory East Parking Lot**

Area 3 includes the JPL East Parking Lot, which is located adjacent to City-owned spreading basins, and the access bridge that connects the Parking Lot to the National Aeronautics and Space Administration's (NASA's) JPL Campus to the west. The Gabrielino Trail runs parallel along the eastern side of the Parking Lot and also serves as a maintenance access road (North Arroyo Boulevard) that leads into the Arroyo Seco Canyon area.

Two sludge basins and a series of 13 spreading basins are located east of the Arroyo Seco, west of the JPL East Parking Lot. Area 3 includes only the four upper spreading basins that are located west of the JPL East Parking Lot. A 12-inch water line serving NASA JPL and a 30-inch Hume line (connecting intake to spreading basins), run the length of the parking lot and 24-inch diameter influent and effluent lines; a 6-inch diameter sludge line runs from the treatment plant across the parking lot to the sludge basins.

Improvements proposed in Area 3 include a 75-stall public parking lot that would be paved with decomposed granite or other pervious materials; additional spreading basins; sedimentation basins; an access road; a pedestrian stairway; a trail/equestrian pathway; interpretative signage; a pet waste station; a drinking fountain; a guard station prior to the access point to JPL; and a public restroom that is compliant with the Americans with Disabilities Act (ADA).

### **1.2.4 Area 4: Temporary Staging Area**

The staging area to be used during construction of the restroom at the northern end of the JPL parking lot lies approximately 0.1 mile north of the JPL East Parking Lot (Area 3).

### 1.3 AREA OF POTENTIAL EFFECTS

Exhibit 1 depicts the regional and specific location of the project site on a portion of the U.S. Geological Survey's (USGS') Pasadena 7.5-minute quadrangle. Exhibit 2 depicts the Area of Potential Effects (APE) on an aerial photograph. The APE includes 4 areas: (1) the Headworks Naturalization area, (2) the Intake Structure area, (3) the JPL East Parking Lot area, and (4) the temporary equipment staging area that would be used during construction of the restroom in Area 3.

### 1.4 PROJECT PERSONNEL

Patrick O. Maxon, M.A., RPA completed the cultural resources study. Mark Roeder completed the paleontological resources study. Ms. Pamela Daly, M.S.H.P. completed the historic resources evaluation. Refer to Appendix F for staff qualifications.

## 2.0 REGULATORY SETTING

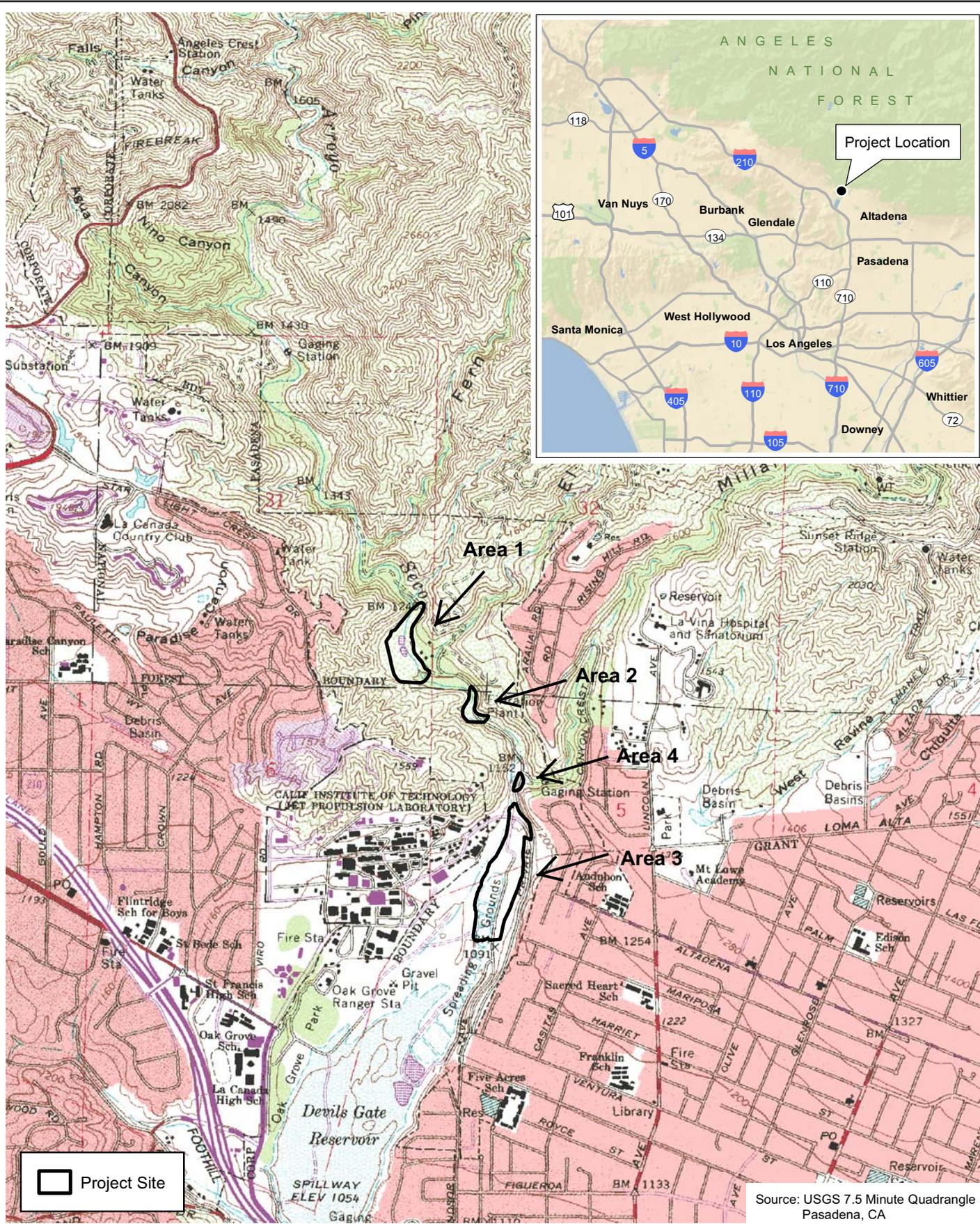
This section contains a discussion of the applicable laws, ordinances, regulations, and standards that govern cultural resources and must be adhered to both prior to and during project implementation. The report is intended to satisfy the requirements of the California Environmental Quality Act (CEQA) and the State CEQA Guidelines (specifically, *California Public Resources Code* [PRC], Section 21083.2 and 14 *California Code of Regulations* [CCR], Section 15064.5); it also satisfies the requirements for a federal action under the National Environmental Policy Act (NEPA) and an analysis pursuant to Section 106 of the National Historic Preservation Act (16 *United States Code* [USC] 470f) and its implementing regulations listed in the *Code of Federal Regulations* (36 CFR, 800, Protection of Historic Properties).

### 2.1 FEDERAL

Cultural resources are considered during federal undertakings chiefly under Section 106 of the NHPA through one of its implementing regulations (36 CFR 800, Protection of Historic Properties) and NEPA. Properties of traditional religious and cultural importance to Native Americans are considered under Section 101(d)(6)(A) of the NHPA. Other federal laws include the Archaeological Data Preservation Act of 1974, the American Indian Religious Freedom Act (AIRFA) of 1978, the Archaeological Resources Protection Act of 1979, and the Native American Graves Protection and Repatriation Act of 1989, among others.

Section 106 of the NHPA (16 USC 470f) requires federal agencies to take into account the effects of their undertakings on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register of Historic Places (NRHP) and to afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such undertakings (36 CFR 800.1). Under Section 106, an agency must make a reasonable and good faith effort to identify historic properties that may be affected by the undertaking and assess the significance of any adversely affected cultural resources. If there is determined to be an effect on an eligible resource (historic property), consultation to resolve the effect is undertaken per 36 CFR 800.6(b). Significant cultural resources are those resources that are listed in or are eligible for listing in the NRHP per the criteria listed at 36 CFR 60.4 below:

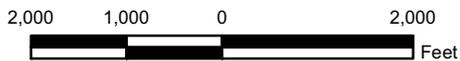
The quality of significance in American history, architecture, archaeology, engineering and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling and association and that:



D:\Projects\Carollo\041\MXD\Cultural\ex\_RL\_USGS.mxd

## Project Site and Vicinity

Arroyo Seco Canyon Project



## Exhibit 1

**Bonterra**  
CONSULTING

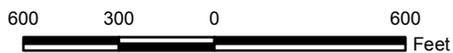
D:\Projects\Carollo\041MXD\Cultural\ex\_2\_APE.mxd



## Area of Potential Effects

Exhibit 2

Arroyo Seco Canyon Project



**Bonterra**  
CONSULTING

(Rev. 2-04-2014 JAZ) X:\Projects\Carollo\041\Graphics\Cultural\ex2\_APE.pdf

- (A) Are associated with events that have made a significant contribution to the broad patterns of our history; or
- (B) Are associated with the lives of persons significant in our past; or
- (C) Embody the distinctive characteristics of a type, period, or method of installation, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- (D) Have yielded, or may be likely to yield, information important in prehistory or history.

The Section 106 process involves several steps:

- Determination and delineation, in consultation with the federal agency, of an Area of Potential Effects, which is the geographic area or areas within which an undertaking has the potential to cause changes in the character or use of historic properties.
- Background research, to include comprehensive literature review and records searches, as well as scoping with Native American tribes, public and private organizations, and others who may have information regarding cultural resources in the area.
- A reasonable and good faith effort to identify historic properties that may be affected by the undertaking. This is typically accomplished through pedestrian survey in conjunction with previously mentioned research.
- Evaluation of cultural resources for their eligibility for listing on the NRHP, in consultation with the federal agency and the State Historic Preservation Officer (SHPO).
- Assessment of effects of the undertaking on eligible properties and determination if there are adverse effects.
- Negotiation with agency, the OHP/SHPO, Native American Tribes (if a Native American resource), and the public to resolve (avoid or reduce) adverse effects through agreed-upon mitigation measures. A legally binding Memorandum of Agreement (MOA), which specifies how the undertaking will be completed while mitigating the adverse effects to historic properties, is negotiated and signed by all parties.
- Production of a technical report documenting the mitigation measures accomplished for the properties in question.

## 2.2 CALIFORNIA ENVIRONMENTAL QUALITY ACT

CEQA requires a lead agency to determine whether a project would have a significant effect on one or more historical resources. According to Section 15064.5(a) of the State CEQA Guidelines, a “historical resource” is defined as a resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR) (PRC §21084.1); a resource included in a local register of historical resources (14 CCR, Section 15064.5[a][2]); or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (14 CCR 15064.5[a][3]).

Section 5024.1 of the PRC, Section 15064.5 of the State CEQA Guidelines (14 CCR), and Sections 21083.2 and 21084.1 of the CEQA Statutes were used as the basic guidelines for the cultural resources study. PRC 5024.1 requires evaluation of historical resources to determine their eligibility for listing on the CRHR. The purposes of the CRHR are to maintain listings of the State’s historical resources and to indicate which properties are to be protected from substantial adverse change. The criteria for listing resources in the CRHR, which were expressly developed

to be in accordance with previously established criteria developed for listing in the NRHP (per the criteria listed at 36 CFR 60.4), are stated below.

The quality of significance in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California is present in any object, building, structure, site, area, place, record, or manuscript that possesses integrity of location, design, setting, materials, workmanship, feeling and association and that:

- (a) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; or
- (b) Is associated with the lives of persons important in our past; or
- (c) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- (d) Has yielded, or may be likely to yield, information important in prehistory or history.

According to Section 15064.5(a)(3)(A–D) of the State CEQA Guidelines (14 CCR), a resource is considered historically significant if it meets the criteria for listing in the NRHP (per the criteria listed at 36 CFR 60.4). Impacts that affect those characteristics of the resource that qualify it for the NRHP or that would adversely alter the significance of a resource listed in or eligible for listing in the CRHR are considered to have a significant effect on the environment. Impacts to cultural resources from the proposed project are thus considered significant if the project (1) physically destroys or damages all or part of a resource; (2) changes the character of the use of the resource or physical feature within the setting of the resource that contributes to its significance; or (3) introduces visual, atmospheric, or audible elements that diminish the integrity of significant features of the resource.

The purpose of a cultural resources investigation is to evaluate whether any cultural resources remain exposed on the surface of the project site or whether any cultural resources can reasonably be expected to exist in the subsurface. If resources are discovered, management recommendations would be required for evaluation of the resources for NRHP or CRHR eligibility.

Broad mitigation guidelines for treating historical resources are codified in Section 15126.4(b) of the State CEQA Guidelines. To the extent feasible, public agencies should seek to avoid significant effects to historical resources, with preservation in place being the preferred alternative. If not feasible, a data recovery plan shall be prepared to guide subsequent excavation. Mitigation for historical resources such as buildings, bridges, and other structures that are consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties (Weeks and Grimmer 1995) will generally be considered mitigated below a level of significance.

## **2.3 CITY OF PASADENA**

Objective 19 of the City of Pasadena General Plan (2004) aims to "Protect and enhance areas of the city containing important biological resources; protect and minimize disturbance of any important paleontological and/or archaeological resource that many remain in the City".

Objective 19.3 of the General Plan (Pasadena 2004) states:

Project proponents proposing substantial grading or earthmoving in areas that might contain important paleontological and/or archaeological resources shall conduct a pre-excavation field assessment and literature search to determine the

potential for disturbance of paleontological and/or archaeological resources. If warranted, grading and other earthmoving activities shall be monitored by a qualified professional who, if necessary, shall undertake salvage and curation. Any paleontological or archaeological resources recovered shall be treated according to applicable State and federal regulations.

## **2.4 ARROYO SECO MASTER PLAN – ARROYO SECO DESIGN GUIDELINES**

The Arroyo Seco Master Plan Design Guidelines, which the City adopted in February 2003, seek to ensure an ongoing effort to preserve the unique character of the Arroyo Seco by providing a unifying set of design principles for the three sub-areas that make up Pasadena's Arroyo Seco. The Cultural Resources Chapter gives general guidelines for the preservation of cultural resources associated with park improvements in the Arroyo Seco.

Cultural resources refer to areas, places, buildings, structures, outdoor works of art, natural features, and other objects having a special historical, cultural, archaeological, architectural, community, or aesthetic value. General guidelines for Cultural Resources include:

1. The cultural and historical heritage of the Arroyo Seco will be preserved and enhanced.
2. The restoration and enhancement of the Arroyo Seco will balance the needs of the active and passive park users with the preservation of native plant and animal habitat for a sustainable ecosystem throughout the park.
3. Opportunities for interpretive sites and/or educational centers that provide public information about the cultural resources of the Arroyo Seco or their preservation, including Native American traditions, will be encouraged.
4. Preservation, conservation, or enhancement of cultural resource areas shall be undertaken with the assurance that they can be properly maintained.
5. All improvement plans will seek to preserve and protect any paleontological and archaeological resources and sites within the Arroyo Seco.
6. Proposed improvements or modifications to existing cultural resources in the Arroyo Seco will require additional review by the Historic Preservation Commission.

## **2.5 SENATE BILL 18**

Senate Bill (SB) 18 (*California Government Code*, Section 65352.3) incorporates the protection of California traditional tribal cultural places into land use planning for cities, counties, and agencies by establishing responsibilities for local governments to contact, refer plans to, and consult with California Native American tribes as part of the adoption or amendment of any general or specific plan proposed on or after March 1, 2005. A General Plan or Specific Plan amendment or adoption was not required for this project; therefore, formal consultation under SB 18 is not necessary; however, under Section 106 regulations, formal scoping was undertaken with local tribes via an informational letter and follow up telephone calls.

## **2.6 HUMAN REMAINS**

Section 7050.5 of the *California Health and Safety Code* provides for the disposition of accidentally discovered human remains. Section 7050.5 states that, if human remains are found, no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the County Coroner has determined the appropriate treatment and disposition of the human remains.

Section 5097.98 of the PRC states that, if remains are determined by the Coroner to be of Native American origin, the Coroner must notify the NAHC within 24 hours which, in turn, must identify the person or persons it believes to be the most likely descended from the deceased Native American. Once determined to be of Native American origin, the Native American Graves Protection and Repatriation Act (NAGPRA) and its implementing regulations at 43 CFR 10 will be followed to determine the final disposition of the remains.

### 3.0 **SETTING**

#### 3.1 **NATURAL**

The Arroyo Seco area of Pasadena is located at the boundary between two Southern California geomorphic provinces: the Los Angeles Basin and San Gabriel Valley. According to the Geological Report for the Pasadena General Plan, “The San Gabriel Valley is composed of alluvial fan sediments that have a range of ages coincident with the rise of the San Gabriel Mountains. Because the fans were built up naturally with sediments shed from the mountains, their composition reflects the rocks eroded by various streams. Most of the area is underlain by older alluvium consisting of unconsolidated gravel, sand, silt and clay containing boulders of granitic rock from the mountains to the north and west” (Earth Consultants International 2002).

The project site is located within the Arroyo Seco Watershed, which is a subwatershed of the larger Los Angeles River Watershed. Water flow within the Arroyo Seco is perennial (i.e., year-round), but can be highly variable due to the seasonal rains, with the majority of rain events occurring between November and April. During drought and/or dry summer months, the stream flows can drop below the surface in areas with deeper alluvial deposits.

The Arroyo Seco is characterized by very steep slopes, shallow soils, and watercourses contained within bedrock channels. Erosion has deposited alluvium, including large boulders, eroded rocks, cobbles, gravels, and coarse to fine sandy soils within the stream course, forming a braided alluvial wash. Large amounts of sediment can be deposited into the Arroyo Seco following large storm events and particularly after wildfires.

Vegetation in the survey area consists mainly of willow riparian forest dominated by arroyo willow (*Salix lasiolepis*) and red willow (*Salix laevigata*); however, in some areas it is co-dominated by white alder (*Alnus rhombifolia*) and Fremont cottonwood (*Populus fremontii* ssp. *fremontii*). Other common species present include mule fat (*Baccharis salicifolia*) and mugwort (*Artemisia douglasiana*). Coast live oaks (*Quercus agrifolia*) and western sycamores (*Platanus racemosa*) are also present. A typical view of site vegetation is depicted below.



**Arroyo Seco**

## 3.2 CULTURAL

### 3.2.1 Prehistory

The prehistory of coastal Southern California has been described by a number of authors who generally agree on at least four major prehistoric periods (Wallace 1955; Warren 1968; Koerper and Drover 1983). These four sequential periods of time, sometimes called Horizons and sometimes Traditions, are each characterized by time-sensitive artifacts. The periods then are not arbitrary, but likely reflect material/cultural changes at those times.

The earliest occupations of the Southern California coast are debated to begin as early as 50,000 years before present, or “B.P.” (Bada et al. 1974).<sup>1</sup> The earliest radiocarbon dates, however, were derived from Los Angeles Man and Laguna Woman at 23,600 and 17,150 B.P., respectively (Berger et al. 1971). Unfortunately, little is known of the material culture of finds of this antiquity. The earliest archaeological culture known in any detail is that of San Dieguito, named after the drainage of the same name near Del Mar, California where implements dating to 8,000 B.P. were found. Although the subsistence strategy of this tradition is unknown, Warren (1968:2) has inferred a hunting economy (cf. Koerper and Drover 1983; Drover et al. 1983). Typical artifacts would include percussion flaked implements, elongated knives, domed scrapers, teshoa flakes, crescentics, and an absence of millingstone tools. The San Dieguito culture is defined primarily from its single type site: the Harris Site of San Diego County (CA-SDi-149) (Warren 1968).

After San Dieguito, the next prehistoric period for coastal Southern California is termed “Millingstone” and “Encinitas” by Wallace (1955) and Warren (1968), respectively. The Millingstone Horizon or Encinitas Tradition are very similar as described by each author and have a time span beginning about 7,000 to 8,000 B.P. and ending between 3,000 to 4,000 B.P. The onset of Holocene climatic conditions may have brought about the cultural changes associated with this period. Processing tools like manos and metates (millingstone) reflect an increased dependence on plant foods. Projectiles are rare, but, when found, suggest the use of the atlatl or throwing stick. The material culture characteristic of this period is longer-lived the further one travels south of Santa Barbara.

The third period following Encinitas, or Millingstone, is known as the “Intermediate Horizon” and “Campbell Tradition” by Wallace (1955) and Warren (1968), respectively. This period is strongly represented north of the Los Angeles area and is only suggested in the San Diego area. Numerous, smaller projectile points suggesting increased hunting and the introduction of the use of the bow and arrow characterize this period. It is during the Intermediate Horizon, or Campbell Tradition that true maritime exploitation and occupation of the Channel Islands flourishes (Meighan 1959). The duration of this period is roughly 3,000 to 1,000 B.P. In general, the emphasis seems to shift from the hard seed orientation of the Milling Stone Tradition to the growing practice of balanophagy (acorn consumption) and processing of other soft, pulpy seeds. While mortars and pestles become more common in comparison to manos and metates, the latter survive into European contact times attesting to the use of hard seeds in the diet.

In the southern end of Los Angeles County, several traits make an appearance rather late in the Tradition; these include pottery and ground painting, which give rise to speculation that significant culture contact from the southeast was occurring (Meighan 1954). This complex is thought to owe its basic cultural orientations to the Southwestern United States.

During the Late Prehistoric Period, exploitation of many food resources, particularly marine resources among coastal groups, continued to intensify. The material culture in the Late Prehistoric Horizon increased in complexity in terms of the abundance and diversity of artifacts

<sup>1</sup> “Before Present” assumes that 1950 is “present”.

being produced. The recovery and identification of a number of small projectile points during this period suggests a greater utilization of the bow and arrow, which was likely introduced near the end of the Intermediate Period. Shell beads, ornaments, and other elements of material culture continue to be ornate, varied, and widely distributed; the latter evidence suggests elaborate trade networks. The Late Prehistoric Period includes the first few centuries of early European contact (1542–1769 CE); it is also known as the Protohistoric Period, as there was a low level of interaction between native Californians and Europeans prior to Portolá's overland expedition in 1769.

In the few centuries prior to European contact, the archaeological record reveals substantial increases in the indigenous population (Wallace 1955:223). Some village sites may have contained as many as 1,500 individuals. Apparently, many of these village sites were occupied throughout the year rather than seasonally. This shift in settlement strategy was likely influenced by improved food procurement and storage technology, which enabled population growth and may have helped stimulate changes in sociopolitical organization.

A general picture emerges through time of growing population pressure resulting in intensified land use patterns. Increases in population or siltation of coastal estuaries are examples of intensifying the local carrying capacity (e.g., Newport Bay during the Milling Stone Tradition). Occasionally, siltation may actually progress to the point of making an estuary less productive; this was the case of northern Orange County (Newport Back Bay) resulting in local populations adapting to other environments such as acorn processing.

Evidence is growing that prehistoric cultural change has been much more variable through time and across culture areas than previously thought. Cultural traits such as maritime economies, seafaring, complex trade networks, and year-round occupation of villages appear to have developed earlier than previously thought. Culture change during the Late Prehistoric Period, in particular, may have been driven more by environmental and resource pressures than optimal adaptation to the environment (Byrd and Raab 2007).

### **3.2.2 Ethnography**

At the time of Spanish contact, the Arroyo Seco Canyon area is believed to have been inhabited by the Gabrielino, or *Tongva* (see Kroeber 1925; Harrington 1933; Johnston 1962; Blackburn 1963; Bean and Smith 1978; McCawley 1996). The name "Gabrielino" identifies those people who came under the control of Mission San Gabriel Arcángel and included the inhabitants of most of current-day Los Angeles and Orange counties and portions of Riverside and San Bernardino counties. According to the ethnographic evidence, the Gabrielino territory included the coastal plain of Los Angeles and Orange counties, extending from Topanga Canyon in the north to Aliso Creek in the south, and eastward of Mount Rubidoux in Western Riverside County. Their territory also included the Santa Catalina, San Clemente, and San Nicolas Islands. No ethnographic villages have been identified within or directly adjacent to the APE; however, McCawley reports that the Arroyo Seco was known to the Gabrielino as *M'kat*. The name means "rocky or something like that"; however, no people lived in Pasadena during late Prehistoric times, as the area was prairie (McCawley 1996:41).

Unfortunately, the Gabrielino are one of the least documented of the native peoples of California, because they were one of the first groups to suffer the effects of foreign diseases brought by the Spanish and the subsequent migration of foreigners who arrived in the region (Bean and Smith 1978). Fortunately, ethnographic studies conducted by J.P. Harrington (1933), Alfred Kroeber (1925), and others in the early 20<sup>th</sup> Century provide some insight into the culture of the Gabrielino.

Linguists have determined that the Gabrielino language derived from one of the Cupan languages in the Takic family, a part of the Uto-Aztecan linguistic stock (Bean and Smith 1978). Linguistic

evidence indicates that the Gabrielino or their ancestors migrated from the Great Basin area. Linguistic analysis suggests that, at one time, the entire Southern California coastal region was populated by Hokan speakers who were gradually separated and displaced by Takic-speaking immigrants from the Great Basin area (Bean and Smith 1978; Cameron 1999). The timing and extent of the migrations and their impact on indigenous peoples is not well understood, and any data related to it represents a valuable contribution to the understanding of local prehistory.

Gabrielino territory occupied one of the richest environmental habitats in all of California. The territory included four macro-environments: the Interior Mountains/Adjacent Foothills, the Prairie, the Exposed Coast, and the Sheltered Coast (Bean and Smith 1978). These diverse macro-environments, and the resources contained within each, enabled the Gabrielino to develop one of the most complex cultures of any of the native California groups. The abundance of resources provided many opportunities for the Gabrielino to exploit native plants and animals. This, in turn, allowed the population to settle in small villages throughout the territory.

Permanent villages evolved in resource-rich areas near rivers, streams, and along the coast. Secondary, or satellite, villages were also established nearby. The Gabrielino traditionally constructed two types of dwellings: the subterranean pit house and the thatched lean-to (*wickiup*). The pit house was constructed by excavating approximately two feet below the surface and constructing the walls and roof with wooden beams and earth around the excavation pit. The lean-to, or wickiup, was constructed of thatched walls and thatched roof, surrounded by large converging poles. A hearth located inside the structure provided warmth. Hearths used for cooking were located outside. Sweathouses, or *temescals*, were used as a meeting place for the men (Kroeber 1925; Bean and Smith 1978).

The material culture of the Gabrielino reflected an elaborately developed artistic style and an adaptation to the various environments within their territory. This artistic style was often manifested in elaborate shell bead and asphaltum ornamentation on many utilitarian items (e.g., bone awl handles, bowl or mortar rims). Spear and bow and arrow were used for hunting, while manos and metates, as well as mortars and pestles, were used for processing plant and animal material into food items. The Gabrielino were also known for their high quality of basketry made from rush stems (*Juncus* sp.), native grass (*Muhlenbergia rigens*), and squawbush (*Rhus trilobata*) (Bean and Smith 1978:542).

### 3.2.3 History

The major historic periods for the greater Southern California area are defined by key events documented by participants, witnesses, historians, and cartographers. Paramount among these was the transfer of political control over *Alta California*, including the APE and surrounding lands specifically.

- Spanish Period (1769–1822)
- Mexican Period (1822–1848)
- American Period (1848–Present)

## **Spanish Period**

Spanish explorer Juan Rodriguez Cabrillo made a temporary landfall at the Chumash village of *Sisolop* (present-day Ventura) on October 12, 1542 (Grant 1978:518). He was the first of several early explorers, representing several nations, to explore the Alta California coast. However, the end of the prehistoric era in Southern California is marked by the arrival of the Gaspar de Portolá overland expedition from New Spain (Mexico) and the founding of the first Spanish settlement at San Diego on July 16, 1769 (Johnston 1962). With the onset of the Spanish Period, the Gabrielino first came into direct contact with Europeans when the Portolá expedition passed through the San Gabriel Valley where the expedition camped briefly as they continued west toward Ventura (Bean and Smith 1978: 541).

Two of the 21 Franciscan missions established by the Spanish in Alta California impacted Gabrielino people profoundly: *Mission San Gabriel Arcángel* and *Mission San Fernando Rey de España* (both in Los Angeles County) which were founded in September 1771 and in 1797, respectively. The Gabrielino were persuaded to settle in the vicinity of the two missions. Although no missions were established in western Riverside County, Spanish presence in the region intensified with the establishment of *asistencias* (outlying chapels for the missions) in several inland locations (Pala in 1816, Santa Ysabel in 1818, and San Bernardino/Redlands in 1819).

The missions were charged with administering to the natives within their areas. Mission life did give the Native Americans skills needed to survive in their rapidly changing world, but the population was decimated by the introduction of European diseases, such as measles and small pox, for which they had no immunity. After 1810, mission populations declined faster than they could be replenished.

## **Mexican Period**

The Mexican Revolution, beginning in 1821, overthrew Spanish control and the new government of Mexico had a very different outlook on mission activities. Mexico's independence from Spain in 1822 brought the Mexican Period to California. Mexico secularized the missions in 1833 and expanded on the Spanish practice of granting large tracts of ranch land to soldiers, civil servants, and pioneers (Cleland 1966). Secularization of the missions, planned under the Spanish, was greatly accelerated by the Mexican government. Plans to provide land, training, and living quarters for the Native American population never developed and the mission lands were soon under the control of relatively few influential Mexican families. The rancho lifestyle was relatively short lived, but remains an influential period in California history.

## **American Period**

During the 1840s, an increasing influx of Anglo-Americans from the eastern United States spurred an American challenge for the California territory. The American Period began with Mexico's defeat at the end of the Mexican-American War, resulting in the concession of California to the United States under the Treaty of Guadalupe Hidalgo on February 2, 1848 (Rolle 1998:91, 104). Only a few days before, the discovery of gold on the American River had stimulated the Gold Rush of 1848–1849. After more than two years of legislative process and debate, California became the 31<sup>st</sup> state of the Union on September 9, 1850 (Rolle 1998:106).

## **History of Arroyo Seco Settlement**

Daly and Associates completed the *Historical Resources Assessment Report of Arroyo Seco Canyon Project, City of Pasadena Water and Power Department, Pasadena, Los Angeles County, CA*, which discusses the history of the area; a summary of the history included in that report is included below.

More than 20 years before a group of settlers met at Reservoir Hill near the Arroyo Seco to create the Pasadena colony north of the Los Angeles settlement, gold miners had searched the headwaters of that seasonal creek in the San Gabriel Mountains. In 1853, gold was found in the placer diggings of miners exploring the Arroyo Seco Canyon, and quartz mines in the San Gabriel Mountains continued to be mined up to 1883.

El Prieto Canyon, which feeds into the Arroyo Seco Canyon in Section 32 of Township 2 North, Range 12 West, had originally been known as Negro Canyon or Negro Creek, so named after an African-American freeman by the name of Robert Owen who sold firewood harvested off the hillsides of the lands held by the U.S. Government in the 1850s and 1860s to residents of the Los Angeles settlement.

Millard Canyon had originally been known by the Mexican residents of the area as Blanco Canyon because of the geology of the canyon walls in some places. Millard, whose first name is unknown, established a home site at the mouth of the canyon in 1862. He was an illegal squatter on the land in Section 5 of Township 1 North, Range 12 West who is said to have made his income by raising bees and hauling wood to Los Angeles. Millard lived in the canyon until 1872 when he moved to the Downey settlement after his wife and a child died.

In the 1880s, the U.S. Government opened up a limited amount of land in Sections 31 and 32 of Township 2 North, Range 12 West in the San Gabriel Mountain foothills for private ownership. John Hartwell, Eugene and Clara Giddings, and Jason and Owen Brown received patents from 1883 to 1891 for acreage in Section 32 wherein lay Fern Canyon, El Prieto Canyon, and Millard Canyon. The eastern half of the southeast quarter of Section 31 was owned primarily by Will D. and Mary L. Gould, a lawyer and his wife from Los Angeles.

The Giddings settled into a residence at the mouth of Millard Canyon and reported to local historian Hiram Reid, that they would find evidence of pre-historic peoples in the canyon when they worked the land with plows and hoes. The Giddings had constructed a wagon toll-road up to the falls on Millard Creek, creating a destination for persons seeking outdoor entertainment including hiking and picnicking. Owen and Jason Brown, descendants of the Kansas abolitionist John Brown, constructed a homestead in a canyon named after them located just south of El Prieto Canyon in 1886.

The most ambitious operation on the Arroyo Seco in the San Gabriel Mountains was that of C. Perry Switzer. The "Commodore" as he was known, built a tourist-resort camp far into the mountains that was accessible from a trail that followed the Arroyo Seco Creek. An improved road ran up the canyon from Millard Creek to a halfway house; the remaining six miles to Switzer's Camp was reached by riding burros. Daly (2014) quotes Carr, who states:

Mr. Switzer's camp is in a very charming nook on the on the main stream of the Arroyo; a veritable log cabin, with its stone chimney, and three or four tents, give a hospitable human interest to the landscape as we descend the trail. We slept on beds of fragrant fir branches, the Arroyo singing the while over its rocky bed, and woke to a heaven of sylvan music made up of robbin [sic] trills and notes of linnets and finches, and sharper squirrel chirps strangely commingled.

The location of Commodore Switzer's camp is still accessible on the Gabrielino Trail. Some of the cabins were destroyed in a fire in the late 1890s, and the great flood of 1938 removed over a mile of the road that connected the camp to the Angeles Crest Highway. The owner of the camp in the 1950s was not able to keep the camp operating, and the site fell into ruins. The U.S. Forest Service removed the stone chapel that had been designed by the architect Arthur Benton due to its deteriorating condition.

The 1924 Altadena topographic map shows that a large number of buildings (most probably small, recreational cabins) were situated along the Arroyo Road north of where Millard Creek joins the Arroyo Seco. By 1939, there were still scattered buildings situated along the Arroyo Road to Oak Wilde, where the dirt road connected with the Angeles Crest Highway. Construction of the Angeles Crest Highway began in 1929. With the completion of the Angeles Crest Highway in 1956, Arroyo Boulevard (Highway) became obsolete and fell into disrepair.

## **4.0 METHODS**

### **4.1 CULTURAL RESOURCES RECORDS SEARCH**

A literature review of documents on file at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton was completed by Patrick O. Maxon, M.A., RPA on March 18, 2013 (Appendix A). The review consisted of an examination of the U.S. Geological Survey's (USGS') Pasadena, California 7.5-minute quadrangle to evaluate the project site for any sites recorded or cultural resources studies conducted on the parcel and within a one-mile radius. The SCCIC is the designated branch of the California Historical Resources Information System (CHRIS) and houses records concerning archaeological and historic resources in Los Angeles, Orange, and Ventura Counties. The records search provided data on known archaeological and built-environment resources as well as previous studies within one mile of the project site. Data sources consulted at the SCCIC included archaeological records, Archaeological Determinations of Eligibility, historic maps, and the Historic Property Data File (HPDF) maintained by the California Office of Historic Preservation (OHP). The HPDF contains listings for the CRHR and/or NRHP, California Historical Landmarks, and California Points of Historical Interest.

### **4.2 PALEONTOLOGICAL RESOURCES RECORDS SEARCH**

A paleontological records search for the project was requested in March 2013 and received from Dr. Samuel McLeod, Director of Vertebrate Paleontology, Natural History Museum of Los Angeles County (NHMLAC) on April 5, 2013 (see Appendix B).

### **4.3 NATIVE AMERICAN SCOPING**

On March 20, 2013, an inquiry was made of the Native American Heritage Commission (NAHC) in Sacramento to request a review of the Sacred Lands File database regarding the possibility of Native American cultural resources and/or sacred places in the project vicinity that are not documented on other databases. The NAHC responded on March 21, 2013, with its Sacred Lands File Search and contacts list of Native American groups and individuals who may have knowledge regarding Native American cultural resources not formally listed on any database. Each of these groups and individuals were mailed an informational letter March 21, 2013, describing the project and requesting any information regarding resources that may exist on or near the project site. Information regarding the results of the Native American coordination/consultation is provided in Appendix C.

### **4.4 ARCHAEOLOGICAL FIELD SURVEY**

A cultural resources survey of the property was conducted by Patrick O. Maxon, M.A., RPA and Mark A. Roeder on May 1, 2013 and completed by Mr. Maxon on November 21, 2013. The entirety of the APE—the Arroyo Seco Headworks Naturalization area (Area 1), the Arroyo Seco Intake Structure area (Area 2), the JPL East Parking Lot (Area 3), and Restroom Staging Area (Area 4)—was examined via pedestrian survey.

### **4.5 HISTORIC RESOURCES STUDY**

The historic resource assessment and evaluation for this report was conducted by Pamela Daly, M.S.H.P., Senior Architectural Historian (Daly 2014). The historic resources survey of the study area (APE) in Arroyo Seco Canyon included archival research, the review of prior reports and associated studies, Internet research, and a pedestrian-level inspection of the area on March 17, 2013 and December 22, 2013. These data were used to prepare the descriptions of built-environment resources currently within the APE and to prepare contextual statements and site-specific history. This information was used to develop an overview of the study area where the

proposed project would be located. This information provides sufficient baseline data to formulate conclusions about whether the built-environment resources located in the Arroyo Seco Canyon study area would meet relevant criteria to be determined eligible for listing in the NRHP, CRHR, and/or the City of Pasadena as a historic landmark.

## 5.0 RESULTS

### 5.1 CULTURAL RESOURCES RECORDS SEARCH

Eighteen cultural resources studies have been conducted within a one-mile radius of the project site. Only two of the studies included at least a portion of the project site. Eight previously recorded resources are located within one mile of the project site. None are located on the project site. Table 1 identifies the previous cultural resources studies that include at least a portion of the project site.

**TABLE 1  
CULTURAL RESOURCES STUDIES WITHIN PROJECT SITE**

Report Number	Author(s) (Year)	Type of Study/Comments
LA1903	Blodgett (1987)	Prehistoric Assessment, Devil's Gate Reservoir.
LA11042	Takata Assoc. (2002)	Hahamongna Watershed Park Master Plan

Table 2 describes the known cultural resources within one mile of the project site.

**TABLE 2  
CULTURAL RESOURCES WITHIN ONE MILE OF THE PROJECT SITE**

Site Number	Recorder/(Year)	Comment
19-342	Cowper (1965)	Cogstone and millingstones
19-2189	McKenna (1993)	Jet Propulsion Laboratory
19-3086	Romani (2002)	Teddy's Outpost Picnic Area
19-3090	McIntyre (1998)	Lower Sam Merrill Trail
19-186870	Schmidt and Schmidt (2003)	Southern California Edison Eagle Rock-Laguna Bell Transmission Line Corridor
19-189942	McKenna (2012)	Hahamongna Watershed Park
19-150023	Stone (1992)	Arroyo Seco Ranger Station No. 1
19-150024	Stone (1992)	Arroyo Seco Ranger Station No. 2

### 5.2 PALEONTOLOGICAL RESOURCES

A paleontological records search was received from Dr. Samuel McLeod, Vertebrate Paleontologist at the NHMLAC on April 5, 2013 (see Appendix B). McLeod's response suggests that excavations in the igneous bedrock, which occurs throughout most of the project site, as well as shallow excavations in Quaternary sedimentary deposits (gravel) (located within much of the project site and nearest the drainage) probably would not uncover significant vertebrate fossils. He further mentioned that only deeper excavation into older Quaternary Alluvial materials that lie below the younger Alluvium may encounter significant fossil remains.

The paleontological study completed by BonTerra Psomas for the project was consistent with the information provided by the NHMLAC. Five rock units are present within the APE. Two of the units— Quartz Diorite (qd) and Leucocratic Granitic Rocks (gr)— have no potential to yield fossils; two units—Quaternary Older Alluvial Fan Sediments (Qof) and Quaternary Stream Deposits (Qg)—have a low potential to yield fossils; and a final unit—Quaternary Older Alluvium Fan (Qoa)—has a moderate potential to yield fossils. They are described in more detail below:

**Quartz Diorite (qd):** Present on the northern boundary and central portion of the study area, the quartz diorite consists of gray-white, medium- to coarse-grained, massive granitic rock made up of mostly quartz monzonite and granodiorite (Dibblee 1989). These rocks are early Cretaceous in

age (about 122 million years old) and formed from cooling of magma at depth. Because of its igneous origin, there is no potential to yield paleontological resources.

**Leucocratic Granitic Rocks (gr):** Present on the central portion of the study area, these rocks consist of massive, non-gneisoid quartz diorite (Dibblee 1989). These rocks are of late Cretaceous age (about 105 million years ago) and were formed from cooling of magma at depth. Because of their igneous origin, they have no potential to yield paleontological resources.

**Quaternary Older Alluvium Fan (Qoa):** Present in the northern portion of the study area, the Quaternary older alluvium consists of remnants of older, weakly consolidated alluvial deposits of cobbles, gravel, sand, and silt. These sedimentary rocks are older Late Pleistocene in age. Because the sediments are not as coarse as the Qof-Quaternary older alluvial fan sediments and because they were probably deposited in a lower energy environment, they have moderate potential to yield paleontological resources.

**Quaternary Older Alluvial Fan Sediments (Qof):** Present in the southern portion of the study area, the Quaternary older alluvial fan sediments consist of cobbles, gravel, and sand derived from the San Gabriel Mountains. These sedimentary rocks are Late Pleistocene in age. Because the sediments are very coarse and because they were probably deposited in a high energy environment, they have a low potential to yield paleontological resources.

**Quaternary Stream Deposits (Qg):** Present in the modern stream course of Arroyo Seco, these late Holocene to Recent age sediments, which become older in age with increasing depth, consist of boulders, cobbles, sand, and silt. Because of their youthfulness and high energy environment of deposition, these sediments have a low potential to yield paleontological resources. Table 3 depicts the five units and 4 project areas with an "X" indicating those areas in which the respective rock unit is present:

**TABLE 3  
ROCK UNITS BY AREA**

Rock Units	qd	gr	Qoa	Qof	Qg
<b>Project Area</b>					
JPL Parking Lot			X	X	X
Staging Area		X			
Intake Structure		X			X
Headworks		X	X		X
qd: quartz diorite; gr: leucocratic granitic rocks; Qoa: quaternary older alluvium fan; Qof: quaternary older alluvial fan sediments; Qg: quaternary stream deposits. X = Presence of rock formation					

### 5.3 NATIVE AMERICAN SACRED LANDS FILE REVIEW

The NAHC Search of the Sacred Lands File on March 21, 2013, failed to indicate the presence of Native American cultural resources on the project site. In addition, the NAHC provided a list of Native American groups and individuals that may have knowledge of the religious and/or cultural significance of resources that may be in and near the project site. The NAHC listed the following groups and individuals:

- Cindi Alvitre, Chairwoman-Manisar, Ti'At Society/Inter-Tribal Council of Pimu;
- Ron Andrade Director, Native American Indian Commission;
- John Tommy Rosas, Tribal Administrator, Tongva Ancestral Territorial Tribal Nation;
- Anthony Morales, Chairperson, Gabrielino/Tongva San Gabriel Band of Mission Indians;

- Sam Dunlap, Cultural Resources Director, Gabrielino Tongva Nation;
- Robert Dorame, Tribal Chair/Cultural Resources Gabrielino Tongva Indians of California Tribal Council;
- Bernie Acuña, Co-Chairperson, Gabrielino-Tongva Tribe;
- Linda Candelaria, Co-Chairperson, Gabrielino-Tongva Tribe;
- Andrew Salas, Chairperson, Gabrieleno Band of Mission Indians; and
- Conrad Acuña, Gabrielino-Tongva Tribe.

Each of these groups and individuals were mailed an informational letter on March 21, 2013, describing the project and requesting any information regarding resources that may exist on or near the project site. One response has been received to date: Robert Dorame, Tribal Chair/Cultural Resources Gabrielino Tongva Indians of California Tribal Council, replied via email that (1) several Indian villages were present along the Arroyo Seco in 1769, when Spanish occupation of California began; (2) the Sheldon Reservoir site, located south of Devil's Gate Dam on the east side of Arroyo Seco, contained 53 sets of human remains associated with a prehistoric village site; (3) the ethnohistoric village of *Hahamongna* is located one mile due north of JPL; and (4) Mr. Dorame's grandmother and great-grandmother lived in the San Pasqual Rancho beginning in the late 19<sup>th</sup> Century. The Rancho is adjacent to the site.

#### 5.4 ARCHAEOLOGICAL FIELD SURVEY

The four project areas were examined for the presence of and potential for cultural resources. All four areas were walked as necessary to cover the APE. Area 1 consists of much of the floodplain of the creek and is covered by riparian species, rocks, and gravel. Area 2 is similarly dominated by the creek's floodplain; however, there is a bridge and small building present related to the intake structure. Area 3 is primarily the existing JPL parking lot and spreading basins. The proposed staging area (Area 4) is a narrow parcel east of the creek. Riparian and scrub species cover much of the area.

It is likely that native populations used the Arroyo Seco Canyon area in prehistoric times. However, the previous disturbance of the ground surface and its nature as a dynamic, fluvial environment have resulted in much of the APE being disturbed. Any archaeological resources that may have been present have likely been washed away or buried by colluvial processes. A depiction of the typical relief and vegetation in Arroyo Seco is below.



**Arroyo Seco Relief and Vegetation at Area 4**

## 5.5 HISTORIC RESOURCES STUDY

The historic resources study documents and evaluates the federal, State, and local significance and eligibility of the built-environment properties located within the project's APE (i.e., Areas 1, 2, 3, and the Temporary Staging Area [Area 4]). The APE areas are connected by a road (Gabrielino Trail/Arroyo Boulevard), and situated between Areas 2 and 3 are Bridge Nos. 1 and 2. Bridge No. 3 (Headworks, water diversion structures, intake structures, and sludge and debris basins) are located within Area 1 of the APE. The collection of built-environment resources in the APE are owned and maintained by the PWP (refer to Daly 2014 in Appendix E for the complete analysis).

In order to identify and evaluate the APE and to determine the project's potential effects on historic properties, a multi-step methodology was utilized. An inspection of the Upper Arroyo Seco and existing structures, combined with a review of local and regional historic archives regarding the three project historic APE areas and Upper Arroyo Seco, was performed to document existing conditions and to assist in assessing and evaluating the historic properties/historical resources for significance. Area 4, the Temporary Staging Area contains no historic resources and was not considered further during the historic resources study.

The structures identified on the project site are not currently listed, individually or collectively, in either the NRHP or the CRHR. In evaluating the historic significance of the structures located in the APEs, federal, State, and local criteria were applied.

The PWP acquired exclusive water rights to the Arroyo Seco in 1925. Water diversion and control structures (e.g., the Headworks, water diversion structure, intake system, and debris basins) began to be constructed in the canyon in 1932. Bridge Nos. 1 and 2 appear to date from the 1920s when Arroyo Boulevard was paved for use as a County highway. Bridge No. 3 was constructed in 1939 by the Civilian Conservation Corps to replace an earlier bridge destroyed in the flood of 1938. Over the years, floods and other high water events have caused permanent damage to water diversion structures in the canyon, and some structures were replaced as needed.

### 5.5.1 Area 1

These types of headwork configurations have been in use for hundreds of years. The fact that this Headwork has been manually operated for over 50 years points to its design longevity and ease of operation. The Headworks is not a significant engineering or technological structure as these are common resources in the canyons of the San Gabriel Mountains in Los Angeles County and are not associated with any significant historical events or persons.

### 5.5.2 Area 2

Due to the extensive damage suffered by the diversion dam and intake system, the water diversion and control structures in Area 2 have lost their physical integrity of design, workmanship, and materials. Water diversion systems such as these have been in use for many years and usually do not present significant engineering or technological innovation.

### 5.5.3 Bridge No. 3

This bridge, located within Area 2, was constructed in 1939 by the Civilian Conservation Corps (CCC) Company 903 assigned to the U.S. Forest Service, a team from the local CCC, which had been working on various projects in the Arroyo Seco Canyon and San Gabriel Mountains since 1933. Besides the bridge, the Arroyo Seco through this section and south to Bridge No. 2 is lined with river rock masonry walls, which were most probably constructed by the CCC at the same time as Bridge No. 3. Bridge No. 3 was designed using one of the oldest truss-bridge forms; it is

constructed of wood timbers; and it was constructed by a group that is associated with events that made a significant contribution to the history of the United States and California. Bridge No. 3 appears to be a property that meets the criterion to be listed in the NRHP under Criteria A and C, and in the CRHR under Criteria 1 and 3.

#### **5.5.4 Area 3**

The sludge and spreading basins, water diversion structures, and water conduits situated in Area 3 were all designed using common engineering techniques for moving, diverting, and controlling water. In an effort to protect lives and property, and to capture runoff from the western slopes of the San Gabriel Mountains, many water diversion structures are located not only in the Upper Arroyo Seco but throughout the canyons in Los Angeles County. The spreading basins, sludge basins, and water diversion structures in Area 3 are not significant engineering or technically innovative structures.

#### **5.5.5 Bridge No.1**

This bridge is situated on the Gabrielino Trail/Arroyo Boulevard, between APE Areas 2 and 3. Bridge No. 1 was constructed in 1939 to carry Arroyo Boulevard over the runoff from Millard Canyon Creek, before the creek intersects with the Arroyo Seco creek. The bridge slab was replaced in 1979 with a similar reinforced concrete span. Bridge No. 1 does not appear eligible for listing in the NRHP, CRHR, or as a City of Pasadena landmark.

#### **5.5.6 Bridge No. 2**

This bridge is situated on the Gabrielino Trail/Arroyo Boulevard, between APE Areas 2 and 3. This reinforced, poured-concrete arch bridge may have been constructed in the 1920s when Arroyo Boulevard was paved for use as a county highway. It has distinctive decorative elements such as urn-shaped cast concrete balustrade railings; bas-relief panels below the balusters on the stream sides of the bridge; and the arched support structure, which would not be found on a utility road for service vehicles. The bridge appears to have been constructed to provide a formal entrance to the Upper Arroyo Seco forest and Arroyo Boulevard. Stone masonry walls that line the east side of the creek at Bridge No. 3 continue downstream to be present at Bridge No. 2. Bridge No. 2 appears to be a property that meets the criteria to be listed as a historical resource in the CRHR under Criterion C, and in the City of Pasadena as a landmark under Criteria A and C.

In summary, the study identifies two individually eligible historic properties (Bridge No. 2 and Bridge No. 3), and associated features, that appear to be eligible for NRHP or CRHR inclusion and may also be considered historical resources for purposes of CEQA. The project will have No Adverse Effect on the two bridges provided Mitigation Measure 1 is completed to avoid and minimize adverse direct and/or indirect effects to the bridges.

## **6.0 IMPACT ANALYSES**

### **6.1 SECTION 106 EFFECTS ANALYSIS**

This impact analysis is provided to assist the City of Pasadena and the USACE in fulfilling its compliance responsibilities under Section 106 of NHPA and its implementing regulations at 36 CFR 800, which were used to identify historic properties within the APE. The criteria of adverse effects codified at 36 CFR 800.5 are used to assess the effects of the project on historic properties.

There are no built-environment resources in APE 1 or 3 that will be substantially changed as a result of the project; however, Bridge No. 3 in APE 2, and Bridge No. 3, located on the Gabrielino Trail (Arroyo Boulevard) between APE 2 and 3 could be affected by temporary impacts during construction of the project.

Therefore, the proposed project has the potential to substantially change/alter/destroy historic character-defining features that are components of Bridge No. 2 during construction and has the potential to substantially change/alter/destroy a historic resource with the construction of a temporary bridge to protect Bridge No. 3, and its associated features such as concrete abutments, railings, and stone walls.

Mitigation Measure 1 is designed to avoid and minimize adverse direct and/or indirect effects to historic properties/historical resources that may be affected by the proposed Project.

### **6.2 CEQA IMPACT ANALYSIS**

This impact analysis is provided to assist in the preparation of an environmental document for the proposed project and provides discussion regarding each significance criterion for cultural resources.

#### **6.2.1 Significance Criteria**

Appendix G of the State CEQA Guidelines contains the Initial Study Environmental Checklist Form, which includes questions relating to cultural resources. The issues presented in the Initial Study Checklist have been used as significance criteria. Accordingly, a project may result in a significant environmental impact if:

- *The project would cause a substantial adverse change in the significance of a historical resource as defined in §15064.5.*
- *The project would cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5.*
- *The project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.*
- *The project would disturb any human remains, including those interred outside of formal cemeteries.*

## **6.2.2 Project Impact Analysis**

### ***Would the project cause a substantial adverse change in the significance of a historical resource?***

The built-environment resources over 45 years of age located in the specific project areas and within the area of construction activities are discussed below.

The study consisted of a survey; records and archival research; significance evaluation of newly identified historic-period built environment properties; and an assessment to determine the effects of construction activities by the City of Pasadena Department of Water and Power on historic properties for the Arroyo Seco Canyon Project, located in the Upper Arroyo Seco region of Pasadena.

This study identified two individual historic properties and associated features (Bridge No. 2 and Bridge No. 3) that appear to be eligible for NRHP and CRHR inclusion and are considered significant historical resources for purposes of CEQA and Section 106 of the NHPA.

There are no built-environment resources in APE 1 or 3 that will be substantially changed as a result of the project. Bridge No. 3 is located in APE 2, and Bridge No. 2 is located along the Gabrielino Trail (Arroyo Boulevard) between APE 2 and 3. The proposed project has the potential to substantially change/alter/destroy historic character-defining features that are components of Bridge No. 2 during unintentional impacts during project construction. Additionally, the proposed project has the potential to substantially change/alter/destroy a historic resource with the construction of a temporary bridge to protect Bridge No. 3 and its associated features (e.g., concrete abutments, railings, and stone walls) if not done correctly.

Mitigation Measure 1 is proposed to avoid and minimize adverse direct and/or indirect effects to historic properties/historical resources that may be affected by the proposed project.

### ***Would the project cause a substantial adverse change in the significance of an archaeological resource?***

The dynamic, fluvial nature of the environment, and previous disturbance during construction activities of much of the APE, makes it unlikely that significant cultural resources are present in areas that will be disturbed as part of the proposed project. It is likely that native populations used the Arroyo Seco Canyon area in prehistoric times, since village sites are known to have existed in the vicinity along the creek; however, the previous disturbance of the ground surface and its nature as a creek and floodplain have resulted in much of the APE being disturbed. No archaeological sites have been recorded within the APE and any archaeological resources that may have been present have likely been washed away or buried by colluvial processes. However, although no prehistoric archaeological sites are recorded in the vicinity, buried resources could exist within the APE. Mitigation Measure 2 will ensure that impacts to archaeological resources are below a significant level.

### ***Would the project disturb or encounter any significant paleontological remains?***

The records search conducted at the Vertebrate Paleontology Section of the Natural History Museum of Los Angeles did not identify any previously recorded paleontological resources within the study area (McLeod 2013). Additional research conducted for this field study (Roeder 2013) noted five rock units present within the APE, only one of which—Quaternary older Alluvium Fan Sediments (Qoa)—has as much as a moderate potential to yield paleontological resources. This unit (Qoa) is exposed in the southern portion of the APE and may contain fossils. While excavations to significant depths may encounter significant sediments in the Headworks and

Parking Lot areas where Qoa is present, shallower excavation limited to the Fan and Stream Deposits, will not likely encounter fossils. Mitigation Measure 3 will ensure that impacts to paleontological resources are below a significant level.

***Would the project disturb any human remains, including those interred outside of formal cemeteries?***

Although one Native American contact, Robert Dorame, Tribal Chair/Cultural Resources Gabrielino Tongva Indians of California Tribal Council, noted that 53 sets of native remains were uncovered and removed from a site “three blocks south of Devil’s Gate Dam and on the east side of the Arroyo Seco, there is no indication as a result of this study that human remains are present within the APE. The records search and field survey indicates no evidence of human remains on or near Arroyo Seco. The project could, however, impact native sediments that were not previously disturbed by construction.

In the event of an encounter with human remains during construction activities, the *California Health and Safety Code* and the *California Public Resources Code* require that any activity in the area of a potential find be halted and the Los Angeles County Coroner be notified, as described in Mitigation Measure 4. There would be less than significant adverse impacts to human remains with compliance with this measure.

## **7.0 RECOMMENDATIONS AND MITIGATION**

### **7.1 MITIGATION MEASURE 1**

The cast concrete baluster railing of Bridge No. 2 shall be protected from project-related construction activities (including the movement of heavy and large motor vehicles and machinery over Bridge No. 2 to gain access to APEs 1 and 2). Each baluster railing, from the bridge deck to the top of the railing, shall be clad with solid plywood panels that have a minimum thickness of 3/4-inch or equally effective measures shall be installed to protect against unintentional impacts from passing over the bridge. The plywood barriers shall be secured without damaging the balusters or railing.

The design and construction (and eventual removal) of the protective barriers at Bridge No. 2 and design and construction (and eventual removal) of a temporary bridge at Bridge No. 3 shall be prepared in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*. The plans for the temporary barriers and temporary bridge shall be reviewed by an architectural historian, historic architect, and structural or civil engineer that has experience with the physical components of historic bridges and stone walls. Prior to implementation of project activities, a qualified architectural historian (who meets the Secretary of Interior's Professional Qualification Standards) shall be retained to provide construction monitoring of the proposed installation/construction and removal plan documents for the temporary bridge on Bridge No. 3 and protective barriers on Bridge No. 2. An installation/construction/repair methodology to protect the historic resources shall be developed prior to project activities to ensure that the protective measures would adequately safeguard Bridges No. 2 and 3.

A pre-construction and a post-construction survey shall be prepared to ensure that adverse effects or significant impacts have not occurred to the bridges. The installation/construction methodology and post-construction survey shall be submitted to the City of Pasadena Department of Planning – Historic Preservation.

### **7.2 MITIGATION MEASURE 2**

Prior to commencement of earthmoving activities, the City shall retain a qualified Archaeologist to observe grading activities. The Archaeologist shall be present at the pre-grade conference; shall establish procedures for archaeological resource surveillance; and shall establish, in cooperation with the Contractor, procedures for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of the artifacts, as appropriate. Should archaeological resources be found during ground-disturbing activities for the Project, the Archaeologist shall first determine whether it is a "unique archaeological resource" pursuant to the California Environmental Quality Act (CEQA, i.e., Section 21083.2[g] of the *California Public Resources Code*) or a "historical resource" pursuant to Section 15064.5(a) of the State CEQA Guidelines. If the archaeological resource is determined to be a "unique archaeological resource" or a "historical resource", the Archaeologist shall formulate a mitigation plan in consultation with the City of Pasadena that satisfies the requirements of the above-referenced sections. The Archaeologist shall prepare a report of the results of any study prepared as part of a testing or mitigation plan, following guidelines of the California Office of Historic Preservation, and s/he shall record the site and submit the recordation form to the City of Pasadena and the California Historic Resources Information System (CHRIS) at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton. Work may proceed in other areas of the site, subject to the direction of the Archaeologist.

### 7.3 MITIGATION MEASURE 3

Prior to issuance of a grading permit, a qualified Paleontologist (one with training in the recognition of paleontological resources) shall be retained to observe grading activities in paleontologically sensitive sediments and conduct salvage excavation of paleontological resources as necessary. The Paleontologist shall be present at the pre-grading conference, shall establish procedures for paleontological resources surveillance, and shall establish, in cooperation with the contractor, procedures for temporarily halting or redirecting work to permit the sampling, identification and evaluation of any fossils discovered as appropriate. If paleontological resources are discovered, the paleontologist shall report such findings to the City of Pasadena. If the paleontological resources are found to be significant, the paleontologist shall determine appropriate actions, in cooperation with the City, for exploration and/or salvage. These actions, as well as final mitigation and disposition of the resources, shall be subject to the approval of the City. All recovered fossils shall be deposited in an accredited institution or museum, such as the Natural History Museum of Los Angeles County.

### 7.4 MITIGATION MEASURE 4

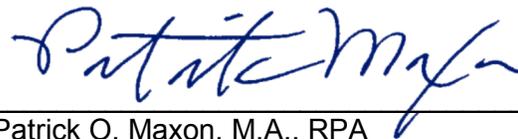
If human remains are encountered during excavation activities, all work shall halt in the immediate vicinity of the discovery and the County Coroner shall be notified (*California Public Resources Code* §5097.98). The Coroner shall determine whether the remains are of forensic interest. If the Coroner, with the aid of the County-approved Archaeologist, determines that the remains are prehistoric, s/he will contact the Native American Heritage Commission (NAHC). The NAHC shall be responsible for designating the most likely descendant (MLD), who will be responsible for the ultimate disposition of the remains, as required by Section 7050.5 of the *California Health and Safety Code*. The MLD shall make his/her recommendation within 48 hours of being granted access to the site. The MLD's recommendation shall be followed if feasible, and may include scientific removal and non-destructive analysis of the human remains and any items associated with Native American burials (*California Health and Safety Code*, Section 7050.5). If the landowner rejects the MLD's recommendations, the landowner shall rebury the remains with appropriate dignity on the property in a location that will not be subject to further subsurface disturbance (*California Public Resources Code*, Section 5097.98).

### 8.0 CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this cultural resources report, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

DATE: May 2014

SIGNED:



Patrick O. Maxon, M.A., RPA  
Director, Cultural Resources

## 9.0 REFERENCES

- Bada, J. L., R. A. Schroeder, and G. G. Carter  
 1974 New Evidence for the antiquity of man in North America deduced from aspartic acid racemization. *Science* 184
- Berger, Rainer, R. Protsch, R. Reynolds, C. Rozaire and J. R. Sackett  
 1971 New Radiocarbon Dates based on Bone Collagen of California Paleoindians. Berkeley: Contributions of the University of California Archaeological Research Facility 12:43-49.
- Bean, Lowell John, and Charles R. Smith  
 1978 Gabrielino. In: *Handbook of North American Indians*, Vol. 8, California, edited by Robert F. Heizer, pp. 538–549. Smithsonian Institution, Washington, D.C.
- Byrd, B. and M. Raab  
 2007 Prehistory if the Southern Bight: Models for a New Millennium. In *California Prehistory: Colonization, Culture, and Complexity* (Terry Jones and Kathryn Klar, Eds., pp. 215–227). Altamira Press, a Division of Rowman & Littlefield Publishers, Inc., Lanham, Maryland.
- Cameron, Constance  
 1999 Determining Tribal Boundaries through Potsherds: An Archaeological Perspective. *Pacific Coast Archaeological Society Quarterly*, Vol. 35, Numbers 2 and 3, Spring/Summer.
- Cleland, Robert Glass  
 1966 *The Irvine Ranch*. Huntington Library, San Marino, California.
- Daly, P.  
 2014 Historical Resources Assessment Report of Arroyo Seco Canyon Project, City of Pasadena Water and Power Department, Pasadena, Los Angeles County, CA. On file, BonTerra Psomas, Irvine.
- Dorame, Robert  
 2013 Personal Communication. Email response, April, 3, 2013.
- Drover, C.E., H.C. Koerper, and P.E. Langenwaller II  
 1983 Early Holocene Human Adaptation on the Southern California Coast: A Summary Report of Investigations at the Irvine Site (CA-ORA-64), Newport Bay, Orange County, California. *Pacific Coast Archaeological Society Quarterly* 19 (3+4): 1–84.
- Earth Consultants International  
 2002 Report to the Safety Element of the General Plan prepared by Earth Consultants International for the City of Pasadena.
- Grant, Campbell  
 1978 Interior Chumash. In: *Handbook of North American Indians*, Vol. 8, California, Robert F. Heizer (Ed.), pp. 530–534. Smithsonian Institute, Washington, D.C.
- Harrington, John P.  
 1933 Annotations. In: *Chinigchinich: A Revised and Annotated Version of Alfred Robinson's Translation of Father Geronimo Boscana's Historical Account of the Belief, Usages, Customs and Extravagancies of the Indians of this Mission of San*

---

*Juan Capistrano Called the Acagchemem Tribe*, edited by Phil Townsend Hanna, pp. 91–228. Fine Arts Press, Santa Ana.

Johnston, Bernice Eastman

1962 *California's Gabrielino Indians*. Southwest Museum, Los Angeles.

Koerper, H. C. and C. Drover

1983 Chronology Building for Coastal Orange County, The Case from CA-ORA-119-A. *Pacific Coast Archaeological Society Quarterly* 19(2):1–34.

Kroeber, Alfred L.

1925 *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin 78. Smithsonian Institution, Washington, D.C.

McCawley, William

1996 *The First Angelinos: The Gabrielino Indians of Los Angeles*. Malki Museum Press, Banning and Ballena Press, Novato.

Meighan, C.W.

1959 The Little Harbor Site, Catalina Island: An example of ecological interpretation in archaeology. *American Antiquity* 24(4):383–405.

1954 A Late Complex in Southern California Prehistory. *Southwestern Journal of Anthropology* 10:215–227

Office of Historic Preservation

1990 *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format*. Department of Parks and Recreation, Sacramento.

Pasadena, City of.

2003 *Arroyo Seco Master Plans – Arroyo Seco Design Guidelines*, Pasadena.

Roeder, Mark

2013 Paleontological Resources Assessment, Arroyo Seco Canyon Project. On file, BonTerra Consulting, Irvine.

Rolle, Andrew

1998 *California: A History*. Fifth Edition. Harlan Davidson, Inc., Wheeling, Illinois.

Wallace, William J.

1955 A Suggested Chronology for Southern California Coastal Archaeology. *Southwestern Journal of Anthropology* 11(3):214–230.

Warren, C. N.

1968 Cultural Traditions and Ecological Adaptation on the Southern California Coast. In Archaic Prehistory in the Western United States. *Eastern New Mexico Contributions in Anthropology* 1(3): 1–14.

Weeks, K. and Grimmer, A.

1995 *The Secretary of The Interior's Standards for the Treatment of Historic Properties: With Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings*. U.S. Department of the Interior, National Park Service, Cultural Resource Stewardship and Partnerships, Heritage Preservation Services (Washington, D.C.).

## **Appendix A**

### **South Central Coastal Information Center Bibliography**

## SCCIC Bibliography: Arroyo Seco

LA-00294

---

*Author(s):* Adams, Andrea

*Year:*

*Title:* A Preliminary Archaeological Literature Search for the Community Development Plan

*Affiliation:* University of California, Los Angeles Archaeological Survey

*Resources:* 19-000036, 19-000136, 19-000158, 19-000167, 19-000182, 19-000300, 19-000342, 19-000385

*Quads:* BALDWIN PARK, PASADENA, SAN FERNANDO, SOUTH GATE, SUNLAND, WHITTIER

*Pages:* 8

*Notes:* Mapped to resources listed, removed from unmappable folder. The communities of Lopez, Maravilla Sunshine Acres and Westmont could not be located and may either be on the quads given or others not mentioned.

LA-00880

---

*Author(s):* Chavez, David

*Year:* 1980

*Title:* Cultural Resources Overview for the Jet Propulsion Laboratory Environmental Resources Document, Pasadena, California

*Affiliation:* David Chavez

*Resources:*

*Quads:* MESCAL CREEK, PASADENA

*Pages:*

*Notes:*

LA-01312

---

*Author(s):* Bridgewater, John W.

*Year:* 1976

*Title:* Archaeological Reconnaissance Report: Fuel Break System for the Crest-millard Fuel Management Unit

*Affiliation:* U.S. Forest Service

*Resources:* 19-000342

*Quads:* CONDOR PEAK, PASADENA, SUNLAND

*Pages:*

*Notes:*

LA-01903

---

*Author(s):* Blodgett, Leslie M.

*Year:* 1987

*Title:* Preliminary Assessment of the Prehistoric Cultural Resources of the Devil's Gate Reservoir, Pasadena, California.

*Affiliation:*

*Resources:*

*Quads:* PASADENA

*Pages:*

*Notes:*

## SCCIC Bibliography: Arroyo Seco

---

### LA-02707

*Author(s):* Kerr, David  
*Year:* 1992  
*Title:* Arroyo Leach Field (l.a. County)  
*Affiliation:*  
*Resources:*  
*Quads:* PASADENA  
*Pages:*  
*Notes:*

---

### LA-02975

*Author(s):* McKenna, Jeanette A.  
*Year:* 1993  
*Title:* A Phase I Cultural Resources Survey of Alternative Locations for the Proposed Jet Propulsion Laboratory Parking Structure, Jet Propulsion Laboratory, Pasadena, Los Angeles County, California  
*Affiliation:* McKenna et al.  
*Resources:*  
*Quads:* PASADENA  
*Pages:*  
*Notes:*

---

### LA-04469

*Author(s):* Romani, John F.  
*Year:* 1977  
*Title:* Assessment of the Archaeological Impact by the Installation of a Sewer Pipeline in La Crescenta and Glendale  
*Affiliation:* California State University, Northridge  
*Resources:* 19-000026, 19-000032, 19-000132, 19-150417, 19-186113, 19-186576  
*Quads:* BURBANK, PASADENA  
*Pages:* 19  
*Notes:* Not enough locational info to map to project APE. Mapped to 5 resources listed.

---

### LA-05233

*Author(s):* McKenna, Jeanette A.  
*Year:* 2000  
*Title:* Phase I Cultural Resources Investigations for the Proposed Sanitary Sewer Improvements Project in the City of La Canada-flintridge, Los Angeles County, Ca  
*Affiliation:* McKenna et al.  
*Resources:* 19-000004, 19-000007, 19-002189, 19-150321  
*Quads:* PASADENA  
*Pages:*  
*Notes:*

---

### LA-05234

*Author(s):* Vance, Darrell W.  
*Year:* 2000  
*Title:* Cultural Resource Evaluation of the Arroyo Canyon Bailey and King Post #4 Bridges A.r.p. #05-01-00-627  
*Affiliation:* Angeles National Forest  
*Resources:*  
*Quads:* PASADENA  
*Pages:* 16  
*Notes:*

## SCCIC Bibliography: Arroyo Seco

LA-06946

---

*Author(s):* Romani, Gwendolyn R.  
*Year:* 2002  
*Title:* Archaeological Reconnaissance Report 05-011-00-674, Teddy's Outpost Picnic Area Angeles National Forest, Los Angeles County, California  
*Affiliation:* Compass Rose Archaeological, Inc.  
*Resources:* 19-003086  
*Quads:* PASADENA  
*Pages:*  
*Notes:*

LA-06948

---

*Author(s):* Romani, John F.  
*Year:* 2002  
*Title:* Archaeological Survey Report Southern California Edison Seco 16 Kv Circuit Deteriorated Pole Replacement Project  
*Affiliation:* Compass Rose Archaeological, Inc.  
*Resources:* 19-002189  
*Quads:* PASADENA  
*Pages:*  
*Notes:*

LA-08927

---

*Author(s):* McKenna, Jeanette A.  
*Year:* 2007  
*Title:* A Phase I (ceqa) and Class Iii (nepa) Cultural Resources Investigation for the Sunset Overlook Trailhead Area of the Hahamongna Watershed Park in the City of Pasadena, Los Angeles County, California  
*Affiliation:* McKenna et al.  
*Resources:*  
*Quads:* PASADENA  
*Pages:* 68  
*Notes:*

LA-09205

---

*Author(s):* Bonner, Wayne H.  
*Year:* 2007  
*Title:* Cultural Resources Records Search and Site Visit Results for T-Mobile Candidate SV11552C (Jetro RL), 5433 West Jefferson Boulevard, Los Angeles, Los Angeles County, California  
*Affiliation:* Michael Brandman Associates  
*Resources:* 19-000069, 19-000070, 19-000071, 19-000072  
*Quads:* HOLLYWOOD  
*Pages:* 13  
*Notes:*

## SCCIC Bibliography: Arroyo Seco

LA-09899

---

*Author(s):* Antonina Delu

*Year:* 2009

*Title:* Results of the Cultural Resources Assessment for the Ravine New Circuit and Reconductoring Distribution Substation Plan Project, Los Angeles County, California

*Affiliation:* LSA Associates, Inc.

*Resources:* 19-002189

*Quads:* PASADENA

*Pages:* 9

*Notes:*

LA-10175

---

*Author(s):* Unknown

*Year:* 2009

*Title:* Confidential Cultural Resources Specialist Report for the Tehachapi Transmission Project

*Affiliation:* Applied Earthworks, Aspen Environmental Group

*Resources:* 19-000806, 19-001128, 19-001299, 19-001300, 19-001315, 19-001357, 19-001382, 19-001636, 19-001770, 19-001771, 19-001783, 19-001956, 19-001957, 19-002206, 19-002212, 19-002343, 19-002350, 19-002363, 19-002411, 19-002412, 19-003009, 19-003018, 19-003025, 19-003031, 19-003032, 19-003037, 19-003090, 19-003099, 19-003136, 19-003152, 19-003295, 19-003385, 19-003477, 19-003606, 19-003638, 19-003795, 19-003852, 19-003853, 19-003854, 19-100277, 19-100439, 19-100496, 19-100644, 19-120031, 19-120032, 19-120072, 19-120074, 19-180689, 19-186545, 19-186860, 19-186870, 19-186871, 19-186872, 19-186873, 19-186875, 19-186876, 19-186877, 19-186917, 19-186921, 19-186923, 19-186925, 19-187713

*Quads:* ACTON, AZUSA, BALDWIN PARK, CHILAO FLAT, CONDOR PEAK, DEL SUR, EL MONTE, FAIRMONT BUTTE, LA HABRA, LAKE HUGHES, LANCASTER WEST, LITTLE BUTTES, LOS ANGELES, MT WILSON, PACIFICO MOUNTAIN, PALMDALE, PASADENA, RITTER RIDGE, SLEEPY VALLEY, WATERMAN MTN, WHITTIER, YORBA LINDA

*Pages:* 234

*Notes:* Also OR 3777

LA-11042

---

*Author(s):* McKenna, Jeanette A.

*Year:* 2009

*Title:* A Phase I (CEQA) and Class III (NEPA) Cultural Resources Investigation for the Eastside Neighborhood and JPL Connector Trail Improvements Project Area in the HaHamongna Watershed Park, City of Pasadena, Los Angeles County, California

*Affiliation:* McKenna et al.

*Resources:* 19-000342, 19-001599, 19-002055, 19-002056, 19-002189, 19-002679, 19-003086, 19-150023, 19-150024, 19-180710, 19-180711, 19-186870, 19-186872, 19-186873, 19-186878, 19-187694, 19-188157

*Quads:* PASADENA

*Pages:* 118

*Notes:*

LA-11193

---

*Author(s):* Bellas, John

*Year:* 2007

*Title:* Sunset Overlook Trailhead Area in Hahamongna Watershed Park, Master EIR Initial Study Environmental Checklist

*Affiliation:* Unknown

*Resources:*

*Quads:* PASADENA

*Pages:* 57

*Notes:*

## SCCIC Bibliography: Arroyo Seco

LA-11194

---

*Author(s):* Unknown

*Year:* 2002

*Title:* Hahamongna Watershed Park Master Plan, A Component of the Arroyo Seco Master Plan

*Affiliation:* Takata Associates

*Resources:* 19-000026, 19-000342

*Quads:* PASADENA

*Pages:* 12

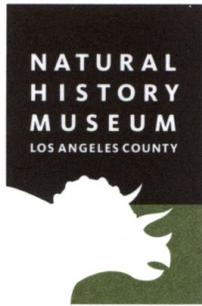
*Notes:*

## **Appendix B**

### **Los Angeles County Museum Paleontological Records Search**

Natural History Museum  
of Los Angeles County  
900 Exposition Boulevard  
Los Angeles, CA 90007

tel 213.763.DINO  
www.nhm.org



Vertebrate Paleontology Section  
Telephone: (213) 763-3325  
Fax: (213) 746-7431  
e-mail: smcleod@nhm.org

5 April 2013

BonTerra Consulting  
2 Executive Circle, Suite 175  
Irvine, CA 92614

Attn: Patrick O. Maxon, Director, Cultural Resources

re: Paleontological Resources for the proposed John L. Behner Treatment Plant areas Project, in the Arroyo Seco area adjacent to Altadena, Los Angeles County, project area

Dear Patrick:

I have conducted a thorough search of our Vertebrate Paleontology records for the proposed John L. Behner Treatment Plant areas Project, in the Arroyo Seco area adjacent to Altadena, Los Angeles County, project area as outlined on the portion of the Pasadena USGS topographic quadrangle map that you sent to me via e-mail on 21 March 2013. We do not have any vertebrate fossil localities that lie directly within the proposed project area, but we do have fossil localities nearby from sedimentary deposits similar to those that occur in the proposed project area.

In the elevated terrain of the San Gabriel Mountains in the proposed project area the bedrock is composed of plutonic igneous rocks that, of course, will not contain recognizable fossils. Most of the proposed project area, though, has surficial deposits that consist predominantly of younger Quaternary gravels in the Arroyo Seco Canyon drainage, but with younger Quaternary fluvial deposits on the margins. These latter sedimentary deposits typically do not contain significant vertebrate fossils, at least in the uppermost layers, but underlying older Quaternary fluvial deposits may well contain significant vertebrate fossils. Our closest vertebrate fossil locality in these older Quaternary deposits is LACM (CIT) 342, in Eagle Rock south-southwest of the proposed project area east of the Pasadena Freeway (I-110) and Eagle Rock Boulevard just south of York Boulevard, that produced fossil specimens of turkey, *Parapavo*

*californicus*, and mammoth, *Mammuthus*, at a depth of 14 feet below the surface. The fossil turkey specimen from locality LACM (CIT) 342 was published in the scientific literature by L.H. Miller in 1942 (A New Fossil Bird Locality. *Condor*, 44(6):283-284) and the mammoth specimen was a rare, nearly complete skeleton and was published in the scientific literature by V.L. Roth in 1984 (How Elephants Grow: Heterochrony and the Calibration of Developmental Stages in Some Living and Fossil Species. *Journal of Vertebrate Paleontology*, 4(1):126-145).

Excavations in the igneous bedrock exposed in the elevated terrain in the northern part of the proposed project area will almost certainly not encounter recognizable fossils. Shallow excavations in the younger Quaternary gravels exposed in the central portion of the Arroyo Seco drainage, as well as the younger Quaternary Alluvium on the floodplain margin, are unlikely to uncover significant vertebrate fossils. Deeper excavations in the latter areas that extend down into older Quaternary deposits, however, may well uncover significant vertebrate fossils. Any substantial excavations in the sedimentary deposits in the less elevated portions of the proposed project area, therefore, should be monitored closely to quickly and professionally recover any fossil remains discovered while not impeding development. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,

A handwritten signature in cursive script that reads "Samuel A. McLeod".

Samuel A. McLeod, Ph.D.  
Vertebrate Paleontology

enclosure: invoice

## **Appendix C**

### **Native American Historic Commission and Native American Consultation**



TRANSMITTAL

DATE: March 20, 2013

TO: Mr. Dave Singleton
Program Analyst
Native American Heritage Comm.
915 Capitol Mall, Rm. 364
Sacramento, CA 95814

FAX NUMBER: (916) 657-5390
TEL NUMBER: (916) 653-6251
PROJECT: Arroyo Seco Canyon Project
FROM: Patrick Maxon, RPA

[X] Fax / Pages\_ [ ] E-Mail [ ] Fed Ex / Overnite Express [ ] Delivery / Courier

REGARDING: Sacred Lands File Search and Contact List Request

Dear Mr. Singleton:

BonTerra Consulting has been retained to complete a cultural resources study for the proposed Arroyo Seco Canyon Project located in the City of Pasadena, Los Angeles County, California. This project does not require a General or Specific Plan amendment or adoption; therefore, the project is not subject the statutory requirements of Senate Bill 18 (Tribal Consultation Guidelines).

At your earliest convenience, please conduct a search of the Sacred Lands File for the proposed project, located within Township 1 and 2 North; Range 12 West of the USGS Pasadena, CA 7.5 Minute Quadrangle. Refer to attached exhibit.

The Arroyo Seco Canyon Project is a multi-purpose project that includes a diversion structure on the Arroyo Seco Creek to beneficially utilize water rights held by the City and the Lincoln Avenue Water Company, spreading basins capable of recharging the diverted water to replenish the local groundwater supply, naturalization of the Arroyo Seco Creek, and a new public restroom facility and amenities for those recreating in the Arroyo Seco Canyon area. Pasadena Water and Power (PWP) has received a portion of the Greater Los Angeles Region's Integrated Regional Water Management (IRWM) implementation grant from the State of California to design and construct this Project. Additional funding for this Project is also available through a Federal Emergency Management Agency (FEMA) grant to remove debris and repair roads and structures in the Arroyo Seco Canyon area.

Please fax the results to me at (714) 444-9599, or e-mail to p.maxon@bonterraconsulting.com, referencing your letter to the "Arroyo Seco Canyon Project".

If you have any questions or require any additional information, please do not hesitate to contact me at (714) 444-9199 or via email.

Sincerely,

BONTERRA CONSULTING

Patrick Maxon, RPA

STATE OF CALIFORNIAEdmund G. Brown, Jr. Governor**NATIVE AMERICAN HERITAGE COMMISSION**

915 CAPITOL MALL, ROOM 354  
SACRAMENTO, CA 95814  
(916) 653-6251  
Fax (916) 657-5390  
www.nahc.ca.gov



March 21, 2013

Mr. Patrick Maxon, RPA; Director-Cultural Resources

**BonTerra Consulting**

2 Executive Circle, Suite 175  
Irvine, CA 92614

Sent by FAX to: (714) 444-9599

No. of Pages: 3

**Re: Arroyo Seco Canyon Project; located in the City of Pasadena; Los Angeles  
County, California**

Dear Mr. Maxon:

A record search of the sacred land file failed to indicate the presence of Native American sacred places/sites in the immediate project area, based on the USGS coordinates you provided. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other data sources for cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 653-6251.

Sincerely,

A handwritten signature in black ink, appearing to read "Dave Singleton".

Dave Singleton  
Program Analyst

**Native American Contacts  
Los Angeles County  
March 21, 2013**

LA City/County Native American Indian Comm  
Ron Andrade, Director  
3175 West 6th St, Rm. 403  
Los Angeles , CA 90020  
randrade@css.lacounty.gov  
(213) 351-5324  
(213) 386-3995 FAX

Ti'At Society/Inter-Tribal Council of Pimu  
Cindi M. Alvitre, Chairwoman-Manisar  
3094 Mace Avenue, Apt. B Gabrielino  
Costa Mesa, , CA 92626  
calvitre@yahoo.com  
(714) 504-2468 Cell

Tongva Ancestral Territorial Tribal Nation  
John Tommy Rosas, Tribal Admin.  
Private Address Gabrielino Tongva  
  
**tattnlaw@gmail.com**  
310-570-6567

Gabrieleno/Tongva San Gabriel Band of Mission  
Anthony Morales, Chairperson  
PO Box 693 Gabrielino Tongva  
San Gabriel , CA 91778  
GTTribalcouncil@aol.com  
(626) 286-1632  
(626) 286-1758 - Home  
(626) 286-1262 -FAX

Gabrielino Tongva Nation  
Sam Dunlap, Cultural Resources Director  
P.O. Box 86908 Gabrielino Tongva  
Los Angeles , CA 90086  
samdunlap@earthlink.net  
  
(909) 262-9351 - cell

Gabrielino Tongva Indians of California Tribal Council  
Robert F. Dorame, Tribal Chair/Cultural Resources  
P.O. Box 490 Gabrielino Tongva  
Bellflower , CA 90707  
**gtongva@verizon.net**  
562-761-6417 - voice  
562-761-6417- fax

Gabrielino-Tongva Tribe  
Bernie Acuna, Co-Chairperson  
P.O. Box 180 Gabrielino  
Bonsall , CA 92003  
(619) 294-6660-work  
(310) 428-5690 - cell  
(760) 636-0854- FAX  
bacuna1@gabrieinotribe.org

Gabrielino-Tongva Tribe  
Linda Candelaria, Co-Chairperson  
P.O. Box 1800 Gabrielino  
Bonsall , CA 92003  
palmssprings9@yahoo.com  
626-676-1184- cell  
(760) 636-0854 - FAX

**This list is current only as of the date of this document.**

**Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.**

**This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Arroyo Seco Canyon Project; locate in the City of Pasadena; Los Angeles County, California for which a Sacred Lands File search and Native American Contacts list were requested.**



March 21, 2013

Mr. Bernie Acuña  
Gabrielino-Tongva Tribe  
1875 Century Park East 1500  
Los Angeles, CA 90067

Subject: Arroyo Seco Canyon Project

Dear Mr. Acuña:

BonTerra Consulting was been retained to complete a cultural resources study for the proposed Arroyo Seco Canyon Project located in the City of Pasadena, Los Angeles County, California. This project does not require a General or Specific Plan amendment or adoption; therefore, the project is not subject to the statutory requirements of Senate Bill 18 (Tribal Consultation Guidelines). However, as part of the background cultural resources research being conducted, this letter is to inform you of the proposed project and to request any relevant information you may have regarding cultural resources on or near the project site.

### **Location**

The project location is shown on the USGS *Pasadena, CA 7.5 Minute Quadrangle* in Township 1 and 2 South; Range 12 West (*S.B.B.M.*). Refer to attached exhibit.

### **Project**

The Arroyo Seco Canyon Project is a multi-purpose project that includes a diversion structure on the Arroyo Seco Creek to beneficially utilize water rights held by the City and the Lincoln Avenue Water Company, spreading basins capable of recharging the diverted water to replenish the local groundwater supply, naturalization of the Arroyo Seco Creek, and a new public restroom facility and amenities for those recreating in the Arroyo Seco Canyon area. Pasadena Water and Power (PWP) has received a portion of the Greater Los Angeles Region's Integrated Regional Water Management (IRWM) implementation grant from the State of California to design and construct this Project. Additional funding for this Project is also available through a Federal Emergency Management Agency (FEMA) grant to remove debris and repair roads and structures in the Arroyo Seco Canyon area.

### **NAHC Notification**

A Sacred Lands File Search conducted by the Native American Heritage Commission (NAHC) did not identify the presence of Native American cultural resources on either project site. The NAHC also provided BonTerra Consulting with a list of Native American individuals/organizations that may have knowledge of cultural resources in the project area. Your name and contact information was included on the list and serves as the basis for this letter.



Mr. Bernie Acuña  
March 21, 2013  
Page 2

**Records Search**

A cultural resources records search was conducted at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton on on March 18, 2013 to evaluate the existing conditions of the project site; however, no recorded cultural resources were identified on the project site. A survey of the project site will be completed after the records search to identify any exposed cultural resources.

Your participation in this local planning process is important. If you have any additional knowledge of Native American Sacred Lands or other cultural resources on or near the study area, or any comment on the project, please contact me at your earliest convenience at (714) 444-9199 or via email at [pmaxon@bonterraconsulting.com](mailto:pmaxon@bonterraconsulting.com), with a subject line referencing the "Arroyo Seco Canyon Project".

Sincerely,  
BONTERRA CONSULTING



Patrick O. Maxon, RPA  
Director, Cultural Resources

March 21, 2013

Mr. Conrad Acuña  
Gabrielino-Tongva Tribe  
1875 Century Park East 1500  
Los Angeles, CA 90067

Subject: Arroyo Seco Canyon Project

Dear Mr. Acuña:

BonTerra Consulting was been retained to complete a cultural resources study for the proposed Arroyo Seco Canyon Project located in the City of Pasadena, Los Angeles County, California. This project does not require a General or Specific Plan amendment or adoption; therefore, the project is not subject to the statutory requirements of Senate Bill 18 (Tribal Consultation Guidelines). However, as part of the background cultural resources research being conducted, this letter is to inform you of the proposed project and to request any relevant information you may have regarding cultural resources on or near the project site.

### **Location**

The project location is shown on the USGS *Pasadena, CA 7.5 Minute Quadrangle* in Township 1 and 2 South; Range 12 West (*S.B.B.M.*). Refer to attached exhibit.

### **Project**

The Arroyo Seco Canyon Project is a multi-purpose project that includes a diversion structure on the Arroyo Seco Creek to beneficially utilize water rights held by the City and the Lincoln Avenue Water Company, spreading basins capable of recharging the diverted water to replenish the local groundwater supply, naturalization of the Arroyo Seco Creek, and a new public restroom facility and amenities for those recreating in the Arroyo Seco Canyon area. Pasadena Water and Power (PWP) has received a portion of the Greater Los Angeles Region's Integrated Regional Water Management (IRWM) implementation grant from the State of California to design and construct this Project. Additional funding for this Project is also available through a Federal Emergency Management Agency (FEMA) grant to remove debris and repair roads and structures in the Arroyo Seco Canyon area.

### **NAHC Notification**

A Sacred Lands File Search conducted by the Native American Heritage Commission (NAHC) did not identify the presence of Native American cultural resources on either project site. The NAHC also provided BonTerra Consulting with a list of Native American individuals/organizations that may have knowledge of cultural resources in the project area. Your name and contact information was included on the list and serves as the basis for this letter.



Mr. Conrad Acuña  
March 21, 2013  
Page 2

**Records Search**

A cultural resources records search was conducted at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton on March 18, 2013 to evaluate the existing conditions of the project site; however, no recorded cultural resources were identified on the project site. A survey of the project site will be completed after the records search to identify any exposed cultural resources.

Your participation in this local planning process is important. If you have any additional knowledge of Native American Sacred Lands or other cultural resources on or near the study area, or any comment on the project, please contact me at your earliest convenience at (714) 444-9199 or via email at [pmaxon@bonterraconsulting.com](mailto:pmaxon@bonterraconsulting.com), with a subject line referencing the "Arroyo Seco Canyon Project".

Sincerely,  
BONTERRA CONSULTING



Patrick O. Maxon, RPA  
Director, Cultural Resources

March 21, 2013

Ms. Cindi Alvitre  
Ti'At Society/Inter-Tribal Council of Pimu  
3094 Mace Avenue, Apt B  
Costa Mesa, CA 92626

Subject: Arroyo Seco Canyon Project

Dear Ms. Alvitre:

BonTerra Consulting was been retained to complete a cultural resources study for the proposed Arroyo Seco Canyon Project located in the City of Pasadena, Los Angeles County, California. This project does not require a General or Specific Plan amendment or adoption; therefore, the project is not subject to the statutory requirements of Senate Bill 18 (Tribal Consultation Guidelines). However, as part of the background cultural resources research being conducted, this letter is to inform you of the proposed project and to request any relevant information you may have regarding cultural resources on or near the project site.

**Location**

The project location is shown on the USGS *Pasadena, CA 7.5 Minute Quadrangle* in Township 1 and 2 South; Range 12 West (*S.B.B.M.*). Refer to attached exhibit.

**Project**

The Arroyo Seco Canyon Project is a multi-purpose project that includes a diversion structure on the Arroyo Seco Creek to beneficially utilize water rights held by the City and the Lincoln Avenue Water Company, spreading basins capable of recharging the diverted water to replenish the local groundwater supply, naturalization of the Arroyo Seco Creek, and a new public restroom facility and amenities for those recreating in the Arroyo Seco Canyon area. Pasadena Water and Power (PWP) has received a portion of the Greater Los Angeles Region's Integrated Regional Water Management (IRWM) implementation grant from the State of California to design and construct this Project. Additional funding for this Project is also available through a Federal Emergency Management Agency (FEMA) grant to remove debris and repair roads and structures in the Arroyo Seco Canyon area.

**NAHC Notification**

A Sacred Lands File Search conducted by the Native American Heritage Commission (NAHC) did not identify the presence of Native American cultural resources on either project site. The NAHC also provided BonTerra Consulting with a list of Native American individuals/organizations that may have knowledge of cultural resources in the project area. Your name and contact information was included on the list and serves as the basis for this letter.



Ms. Cindi Alvitre  
March 21, 2013  
Page 2

### ***Records Search***

A cultural resources records search was conducted at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton on on March 18, 2013 to evaluate the existing conditions of the project site; however, no recorded cultural resources were identified on the project site. A survey of the project site will be completed after the records search to identify any exposed cultural resources.

Your participation in this local planning process is important. If you have any additional knowledge of Native American Sacred Lands or other cultural resources on or near the study area, or any comment on the project, please contact me at your earliest convenience at (714) 444-9199 or via email at [pmaxon@bonterraconsulting.com](mailto:pmaxon@bonterraconsulting.com), with a subject line referencing the "Arroyo Seco Canyon Project".

Sincerely,  
BONTERRA CONSULTING



Patrick O. Maxon, RPA  
Director, Cultural Resources

March 21, 2013

Mr. Ron Andrade  
LA City/County Native American Indian Comm.  
3175 W. 6th Street, Rm. 403  
Los Angeles, CA 90020

Subject: Arroyo Seco Canyon Project

Dear Mr. Andrade:

BonTerra Consulting was been retained to complete a cultural resources study for the proposed Arroyo Seco Canyon Project located in the City of Pasadena, Los Angeles County, California. This project does not require a General or Specific Plan amendment or adoption; therefore, the project is not subject to the statutory requirements of Senate Bill 18 (Tribal Consultation Guidelines). However, as part of the background cultural resources research being conducted, this letter is to inform you of the proposed project and to request any relevant information you may have regarding cultural resources on or near the project site.

### **Location**

The project location is shown on the USGS *Pasadena, CA 7.5 Minute Quadrangle* in Township 1 and 2 South; Range 12 West (*S.B.B.M.*). Refer to attached exhibit.

### **Project**

The Arroyo Seco Canyon Project is a multi-purpose project that includes a diversion structure on the Arroyo Seco Creek to beneficially utilize water rights held by the City and the Lincoln Avenue Water Company, spreading basins capable of recharging the diverted water to replenish the local groundwater supply, naturalization of the Arroyo Seco Creek, and a new public restroom facility and amenities for those recreating in the Arroyo Seco Canyon area. Pasadena Water and Power (PWP) has received a portion of the Greater Los Angeles Region's Integrated Regional Water Management (IRWM) implementation grant from the State of California to design and construct this Project. Additional funding for this Project is also available through a Federal Emergency Management Agency (FEMA) grant to remove debris and repair roads and structures in the Arroyo Seco Canyon area.

### **NAHC Notification**

A Sacred Lands File Search conducted by the Native American Heritage Commission (NAHC) did not identify the presence of Native American cultural resources on either project site. The NAHC also provided BonTerra Consulting with a list of Native American individuals/organizations that may have knowledge of cultural resources in the project area. Your name and contact information was included on the list and serves as the basis for this letter.



Mr. Ron Andrade  
March 21, 2013  
Page 2

**Records Search**

A cultural resources records search was conducted at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton on March 18, 2013 to evaluate the existing conditions of the project site; however, no recorded cultural resources were identified on the project site. A survey of the project site will be completed after the records search to identify any exposed cultural resources.

Your participation in this local planning process is important. If you have any additional knowledge of Native American Sacred Lands or other cultural resources on or near the study area, or any comment on the project, please contact me at your earliest convenience at (714) 444-9199 or via email at [pmaxon@bonterraconsulting.com](mailto:pmaxon@bonterraconsulting.com), with a subject line referencing the "Arroyo Seco Canyon Project".

Sincerely,  
BONTERRA CONSULTING

A handwritten signature in blue ink, appearing to read "Patrick O. Maxon".

Patrick O. Maxon, RPA  
Director, Cultural Resources

March 21, 2013

Ms. Linda Candelaria  
Gabrielino-Tongva Tribe  
1875 Century Park East 1500  
Los Angeles, CA 90067

Subject: Arroyo Seco Canyon Project

Dear Ms. Candelaria:

BonTerra Consulting was been retained to complete a cultural resources study for the proposed Arroyo Seco Canyon Project located in the City of Pasadena, Los Angeles County, California. This project does not require a General or Specific Plan amendment or adoption; therefore, the project is not subject to the statutory requirements of Senate Bill 18 (Tribal Consultation Guidelines). However, as part of the background cultural resources research being conducted, this letter is to inform you of the proposed project and to request any relevant information you may have regarding cultural resources on or near the project site.

**Location**

The project location is shown on the USGS *Pasadena, CA 7.5 Minute Quadrangle* in Township 1 and 2 South; Range 12 West (*S.B.B.M.*). Refer to attached exhibit.

**Project**

The Arroyo Seco Canyon Project is a multi-purpose project that includes a diversion structure on the Arroyo Seco Creek to beneficially utilize water rights held by the City and the Lincoln Avenue Water Company, spreading basins capable of recharging the diverted water to replenish the local groundwater supply, naturalization of the Arroyo Seco Creek, and a new public restroom facility and amenities for those recreating in the Arroyo Seco Canyon area. Pasadena Water and Power (PWP) has received a portion of the Greater Los Angeles Region's Integrated Regional Water Management (IRWM) implementation grant from the State of California to design and construct this Project. Additional funding for this Project is also available through a Federal Emergency Management Agency (FEMA) grant to remove debris and repair roads and structures in the Arroyo Seco Canyon area.

**NAHC Notification**

A Sacred Lands File Search conducted by the Native American Heritage Commission (NAHC) did not identify the presence of Native American cultural resources on either project site. The NAHC also provided BonTerra Consulting with a list of Native American individuals/organizations that may have knowledge of cultural resources in the project area. Your name and contact information was included on the list and serves as the basis for this letter.



Ms. Linda Candelaria  
March 21, 2013  
Page 2

**Records Search**

A cultural resources records search was conducted at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton on on March 18, 2013 to evaluate the existing conditions of the project site; however, no recorded cultural resources were identified on the project site. A survey of the project site will be completed after the records search to identify any exposed cultural resources.

Your participation in this local planning process is important. If you have any additional knowledge of Native American Sacred Lands or other cultural resources on or near the study area, or any comment on the project, please contact me at your earliest convenience at (714) 444-9199 or via email at [pmaxon@bonterraconsulting.com](mailto:pmaxon@bonterraconsulting.com), with a subject line referencing the "Arroyo Seco Canyon Project".

Sincerely,  
BONTERRA CONSULTING



Patrick O. Maxon, RPA  
Director, Cultural Resources

March 21, 2013

Mr. Robert Dorame  
Gabrielino Tongva Indians of California Tribal Council  
PO Box 490  
Bellflower, CA 90707

Subject: Arroyo Seco Canyon Project

Dear Mr. Dorame:

BonTerra Consulting was been retained to complete a cultural resources study for the proposed Arroyo Seco Canyon Project located in the City of Pasadena, Los Angeles County, California. This project does not require a General or Specific Plan amendment or adoption; therefore, the project is not subject to the statutory requirements of Senate Bill 18 (Tribal Consultation Guidelines). However, as part of the background cultural resources research being conducted, this letter is to inform you of the proposed project and to request any relevant information you may have regarding cultural resources on or near the project site.

### **Location**

The project location is shown on the USGS *Pasadena, CA 7.5 Minute Quadrangle* in Township 1 and 2 South; Range 12 West (*S.B.B.M.*). Refer to attached exhibit.

### **Project**

The Arroyo Seco Canyon Project is a multi-purpose project that includes a diversion structure on the Arroyo Seco Creek to beneficially utilize water rights held by the City and the Lincoln Avenue Water Company, spreading basins capable of recharging the diverted water to replenish the local groundwater supply, naturalization of the Arroyo Seco Creek, and a new public restroom facility and amenities for those recreating in the Arroyo Seco Canyon area. Pasadena Water and Power (PWP) has received a portion of the Greater Los Angeles Region's Integrated Regional Water Management (IRWM) implementation grant from the State of California to design and construct this Project. Additional funding for this Project is also available through a Federal Emergency Management Agency (FEMA) grant to remove debris and repair roads and structures in the Arroyo Seco Canyon area.

### **NAHC Notification**

A Sacred Lands File Search conducted by the Native American Heritage Commission (NAHC) did not identify the presence of Native American cultural resources on either project site. The NAHC also provided BonTerra Consulting with a list of Native American individuals/organizations that may have knowledge of cultural resources in the project area. Your name and contact information was included on the list and serves as the basis for this letter.



Mr. Robert Dorame  
March 21, 2013  
Page 2

**Records Search**

A cultural resources records search was conducted at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton on March 18, 2013 to evaluate the existing conditions of the project site; however, no recorded cultural resources were identified on the project site. A survey of the project site will be completed after the records search to identify any exposed cultural resources.

Your participation in this local planning process is important. If you have any additional knowledge of Native American Sacred Lands or other cultural resources on or near the study area, or any comment on the project, please contact me at your earliest convenience at (714) 444-9199 or via email at [pmaxon@bonterraconsulting.com](mailto:pmaxon@bonterraconsulting.com), with a subject line referencing the "Arroyo Seco Canyon Project".

Sincerely,  
BONTERRA CONSULTING

A handwritten signature in blue ink, appearing to read "Patrick Maxon".

Patrick O. Maxon, RPA  
Director, Cultural Resources

March 21, 2013

Mr. Samuel H. Dunlap  
Gabrielino Tongva Nation  
PO Box 86908  
Los Angeles, CA 90086

Subject: Arroyo Seco Canyon Project

Dear Mr. Dunlap:

BonTerra Consulting was been retained to complete a cultural resources study for the proposed Arroyo Seco Canyon Project located in the City of Pasadena, Los Angeles County, California. This project does not require a General or Specific Plan amendment or adoption; therefore, the project is not subject to the statutory requirements of Senate Bill 18 (Tribal Consultation Guidelines). However, as part of the background cultural resources research being conducted, this letter is to inform you of the proposed project and to request any relevant information you may have regarding cultural resources on or near the project site.

### **Location**

The project location is shown on the USGS *Pasadena, CA 7.5 Minute Quadrangle* in Township 1 and 2 South; Range 12 West (*S.B.B.M.*). Refer to attached exhibit.

### **Project**

The Arroyo Seco Canyon Project is a multi-purpose project that includes a diversion structure on the Arroyo Seco Creek to beneficially utilize water rights held by the City and the Lincoln Avenue Water Company, spreading basins capable of recharging the diverted water to replenish the local groundwater supply, naturalization of the Arroyo Seco Creek, and a new public restroom facility and amenities for those recreating in the Arroyo Seco Canyon area. Pasadena Water and Power (PWP) has received a portion of the Greater Los Angeles Region's Integrated Regional Water Management (IRWM) implementation grant from the State of California to design and construct this Project. Additional funding for this Project is also available through a Federal Emergency Management Agency (FEMA) grant to remove debris and repair roads and structures in the Arroyo Seco Canyon area.

### **NAHC Notification**

A Sacred Lands File Search conducted by the Native American Heritage Commission (NAHC) did not identify the presence of Native American cultural resources on either project site. The NAHC also provided BonTerra Consulting with a list of Native American individuals/organizations that may have knowledge of cultural resources in the project area. Your name and contact information was included on the list and serves as the basis for this letter.



Mr. Samuel H. Dunlap  
March 21, 2013  
Page 2

**Records Search**

A cultural resources records search was conducted at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton on on March 18, 2013 to evaluate the existing conditions of the project site; however, no recorded cultural resources were identified on the project site. A survey of the project site will be completed after the records search to identify any exposed cultural resources.

Your participation in this local planning process is important. If you have any additional knowledge of Native American Sacred Lands or other cultural resources on or near the study area, or any comment on the project, please contact me at your earliest convenience at (714) 444-9199 or via email at [pmaxon@bonterraconsulting.com](mailto:pmaxon@bonterraconsulting.com), with a subject line referencing the "Arroyo Seco Canyon Project".

Sincerely,  
BONTERRA CONSULTING

A handwritten signature in blue ink that reads "Patrick O. Maxon". The signature is fluid and cursive, with the first name being the most prominent.

Patrick O. Maxon, RPA  
Director, Cultural Resources

March 21, 2013

Mr. Anthony Morales  
Gabrieleno/Tongva San Gabriel Board of Mission Indians  
P.O. Box 693  
San Gabriel, CA 91778

Subject: Arroyo Seco Canyon Project

Dear Mr. Morales:

BonTerra Consulting was been retained to complete a cultural resources study for the proposed Arroyo Seco Canyon Project located in the City of Pasadena, Los Angeles County, California. This project does not require a General or Specific Plan amendment or adoption; therefore, the project is not subject to the statutory requirements of Senate Bill 18 (Tribal Consultation Guidelines). However, as part of the background cultural resources research being conducted, this letter is to inform you of the proposed project and to request any relevant information you may have regarding cultural resources on or near the project site.

### **Location**

The project location is shown on the USGS *Pasadena, CA 7.5 Minute Quadrangle* in Township 1 and 2 South; Range 12 West (*S.B.B.M.*). Refer to attached exhibit.

### **Project**

The Arroyo Seco Canyon Project is a multi-purpose project that includes a diversion structure on the Arroyo Seco Creek to beneficially utilize water rights held by the City and the Lincoln Avenue Water Company, spreading basins capable of recharging the diverted water to replenish the local groundwater supply, naturalization of the Arroyo Seco Creek, and a new public restroom facility and amenities for those recreating in the Arroyo Seco Canyon area. Pasadena Water and Power (PWP) has received a portion of the Greater Los Angeles Region's Integrated Regional Water Management (IRWM) implementation grant from the State of California to design and construct this Project. Additional funding for this Project is also available through a Federal Emergency Management Agency (FEMA) grant to remove debris and repair roads and structures in the Arroyo Seco Canyon area.

### **NAHC Notification**

A Sacred Lands File Search conducted by the Native American Heritage Commission (NAHC) did not identify the presence of Native American cultural resources on either project site. The NAHC also provided BonTerra Consulting with a list of Native American individuals/organizations that may have knowledge of cultural resources in the project area. Your name and contact information was included on the list and serves as the basis for this letter.



Mr. Anthony Morales  
March 21, 2013  
Page 2

### ***Records Search***

A cultural resources records search was conducted at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton on March 18, 2013 to evaluate the existing conditions of the project site; however, no recorded cultural resources were identified on the project site. A survey of the project site will be completed after the records search to identify any exposed cultural resources.

Your participation in this local planning process is important. If you have any additional knowledge of Native American Sacred Lands or other cultural resources on or near the study area, or any comment on the project, please contact me at your earliest convenience at (714) 444-9199 or via email at [pmaxon@bonterraconsulting.com](mailto:pmaxon@bonterraconsulting.com), with a subject line referencing the "Arroyo Seco Canyon Project".

Sincerely,  
BONTERRA CONSULTING



Patrick O. Maxon, RPA  
Director, Cultural Resources

March 21, 2013

Mr. John Tommy Rosas  
Tongva Ancestral Territorial Tribal Nation

**VIA EMAIL**  
**tattnlaw@gmail.com**

Subject: Arroyo Seco Canyon Project

Dear Mr. Rosas:

BonTerra Consulting was been retained to complete a cultural resources study for the proposed Arroyo Seco Canyon Project located in the City of Pasadena, Los Angeles County, California. This project does not require a General or Specific Plan amendment or adoption; therefore, the project is not subject to the statutory requirements of Senate Bill 18 (Tribal Consultation Guidelines). However, as part of the background cultural resources research being conducted, this letter is to inform you of the proposed project and to request any relevant information you may have regarding cultural resources on or near the project site.

**Location**

The project location is shown on the USGS *Pasadena, CA 7.5 Minute Quadrangle* in Township 1 and 2 South; Range 12 West (*S.B.B.M.*). Refer to attached exhibit.

**Project**

The Arroyo Seco Canyon Project is a multi-purpose project that includes a diversion structure on the Arroyo Seco Creek to beneficially utilize water rights held by the City and the Lincoln Avenue Water Company, spreading basins capable of recharging the diverted water to replenish the local groundwater supply, naturalization of the Arroyo Seco Creek, and a new public restroom facility and amenities for those recreating in the Arroyo Seco Canyon area. Pasadena Water and Power (PWP) has received a portion of the Greater Los Angeles Region's Integrated Regional Water Management (IRWM) implementation grant from the State of California to design and construct this Project. Additional funding for this Project is also available through a Federal Emergency Management Agency (FEMA) grant to remove debris and repair roads and structures in the Arroyo Seco Canyon area.

**NAHC Notification**

A Sacred Lands File Search conducted by the Native American Heritage Commission (NAHC) did not identify the presence of Native American cultural resources on either project site. The NAHC also provided BonTerra Consulting with a list of Native American individuals/organizations that may have knowledge of cultural resources in the project area. Your name and contact information was included on the list and serves as the basis for this letter.



Mr. John Tommy Rosas  
March 21, 2013  
Page 2

**Records Search**

A cultural resources records search was conducted at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton on on March 18, 2013 to evaluate the existing conditions of the project site; however, no recorded cultural resources were identified on the project site. A survey of the project site will be completed after the records search to identify any exposed cultural resources.

Your participation in this local planning process is important. If you have any additional knowledge of Native American Sacred Lands or other cultural resources on or near the study area, or any comment on the project, please contact me at your earliest convenience at (714) 444-9199 or via email at [pmaxon@bonterraconsulting.com](mailto:pmaxon@bonterraconsulting.com), with a subject line referencing the "Arroyo Seco Canyon Project".

Sincerely,  
BONTERRA CONSULTING



Patrick O. Maxon, RPA  
Director, Cultural Resources

March 21, 2013

Mr. Andrew Salas  
Gabrieleno Band of Mission Indians  
P.O. Box 393  
Covina, CA 91723

Subject: Arroyo Seco Canyon Project

Dear Mr. Salas:

BonTerra Consulting was been retained to complete a cultural resources study for the proposed Arroyo Seco Canyon Project located in the City of Pasadena, Los Angeles County, California. This project does not require a General or Specific Plan amendment or adoption; therefore, the project is not subject to the statutory requirements of Senate Bill 18 (Tribal Consultation Guidelines). However, as part of the background cultural resources research being conducted, this letter is to inform you of the proposed project and to request any relevant information you may have regarding cultural resources on or near the project site.

### **Location**

The project location is shown on the USGS *Pasadena, CA 7.5 Minute Quadrangle* in Township 1 and 2 South; Range 12 West (*S.B.B.M.*). Refer to attached exhibit.

### **Project**

The Arroyo Seco Canyon Project is a multi-purpose project that includes a diversion structure on the Arroyo Seco Creek to beneficially utilize water rights held by the City and the Lincoln Avenue Water Company, spreading basins capable of recharging the diverted water to replenish the local groundwater supply, naturalization of the Arroyo Seco Creek, and a new public restroom facility and amenities for those recreating in the Arroyo Seco Canyon area. Pasadena Water and Power (PWP) has received a portion of the Greater Los Angeles Region's Integrated Regional Water Management (IRWM) implementation grant from the State of California to design and construct this Project. Additional funding for this Project is also available through a Federal Emergency Management Agency (FEMA) grant to remove debris and repair roads and structures in the Arroyo Seco Canyon area.

### **NAHC Notification**

A Sacred Lands File Search conducted by the Native American Heritage Commission (NAHC) did not identify the presence of Native American cultural resources on either project site. The NAHC also provided BonTerra Consulting with a list of Native American individuals/organizations that may have knowledge of cultural resources in the project area. Your name and contact information was included on the list and serves as the basis for this letter.



Mr. Andrew Salas  
March 21, 2013  
Page 2

**Records Search**

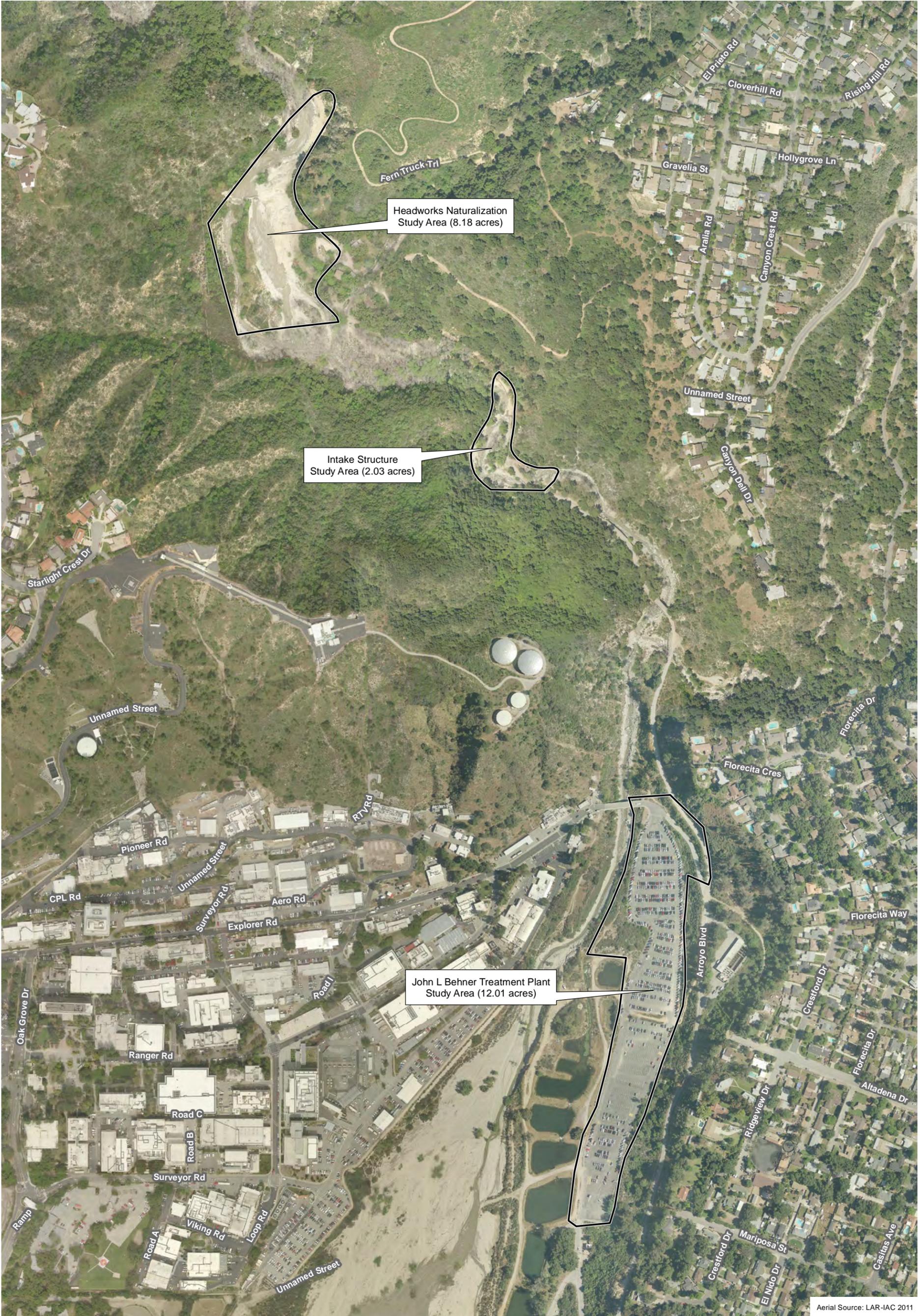
A cultural resources records search was conducted at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton on March 18, 2013 to evaluate the existing conditions of the project site; however, no recorded cultural resources were identified on the project site. A survey of the project site will be completed after the records search to identify any exposed cultural resources.

Your participation in this local planning process is important. If you have any additional knowledge of Native American Sacred Lands or other cultural resources on or near the study area, or any comment on the project, please contact me at your earliest convenience at (714) 444-9199 or via email at [pmaxon@bonterraconsulting.com](mailto:pmaxon@bonterraconsulting.com), with a subject line referencing the "Arroyo Seco Canyon Project".

Sincerely,  
BONTERRA CONSULTING

A handwritten signature in blue ink, appearing to read "Patrick Maxon".

Patrick O. Maxon, RPA  
Director, Cultural Resources



Headworks Naturalization Study Area (8.18 acres)

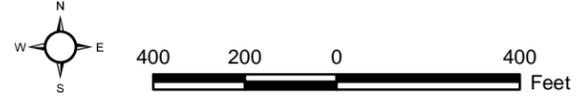
Intake Structure Study Area (2.03 acres)

John L Behner Treatment Plant Study Area (12.01 acres)

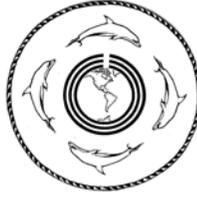
Aerial Source: LAR-IAC 2011

### Aerial View

Carollo J041



D:\Projects\Carollo\J041\MXD\Aerial\_11x17\_20130312.mxd



Gabrielino Tongva  
Indians of California  
POB 490, Bellflower, CA 90707  
[gtongva@verizon.net](mailto:gtongva@verizon.net)

Robert F. Dorame  
562-925-7989

April 3, 2013

Hi Pat:

Thanks for your call. It's always a pleasure to talk with you.

Here are my areas of concern for the proposed project you are working on:

1. In 1769, when Spanish occupation of California began, several villages of Indians were located along the Arroyo Seco along with other locations within this area of Pasadena.
2. The Sheldon Reservoir site is on Arroyo Blvd., three blocks south of Devil's Gate Dam and on the east side of the Arroyo Seco in Pasadena. In 1938, 53 native remains were uncovered and removed when the Pasadena Water Department was excavating to enlarge the reservoir. The remains were sent, on loan, to the "Museum" (possibly the County Natural History?) and were placed on exhibition. Diagram attached.
3. Hahamongna, a documented Indian village site is less than one mile due north of JPL's project site.
4. My great-grandmother lived and worked on San Pasqual Rancho in the 1870s and my grandmother, Clara, was born there 1884. The Rancho was adjacent to the current project site.

Please do not release the diagram for publication in any public document.

Thank you so much.

Robert F. Dorame

## **Appendix D**

### **Paleontological Resources Assessment (Roeder 2014)**

## Paleontological Resources Assessment

### Arroyo Seco Canyon Project



Prepared for

Inge Wiesema  
Carollo Engineers, Inc.  
199 South Los Robles Avenue, Suite 530  
Pasadena, California 91101

Prepared by

Mark A. Roeder  
Patrick O. Maxon, M.A., RPA  
BonTerra Psomas  
2 Executive Circle, Suite 175  
Irvine, California 92614  
T: (714) 444-9199 F: (714) 444-9599  
[www.BonTerraPsomas.com](http://www.BonTerraPsomas.com)

January 2014



**TABLE OF CONTENTS**

<b><u>Section</u></b>	<b><u>Page</u></b>
Management Summary.....	MS-1
<b>1.0 Introduction .....</b>	<b>1</b>
<b>2.0 Regulatory Setting .....</b>	<b>1</b>
2.1 State of California .....	1
2.1.1 California Environmental Quality Act (CEQA).....	1
2.2 City of Pasadena .....	2
<b>3.0 Paleontological Resources .....</b>	<b>2</b>
3.1 Geology .....	2
<b>4.0 Summary and Discussion .....</b>	<b>3</b>
4.1 Mitigation Measure .....	4
<b>5.0 Monitoring Methods.....</b>	<b>4</b>
<b>6.0 Curation .....</b>	<b>4</b>
<b>7.0 Certification .....</b>	<b>4</b>
<b>8.0 References.....</b>	<b>5</b>

**TABLES**

<b><u>Table</u></b>	<b><u>Page</u></b>
1 Rock Units by Area .....	3

**EXHIBITS**

<b><u>Exhibits</u></b>	<b><u>Follows Page</u></b>
1 Project Site and Vicinity .....	1
2 Geologic Map .....	2

**APPENDICES**

**Appendix**

A Personnel Qualifications

## MANAGEMENT SUMMARY

BonTerra Consulting<sup>1</sup> was retained in September 2012 by Carollo Engineers, Inc. to conduct a paleontological survey and assessment of the proposed Arroyo Seco Canyon Project in the City of Pasadena. On May 1, 2013, the proposed areas to be affected by the project were surveyed by BonTerra Consulting Senior Paleontologist Mark A. Roeder for paleontological resources. No paleontological resources were observed and it is recommended that paleontological monitoring be conducted only in areas where substantial excavation in area and depth is planned.

---

<sup>1</sup> Although BonTerra Consulting merged with Psomas and became “BonTerra Psomas” as of January 1, 2014, “BonTerra Consulting” is still used throughout this document for all work completed and documents produced before January 1, 2014.

## **1.0 INTRODUCTION**

The Arroyo Seco Canyon Project (Project) is a multi-purpose project that includes a diversion structure in Arroyo Seco Creek to beneficially utilize water rights held by the City and the Lincoln Avenue Water Company; spreading basins capable of recharging the diverted water to replenish the local groundwater supply; naturalization of Arroyo Seco Creek; and a new public restroom facility and amenities for those using the Arroyo Seco Canyon area for recreational purposes.

There are four areas that will be improved by the project (Refer to Exhibit 1):

- Area 1 (Arroyo Seco Headworks) is the northernmost area. It was heavily damaged by storms following the 2009 Station Fire and will be removed.
- Area 2 (Arroyo Seco Intake Structure), located approximately 0.3 mile downstream of the Headworks, was also damaged by storms following the Station Fire and the diversion and weir structures will be replaced.
- Area 3 (the Jet Propulsion Laboratory [JPL] East Parking Lot a) is approximately 0.15 mile downstream of Intake Structure. A recreational parking lot will be developed on a portion of the JPL parking lot that would be removed; additional spreading basins will be constructed, as will other elements, including a restroom.
- Area 4 (Temporary Staging Area) lies between Areas 2 and 3 and will serve as the staging area during construction.

This report presents the results of the paleontological field survey and assessment for the proposed Project.

This study was managed by BonTerra Psomas' Director of Cultural Resources, Patrick O. Maxon, M.A., RPA. The Paleontologist was BonTerra Psomas' Paleontologist, Mark A. Roeder, who performed the survey and prepared this report.

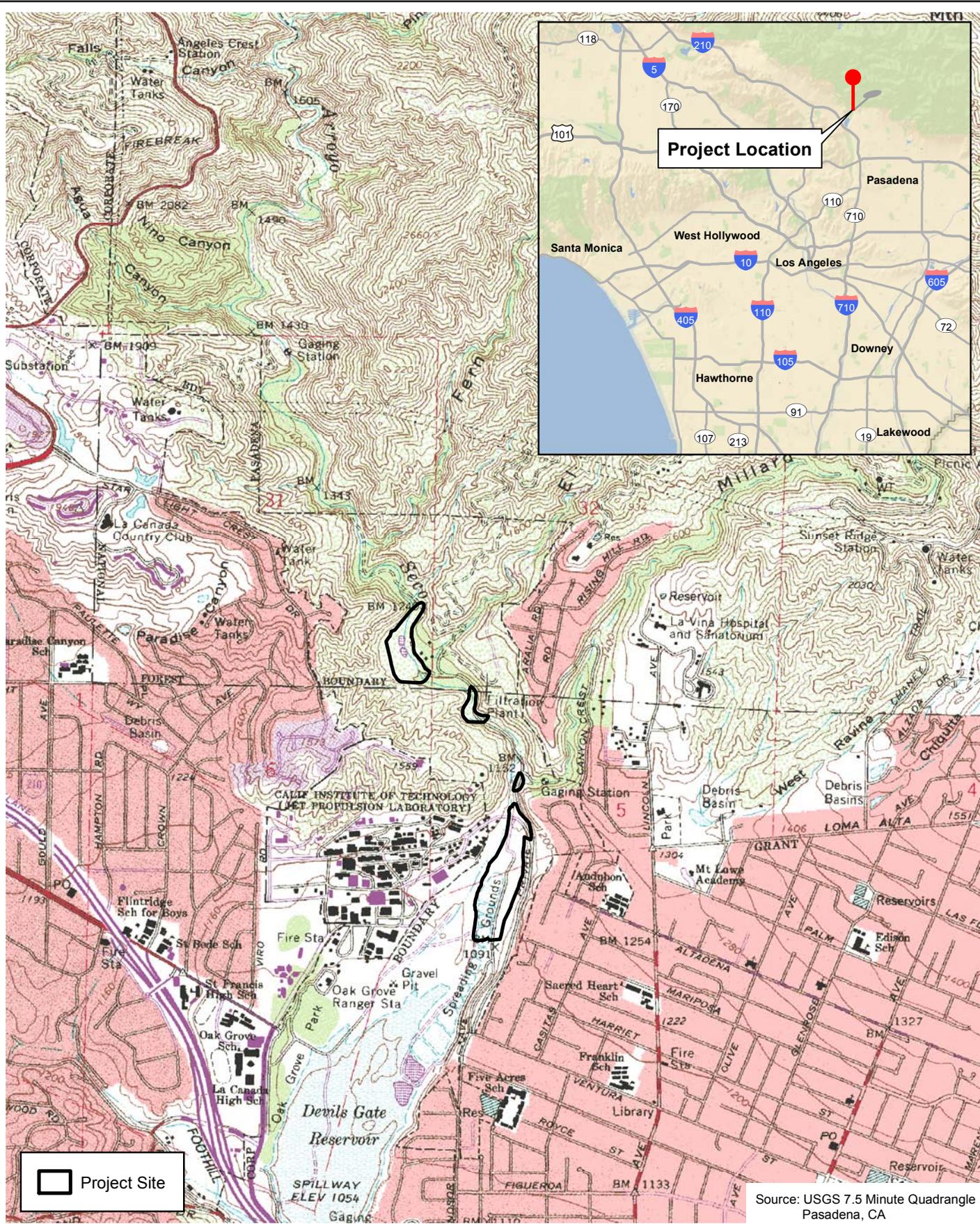
## **2.0 REGULATORY SETTING**

### **2.1 STATE OF CALIFORNIA**

#### **2.1.1 California Environmental Quality Act (CEQA)**

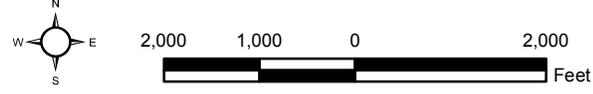
The California Environmental Quality Act (CEQA) Guidelines (Title 1, Chapter 3, *California Code of Regulations*, Sections 15000 et seq.) defines the procedures and types of activities required during the environmental review process; it also describes the persons and the public agencies to be consulted to comply with CEQA. In consideration of paleontological resources, the question to be answered in the Environmental Checklist (Appendix G, V. Cultural Resources, Question C) is "Would the project directly or indirectly destroy a unique paleontological resources or site or unique geologic feature?"

Section 21081.6 (a)(1) of the *California Public Resources Code* requires all State and local agencies to establish monitoring and reporting programs when approval of a project relies upon a Mitigated Negative Declaration (MND). The monitoring and reporting program must ensure implementation of the measures being imposed to mitigate or avoid the significant adverse environmental impacts identified in the MND. The mitigation measures will be implemented by the project applicant to mitigate or avoid potentially significant impacts to potentially sensitive



# Project Site and Vicinity

Arroyo Seco Canyon Project



# Exhibit 1



D:\Projects\Carollo\041\MXD\Cultural\ex1\_RL\_USGS.mxd

paleontological resources, among other impacts, due to the improvements proposed by the Arroyo Seco Canyon Project.

## 2.2 CITY OF PASADENA

Objective 19 in the Land Use Element of the *City of Pasadena Comprehensive General Plan* (2004) aims to “Protect and enhance areas of the city containing important biological resources; protect and minimize disturbance of any important paleontological and/or archaeological resource that many remain in the City”.

Policy 19.3 of the General Plan states (Pasadena 2004):

Project proponents proposing substantial grading or earthmoving in areas that might contain important paleontological and/or archaeological resources shall conduct a pre-excavation field assessment and literature search to determine the potential for disturbance of paleontological and/or archaeological resources. If warranted, grading and other earthmoving activities shall be monitored by a qualified professional who, if necessary, shall undertake salvage and curation. Any paleontological or archaeological resources recovered shall be treated according to applicable State and federal regulations.

## 3.0 PALEONTOLOGICAL RESOURCES

### 3.1 GEOLOGY

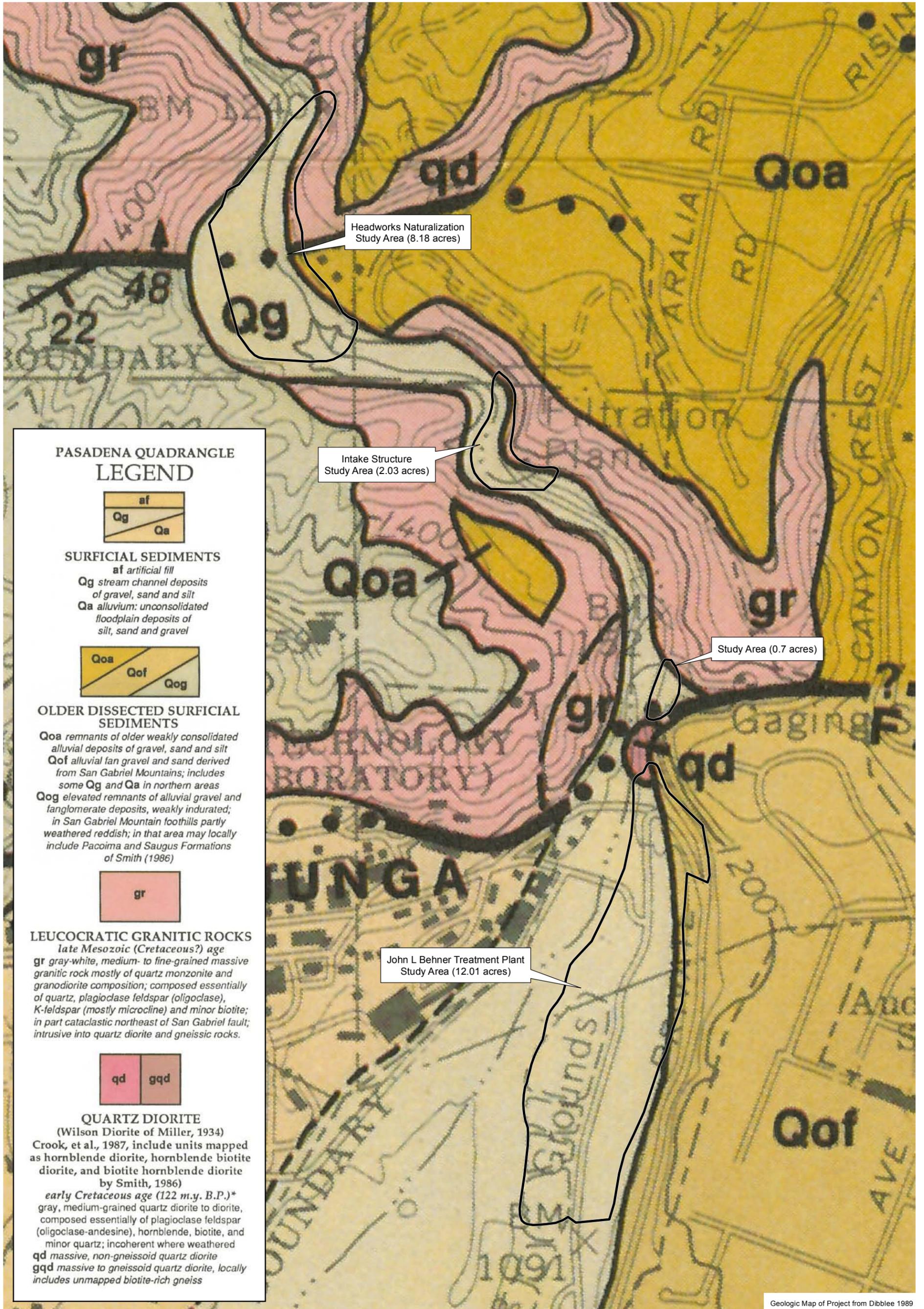
The Arroyo Seco area of Pasadena is located at the boundary between two Southern California geomorphic provinces: the Los Angeles Basin and San Gabriel Valley. According to the Geological Report for the Pasadena General Plan (Earth Consultants International 2002):

The San Gabriel Valley is composed of alluvial fan sediments that have a range of ages coincident with the rise of the San Gabriel Mountains. Because the fans were built up naturally with sediments shed from the mountains, their composition reflects the rocks eroded by various streams. Most of Pasadena is underlain by older alluvium consisting of unconsolidated gravel, sand, silt and clay containing boulders of granitic rock from the mountains to the north and west that form the upland portion of the City.

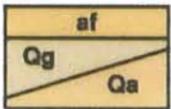
The proposed project area is underlain by several geological rock units (Dibblee 1989). The following sections on the formations present in the four areas (Exhibit 1 above) discuss the project site’s outcrop area, lithology, age, and paleontological sensitivity. Table 1 lists the rock unit present by project area and structure. Exhibit 2 depicts the area’s geology.

**Quartz Diorite (qd):** Present on the northern boundary and central portion of the study area, the quartz diorite consists of gray-white, medium- to coarse-grained, massive granitic rock made up of mostly quartz monzonite and granodiorite (Dibblee 1989). These rocks are early Cretaceous in age (about 122 million years old) and formed from cooling of magma at depth. Because of its igneous origin, there is no potential to yield paleontological resources.

**Leucocratic Granitic Rocks (gr):** Present on the central portion of the study area, these rocks consist of massive, non-gneisoid quartz diorite (Dibblee 1989). These rocks are of late Cretaceous age (about 105 million years ago) and were formed from cooling of magma at depth. Because of their igneous origin, they have no potential to yield paleontological resources.



**PASADENA QUADRANGLE  
LEGEND**



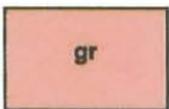
**SURFICIAL SEDIMENTS**

- af** artificial fill
- Qg** stream channel deposits of gravel, sand and silt
- Qa** alluvium: unconsolidated floodplain deposits of silt, sand and gravel



**OLDER DISSECTED SURFICIAL  
SEDIMENTS**

- Qoa** remnants of older weakly consolidated alluvial deposits of gravel, sand and silt
- Qof** alluvial fan gravel and sand derived from San Gabriel Mountains; includes some Qg and Qa in northern areas
- Qog** elevated remnants of alluvial gravel and conglomerate deposits, weakly indurated; in San Gabriel Mountain foothills partly weathered reddish; in that area may locally include Pacoima and Saugus Formations of Smith (1986)



**LEUCOCRATIC GRANITIC ROCKS**

- late Mesozoic (Cretaceous?) age*
- gr** gray-white, medium- to fine-grained massive granitic rock mostly of quartz monzonite and granodiorite composition; composed essentially of quartz, plagioclase feldspar (oligoclase), K-feldspar (mostly microcline) and minor biotite; in part cataclastic northeast of San Gabriel fault; intrusive into quartz diorite and gneissic rocks.



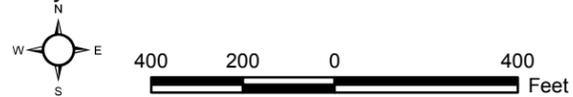
**QUARTZ DIORITE**

- (Wilson Diorite of Miller, 1934)
- Crook, et al., 1987, include units mapped as hornblende diorite, hornblende biotite diorite, and biotite hornblende diorite by Smith, 1986)
- early Cretaceous age (122 m.y. B.P.)\**
- gray, medium-grained quartz diorite to diorite, composed essentially of plagioclase feldspar (oligoclase-andesine), hornblende, biotite, and minor quartz; incoherent where weathered
- qd** massive, non-gneissoid quartz diorite
- gqd** massive to gneissoid quartz diorite, locally includes unmapped biotite-rich gneiss

Geologic Map of Project from Dibblee 1989

**Geologic Map**

Arroyo Seco



**Exhibit 2**



**TABLE 1  
ROCK UNITS BY AREA**

Rock Units	qd	gr	Qoa	Qof	Qg
<b>Project Area</b>					
JPL Parking Lot				X	X
Staging Area		X			
Intake Structure		X			X
Headworks		X	X		X
qd: quartz diorite; gr: leucocratic granitic rocks; Qoa: quaternary older alluvium fan; Qof: quaternary older alluvial fan sediments; Qg: quaternary stream deposits; X: Presence of rock formation.					

**Quaternary Older Alluvium Fan (Qoa):** Present in the northern portion of the study area, the Quaternary older alluvium consists of remnants of older, weakly consolidated alluvial deposits of cobbles, gravel, sand, and silt. These sedimentary rocks are older Late Pleistocene in age. Because the sediments are not as coarse as the Qof-Quaternary older alluvial fan sediments and because they were probably deposited in a lower energy environment, they have moderate potential to yield paleontological resources.

**Quaternary Older Alluvial Fan Sediments (Qof):** Present in the southern portion of the study area, the Quaternary older alluvial fan sediments consist of cobbles, gravel, and sand derived from the San Gabriel Mountains. These sedimentary rocks are Late Pleistocene in age. Because the sediments are very coarse and because they were probably deposited in a high energy environment, they have a low potential to yield paleontological resources.

**Quaternary Stream Deposits (Qg):** Present in the modern stream course of Arroyo Seco, these late Holocene to Recent age sediments, which become older in age with increasing depth, consist of boulders, cobbles, sand, and silt. Because of their youthfulness and high energy environment of deposition, these sediments have a low potential to yield paleontological resources.

**4.0 SUMMARY AND DISCUSSION**

The records search conducted at the Vertebrate Paleontology Section of the Natural History Museum of Los Angeles did not identify any previously recorded paleontological resources within the study area (McLeod 2013). In addition, the literature search and field survey did not identify any paleontological resources on the surface in the project area. Although the records search did not identify previously known paleontological resources, the report states that “these latter sedimentary deposits [younger Quaternary fluvial in origin] do not contain significant vertebrate fossils, at least in the uppermost layers, but underlying older Quaternary fluvial deposits may well contain significant vertebrate fossils” (McLeod 2013). Shallow excavations in conjunction with the construction of the proposed facilities above five feet in depth need not be monitored for paleontological resources, but deeper excavations, especially in the Quaternary older alluvium (Qoa) and Quaternary older fan deposits (Qof), should be monitored.

Igneous rocks, because of their granitic origin, need not be monitored.

#### 4.1 MITIGATION MEASURE

The following measure would mitigate adverse impacts to paleontological resources and should be implemented before and during grading activities.

**MM 1** Prior to issuance of a grading permit, a qualified Paleontologist (one with training in the recognition of paleontological resources) shall be retained to observe grading activities and to conduct salvage excavation of paleontological resources as necessary. The Paleontologist shall be present at the pre-grading conference; shall establish procedures for paleontological resources surveillance; and shall establish, in cooperation with the contractor, procedures for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of any fossils discovered as appropriate. If paleontological resources are discovered, the Paleontologist shall report such findings to the City of Pasadena. If the paleontological resources are found to be significant, the Paleontologist shall determine appropriate actions, in cooperation with the City, for exploration and/or salvage. These actions, as well as final mitigation and disposition of the resources, shall be subject to the approval of the City. All recovered fossils shall be deposited in an accredited institution or museum, such as the Natural History Museum of Los Angeles County.

#### 5.0 MONITORING METHODS

Paleontological monitoring must be undertaken as deemed necessary, especially in the quaternary older alluvium (Qoa), during earth-moving activities for the Project consistent with MM 1. The Paleontologist or Paleontological Monitor shall maintain daily communication with the site's Superintendent to determine when monitoring is necessary. During monitoring, the Monitor shall be present in safe proximity to construction equipment and shall observe trenching, grading, and sediment removal as appropriate. The Monitor shall be authorized to halt or divert grading equipment from the immediate vicinity of any discovery until its evaluation. The Monitor shall maintain daily field notes of all activities.

#### 6.0 CURATION

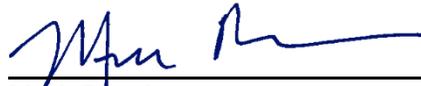
If paleontological resources are recovered during ground-disturbing activities associated with construction, fossils and their accompanying field notes, photographs, maps, and the final report must be deposited at an accredited museum such as the Natural History Museum of Los Angeles County.

#### 7.0 CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this paleontological report, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

DATE: January 2014

SIGNED:



Mark Roeder  
Senior Paleontologist



Patrick O. Maxon, M.A., RPA  
Director, Cultural Resources

## 8.0 REFERENCES

Dibblee, T.W., Jr.

- 1989 Geologic Map of the Pasadena Quadrangle, Los Angeles County, California (Dibblee Geology Center Map No. DF-23). Santa Barbara Museum of Natural History.

Earth Consultants International

- 2002 *Report to the Safety Element of the General Plan*. Pasadena, California.

McLeod, S.A.

- 2013 Paleontological Resources for the proposed John L. Behner Treatment Plant areas Project, in the Arroyo Seco area adjacent to Altadena, Los Angeles County, project area (Unpublished letter on file at BonTerra Psomas, Irvine).

Pasadena, City of.

- 2004 *City of Pasadena Comprehensive General Plan*. Pasadena, California.

**APPENDIX A**  
**PERSONNEL QUALIFICATIONS**

# Mark A. Roeder

Paleontologist

## EDUCATION

1977 / Bachelor of Arts /  
Anthropology, San Diego State  
University, CA

## PROFESSIONAL REGISTRATION

Registered Paleontologic  
Consultant, County of Orange, CA

Mark A. Roeder has more than 30 years of experience as a Paleontologist and Paleontological Consultant. He has extensive experience with National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) compliance and with conducting and managing of paleontological resource impact assessments and impact mitigation programs for large construction projects in California. Project experience includes municipal solid waste landfills; aggregate quarries; flood control facilities; oil refineries; natural gas pipelines; freeways and other roadways; subways; waste water treatment facilities; housing developments; planned communities; office buildings/complexes; shopping centers; hospitals and medical centers; industrial complexes; parking lots/structures; land exchanges; and conditional use permit and specific plan revisions. He has worked for various clients including private industry clients; public utilities; conservancies; and federal, State, county, city, and regional agencies. Mr. Roeder has conducted paleontological resource assessments, which involve data searches (e.g., literature reviews, archival searches, field surveys, consultation with other paleontologists), in order to develop baseline inventories, evaluate the scientific importance of resources and potential for disturbance by adverse, project-related impacts, and formulate mitigation measures to reduce these impacts to less than significant level. Mr. Roeder has worked on paleontological resource impact mitigation programs that have required monitoring of earth-moving activities, recovery of fossil remains, supervision of field personnel, and preparation of progress and final reports. His previous project participation has involved extensive coordination and consultation with project proponents, other consulting firms, and permitting agencies; adherence to strict delivery schedules; and completion of tasks within specified budget limits. Mr. Roeder also has an extensive paleontological research background in the fish faunas of Cenozoic marine and lacustrine formations of Southern California. His research entailed literature reviews, archival searches, field surveys, and consultation with other paleontologists.

## Experience

### *Field Supervisor, BonTerra Consulting, Riverside & Various Counties.*

As a current field supervisor for BonTerra Consulting, Mr. Roeder has performed a variety of paleontological studies including survey of large and small tracts, monitoring of grading, and production of paleontological resources technical studies in Riverside, Orange, Los Angeles, and Kern Counties. Mr. Roeder recently completed a Paleontological Resource Impact Mitigation Program (PRIMP) for the Wakunaga development project in Riverside County.

***Field Supervisor, Chambers Group, Inc., Riverside & Various Counties.*** Mr. Roeder serves as a Field Supervisor for paleontological resources assessments for major construction projects in Orange, Riverside, and San Bernardino Counties. He has also supervised paleontological resource impact mitigation programs for OC Waste and Recycling (formerly the County of Orange Integrated Waste Management Department), SunCal Homes, and other clients.

***Field Supervisor, L & L Environmental, Inc., Riverside & Various Counties.*** As a Field Supervisor for L & L Environmental, Inc., Mr. Roeder has participated in paleontological resources assessments for major construction projects in Riverside and San Bernardino Counties. He has also supervised paleontological resource impact mitigation programs for Empire Homes, Forecast Homes, Lennar Homes, Pulte Homes, and the Inland Empire Utilities Agency. In 2005, Mr. Roeder participated in the Riverside County Lamb Canyon Landfill Expansion Study.

***Paleontological Consultant, Heritage Resource Consultants, Riverside County.*** Mr. Roeder served as a Paleontological Consultant for Heritage Resource Consultants. He participated in paleontological resources impact assessments for major construction projects in Riverside County.

***Field Supervisor, TRC Companies, Inc., Irvine.*** Mr. Roeder is a Field Supervisor for TRC Companies, Inc. He participates in paleontological resource assessments for major construction projects in Orange, Kern, and Los Angeles Counties.

***Field Supervisor, SWCA Environmental Consultants, Inc., Mission Viejo.*** As a Field Supervisor for SWCA Environmental Consultants, Inc., Mr. Roeder has participated in a paleontologic resource assessment for a major construction project in Kern County. He has also supervised paleontological resources impact mitigation programs for projects in Los Angeles and Orange Counties.

***Field Supervisor, Paleo Environmental Associates, Inc., Costa Mesa.*** Mr. Roeder is a Field Supervisor for Paleo Environmental Associates, Inc. He has participated in paleontological resources assessments for major construction projects in Southern and Central California. He has also supervised paleontological resources impact mitigation programs for major construction projects in Southern California, including the Simi Valley, Puente Hills, Santiago Canyon, Brea/Olinda, Prima Deshecha, and Coyote Canyon Landfills; the Metro Rail Red Line Segments 1, 2, and 3; and Foothill Ranch projects.

***Paleontological Consultant, Paleontological Services, Inc., San Diego Natural History Museum, San Diego County.*** As a Paleontological Consultant, Mr. Roeder participates in paleontological resources assessments and impact mitigation programs for major construction projects in San Diego County.

***Paleontologist, Engineering-Science, Inc., Pasadena.*** As a Paleontologist, Mr. Roeder supervised the paleontological resources impact mitigation program for the Simi Valley Landfill expansion in Ventura County.

Mark A. Roeder  
(Continued)

*Technician, San Bernardino County Museum, Redlands.* Mr. Roeder was an Assistant and Technician for the San Bernardino County Museum. He participated in paleontological resources assessments and impact mitigation programs for major construction projects in Southern California.

*Paleontological Consultant, Archaeological Advisory Group, Newport Beach.* Mr. Roeder served as a Paleontological Consultant for Archaeological Advisory Group. He managed the paleontological resources impact mitigation program for the Coyote Canyon Landfill in Orange County.

## **Appendix E**

### **Historic Resources Assessment Report (Daly 2014)**

# **HISTORIC RESOURCES ASSESSMENT REPORT**

**Of**

## **Arroyo Seco Canyon Project City of Pasadena Water and Power Department Pasadena, Los Angeles County, CA**

**(Section 5, Township 1 North, Range 12 West, and  
Section 31 and 32, Township 2 North, Range 12 West  
San Bernardino Base and Meridian)**

Prepared for:  
BonTerra Psomas  
2 Executive Circle, Suite 175  
Irvine, CA 92614

Prepared by  
Pamela Daly, M.S.H.P.  
Daly & Associates  
4486 University Avenue  
Riverside, CA 92501



**January 2014**

---

## EXECUTIVE SUMMARY

---

This assessment report documents and evaluates the federal, state, and local significance and eligibility of the built-environment properties located within the proposed Arroyo Seco Canyon Project Area-of-Potential-Effect (APE) Areas 1, 2, 3, and Temporary Staging Area. The APEs are connected by a road (Gabrielino Trail/Arroyo Boulevard) and situated between Areas 2 and 3 are Bridges No. 1, and 2. Bridge No. 3, headworks, water diversion structures, intake structures, and sludge and spreading basins, are located within specific APEs. The collection of built-environment resources in the APE are owned and maintained by the City of Pasadena Department of Water and Power.

The historic resource assessment and evaluation of the built-environment properties located in the APE was conducted by Pamela Daly, M.S.H.P., Senior Architectural Historian. In order to identify and evaluate the subject area, and to determine the Projects effects on historic properties, a multi-step methodology was utilized. An inspection of the Upper Arroyo Seco and existing structures, combined with a review of local and regional historic archives regarding the three Project APEs and Upper Arroyo Seco, was performed to document existing conditions and assist in assessing and evaluating the historic properties/historical resources for significance.

The structures identified in this study are not currently listed, individually or collectively, in either the National Register of Historic Places (National Register) or the California Register of Historical Resources (California Register). In evaluating the historic significance of the structures located within the APEs, federal, state, and local criteria were applied.

The Pasadena Department of Water and Power acquired exclusive water rights to the Arroyo Seco in 1925. Water diversion and control structures such as the headworks, water diversion structure, intake system, spreading basins, began to be constructed in the canyon in 1932. Bridge No. 1 and 2 appear to date from the 1920s when Arroyo Boulevard was paved for use as a county highway, while Bridge No. 3 was constructed in 1939 by the Civilian Conservation Corps to replace an earlier bridge destroyed in the flood of 1938. Over the years, floods and other high water events have caused permanent damage to water diversion structures in the canyon, and some were replaced as needed.

Area 1: These types of headwork configurations have been in use for hundreds of years. The fact that this headwork has been manually operated for over 50 years points to its design longevity and ease of operation. The headworks is not a significant engineering or technological structure.

Area 2: Due to the extensive damage suffered by the diversion dam and intake system, the water diversion and control structures in Area 2 have lost their physical integrity of design, workmanship, and materials. Water diversion systems such as these have been in use for many years and usually do not present significant engineering or technological innovation.

Bridge No. 3 was constructed in 1939 by the CCC Company 903 assigned to the USFS, a team from the local CCC that had been working on various projects in the Arroyo Seco Canyon and San Gabriel Mountains since 1933. Besides the bridge, the Arroyo Seco through this section and south to Bridge No. 2 is lined with river rock masonry walls, which were most probably constructed by the CCC at the same time as Bridge No 3. Bridge No. 3 was designed using one of the oldest truss-bridge forms, is constructed of wood timbers, and was constructed by a group that is associated with events that made a significant contribution to the history of the United States and California. Bridge No. 3 appears to a property that meets the criterion to be listed in the National Register under criterion A and C, and in the California Register under criterion 1 and 3.

Area 3: The sludge and spreading basins, water diversion structures, and water conduits situated in Area 3 were all designed using common engineering techniques for moving, diverting, and controlling water. In an effort to protect lives and property, and to capture runoff from the western slopes of the San Gabriel Mountains, many water diversion structures are located not only in the Upper Arroyo Seco, but throughout the canyons in Los Angeles County. The spreading basins, sludge basins, and water diversion structures in Area 3 are not significant engineering or technically innovative structures.

Bridge No.1 is situated on the Gabrielino Trail/Arroyo Boulevard, between APE Areas 2 and 3. Bridge No. 1 was constructed in 1939 to carry Arroyo Boulevard over the runoff from Millard Canyon Creek, before the creek intersects with the Arroyo Seco creek. The bridge slab was replaced in 1979 with a similar reinforced concrete span. Bridge No. 1 does not appear eligible for listing in the National Register, California Register, or as a City of Pasadena landmark.

Bridge No. 2 is situated on the Gabrielino Trail/Arroyo Boulevard, between APE Areas 2 and 3. This reinforced, poured-concrete arch bridge may have been constructed in the 1920s when Arroyo Boulevard was paved for use as a county highway. It has distinctive decorative elements such as the urn-shaped cast concrete balustrade railings, bas-relief panels below the balusters on the stream sides of the bridge, and the arched support structure, that would not be found on a utility road for service vehicles. The bridge appears to have been constructed to provide a formal entrance to the Upper Arroyo Seco forest and the Arroyo Boulevard. Stone masonry walls that line the east side of the creek at Bridge 3 continue downstream to be present at Bridge 2. Bridge No. 2 appears to a property that meets the criterion to be listed as a historical resource in the California Register under criterion C, and in the City of Pasadena as a landmark under criterion a and c.

This study identified a total of two individually eligible historic properties (Bridge No. 2 and Bridge No. 3), and associated features, that appear to be eligible for National or California Register inclusion and may also be considered historical resources for purposes of CEQA. The Project will have No Adverse Effect on the two historic properties.

A series of specific mitigation measures are presented that are designed to avoid and minimize adverse direct and/or indirect effects to historic properties/historical resources that may be affected by the proposed Project.

---

## TABLE OF CONTENTS

---

I. INTRODUCTION .....	1
A. Project Description .....	1
B. Project Components .....	4
1. Area 1 .....	4
2. Area 2 .....	5
3. Area 3 .....	6
4. Temporary Staging Area .....	7
5. Bridges .....	8
C. Background Information .....	12
D. Methodology .....	12
II. REGULATORY FRAMEWORK.....	14
A. Federal Level .....	14
1. National Register of Historic Places .....	14
B. State Level.....	17
1. California Register of Historical Resources .....	17
2. California Office of Historical Preservation Survey Methodology.....	19
C. Local Level.....	19
1. City of Pasadena - Criteria for Designation of Historic Resources.....	19
2. City of Pasadena Municipal Code: Arroyo Seco Lands Ordinance.....	21
3. City of Pasadena – Arroyo Seco Master Plan .....	22
4. Arroyo Seco Master Plan – Arroyo Seco Design Guidelines .....	23
III. EVALUATION .....	25
A. Historic Context .....	25
1. Pasadena .....	25
B. Historic Resources Identified .....	36
1. Area 1 - Headworks.....	37
2. Area 2 – Diversion Weir and Intake Structures .....	38
3. Area 3 – JPL Parking Lot, Spreading Basin and Spillway .....	42
4. Bridges 1 and 2.....	43
C. Significance .....	45
1. Water Conveyance Structures .....	45
2. Bridges No. 1, 2, and 3 .....	46
IV. RECOMMENDATIONS AND MITIGATION.....	52
IV. BIBLIOGRAPHY .....	53
A. Publications.....	53
B. Public Records, Prior Reports, Other .....	54

## Figures

Figure 1: Regional Project Location

Figure 2: The Project Areas located on Arroyo Boulevard in Arroyo Seco Canyon.

Figure 3: Area 1 – Headworks

Figure 4: Area 2 – Intake structure, Bridge 3, stone walls

Figure 5: Area 3 – JPL parking lot and adjacent spreading basins

Figure 6: Plat map of Arroyo Seco Canyon 1880

Figure 7: Arroyo Seco Canyon road 1896

Figure 8: Millard Canyon 1887

Figure 9: An outing into one of the canyons of Pasadena, circa 1885

Figure 10: U.S. Government Plat Map of 1904

Figure 11: Pasadena and Vicinity Automobile Road Map 1920

Figure 12: Teddy's Outpost circa 1914

Figure 13: Sections 31 and 32 of U.S.G.S Altadena Quad map 1924

Figure 14: Plat map prepared by the U.S. Government in 1933

Figure 15: Aerial view of the Arroyo Seco Canyon Project

Figure 16: Headworks in Area 1

Figure 17: Location on Arroyo Seco creek in Area 2 where the diversion weir had been located

Figure 18: Location of diversion weir and intake system on Arroyo Seco creek in 1932

Figure 19: Commemorative marker located at the southeast corner of Bridge No. 3

Figure 20: Bridge No. 3, A-frame or King-post truss bridge

Figure 21: River rock stone wall on the east side of Arroyo Seco from Bridge No. 3

Figure 22: Bridge No. 1, concrete slab bridge crossing Millard Creek.

Figure 23: Bridge No. 2, concrete arch bridge crossing Arroyo Seco creek

---

## I. INTRODUCTION

---

### A. PROJECT DESCRIPTION

The Arroyo Seco Canyon Project (Project) is located on land located within the legal boundary of the City of Pasadena. (Figure 1) The Arroyo Seco is a perennial creek, which means there is water generally flowing all year-round but the flow is below ground level in some places. The Project site is located within the Arroyo Seco Watershed, which is a sub-watershed of the larger Los Angeles River Watershed. The Arroyo Seco creek originates in the San Gabriel Mountains near Red Box Gap in the Angeles National Forest and continues to flow south through the Devils Gate Dam into the Arroyo Seco Channel that runs through the cities of Pasadena, South Pasadena and Los Angeles, before joining the Los Angeles River just east of Elysian Park and west of the Interstate 5 (I-5)/I-110 Interchange.

In Pasadena, the Arroyo Seco passes through three distinct recreational areas in the City of Pasadena: (1) Upper Arroyo Seco, containing the Hahamongna Watershed Park and Devil's Gate Dam; (2) Central Arroyo, containing the Brookside Golf Course and Rose Bowl between I-210 to the north, and Colorado Boulevard to the south; and (3) Lower Arroyo Seco, south of Colorado Boulevard containing Lower Arroyo Park and Memorial Grove Park. The Project proposes new facilities and improvements within the Upper Arroyo Seco area on land owned by the City of Pasadena.

The Project area can be accessed via Interstate 210 (I-210), exiting Windsor Avenue and traveling northward for approximately 0.8-mile to the surface parking at the intersection of Mountain View and Windsor Avenue. From this public parking area, the JPL East Parking Lot is located approximately 0.25-mile northward along Arroyo Seco Road. The Arroyo Seco creek winds northward for approximately 1.2 miles until it reaches the southern boundary of the Angeles National Forest land.

The Project site consists of three primary areas: Area 1- Arroyo Seco Headworks; Area 2- Arroyo Seco Intake; and Area 3- JPL East Parking Lot. These three areas are connected together by the Gabrielino Trail, which serves as a recreational trail as well as the access road for City and United States Forest Service (USFS) vehicles heading into the Arroyo Seco Canyon.

The Arroyo Seco is an important source of water supply for the City of Pasadena. The City of Pasadena Department of Water and Power (PWP) owns the right to divert up to 25 cubic feet per second (cfs) of surface water from the Arroyo Seco and its tributaries into the City's spreading basins located along the east side of the Devil's Gate Reservoir, upstream of Devil's Gate Dam. An additional 7 cfs of surface water rights from Millard Creek, which is a tributary to the Arroyo Seco, are held by the Lincoln Avenue Water Company (LAWC). PWP and LAWC use the surface water to recharge the underlying Monk Hill Sub-basin (a sub-aquifer of the Raymond Basin) for groundwater well extraction.

PWP currently operates several structures in the Arroyo Seco Canyon that capture and convey stream water to a series of groundwater recharge basins that are located adjacent to the National Aeronautics and Space Administration's (NASA's) Jet Propulsion Laboratory (JPL). These facilities include the Arroyo Seco Headworks structure and adjacent sedimentation basins, the Arroyo Seco Intake Dam, and the associated pipelines that convey water to the existing spreading basins. A large number of these facilities were entirely or severely damaged due to debris flows in 2010 subsequent to the 2009 Station Fire.

The PWP's long-term sustainable strategy involves the consolidation of the diversion structures and sediment management in one location at the base of the canyon. This would simplify sediment management and maintenance activities that are currently constrained by difficult access provided by canyon roads. Instead of reconstructing the damaged Headworks structure on the Arroyo Seco creek and the intake structure at Millard Creek, the Project would only replace the diversion and intake structures on the Arroyo Seco creek, allowing for capture of up to 32 cfs into the spreading basins and the bypass of debris and sediment during high flows.

The Project consists of three primary demolition and construction activity areas along the path of the creek in the Upper Arroyo Seco:

- Area 1- Arroyo Seco Headworks;
- Area 2- Arroyo Seco Intake; and
- Area 3- JPL East Parking Lot.

These three areas are connected together by a linear built-environment structure that is formally identified on the most current U.S. Geologic Survey (USGS) Pasadena quad map published in 1995 as "Arroyo Boulevard." (Figure 2) Since the late 19<sup>th</sup> century, there has been a road leading northward from the area of Devils Gate, into the Arroyo Seco Canyon. A historic map of the area dating to 1883, shows that a road leading into Arroyo Seco Canyon and to Millard Canyon.<sup>1</sup> In the early 1920s, the road into Arroyo Canyon was paved as far north as Oak Wilde on the way to Switzer's Camp as was designated as a state highway. Today the abandoned roadway serves as a recreational trail as well as the access road for City, County, and USFS vehicles leading into the Arroyo Seco Canyon. The abandoned roadway was made part of the new National Recreational Trail named the Gabrielino Trail created by the USFS in 1970.

---

<sup>1</sup> "Map of Pasadena" dated 1883. Accession No. 4.2-1, PHM 078; on-file at the Pasadena Museum of History.

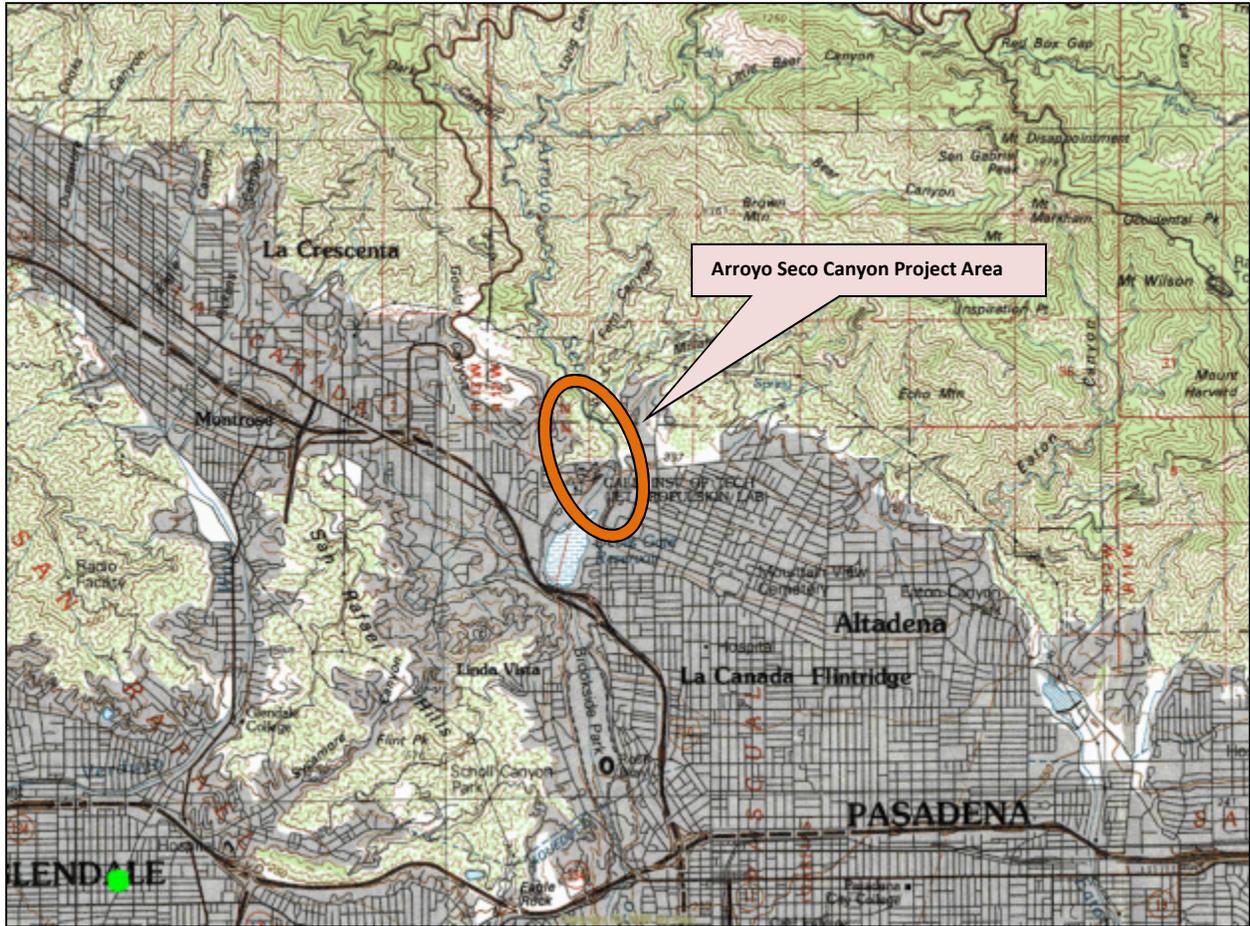


Figure 1: Regional Project Location  
(U.S.G.S. Los Angeles Quad, 1:100,000)

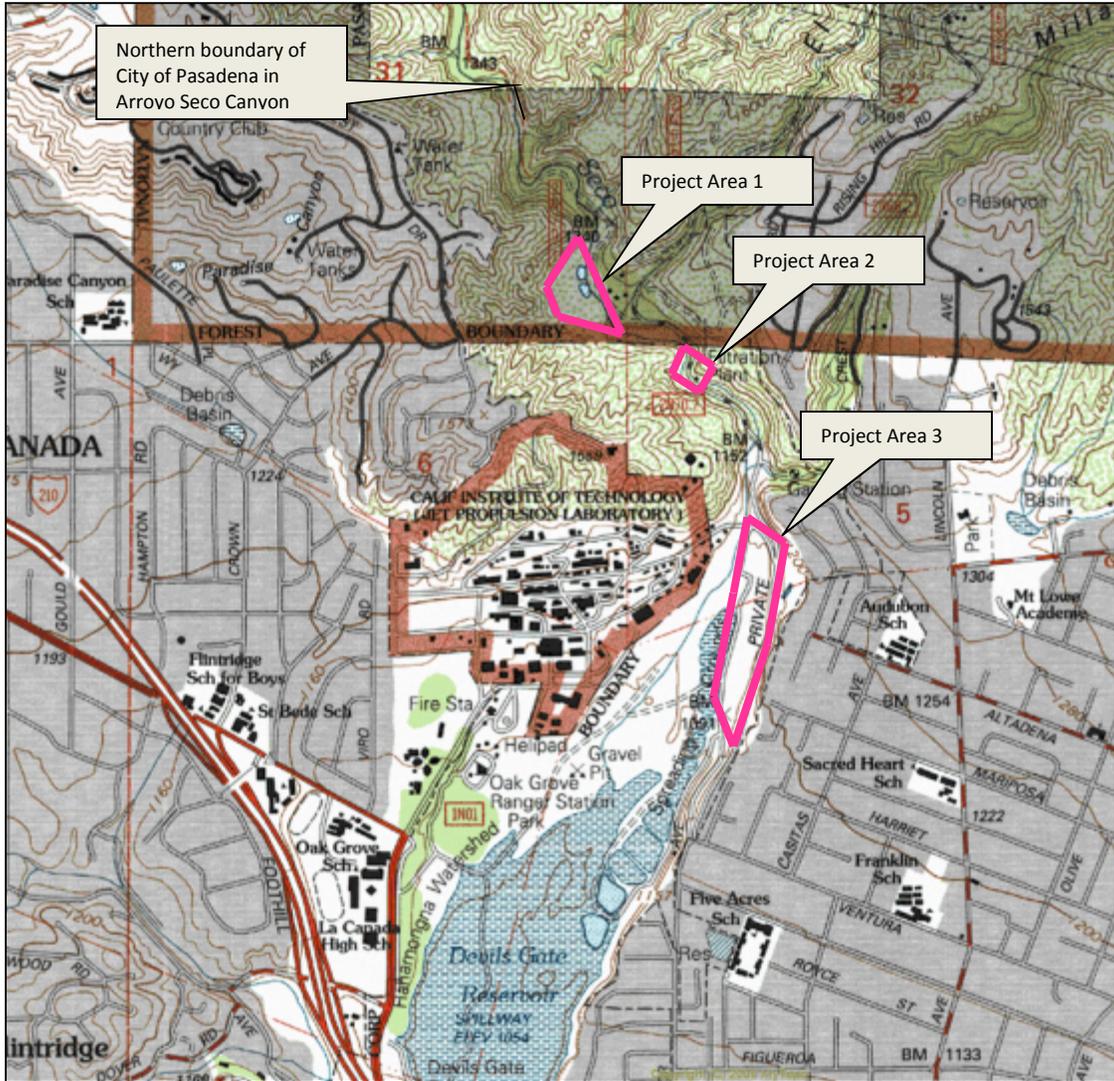


Figure 2: The Project Areas located on Arroyo Boulevard in Arroyo Seco Canyon.

## B. PROJECT COMPONENTS

### 1. Area 1

Area 1 is the northernmost and furthest upstream area, approximately 0.7-mile north and upstream of the JPL East Parking Lot. Area 1 includes the existing Headworks structure across the stream, an approximately 1,000 foot portion of the Arroyo Seco streambed and associated sedimentation basins, naturally vegetated areas, and the Gabrielino Trail. A chainlink fence runs along the damaged western edge of the roadway between Areas 1 and 2. (Figure 3)

The Arroyo Seco Headworks structure was designed to divert flows into adjacent sedimentation basins to reduce the amount of suspended solids in the stream flow. The Headworks and sedimentation basins were substantially damaged due to the debris flows

following the 2009 Station Fire and are essentially non-functional facilities. The USFS Arroyo Seco Ranger Station, that dates from 1907 and is now used to house Forest Service employees, is located just east of the APE at the juncture of the Gabrielino Trail and the Brown Canyon Trail.<sup>2</sup>

The existing Headworks structure would be removed and improvements in Area 1 would focus on rehabilitating an approximately 6-acre area of Arroyo Seco creek that was significantly impacted by flooding in 2010. Stream restoration would involve native plant re-vegetation and invasive species removal on approximately 1,000 feet of the stream. In addition, the Project includes the reconstruction of the existing rock bank revetment; bank stabilization; creation of planting islands; and installation of woody debris clusters.

An area to the east of the stream channel and outside the 5-year floodplain would be designated as a rest area that would be improved with picnic tables, benches, drinking fountain, equestrian water trough, garbage cans, and pet waste station. A new trail is proposed across the Arroyo Seco creek from the lower portion of Area 1, to meander between the Arroyo Seco main channel and the recreated riparian zone and across the stream at the northern section, with steps leading to the picnic area. Interpretive signage about the local watershed and native species would also be installed at various locations and a portion of an existing chainlink fence on the access road/trail along the east side of Area 1 would be removed.

## **2. Area 2**

Area 2 is located approximately 0.3-mile downstream from the Arroyo Seco Headworks and 0.4-mile upstream from the JPL East Parking Lot. The primary structures in Area 2 include a diversion structure and intake structure, the Gabrielino Trail, and a historic bridge (Bridge No. 3) over the Arroyo Seco. (Figure 4)

The diversion structure has historically diverted the creek into the intake structure, which could accommodate up to approximately 32 cubic feet per second (“cfs”) of water. Upon entering the intake, the water would be piped downstream approximately 3,000 feet to the PWP’s spreading basins (in Area 3). The diversion structure and intake structure were substantially damaged due to the debris flows following the 2009 Station Fire and are essentially non-functional facilities.

Area 2 improvements mainly involve the replacement of the diversion weir and intake structures, and reconstruction of the access road. The existing diversion structure would be replaced with a pneumatically operated spillway gate (e.g., Bascule gate or Obermeyer weir) to increase the amount of water that can be diverted to the spreading basins in Area 3, and to better manage sediment build up behind the diversion structure. The new gate/weir would have a sluice or slide gate (with an electric or a hydraulic actuator), a 35-foot wide and 12-foot long diversion sill, trash rack, and a fine screen. The new gate/weir can be effectively removed from the flow path during large storm events to minimize the amount of sediment that builds up at the

---

<sup>2</sup> Stone, Mitchel R. *Primary No. 16-150023 site form for Arroyo Seco Ranger Station; 1992.*

diversion structure. At other times, the weir/gate would be closed to allow stream flow to be diverted through the intake structure into the spreading basins. A small educational signage plate would be located adjacent to the intake structure describing the storm water diversion operation and its beneficial impact on aquatic life.

An equipment building that was previously located north of the intake structure would be reconstructed. This building would be approximately 6 feet by 10 feet, house the controls for the diversion structure, and be constructed in accordance with the *Arroyo Seco Design Guidelines*. Electric power for the diversion structure and equipment building would be supplied by an existing power line at the travelling screen building (southeast of the intake structure).

The section of the Gabrielino Trail/access road adjacent to the intake structure in Area 2 would be stabilized through the reconstruction of the slope and the installation of protective ripraps. The road would be repaved with asphalt and a river rock wall constructed along the creek side of the road. A security gate would be provided along the existing chainlink fence that runs above the retaining wall north of the intake structure. The gate would be large enough to provide access to maintenance vehicles that would remove sediment from the face of the intake structure.

The existing intake trash rack and gate slot guides would be removed, and, as an option, the valve ahead of the pipeline may also be removed. A new trash rack with horizontal bars would be installed over the intake opening. The downstream end of the trash rack would be left partially open so that debris would have some opportunity to pass without requiring manual cleaning. Behind the trash rack would be fine screen made of heavy wedge wire screen with 0.25- to 0.125-inch openings that are vertically oriented. The fine screen would be manually cleaned and would serve to keep all but the smallest debris out of the conveyance system. Immediately behind the screen would be an isolation gate that can be automatically closed during high flow events. The gate would prevent the fine screen and downstream facilities from being filled with sediment.

Located in the southern portion of the Gabrielino Trail (Arroyo Boulevard) that is located within Project Area 2 is Bridge No. 3. Bridge No. 3 is an A-frame (King post) truss bridge constructed of wood timbers that sits on poured concrete abutments. A plaque located at the bridge states that it was constructed by CCC Camp 903 stationed with the USFS, in 1939.

A temporary bridge would be constructed over Bridge No. 3 across the Arroyo Seco to allow heavy equipment to reach Areas 1 and 2 (north of the bridge) during construction. This temporary bridge would accommodate construction vehicles and prevent any damage to Bridge No. 3. It would be removed after the construction of proposed improvements in Area 1 and 2. In addition, a temporary cofferdam would be installed in the Arroyo Seco upstream of Area 2 using on-site materials to divert flows away from the construction area and construction equipment.

### **3. Area 3**

Area 3 includes the JPL East Parking Lot, adjacent City-owned spreading basins, and the access bridge that connects the Parking Lot to the NASA JPL Campus to the west. The Parking Lot is approximately 9.6 acres and contains 1,132 parking spaces, has been leased by NASA JPL from the City since 1960, and is restricted for use by NASA JPL employees and visitors. The Parking Lot is situated between the Arroyo Seco creek to the west and the Gabrielino Trail that runs parallel along the east canyon wall, and also serves as a maintenance access road (North Arroyo Boulevard) for the Upper Arroyo Seco Canyon area. Area 3 is located within the boundaries of the Hahamongna Watershed Park. (Figure 50)

Improvements proposed in Area 3 include a 75-stall parking lot paved with decomposed granite or other pervious materials and available for use by the public; additional spreading basins; an access road; a pedestrian stairway; a trail/equestrian pathway; interpretative signage; a pet waste station; drinking fountain; and a public restroom.

Parking in Area 3 would be consolidated at the north end (1.25 acres) of the existing parking lot and a 2-lane, 11- to 12-foot wide paved (asphalt concrete) access road is proposed along the eastern edge of Area 3. Sycamore trees in parking islands would be provided in the parking lot but no irrigation system would be installed.

The public restroom, pet waste station, and drinking fountain would be constructed at the north end of the new parking lot. The restroom would have two stalls, fire retardant shingles, door locks, dead bolts, and a storage room. A 6-foot wide walkway and pedestrian stairway would also be constructed from the north end of the parking lot to connect to the existing access road/trail to the northeast. An interpretive signage kiosk would be located at the top of the stairway informing visitors of the benefits of local water supplies and groundwater recharge. A fence would be installed along the northern edge of Area 3 to the JPL Bridge, with a fire truck access gate.

The proposed sedimentation basins in Area 3 would be concrete-lined rectangular basins approximately 100 feet long by 20 feet wide and 10 feet deep. The proposed spreading basins would generally have an operating water depth of 1 foot and freeboard of 2 feet and basin wall slopes of 3:1. A 15-foot wide access road would be provided around each basin. With the area's sloping terrain, maximum depths of the basins would range from 5.5 to 6.5 feet. To maximize the effective recharge area for the spreading basins, three existing basins would be combined with the new basins proposed immediately to the east of the existing basins, except for Basin J. Spillways, pipelines, culverts, and valves would be provided to connect the basins to each other.

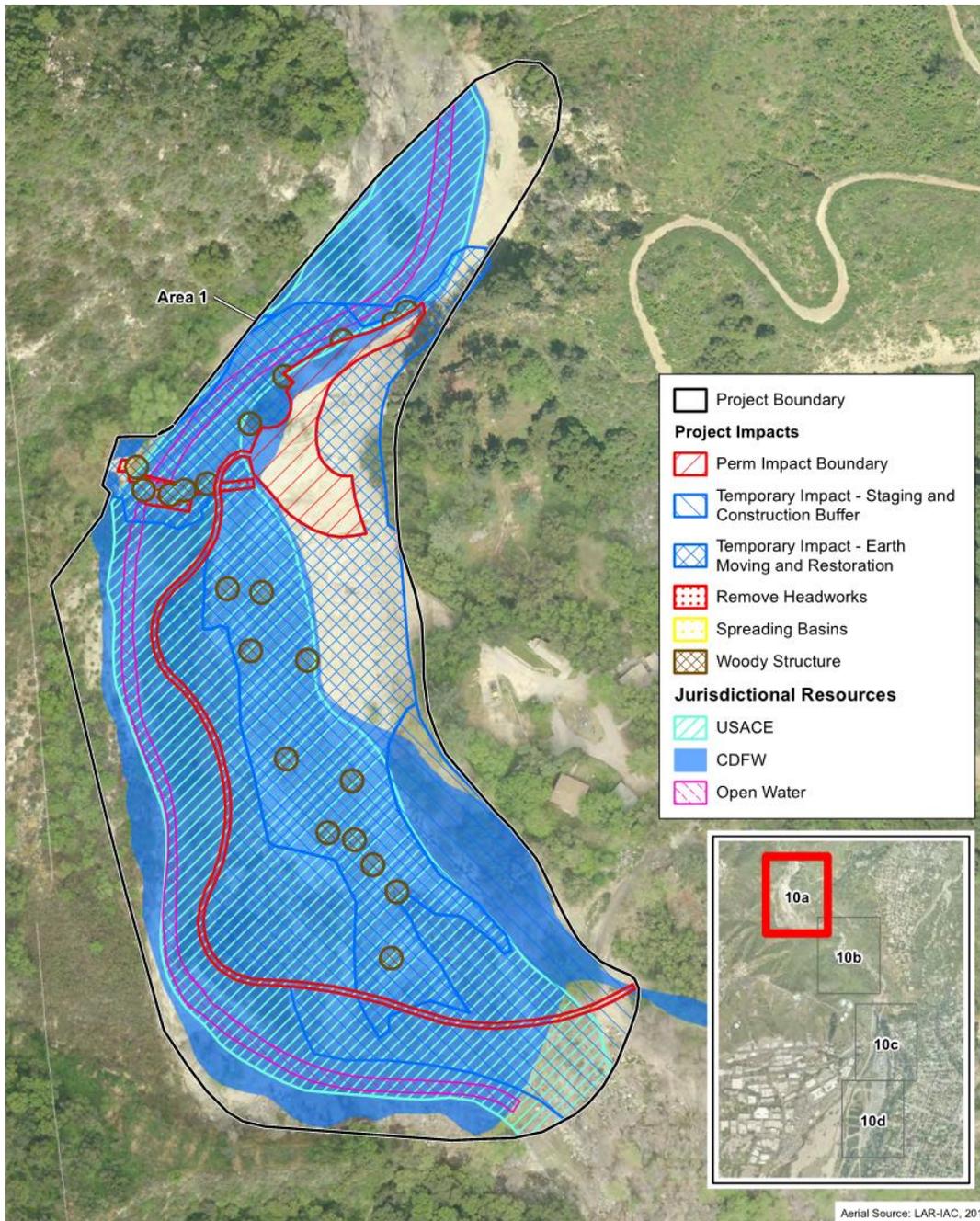
### **4. Temporary Staging Area**

Approximately 620 feet north of the JPL East Parking Lot is an area that may be used as a temporary staging site for construction activities. Construction materials, equipment, and vehicles may be temporarily located in this area during construction of Areas 1 and 2.

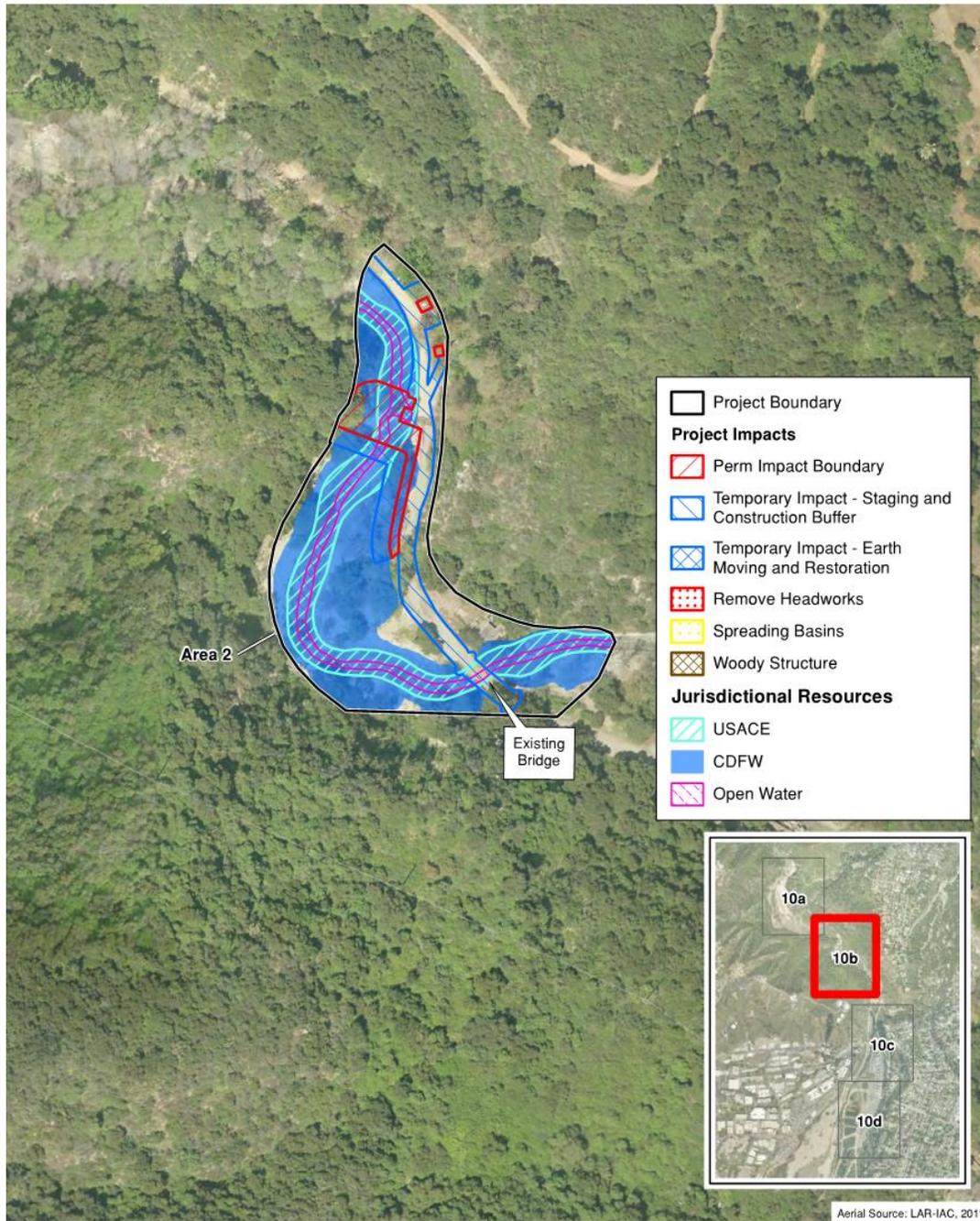
## **5. Bridges**

Bridge No. 1 carries the road known as Arroyo Seco Canyon Road (Gabrielino Trail), and historically as Arroyo Boulevard. The concrete-slab deck bridge carries Arroyo Seco Canyon Road over Millard Creek adjacent to where Millard Creek joins Arroyo Seco creek. Millard Creek joins the Arroyo Seco approximately 0.15-mile north of the JPL East Parking Lot, and is situated between Areas 2 and 3.

Bridge No. 2 carries the road known as Arroyo Seco Canyon Road (Gabrielino Trail), and historically as Arroyo Boulevard. The bridge crosses the Arroyo Seco creek just north of the Millard Creek confluence. Bridge No. 2 is a reinforced concrete arch bridge with a decorative cast-concrete railing.



**Figure 3: Area 1 – Headworks**  
 (Graphic courtesy of BonTerra Consulting)



**Figure 4: Area 2 – Intake structure, Bridge 3, stone walls  
(Graphic courtesy of BonTerra Consulting)**

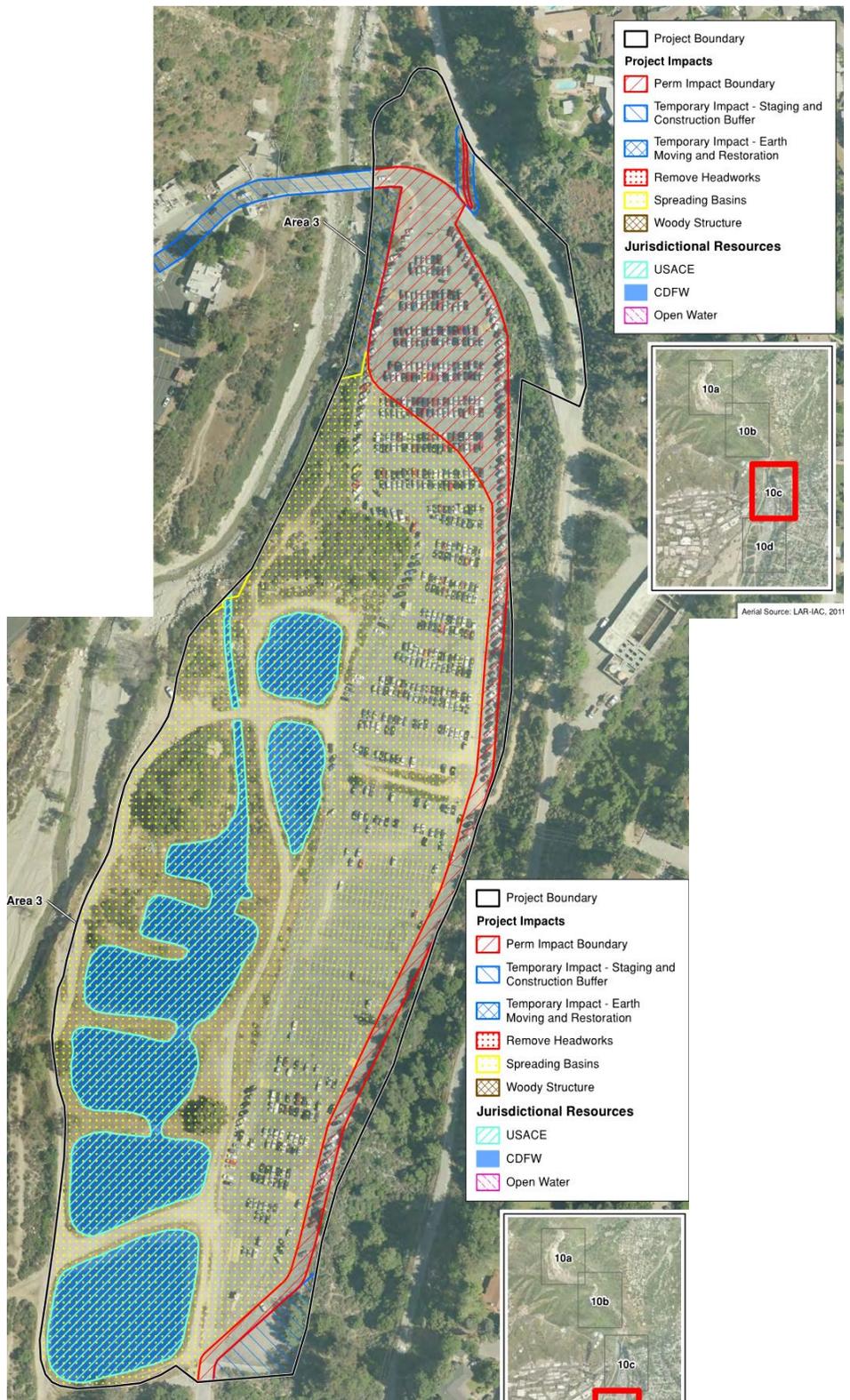


Figure 5: Area 3 – JPL parking lot and adjacent spreading basins  
(Graphic courtesy of BonTerra Consulting)

### **C. BACKGROUND INFORMATION**

The areas of potential effect (APEs) for the proposed Project in the Upper Arroyo Seco are situated in Section 5 of Township 1 North, Range 12 West, and Sections 31 and 32 of Township 2 North, Range 12 West in the San Bernardino Base Meridian. Although the boundary line for the Angeles National Forest is situated between Township 1 North and Township 2 North, the APEs are situated within the jurisdiction of the City of Pasadena. Some small areas of land, such as that on which the historic Arroyo Seco USFS Ranger Station is situated, was retained by the U.S. Government for use by federal agencies.

Prior studies have been performed to document and evaluate built-environment resources located within one-half mile of the Project area. One study was conducted within the City of Pasadena's jurisdiction at the historic site known as Teddy's Outpost, approximately 350 yards north of the Area 3 APE (LA-06946, P19-003086).

Two separate studies were conducted by the USFS for resources located in the Angeles National Forest. A cultural resources evaluation was made of the Arroyo Canyon Bailey bridge and King Post #4 bridge in 2000, which are located north of the boundary line with the City of Pasadena, by the Heritage Resources Section of the Angeles National Forest (LA-05234). Two buildings within the Arroyo Seco Ranger Station were surveyed by the USFS/Angeles National Forest in 1992 (P19-150024 and P19-150023). These reports provided information relating to the history of the recreational use of the canyon, the construction of Arroyo Boulevard, and the construction of the Arroyo Seco Ranger Station.

Based on information in the *Draft Master Environmental Impact Report: Arroyo Seco Master Plan Project*, it appears that the current APEs have not been formally surveyed for the presence of built-environment historic resources. The structures within the APEs have not been evaluated for eligibility for listing in the National Register of Historic Places, California Register of Historical Resources, or as City of Pasadena Historic Landmarks.

### **D. METHODOLOGY**

The historic resource assessment and evaluation for this report was conducted by Pamela Daly, M.S.H.P., Senior Architectural Historian. In order to identify and evaluate the subject properties as potential historic resources, a multi-step methodology was utilized. An inspection of the existing structures and associated features, combined with a review of accessible archival sources for the proposed Project, was performed to document existing conditions and assist in assessing and evaluating the properties for significance. Photographs were taken of the structures and associated features, including photographs of architectural details or other points of interest, during the intensive-level survey.

The survey of the APEs in Arroyo Seco Canyon included archival research, the review of prior reports and associated studies, Internet research, and a pedestrian-level inspection of the area. These data were used to prepare the descriptions of built-environment resources currently within the study area, and prepare contextual statements and site-specific history. This information was used to provide sufficient baseline data to formulate conclusions about whether the built-environment resources located in the Arroyo Seco Canyon study area would, or would not, meet relevant criteria to be determined eligible for listing in the National Register of Historic Places (National Register), California Register of Historical Resources (California Register), and/or City of Pasadena criteria as a historic landmark.

---

## II. REGULATORY FRAMEWORK

---

Historic resources fall within the jurisdiction of several levels of government. Federal laws provide the framework for the identification, and in certain instances, protection of historic resources. Additionally, states and local jurisdictions play active roles in the identification, documentation, and protection of such resources within their communities. The National Historic Preservation Act of 1966 as amended (NHPA), and the California Register of Historical Resources (CRHR), are the primary federal and state laws and regulations governing the evaluation and significance of historic resources of national, state, regional, and local importance. A description of these relevant laws and regulations are presented below.

In analyzing the historic significance of the subject property, criteria for designation under federal, and State landmark programs were considered. Additionally, the Office of Historic Preservation (OHP) survey methodology was used to survey and rate the relative significance of the property.

### A. FEDERAL LEVEL

#### 1. National Register of Historic Places

First authorized by the Historic Sites Act of 1935, the National Register was established by the NHPA as “an authoritative guide to be used by Federal, State, and local governments, private groups and citizens to identify the Nation’s cultural resources and to indicate what properties should be considered for protection from destruction or impairment.”<sup>3</sup> The National Register recognizes properties that are significant at the national, state and local levels.

To be eligible for listing in the National Register, the quality of significance in American history, architecture, archaeology, engineering, or culture must be in a district, site, building, structure, or object that possesses integrity of location, design, setting, materials, workmanship, feeling and association, and:<sup>4</sup>

- A. is associated with events that have made a significant contribution to the broad patterns of our history; or
- B. is associated with the lives of persons significant in our past; or

---

<sup>3</sup> *Code of Federal Regulations (CFR), 36 § 60.2.*

<sup>4</sup> *Guidelines for Completing National Register Forms, National Register Bulletin 16, U.S. Department of the Interior, National Park Service, September 30, 1986 (“National Register Bulletin 16”). This bulletin contains technical information on comprehensive planning, survey of cultural resources, and registration in the National Register of Historic Places.*

- C. embodies the distinctive characteristics of a type, period, or method of construction or that represents the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. yields, or may be likely to yield, information important to prehistory or history.

A property eligible for listing in the National Register must meet one or more of the four criteria (A-D) defined above. In addition, unless the property possesses exceptional significance, it must be at least 50 years old to be eligible for National Register listing.

In addition to meeting the criteria of significance, a property must have integrity. “Integrity is the ability of a property to convey its significance.”<sup>5</sup> According to *National Register Bulletin 15*, within the concept of integrity, the National Register criteria recognize seven aspects or qualities that, in various combinations, define integrity. To retain historic integrity a property will always possess several, and usually most, of these seven aspects. The retention of specific aspects of integrity is paramount for a property to convey its significance.<sup>6</sup> The seven factors that define integrity are location, design, setting, materials, workmanship, feeling, and association. The following is excerpted from *National Register Bulletin 15*, which provides guidance on the interpretation and application of these factors.

- Location is the place where the historic property was constructed or the place where the historic event occurred.<sup>7</sup>
- Design is the combination of elements that create the form, plan, space, structure, and style of the property.<sup>8</sup>
- Setting is the physical environment of a historic property.<sup>9</sup>

---

<sup>5</sup> *National Register Bulletin 15*, page 44.

<sup>6</sup> *Ibid.*

<sup>7</sup> “The relationship between the property and its location is often important to understanding why the property was created or why something happened. The actual location of historic property, complemented by its setting is particularly important in recapturing the sense of historic events and persons. Except in rare cases, the relationship between a property and its historic associations is destroyed if the property is moved.” *Ibid.*

<sup>8</sup> “A property’s design reflects historic functions and technologies as well as aesthetics. It includes such considerations as the structural system; massing; arrangement of spaces; pattern of fenestration; textures and colors of surface materials; type, amount, and style of ornamental detailing; and arrangement and type of plantings in a designed landscape.” *Ibid.*

<sup>9</sup> *National Register Bulletin 15*, page 45.

- Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.<sup>10</sup>
- Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.<sup>11</sup>
- Feeling is property's expression of the aesthetic or historic sense of a particular period of time.<sup>12</sup>
- Association is the direct link between an important historic event or person and a historic property.<sup>13</sup>

In assessing a property's integrity, the National Register criteria recognize that properties change over time; therefore, it is not necessary for a property to retain all its historic physical features or characteristics. The property must, however, retain the essential physical features that enable it to convey its historic identity.<sup>14</sup>

For properties that are considered significant under National Register criteria A and B, *National Register Bulletin 15* states that a property that is significant for its historic association is eligible if it retains the essential physical features that made up its character or appearance during the period of its association with the important event, historical pattern, or person(s).<sup>15</sup>

In assessing the integrity of properties that are considered significant under National Register criterion C, *National Register Bulletin 15* provides that a property important for illustrating a particular architectural style or construction technique must retain most of the physical features that constitute that style or technique.<sup>16</sup>

---

<sup>10</sup> "The choice and combination of materials reveals the preferences of those who created the property and indicated the availability of particular types of materials and technologies. Indigenous materials are often the focus of regional building traditions and thereby help define an area's sense of time and place." *Ibid.*

<sup>11</sup> "Workmanship can apply to the property as a whole or to its individual components. It can be expressed in vernacular methods of construction and plain finishes or in highly sophisticated configurations and ornamental detailing. It can be based on common traditions or innovative period techniques." *Ibid.*

<sup>12</sup> "It results from the presence of physical features that, taken together, convey the property's historic character." *Ibid.*

<sup>13</sup> "A property retains association if it is the place where the event or activity occurred and is sufficiently intact to convey that relationship to the observer. Like feeling, associations require the presence of physical features that convey a property's historic character...Because feeling and association depend on individual perceptions, their retention alone is never sufficient to support eligibility of a property for the National Register." *Ibid.*

<sup>14</sup> *National Register Bulletin 15*, page 46.

<sup>15</sup> *Ibid.*

<sup>16</sup> "A property that has lost some historic materials or details can be eligible if it retains the majority of the features that illustrate its style in terms of the massing, spatial relationships, proportion, pattern of windows and doors, texture of materials, and ornamentation. The property is not eligible, however, if it retains some basic features conveying massing but has lost the majority of features that once characterized its style." *Ibid.*

The primary effects of listing in the National Register on private property owners of historic buildings is the availability of financial and tax incentives.<sup>17</sup> In addition, for projects that receive federal funding, the Section 106 clearance process must be completed. State and local laws and regulations may apply to properties listed in the National Register. For example, demolition or inappropriate alteration of National Register eligible or listed properties may be subject to the California Environmental Quality Act (CEQA).

## **B. STATE LEVEL**

The California Office of Historic Preservation (OHP), as an office of the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level. The OHP also carries out the duties as set forth in the Public Resources Code (PRC) and maintains the California Historic Resources Inventory. The State Historic Preservation Officer (SHPO) is an appointed official who implements historic preservation programs within the state's jurisdictions.

### **1. California Register of Historical Resources**

Created by Assembly Bill 2881, which was signed into law on September 27, 1992, the CRHR is "an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change."<sup>18</sup> The criteria for eligibility for the California Register are based upon National Register criteria.<sup>19</sup> Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register.<sup>20</sup>

The California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register of Historic Places and those formally Determined Eligible for the National Register of Historic Places;
- California Registered Historical Landmarks from No. 770 onward;

---

<sup>17</sup> See 36 CFR 60.2(b) (c).

<sup>18</sup> California Public Resources Code § 5024.1(a).

<sup>19</sup> California Public Resources Code § 5024.1(b).

<sup>20</sup> California Public Resources Code § 5024.1(d).

- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register.<sup>21</sup>

Other resources which may be nominated to the California Register include:

- Individual historical resources;
- Historical resources contributing to historic districts;
- Historical resources identified as significant in historical resources surveys with significance ratings of Category 1 through 5;
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as a historic preservation overlay zone.<sup>22</sup>

To be eligible for listing in the California Register, a historic resource must be significant at the local, state, or national level under one or more of the following four criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

Additionally, a historic resource eligible for listing in the California Register must meet one or more of the criteria of significance described above and retain enough of its historic character or appearance to be recognizable as a historic resource and to convey the reasons for its significance. Historical resources that have been rehabilitated or restored may be evaluated for listing.<sup>23</sup>

Integrity under the California Register is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. The resource must also be judged with reference to the particular criteria under which it is proposed for eligibility. It is possible that a historic resource may not retain sufficient integrity to meet criteria for listing in the National Register, but it may still be eligible for listing in the California Register.<sup>24</sup>

---

<sup>21</sup> *California Public Resources Code § 5024.1(d).*

<sup>22</sup> *California Public Resources Code § 5024.1(e).*

<sup>23</sup> *California Code of Regulations, California Register of Historical Resources (Title 14, Chapter 11.5), Section 4852(c).*

<sup>24</sup> *Ibid.*

## **2. California Office of Historical Preservation Survey Methodology**

The evaluation instructions and classification system prescribed by the California Office of Historic Preservation in its Instructions for Recording Historical Resources provide a three-digit evaluation rating code for use in classifying potential historic resources. The first digit indicates one of the following general evaluation categories for use in conducting cultural resources surveys:

1. Listed on the National Register or the California Register;
2. Determined eligible for listing in the National Register or the California Register;
3. Appears eligible for the National Register or the California Register through survey evaluation;
4. Appears eligible for the National Register or the California Register through other evaluation;
5. Recognized as Historically Significant by Local Government;
6. Not eligible for any Listing or Designation; and
7. Not evaluated for the National Register or California Register or needs re-evaluation.

The second digit of the evaluation status code is a letter code indicating whether the resource is separately eligible (S), eligible as part of a district (D), or both (B). The third digit is a number that is used to further specify significance and refine the relationship of the property to the National Register and/or California Register. Under this evaluation system, categories 1 through 4 pertain to various levels of National Register eligibility. The California Register, however, may include surveyed resources with evaluation rating codes through level 5. In addition, properties found ineligible for listing in the National Register, California Register, or for designation under a local ordinance are given an evaluation status code of 6.

### **C. LOCAL LEVEL**

#### **1. City of Pasadena - Criteria for Designation of Historic Resources**

- A. Evaluation of Historic Resources. When considering applications to designate a historic monument, landmark, historic sign, landmark tree or landmark district, the Historic Preservation Commission shall apply the criteria below according to applicable National Register of Historic Places Bulletins for evaluating historic properties, including the seven aspects of integrity: location, design, setting, materials, workmanship, feeling and association (National Register of Historic Places Bulletin #15: "How to Apply the National Register Criteria for Evaluation").
- B. Historic monuments.
  1. A historic monument shall include all historic resources previously designated as historic treasures before adoption of this Chapter, historic resources that are

listed in the National Register at the State-wide or Federal level of significance (including National Historic Landmarks) and any historic resource that is significant at a regional, State, or Federal level, and is an exemplary representation of a particular type of historic resource and meets one or more of the following criteria:

- a. It is associated with events that have made a significant contribution to the broad patterns of the history of the region, State, or nation.
  - b. It is associated with the lives of persons who are significant in the history of the region, State, or nation.
  - c. It is exceptional in the embodiment of the distinctive characteristics of a historic resource property type, period, architectural style, or method of construction, or that is an exceptional representation of the work of an architect, designer, engineer, or builder whose work is significant to the region, State, or nation, or that possesses high artistic values that are of regional, State-wide or national significance.
  - d. It has yielded, or may be likely to yield, information important in prehistory or history of the region, State, or nation.
2. A historic monument designation may include significant public or semi-public interior spaces and features.

C. Landmarks.

1. A landmark shall include all properties previously designated a landmark before adoption of this Chapter and any historic resource that is of a local level of significance and meets one or more of the criteria listed in Subparagraph 2., below.
2. A landmark may be the best representation in the City of a type of historic resource or it may be one of several historic resources in the City that have common architectural attributes that represent a particular type of historic resource. A landmark shall meet one or more of the following criteria:
  - a. It is associated with events that have made a significant contribution to the broad patterns of the history of the City, region, or State.
  - b. It is associated with the lives of persons who are significant in the history of the City, region, or State.
  - c. It embodies the distinctive characteristics of a type, architectural style, period, or method of construction, or represents the work of an architect, designer, engineer, or builder whose work is of significance to the City or, to the region or possesses artistic values of significance to the City or to the region.
  - d. It has yielded, or may be likely to yield, information important locally in prehistory or history.

D. Historic signs.

1. A historic sign shall include all signs in the sign inventory as of the date of adoption of this Zoning Code and any sign subsequently designated historically significant

by the Historic Preservation Commission that possesses high artistic values. A historic sign shall meet one or more of the following criteria:

- a. The sign is exemplary of technology, craftsmanship or design of the period when it was constructed, uses historic sign materials and means of illumination, and is not significantly altered from its historic period. Historic sign materials shall include metal or wood facings, or paint directly on the façade of a building. Historic means of illumination shall include incandescent light fixtures or neon tubing on the exterior of the sign. If the sign has been altered, it must be restorable to its historic function and appearance.
  - b. The sign is integrated with the architecture of the building.
  - c. A sign not meeting criteria a or b above may be considered for inclusion in the inventory if it demonstrates extraordinary aesthetic quality, creativity, or innovation.
2. All other regulations relating to signs shall comply with Chapter 17.48 (Signs).
- E. Landmark trees. A tree shall qualify to be of historic or cultural significance and of importance to the community if it meets any one of the following criteria:
1. It is one of the largest or oldest trees of the species located in the City;
  2. It has historical significance due to an association with a historic event, person, site, street, or structure; or
  3. It is a defining landmark or significant outstanding feature of a neighborhood.
- F. Landmark districts.
1. A landmark district shall include all landmark districts previously designated before adoption of this Chapter and any grouping of contiguous properties that also meet the following criteria:
    - a. Within its boundaries, a minimum of 60 percent of the properties qualify as contributing; and
    - b. The grouping represents a significant and distinguishable entity of Citywide importance and one or more of a defined historic, cultural, development and/or architectural context(s) (e.g., 1991 Citywide historic context, as amended, historic context prepared in an intensive-level survey or historic context prepared specifically for the nominated landmark district).
    - c. When determining the boundaries of a landmark district, the Historic Preservation Commission shall use the National Register of Historic Places Bulletin #21: "Defining Boundaries for National Register Properties".

## **2. City of Pasadena Municipal Code: Arroyo Seco Lands Ordinance**

3.32.020 Purpose: The purpose of this chapter is to establish regulations for preservation, enhancement and enjoyment of the Arroyo Seco as a unique environmental, recreational and

cultural resource of the city surrounded by residential neighborhoods. Such resource and the neighborhoods must be preserved, protected and properly maintained. These regulations are designed to identify uses, activities, facilities and structures as well as their limitations. (*Ord. 6403 § 2 (part), 1990*)

**3.32.040 Arroyo Seco Defined:** "Arroyo Seco," for the purposes of this chapter, means those lands not in private ownership lying within the area generally bounded by Devil's Gate Dam on the north, Linda Vista Avenue, San Rafael Avenue and Hillside Terrace on the west, the city limits on the south, and Arroyo Boulevard, Arroyo Terrace, Scott Place, Prospect Boulevard and Armada Drive on the east as shown on the map entitled "Lower Arroyo Park and Brookside Park," dated January 1, 1990, and on file with the city clerk. (*Ord. 6403 § 2 (part), 1990*)

### **3. City of Pasadena – Arroyo Seco Master Plan**

The Arroyo Seco Master Plan is a master planning document that consists of three identified areas (Upper Arroyo Seco, Central Arroyo Seco, and Lower Arroyo Seco) and three sub areas known as Hahamongna Watershed Park, the Central Arroyo Seco, and the Lower Arroyo Seco.<sup>25</sup> Five Master Plan elements were developed for specific projects in Arroyo Seco: (1) Hahamongna Watershed Park Master Plan in the Upper Arroyo Seco, (2) Central Arroyo Seco Master Plan, (3) Lower Arroyo Seco Master Plan, (4) Rose Bowl Use Plan in the Central Arroyo Seco, and (5) the Design Guidelines for the Arroyo Seco. The Arroyo Seco Master Plan Design Guidelines were created to provide a unifying set of criteria for site development improvements leading to a unified park design and provide site design solutions that are consistent with the Arroyo Seco Ordinance.<sup>26</sup>

The City of Pasadena has defined the Upper Arroyo Seco as that land which "extends from the City boundary with the Angeles National Forest south to Devil's Gate Dam".<sup>27</sup> The Upper Arroyo Seco includes the approximately 300-acre Hahamongna Watershed Park Master Plan area plus an additional 1,000 acres north of the Jet Propulsion Laboratory bridge.<sup>28</sup> The analysis of the Upper Arroyo Seco for preparation of the Arroyo Seco Master Plan was limited to the 300-acre Hahamongna Watershed Park.<sup>29</sup>

The Hahamongna Watershed Park Master Plan and the Arroyo Seco Design Guidelines are applicable documents that address certain components of the proposed Project.

---

<sup>25</sup> Sapphos Environmental, Inc. *Draft Master Environmental Impact Report: Arroyo Seco Master Plan Project*. May 2002, page 2-1.

<sup>26</sup> *Ibid*, page 2-73.

<sup>27</sup> Sapphos Environmental, Inc. *Draft Master Environmental Impact Report: Arroyo Seco Master Plan Project*. May 2002, page S-1.

<sup>28</sup> Sapphos Environmental, Inc. *Final Master Environmental Impact Report: Arroyo Seco Master Plan Project*. March 2003, page 12-1.

<sup>29</sup> Sapphos Environmental, Inc. *Draft Master Environmental Impact Report: Arroyo Seco Master Plan Project*. May 2002, page 2-1.

All Project components are located entirely within the City of Pasadena. The entire Upper Arroyo Seco is designated and zoned as Open Space in the City of Pasadena's Land Use Plan and Zoning Map. Although the Arroyo Seco originates in the Angeles National Forest (ANF) and Area 1 is located within the mapped boundary of the ANF, the portions of the Project site within the ANF boundary are designated in the USFS Land Management Plan as Non-Forest System Land and are not subject to the jurisdiction of the USFS.

#### **4. Arroyo Seco Master Plan – Arroyo Seco Design Guidelines**

1.1 Overview: These Design Guidelines (City of Pasadena, Adopted February 28, 2003) seek to ensure an ongoing effort to preserve the unique character of the Arroyo Seco by providing a unifying set of design principles for the three sub-areas that make up Pasadena's Arroyo Seco. The commonalities between the three sub-areas are the backbone of these design guidelines.

Factors to be considered are:

- Restoration of the Arroyo Seco Stream Course and Environment;
- Habitat Restoration;
- Preservation of Cultural Resources;
- Enhancement of Appropriate Recreational Opportunities;
- Limitation of Man-made Objects in the Natural Environment;
- Flood Management in Balance with the Natural Environment;
- The Challenge of Integrating and Regulating Private Use within the Arroyo Seco;
- Water Conservation and Protection of Water Resources, and
- Public Safety and Accessibility

1.2 Hahamongna Watershed Park: As the largest undeveloped, though altered, wild area in the City of Pasadena, and the gateway to the wilderness area of the National Forest to the north, its character should minimize man-made modifications. Any improvements should be done to minimize their impact and dominance over any native plants or animals.

The proximity to the San Gabriel Mountains mandates close attention to the flood and sediment management for the safety of downstream uses.

4.0 Cultural Resources: The Cultural Resources chapter gives general guidelines for the preservation of cultural resources associated with park improvements in the Arroyo Seco.

Cultural resources refer to areas, places, buildings, structures, outdoor works of art, natural features, and other objects having a special historical, cultural, archaeological, architectural, community, or aesthetic value. General guidelines for Cultural Resources include:

1. The cultural and historical heritage of the Arroyo Seco will be preserved and enhanced.

2. The restoration and enhancement of the Arroyo Seco will balance the needs of the active and passive park users with the preservation of native plant and animal habitat for a sustainable ecosystem throughout the park.
3. Opportunities for interpretive sites and/or educational centers that provide public information about the cultural resources of the Arroyo Seco or their preservation, including Native American traditions, will be encouraged.
4. Preservation, conservation, or enhancement of cultural resource areas shall be undertaken with the assurance that they can be properly maintained.
5. All improvement plans will seek to preserve and protect any paleontological and archaeological resources and sites within the Arroyo Seco.
6. Proposed improvements or modifications to existing cultural resources in the Arroyo Seco will require additional review by the Historic Preservation Commission.

Appendix E - Arroyo Stone Walls & Steps Specifications: The arroyo stone walls and steps throughout the City of Pasadena and especially in the Arroyo Seco are considered an historic resource because many of them were built during the WPA years and in some locations designed by notable architects. Rehabilitation, including maintenance and repair, shall be focused on conservation of this historic resource.

Rehabilitation of this resource is an ongoing process and, as a specific location is designated for maintenance and repair, the contract shall specify a sample test area of the work for review and approval of workmanship and materials by the Pasadena Parks & Natural Resources and Design & Historic Preservation staff before work proceeds on the entire contract.

---

### III. EVALUATION

---

#### A. HISTORIC CONTEXT

##### 1. Pasadena

Over twenty years before a group of settlers met at Reservoir Hill near the Arroyo Seco to create the Pasadena colony north of the Los Angeles settlement, gold miners had searched the headwaters of that seasonal creek in the San Gabriel Mountains. In 1853 gold was found in the placer diggings of miners exploring the Arroyo Seco canyon<sup>30</sup>, and quartz mines in the San Gabriel Mountains continued to be mined up to 1883.<sup>31</sup>

El Prieto Canyon, that feeds into the Arroyo Seco Canyon in Section 32 of Township 2 North, Range 12 West, had originally been known as Negro Canyon or Negro Creek, so named after an African-American freeman by the name of Robert Owen who sold firewood harvested off the hillsides of the lands held by the U.S. Government in the 1850s and 1860s to residents of the Los Angeles settlement.<sup>32</sup>

Millard Canyon had originally been known by the Mexican residents of the area as Blanco Canyon because of the geology of the canyon walls in some places. Alfred Millard established a homesite at the mouth of the canyon in 1862. He was an illegal squatter on the land in Section 5 of Township 1 North, Range 12 West who is said to have made his income by raising bees and hauling wood to Los Angeles. Millard lived in the canyon until 1872 when he moved to the Downey settlement after his wife and a child had died.<sup>33</sup>

In the 1880s, the U.S. Government opened up a limited amount of land in Sections 31 and 32 of Township 2 North, Range 12 West of the San Gabriel Mountain foothills for private ownership. John Hartwell, Eugene and Clara Giddings, Jason and Owen Brown all received patents for acreage in Section 32 wherein lay Fern Canyon, El Prieto Canyon, and Millard Canyon, from 1883 to 1891.<sup>34</sup> (Figure 6) The east half of the southeast quarter of Section 31 was owned primarily by Will D. and Mary L. Gould, a lawyer and his wife from Los Angeles.

The Giddings settled into a residence at the mouth of Millard Canyon and reported to local historian Hiram Reid, that they would find evidence of pre-historic peoples in the canyon when

---

<sup>30</sup> Reid, Hiram A. *History of Pasadena*, page 53.

<sup>31</sup> *Los Angeles Times*. "News from around area", October 16, 1883.

<sup>32</sup> Reid, page 387.

<sup>33</sup> *Ibid*, page 384.

<sup>34</sup> General Land Office records. [www.glorerecords.blm.gov](http://www.glorerecords.blm.gov)

they worked the land with plows and hoes.<sup>35</sup> The Giddings had constructed a wagon toll-road up to the falls on Millard Creek, creating a destination for persons seeking out-of-doors entertainment by hiking and picnicking.<sup>36</sup> Owen and Jason Brown, descendants of the Kansas abolitionist John Brown, constructed a homestead in a canyon named after them located just south of El Prieto Canyon in 1886. (Figure 7 and 8)

The most ambitious operation on the Arroyo Seco in the San Gabriel Mountains was that of C. Perry Switzer. The “Commodore” as he was known, built a tourist-resort camp far into the mountains that was accessible from a trail that followed the Arroyo Seco creek.<sup>37</sup> (Figure 9) An improved road ran up the canyon from Millard Creek to a halfway house, and then the remaining six miles to Switzer’s Camp would be reached by riding burros.

*Mr. Switzer’s camp is in a very charming nook on the on the main stream of the Arroyo; a veritable log cabin, with its stone chimney, and three or four tents, give a hospitable human interest to the landscape as we descend the trail. We slept on beds of fragrant fir branches, the Arroyo singing the while over its rocky bed, and woke to a heaven of sylvan music made up of robbin [sic] trills and notes of linnets and finches, and sharper squirrel chirps strangely commingled.<sup>38</sup>*

The location of Commodore Switzer’s camp is still accessible on the Gabrielino Trail. Some of the cabins were destroyed in a fire in the late 1890s, and the great flood of 1938 removed over a mile of the road that connected the camp to the Angeles Crest Highway. The owner of the camp in the 1950s was not able to keep the camp operating, and the site fell into ruins. The USFS removed the stone chapel that had been designed by the architect Arthur Benton due to its deteriorating condition.<sup>39</sup>

In 1907, the USFS removed six acres from the land transferred to the City of Pasadena for the construction of an administrative site. Forest Rangers Reed and Stanchfield constructed a three-room house and converted an older house on the site to be used as a barn.<sup>40</sup> (Figure 10)

A small tourist camp known as “Teddy’s Outpost” was established by Theodore L. Syvertson in the Upper Arroyo Seco on land leased from William Gould in 1914. (Figure 11) The resort, which was accessible by automobile, consisted of six cabins and a small general store. (Figure 12)

---

<sup>35</sup> Ibid, page 44.

<sup>36</sup> Ibid, page 384.

<sup>37</sup> Ibid, page 371.

<sup>38</sup> Jeanne C. Carr. “The Switzer Trail”. *Los Angeles Times*, June 28, 1885.

<sup>39</sup> Pomeroy, Elizabeth. *Pasadena: A Natural History*, page 51.

<sup>40</sup> Stone, Mitchel R. R-5/PSW Building SURVEY Form for *Arroyo Seco Ranger Station* (P19-150023), April 1992.

When the City of Pasadena Department of Water took possession of the water rights in the canyon in 1925, they condemned the tourist camp and had all buildings removed in 1926.<sup>41</sup>

The Altadena topographic map of the area in 1924 shows that a large number of buildings, most probably small, recreational cabins, were situated along the Arroyo road north of where Millard Creek joins the Arroyo Seco. (Figure 13) By 1939, there were still scattered buildings situated along the Arroyo Road to Oak Wilde, where the road connected by dirt road with the Angeles Crest Highway. (Figure 14) The Angeles Crest Highway had been begun to be constructed in 1929. With the completion of the Angeles Crest Highway in 1956, the Arroyo Boulevard (Highway) became obsolete and fell into disrepair.

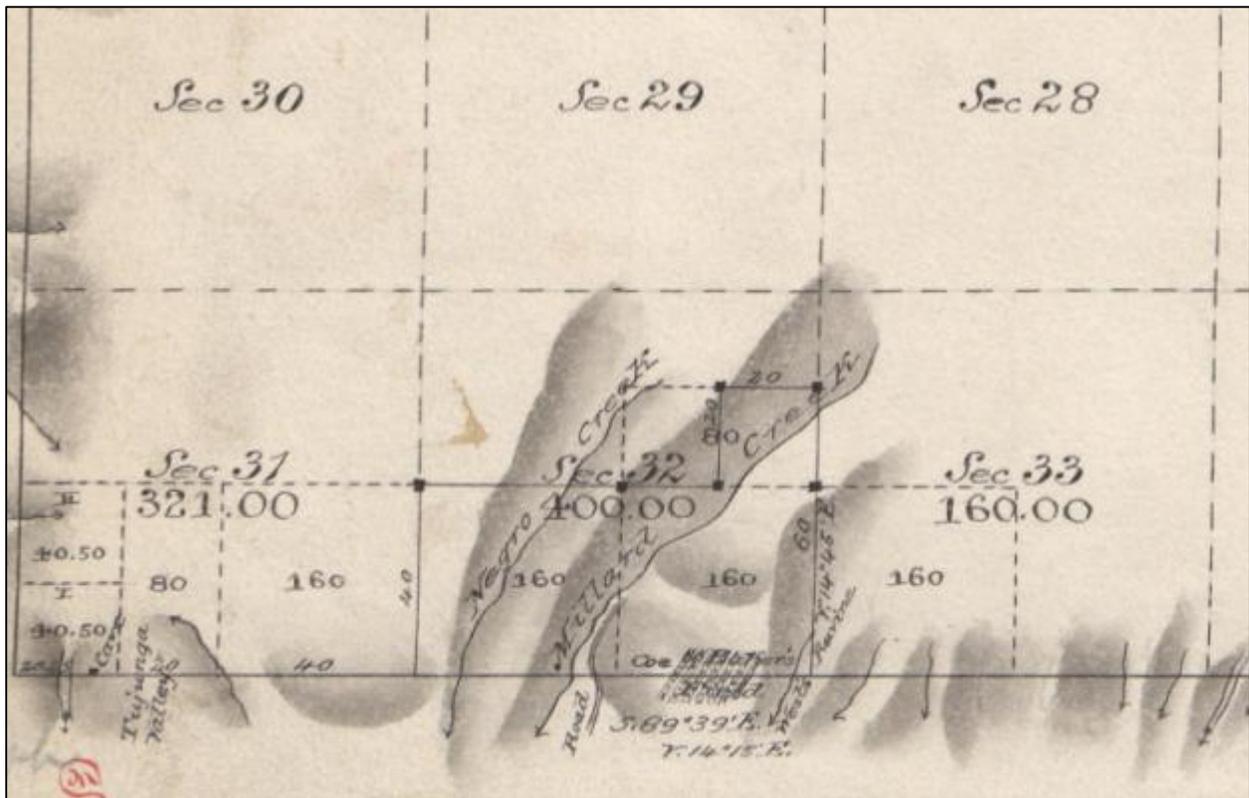


Figure 6: Plat map of Arroyo Seco Canyon north of the Township 2 North boundary line prepared by the U.S. Government in 1880. South of Section 32 is Section 5. ([www.glorerecordsblm.gov](http://www.glorerecordsblm.gov))

<sup>41</sup> Romani, Gwen. *Archaeological Reconnaissance Report Teddy's Outpost Picnic Area, Angeles National Forest, Los Angeles County, CA.* April 2002.

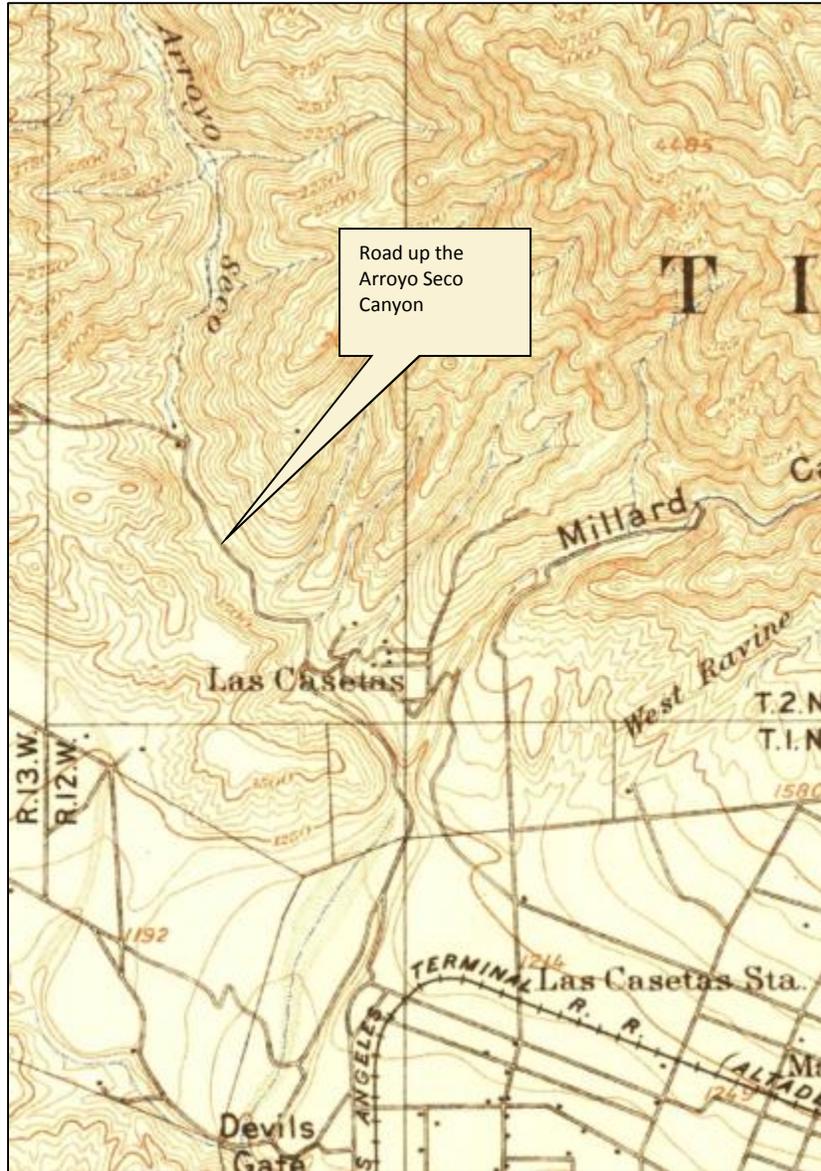


Figure 7: Arroyo Seco Canyon road 1896. Pasadena Quad 1:62,500.



*Picnic at Millard's Canyon, August 29, 1887*

**Figure 8: Millard Canyon, 1887.  
(Photo courtesy of Pasadena Museum of History)**



**Figure 9: An outing into one of the canyons of Pasadena, circa 1885.  
(Courtesy of Pasadena Museum of History.)**

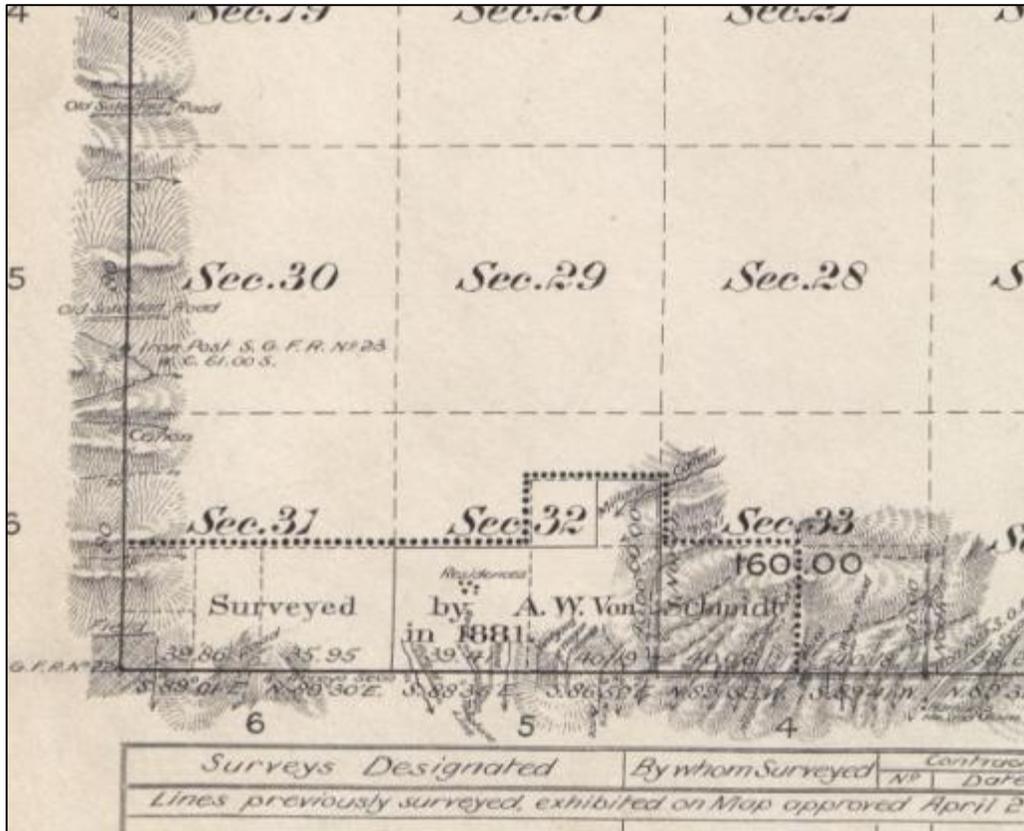
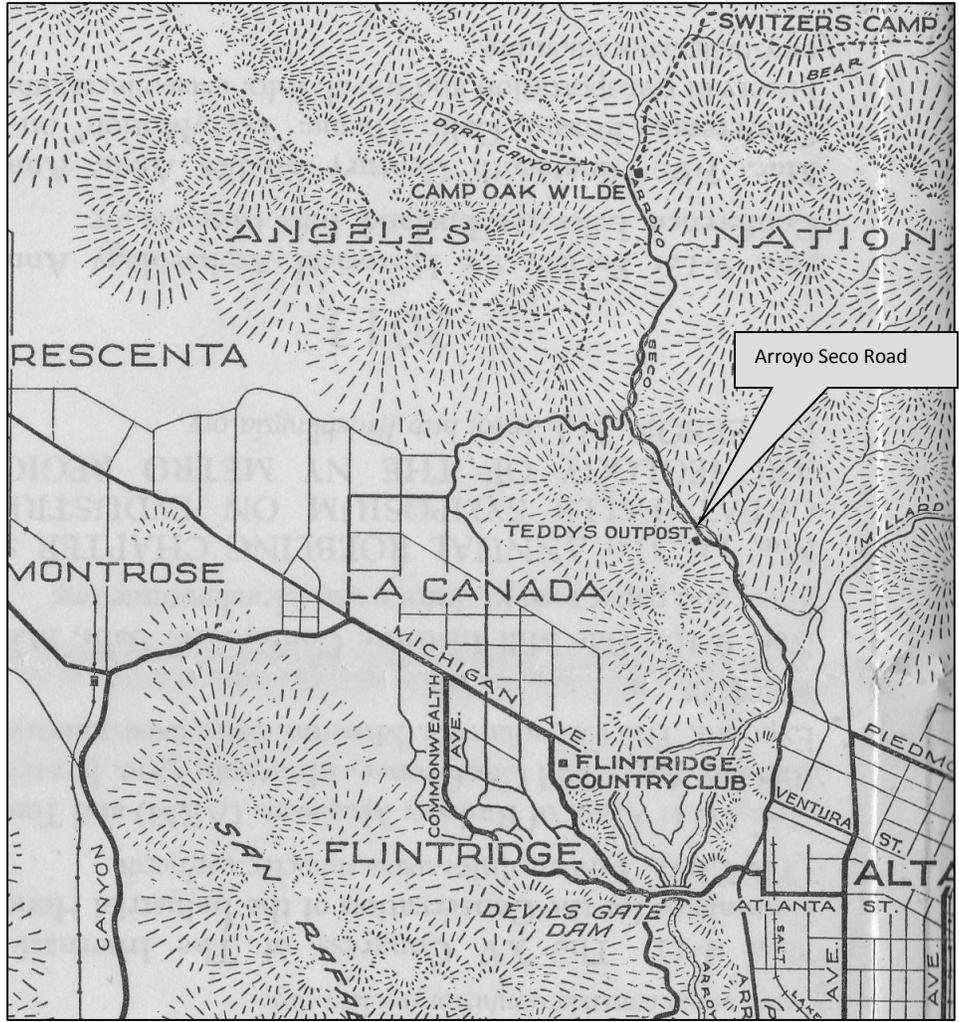


Figure 10: U.S. Government Plat Map of 1904 showing a road and telephone line constructed into the Arroyo Seco Canyon, Section 32. ([www.gloreCORDSblm.gov](http://www.gloreCORDSblm.gov))



**Figure 11: Pasadena and Vicinity Automobile Road Map 1920,  
Automobile Club of Southern California.**



Figure 12: Teddy's Outpost, circa 1914.  
(Photograph courtesy of Pasadena Museum of History)

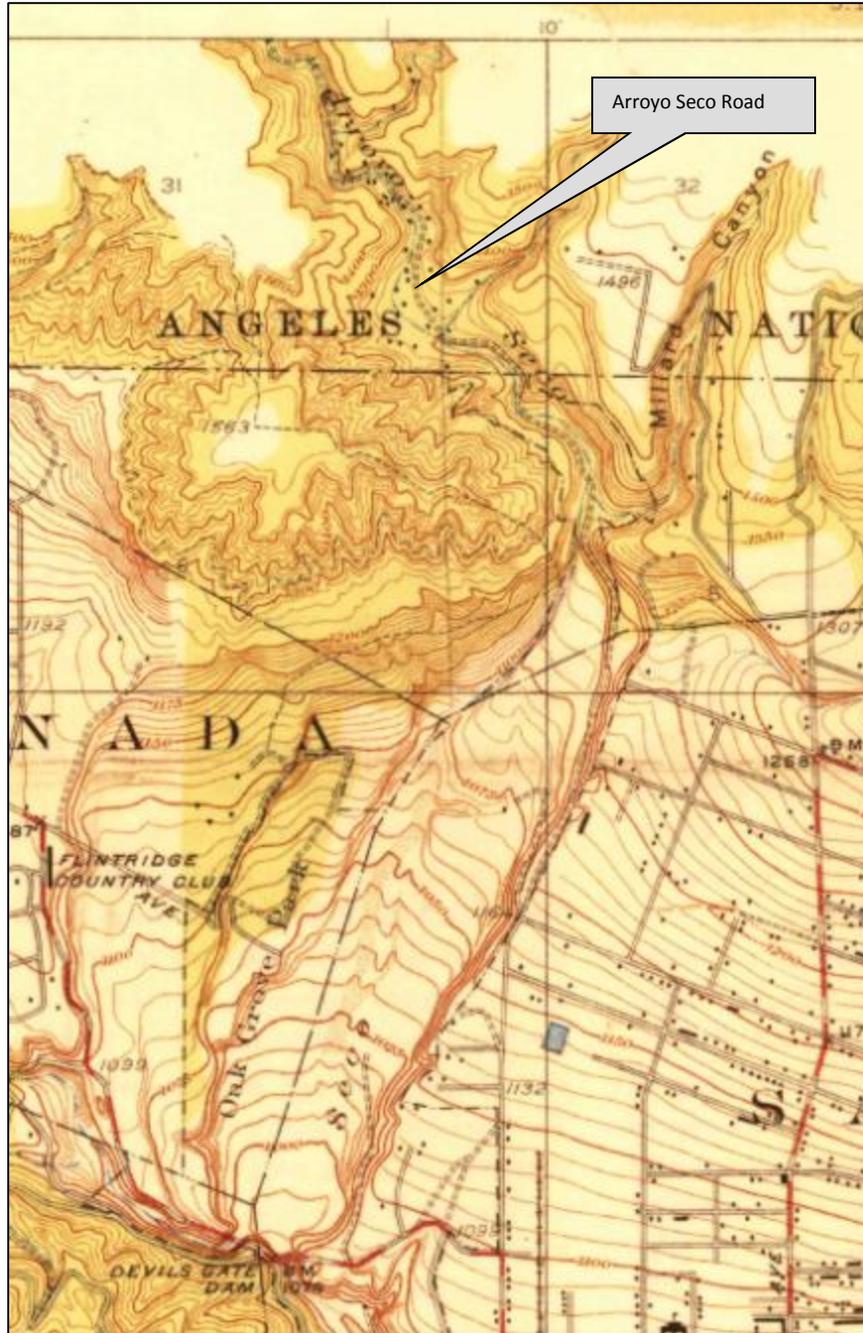
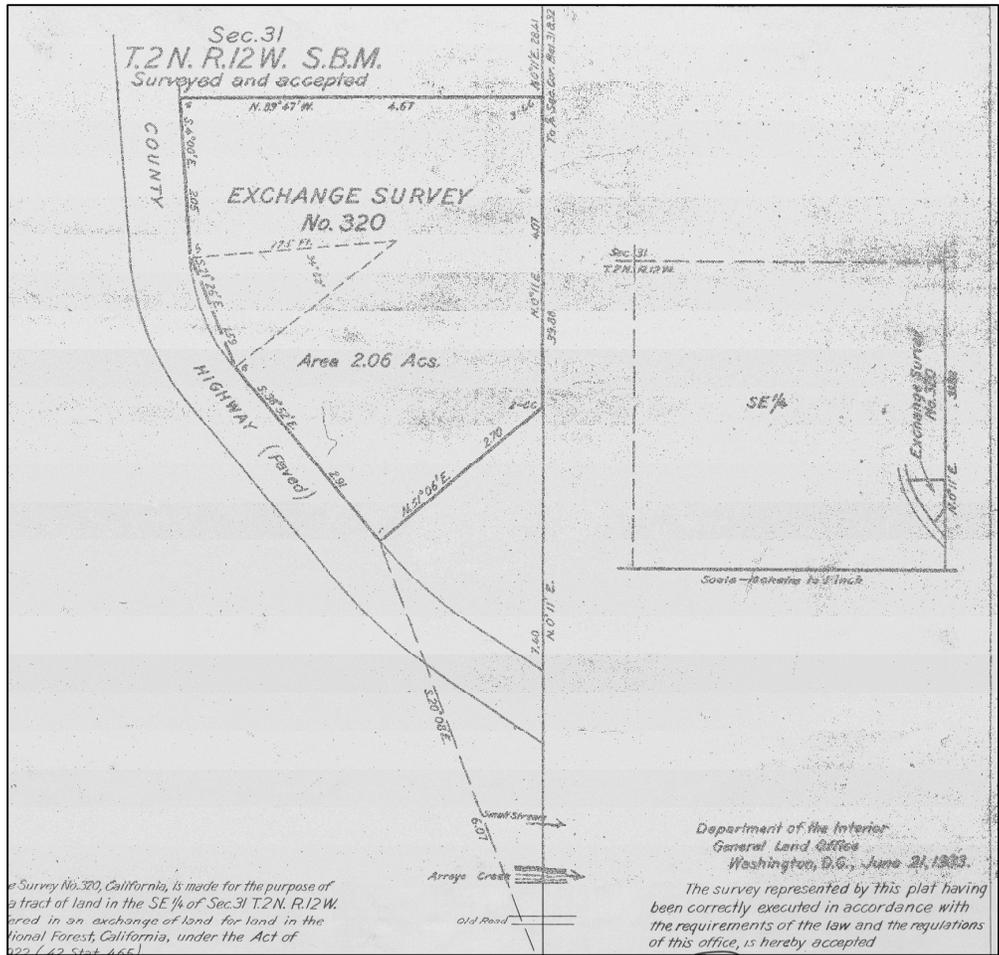


Figure 13: Sections 31 and 32 of U.S.G.S Altadena Quad map 1924 showing numerous buildings or cabins located along the Arroyo Seco Canyon road.



**Figure 14: Plat map prepared by the U.S. Government in 1933 when it removed a small area of land from the City of Pasadena for use by the U.S. Forest Service for the ranger station still situated in the canyon. Note that the Arroyo Seco Canyon road is noted to be a “County Highway (paved).”**

## B. HISTORIC RESOURCES IDENTIFIED

A site visit and pedestrian-level inspection of the APE was performed on March 17 and December 22, 2013. The APE consists of three areas of proposed Project activities located along the road that parallels the Arroyo Seco creek bed and leads to the Arroyo Seco entrance to the Angeles National Forest. The Project is entirely situated on land under the jurisdiction of the City of Pasadena and spans approximately 1.2 miles from the southern end of the JPL parking lot to just north of the USFS Ranger Station in Arroyo Seco Canyon. (Figure 15) The built-environment resources over 45-years of age located in the specific Project areas and within the area of construction activities will be discussed below in order of their placement in the APE, from north to south.



Figure 15: Aerial view of the Arroyo Seco Canyon Project with approximate locations of Project impact areas. (Source: Google Earth, 2014.)

## 1. Area 1 - Headworks

Area 1 contains a headworks structure constructed to intercept the flow of the Arroyo Seco creek to slow the speed of the water as it heads downstream. The main block of the headworks consists of a concrete-filled wood frame, approximately 70 feet long and 5 feet tall, with openings between the concrete blocks to be closed or opened to control the speed of the passing water. (Figure 16) The headworks is situated at a large bend in the creek that allows for waters to be collected upstream within the canyon walls if the gates in the structure are closed. To the west of the main diversion structure is a low bed of concrete that may have been used for additional diversion fencing.

These types of headwork configurations have been in use for hundreds of years. The fact that this headwork has been manually operated for over 50 years points to its design longevity and ease of operation. The headworks is not a significant engineering or technological structure.



Figure 16: Headworks in Area 1. View looking west.

## 2. Area 2 – Diversion Weir and Intake Structures

The diversion structure consists of an approximately 9-foot high reinforced concrete retaining wall on the left bank of stream. Near the downstream end of the retaining wall is a reinforced concrete weir that extends above the streambed roughly 2 feet, and generally does not support diversion of water at higher flows<sup>42</sup>. Almost the entire original flashboard dam and intake system was destroyed in the rains after the Station Fire in 2009. All the structural integrity and engineering design of the original diversion dam were significantly altered, and what exists now are remnants of the dam foundation. (Figure 17) Not only was the dam and intake system destroyed, but the old Arroyo Boulevard was damaged as well.

There is also a small building pad north of the intake structure that supported an equipment building. Approximately 150 feet of the Trail's protective embankment between diversion structure and Bridge No. 3 has eroded, causing the edge of the paved road to break and fall apart. Currently, K-rails are used as a temporary means to prevent vehicle or foot traffic from approaching the drop-off adjacent to the Trail. The road would be repaved with asphalt and a river rock wall constructed along the creek side of the road.

Based on the drawings of the Pasadena Water Department dated August 1932, a flashboard dam and intake systems of pipes had been constructed just north of where the wood truss bridge crosses Arroyo Seco creek. (Figure 18) The drawings appear to show that the diversion structure survived the flooding of 1938 with some repairs and minor alterations.

Due to the extensive damage suffered by the dam and intake system, the structures have lost their physical integrity of design, workmanship, and materials. Water diversion systems such as these have been in use for many years and usually do not present significant engineering or technological innovation.

Bridge No. 3 is situated at the southern edge of Area 2. This bridge was constructed in 1939 by the CCC Company 903 assigned to the USFS, a team from the local CCC that had been working on various project in the Arroyo Seco Canyon and San Gabriel Mountains since 1933.<sup>43</sup> A plaque is set in a concrete base at the southeast corner of the bridge commemorating its construction. (Figure 19) While the wood bridge is called an A-frame bridge on the original building plans, it is also known under the historic name of a King-post truss bridge. (Figure 20) In American history, the construction techniques of bridges have gone through a time-line of popular materials. Up to the Industrial Revolution and into the 1880s, bridges were most often made of wood as that was an abundant and cheap material. With better iron and steel manufacturing methods, and transportation across the United States by railroad companies,

---

<sup>42</sup> As stream flows increase during runoff events or seasonally higher water, the bed load is trapped on the upstream side of the weir, directing sediment into the intake. These sediments clog the intake and require maintenance that stop water diversion and groundwater recharge.

<sup>43</sup> Civilian Conservation Corps Legacy. "Camps in California": [http://www.ccclegacy.org/CCC\\_Camps\\_California.html](http://www.ccclegacy.org/CCC_Camps_California.html)

metal truss bridges were used up to the 1940s. With metal being allocated to the war effort, reinforced concrete became the overwhelming method used to construct new road bridges.

Bridge No. 3 sits on a solid, reinforced poured-concrete abutment with wing walls extending to the sides. The CCC also constructed stone masonry walls to line the east wall of the creek from the weir and intake system from just upstream of the bridge down to Bridge No. 2. Stone walls are also present on the south side of the bridge, being used on both sides of the creek to control the flow of water. (Figure 21) The fact that Bridge No, 3 was designed using one of the oldest truss-bridge forms, is constructed of wood timbers, and was constructed by a group that is associated with events that made a significant contribution to the history of the United States and California, makes the bridge an important historic resource in the Arroyo Seco. There may be additional bridges of this type located on the Arroyo Seco in the Angeles National Forest.



**Figure 17: Location on Arroyo Seco creek in Area 2 where the diversion weir had been located. View looking west.**



Figure 18: Footprint and location of diversion weir and intake system on Arroyo Seco creek in 1932.  
(Drawing provided by Pasadena Water Department.)



Figure 19: Commemorative marker located at the southeast corner of Bridge No. 3.



Figure 20: Bridge No. 3, A-frame or King-post truss bridge. View looking northwest.



**Figure 21: River rock stone wall heading south on the east side of Arroyo Seco from Bridge No. 3. View looking east.**

### **3. Area 3 – JPL Parking Lot, Spreading Basin and Spillway**

As a part of the termination of the lease agreement with the City for the JPL East Parking Lot, and not as a component of the proposed Project, JPL is required to remove all constructed improvements on the site, unless otherwise directed by the City. As such, all existing facilities, including bus stops, fencing, bollards, signs, lighting, and the paved parking lot are expected to be removed after completion of the parking structure at the JPL campus as a part of this existing lease agreement in August 2014. Of the 9.58 acres (417,305 square feet) leased from the City by JPL, approximately 357,347 square feet is currently paved. Of this, approximately 47,164 square feet of paving would remain in place for a 26-foot wide temporary access roadway to provide vehicle access to JPL employees and visitors from the Windsor/Ventura Street intersection to the JPL Bridge.

Two sludge basins and a series of 13 spreading basins are located east of the Arroyo Seco; west of the JPL East Parking Lot; approximately 650 feet south of the Bridge No. 1; and approximately 2,200 feet north of Devil’s Gate Dam. Area 3 includes only the 4 upper spreading basins that are located west of the JPL East Parking Lot. A 12-inch water line serving NASA JPL, and a 30-inch Hume line (connecting Intake to spreading basins), run the length of the parking lot and 24-inch diameter influent and effluent lines and a 6-inch diameter sludge line run from

the treatment plant across the parking lot to the sludge basins. Additionally, a storm drain line from the City of Altadena traverses across Area 3 to the Arroyo Seco.

The sludge and spreading basins, water diversion structures, and water conduits were all designed using common engineering techniques for controlling water. In an effort to protect lives and property, and to capture runoff from the western slopes of the San Gabriel Mountains, many water diversion structures are located throughout the canyons in Los Angeles County. The diversion structures used to control and store water range in size from large dams such as the Big Santa Anita Dam, to the weir gates and intake structures on Arroyo Seco creek. The spreading basins, sludge basins, and water diversion structures in Area 3 are not significant engineering or technically innovative structures.

#### **4. Bridges 1 and 2**

Bridge 1 – The reinforced concrete slab bridge was constructed in 1939 to carry the Arroyo Canyon Road over the runoff from Millard Canyon Creek, before the Millard Canyon Creek intersects with the Arroyo Seco creek. The bridge deck was replaced in 1979 with a similar reinforced concrete span. While the embankment walls that line the creek appear to have been constructed with stone masonry techniques, the road bed itself is finished on the edges with river rock to blend in with the original 1930s stonework. (Figure 22) The bridge measures approximately 40 feet long and 15 feet wide. Due to the work that is attributed to the CCC teams working along the Arroyo Seco in the late 1930s, it is very possible that the CCC constructed the 1939 version of the bridge to replace, or repair, an older similar structure that had been damaged or destroyed in the flood of 1938.

Bridge 2 – This reinforced, poured-concrete arch bridge most probably was constructed in the early 1920s when the Forest Service and the Los Angeles County Road Department paved the Arroyo Seco Boulevard.<sup>44</sup> It appears to have been designed in a similar style with regards to aesthetics, of those bridges constructed in large city parks and wealthy neighborhoods to carry a roadway over a small creek or other body of water. The bridge measures approximately 80 feet long and 20 feet wide. Bridges of this style were constructed for both horse-drawn and horseless vehicles. It has distinctive decorative elements such as the urn-shaped cast concrete balustrade railings, bas-relief panels below the balusters on the stream sides of the bridge, and the arched support structure, that would not be found on a utility road for service vehicles. (Figure 23) The bridge appears to have been constructed to provide a formal entrance to the Upper Arroyo Seco forest and the Arroyo Boulevard. Stone masonry walls that line the east side of the creek at Bridge No. 3 continue downstream to be present at Bridge No. 2.

---

<sup>44</sup> Vance, Darrell W. *Cultural Resource Evaluation of the Arroyo Canyon Bailey and King Post #4 Bridges* (LA-05234). Heritage Resources Section, Angeles National Forest, November 2000; page 3.



Figure 22: Bridge No. 1, concrete slab bridge crossing Millard Creek. View looking southwest.



Figure 23: Bridge No. 2, concrete arch bridge crossing Arroyo Seco creek. View looking southeast.

## C. SIGNIFICANCE

The waters from the Arroyo Seco provide the City of Pasadena with 40% of their needs. The Pasadena Water Department took control of the Arroyo Seco creek in 1912 when it was formed from three early water companies, and early water diversion and capture structures were constructed by the Pasadena Water Department to control the seasonal flow from the San Gabriel Mountains.<sup>45</sup> As with many watershed areas of the San Gabriel Mountains, the heavy rains of 1938 demolished many of the early structures built in the canyons. In the Arroyo Seco, some of the early structures such as those in Area 2 survived the 1938 flood only to be severely damaged as a result of heavy rains after the Station Fire in 2009.

The proposed Project has identified those built-environment resources that will be directly impacted by the Project located within the boundaries of Project Area 1, 2, and 3. To assess the historic significance of built-environment structures located within the APEs of Area 1, Area 2, and Area 3, evaluated in this study, federal, state, and local significance criteria were applied. The water conveyance and diversion structures identified in this study are not currently listed in either the National Register or the California Register, nor have they been evaluated for local significance.

To gain access to these three areas situated on the historic Arroyo Boulevard, heavy equipment will need to travel over three bridges that were constructed to carry the roadway over the creeks running through the canyon. The installation of temporary bridges, or other protection measures, may affect two of these built-environment resources. Bridges No. 1 and No. 2 are being evaluated for historical significance even though they are located outside the APE boundaries. Bridge No. 3 is located within the APE of Area 2.

### 1. Water Conveyance Structures

Under National Register, California Register, and City of Pasadena criterion relating to the association of the water conveyance structures located within the APEs with significant historical events that exemplify broad patterns of our history, the headworks, intake system, sludge basins, spreading basins, and associated water diversion structures, in Areas 1, 2, and 3, do not appear to qualify as significant historic resources individually, or collectively. Throughout the world, diversion dams and headworks (masonry, earthen or timber) have been constructed by both private and public entities to control and/or retain seasonal rain fall, and to protect people and property. The structures located in the APEs of the Arroyo Seco are part of just one of many flood-control systems that were constructed in the canyons of the San Gabriel Mountains of Los Angeles County dating from the early 1900s. There is no evidence that any of the water diversion, sludge basins, or intake system structures in the APEs are directly associated with historic events. The water conveyance structures do not appear eligible for listing under National Register criterion A, California Register criterion 1, or as a City of Pasadena Landmark.

---

<sup>45</sup> History of Pasadena Water Department. <http://www.ci.pasadena.ca.us/WaterAndPower/WaterCentennial/>

Under National Register, California Register, or City of Pasadena criterion relating to the water conveyance structures located within the APEs association with persons of historic importance, the headworks, intake system, sludge basins, spreading basins, and associated water diversion structures, do not appear to qualify, individually or collectively, as significant historic resources. The design and plans for the structures located in the Arroyo Seco were prepared by the Pasadena Water Department or Los Angeles County Public Works staff engineers as part of their normal tasks and duties. There is no evidence that any of the water conveyance structures in the APE 1, 2, or 3 are eligible for listing under National Register criterion B, California Register criterion 2, or as a City of Pasadena Landmark.

Under National Register, California Register, or City of Pasadena criterion relating to the distinctive characteristics of a type, period, region, or method of construction, the water conveyance structures located within APE 1, 2, or 3 are not significant as they do not, individually or collectively, embody any innovative engineering design or method of construction, or high artistic design. The headworks in Area 1 was designed using common technology to slow down the flow of water in the Arroyo Seco creek as it headed downstream. The flashboard dam and intake system in Area 2 was almost completely destroyed in 2010 and has lost its physical levels of integrity. The sludge and spreading basins in Area 3 were constructed by excavating water containment basins in the Arroyo Seco wash. The technology used to create the basins and associated spreading grounds were commonplace, as was the use of concrete to hold, channel, divert, and control the water as it came down from the foothills. The water conveyance structures in Areas 1, 2, and 3, do not appear to present any technological achievement in the history of water systems locally, regionally or nationally, and are therefore not eligible for listing either individually or collectively under National Register criterion C, California Register criterion 3, or as a City of Pasadena Landmark.

Based upon a survey of the above-ground historic period resources within the APEs of Area 1, 2, and 3, the APEs have not yielded, nor does it appear that the headworks, intake system, sludge basins, spreading basins, and associated water diversion structures have the potential to yield, information important to the history of the local area, California or the nation pursuant to National Register criterion D, California Register criterion 4, or as a City of Pasadena Landmark.

In summation, the water conveyance structures located in Area 1, 2, and 3, are not eligible for listing in the National Register, California Register, or as a City of Pasadena Landmark as they do not, individually or collectively, meet any of the criteria necessary for listing in the registries.

## **2. Bridges No. 1, 2, and 3**

Bridges No. 1 and 2 are located between, and outside of the APEs of Areas 1 and 2. They carry Arroyo Seco Road north into the canyon over Millard Creek or Arroyo Seco creek. Bridges No. 1 and 2 are situated on a road that will provide the only access for heavy machinery and earth

moving equipment to perform Project activities in Areas 1 and 2. It is necessary to evaluate the historical significance of these bridges as they may be directly impacted by activities related to Project activities in Areas 1 and 2 in the Arroyo Seco Canyon.

Bridge No. 3 is a built-environment resource located within the APE of Project Area 2. Bridge No. 3 carries Arroyo Seco Canyon Road, and will need to be crossed by heavy machinery and earth moving equipment needed to perform Project activities in Areas 1 and 2.

In assessing the historical significance of the three bridge structures and the associated stone wall features evaluated in this study, federal, state, and local significance criteria were applied. Bridges No. 1, 2, or 3, identified in this study, are not currently listed in either the National Register or the California Register, nor have they been evaluated for local significance.

**a. Bridge No. 1**

Under National Register, California Register, and City of Pasadena criterion relating to Bridge No. 1, the reinforced-concrete slab bridge does not appear to be associated with significant historical events that exemplify broad patterns of our history, and does not appear to qualify as significant historic resources individually or collectively. Drawings from the City of Pasadena Water Department of the bridge over Millard Creek, and stone walls lining the creek associated with the bridge, date from 1939. We could find no evidence that the construction of this bridge was directly related to any important national, state, or local events. Bridge No. 1 does not appear eligible for listing under National Register criterion A, California Register criterion 1, or as a City of Pasadena Landmark.

Under National Register, California Register, or City of Pasadena criterion relating to Bridge No. 1s association with persons of historic importance, it does not appear to qualify, individually or collectively, as significant resources. The design and plans for the structure located over Millard Creek were prepared by the Pasadena Department of Water and Power staff engineers as part of their normal tasks and duties. There is no evidence that the bridge is eligible for listing under National Register criterion B, California Register criterion 2, or as a City of Pasadena Landmark.

Under National Register, California Register, or City of Pasadena criterion relating to the distinctive characteristics of a type, period, region, or method of construction, Bridge No. 1 is not significant as it does not embody any innovative engineering design or method of construction, or high artistic design. Bridge No. 1 was built in 1939 using common bridge technology to construct a reinforced-concrete slab bridge to carry Arroyo Boulevard over Millard Creek. The bridge deck was replaced in 1979, and riverrock were applied to the sides of the bridge to integrate it into the earlier stone-lined channel connecting to Arroyo Seco creek. Bridge No. 1 does not appear to present any technological achievement in the history of bridges, regionally or nationally, and is therefore not eligible for listing under National Register criterion C, California Register criterion 3, or as a City of Pasadena Landmark.

Based upon a survey of Bridge No. 1, it does not appear to have yielded, nor does it appear to have the potential to yield, information important to the history of the local area, California or the nation pursuant to National Register criterion D, California Register criterion 4, or as a City of Pasadena Landmark.

#### **b. Bridge No. 2**

Under National Register, California Register, and City of Pasadena criterion relating to Bridge No. 2, the bridge does appear to be associated with significant historical events that exemplify broad patterns of our history, and does appear to qualify as an individually significant historic resource. While the specific construction date of the bridge is unknown, this style of reinforced concrete bridge with its ornamental cast concrete railings, appears to date from the early 1920s when the Arroyo Boulevard was paved for automobile traffic. The single arched span with decorative elements points to a bridge that was constructed with aesthetics to enhance the visitors experience while traveling through the Arroyo Seco canyon.

*Aesthetic routes such as parkways and park roads have historically been intensively designed and developed for the purpose of leisure, recreation, and commemoration. Aesthetic routes are roads for which the alignment and details are key to the experience.<sup>46</sup>*

We know that both Switzer's Camp and Teddy's Camp had been constructed in early 1900s in the Arroyo Seco for the many visitors to the canyon. Even in the late 1800s, the Browns had attempted to build a toll road for visitors to access the forest experience. In the 1930s, the CCC crews constructed a long masonry wall of riverrock from Bridge No. 3, along the east creek wall to Bridge No. 2, to visually enhance the Arroyo Boulevard corridor in that picturesque section of the canyon. We believe that the construction of this bridge was directly related to recreational endeavors important in the history of Pasadena, and made a significant contribution to the aesthetic experience of the visiting the Upper Arroyo Seco canyon by way of Arroyo Boulevard in the early 1920s. Bridge No. 2 does not appear eligible for listing under National Register criterion A, or California Register criterion 1, yet it does appear to be eligible for listing as an important resource for its association with the history of the Upper Arroyo Seco in the City of Pasadena. It appears that the resource eligible to be a historic resource under City of Pasadena Landmark criterion a.

Under National Register, California Register, or City of Pasadena criterion relating to Bridge No. 2s association with persons of historic importance, it does not appear to qualify, individually or collectively, as significant resource. We were not able to uncover any plans or drawings of the bridge to determine its designer/architect, or the bridges association with known landscape planners of the period. There is no evidence that the bridge is eligible for listing under National Register criterion B, California Register criterion 2, or as a City of Pasadena Landmark.

---

<sup>46</sup> Marriott, Paul D. *Saving Historic Roads: Design and Policy Guidelines*. New York: John Wiley & Sons; 1998. Page 11.

Under City of Pasadena criterion c relating to the distinctive characteristics of a type, architectural style, and period of construction, found in the City of Pasadena, Bridge No. 2 appears to meet these conditions. When happening upon this bridge in the Upper Arroyo Seco, one is immediately struck by its incongruent appearance in this rural, backroads setting. Due to its deterioration and abandonment as a thoroughfare to the Angeles Crest Highway, the existence and history of Arroyo Boulevard as a well-traveled roadway has long been overlooked. While we have found ample evidence that the Arroyo Boulevard was a popular route to the San Gabriel Mountain wilderness areas through maps, and Hiram Reid's history of Pasadena, we have not uncovered a cohesive history of the development of the roadway where Bridge No. 2 is located, and why a decorative arched bridge was chosen for this crossing of the Arroyo Seco creek. The visual attributes of the architectural style of Bridge No. 2 have the capacity to convey its historic significance of the aesthetic experience in the early twentieth century in the Upper Arroyo Seco, and in Pasadena as a whole. Bridge No. 2 does not appear eligible for listing under National Register criterion C, or California Register criterion 3.

Based upon a survey of Bridge No. 2, it does not appear to have yielded, nor does it appear to have the potential to yield, information important to the history of the local area, California or the nation pursuant to National Register criterion D, California Register criterion 4, or as a City of Pasadena Landmark.

### **c. Bridge No. 3, APE Area 2**

Under National Register, California Register, and City of Pasadena criterion relating to Bridge No. 3, the bridge does appear to be associated with significant historical events of our history, and does appear to qualify as an individual significant historic resource. Bridge No. 3 was constructed by CCC Camp 903 while it was assigned to work in the Arroyo Seco in the 1930s. The CCC was a very important program created by President Franklin D. Roosevelt in the first 100 days of his administration during the Great Depression. The CCC was a program under the "New Deal" to form a civilian army of unemployed young men to contribute to the economic recovery of the country by providing needed conservation services to forests, parks, and farm lands (suffering from the effects of the Dust Bowl) across the United States. "The first accomplishment of the CCC was having 250,000 young men working within three months of its establishment - the greatest peacetime mobilization of American youth."<sup>47</sup> By 1935, there were over 2,650 CCC camps operating in all states and territories. The CCC program has had a great and lasting impact on the United States.

The Los Angeles County Road Department prepared the design and drawings of the wood bridge, and the plaque located next to Bridge No. 3 states that it was constructed in 1939. The King-post truss bridge (A-frame truss) was an excellent choice of structure for the rural Arroyo Seco creek crossing.

---

<sup>47</sup> Paige, John C. *The Civilian Conservation Corp and The National Park Service, 1933 – 1942.*

The CCC crews also constructed a long masonry wall of riverrock from Bridge No. 3 down the creek to Bridge No. 2, to visually enhance the creek corridor in that section from the road that runs parallel. We believe that the construction of this bridge was directly related to the history of the CCC in the United States, California, and Pasadena. Bridge No. 3 appears eligible for listing under National Register criterion A, California Register criterion 1, and under City of Pasadena Landmark criterion a.

Under National Register, California Register, or City of Pasadena criterion relating to Bridge No. 3s association with persons of historic importance, it does not appear to qualify, individually or collectively, as significant resource. The Staff Engineers from the Los Angeles County Road Department used a bridge design that has been used for hundreds of years. While the bridge was set in place by the CCC who made a great contribution to the history of the United States, their importance is not directly tied to the construction of Bridge No. 3 over the Arroyo Seco. There is no evidence that the bridge is eligible for listing under National Register criterion B, California Register criterion 2, or as a City of Pasadena Landmark.

Under National Register, California Register, and City of Pasadena criterion relating to a historic properties possession of distinctive characteristics of a type, architectural style, and period of construction, Bridge No. 3 and its associated stone walls appears to meet these conditions. The King-post truss bridge was designed to cross small/narrow sections of a creek or river. As time has taken its toll on many of the wood truss bridges, due to wood rot damage and high water events, there are very few examples of wood King-post truss bridges remaining in the United States.<sup>48</sup> The Los Angeles County Road Department and the CCC most probably constructed a wood truss bridge to complement the rural nature of the Arroyo Seco Canyon. The visual attributes of Bridge No. 3 have the capacity to convey its historic significance of a bridge design that presents structural engineering in its most uncomplicated form, yet has performed successfully for 75 years. Bridge No. 3 and the associated stone walls appear to be eligible for listing under National Register criterion C, California Register criterion 3, and as a City of Pasadena Landmark.

Based upon a survey of Bridge No. 3, it does not appear to have yielded, nor does it appear to have the potential to yield, information important to the history of the local area, California or the nation pursuant to National Register criterion D, California Register criterion 4, or as a City of Pasadena Landmark.

In summation, the water conveyance structures located in Area 1, 2, and 3, are not eligible for listing in the National Register, California Register, or as City of Pasadena Landmarks as they do not, individually or collectively, meet any of the criteria necessary for listing in the registries. Bridge No. 3 appears to be eligible for listing in the National Register under criterion A and C; California Register under criterion 1 and 3; and as a City of Pasadena Landmark under criterion a

---

<sup>48</sup> A website devoted to old bridges list only 72 King-post truss bridges still in place across the United States. <http://bridgehunter.com/category/tag/kingpost-truss/>

and c. Bridge No. 2 appears eligible for listing as a City of Pasadena Landmark under criterion a and c.

---

## IV. RECOMMENDATIONS AND MITIGATION

---

There are no built-environment resources in the proposed Project Areas 1 or 3 that will be substantially changed as a result of the Project. Bridge No. 3 is situated within the boundary of Project Area 2, and Bridge No. 2 is located on the Gabrielino Trail (Arroyo Boulevard) between Project Areas 2 and 3. The proposed project has the potential to substantially change/alter/destroy historic character-defining features that are components of Bridge No. 2. Additionally, the proposed project has the potential to substantially change/alter/destroy a historic resource with the construction of a temporary bridge to protect Bridge No. 3, and its associated features such as concrete abutments, railings, and stone walls.

### **Mitigation Measure 1**

The cast concrete baluster railing of Bridge No. 2 shall be protected from Project-related construction activities that include the movement of heavy and large motor vehicles and machinery over Bridge No. 2 to gain access to Project Areas 1 and 2. Each baluster railing, from the bridge deck to the top of the railing, shall be clad with solid plywood panels, with a minimum thickness of 3/4-inches, or equally effective measures shall be installed, to protect against unintentional impacts from passing with the bridge. It is important the plywood barriers be secured without damaging the balusters or railing.

The design and construction (and eventual removal) of the protective barriers at Bridge No. 2 and design and construction (and eventual removal) of a temporary bridge at Bridge No. 3 shall be prepared in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*. The plans for the temporary barriers and temporary bridge shall be reviewed by an architectural historian, historic architect, and structural or civil engineer that has experience with the physical components of historic bridges and stone walls. A qualified Architectural Historian (who meets the Secretary of Interior's Professional Qualification Standards) shall be retained to provide construction monitoring of the proposed installation/construction and removal plan documents for the temporary bridge on Bridge No. 3, and protective barriers on Bridge No. 2, prior to implementation of project activities. An installation/construction/repair methodology to protect the historic resources shall be developed prior to project activities to ensure that the protective measures would adequately safeguard Bridges No. 2 and 3.

A pre-construction and a post-construction survey shall be prepared to ensure that adverse effects or significant impacts have not occurred to the bridges. The installation/construction methodology and post-construction survey shall be submitted to the City of Pasadena Department of Planning – Historic Preservation.

---

## IV. BIBLIOGRAPHY

---

### A. PUBLICATIONS

Automobile Club of Southern California. *Automobile Road Map Touring Pasadena and Vicinity*. Los Angeles, CA; 1920. Collection of Pamela Daly.

California Corrugated Culvert Company. *Handbook of Water Control*. Lederer, Street and Zeus Company, Inc. Los Angeles, 1936. (Water Resources Institute archives, California State University San Bernardino.)

California Department of Transportation and JRP Historical Consulting Services. *Water Conveyance Systems in California*. State of California: Sacramento, 2000.

Etcheverry, B.A., *Irrigation Practice and Engineering, Volume 1, Use of Irrigation Water and Irrigation Practice*. McGraw-Hill Book Company, Inc., New York, 1915.

Etcheverry, B.A., *Irrigation Practice and Engineering, Volume 2, Conveyance of Water*. McGraw-Hill Book Company, Inc., New York, 1915.

Flinn, Alfred D. et. al. *Waterworks Handbook*. McGraw-Hill Book Company. New York, 1918. (Water Resources Institute archives, California State University San Bernardino.)

Marriott, Paul Daniel and the National Trust for Historic Preservation. *Saving Historic Roads: Design and Policy Guidelines*. New York: John Wiley & Sons, Inc., 1998.

McKinney, John. *Day Hiker's Guide to Southern California*. Santa Barbara, CA: Olympus Press, 1998.

Office of State Historic Preservation. *California Historic Resources Inventory, Survey Workbook (excerpts)*. State of California: Sacramento, 1986.

Office of State Historic Preservation. *Historic Properties Directory*. State of California: Sacramento, 1995.

Paige, John C. *The Civilian Conservation Corps and the National Park Service, 1933 – 1942: An Administrative History*. National Park Service, 1985.

Parker, Patricia L. *National Register Bulletin 24, "Guidelines for Local Surveys: A Basis for Preservation Planning"*. Washington D.C.: U.S. Government Printing Office, 1985.

Pomeroy, Elizabeth. Pasadena: A Natural History. Charleston, South Carolina: Arcadia Publishing, 2007.

Reid, Hiram A. *A History of Pasadena*. 1895. Available on Google Books: <http://books.google.com/>.

United States Department of the Interior. *National Register Bulletin 15, "How to Apply the National Register Criteria for Evaluation."* Washington, DC: National Park Service, Interagency Resources Division, rev. 1991.

Walker, Tory R., P.E., and Stephen L. Jamieson, P.E. *Dam Breach Analyses For Flood Control Dams*. GEI Consultants, Inc. Englewood, CO. <http://www.trwengineering.com/Publications/dambrch.pdf>

## **B. PUBLIC RECORDS, PRIOR REPORTS, OTHER**

Bridge Number 1482 Historic Significance. Minnesota Historical Society, St. Paul. 2013.

Carollo Engineers, Inc. *Pasadena Water & Power: Final Conceptual Design Report Arroyo Seco Canyon Project*. September 2013. <http://www.arroyoseco.org/ascp/d/ConceptualDesignReport.pdf>

City of Pasadena. *Arroyo Seco Master Plans: Arroyo Seco Design Guidelines*. February 28, 2003.

City of Pasadena. Arroyo Seco Master Plans: Hahamongna Watershed Park Master Plan

City of Pasadena. *Arroyo Seco Master Plan Project: Findings of Fact and Statement of Overriding Considerations*. April 2003.

City of Pasadena Department of Water & Power: Selected drawings, plans & details of water conveyance structures and bridges in the Upper Arroyo Seco Canyon.

City of Pasadena Department of Water & Power: *Our History*. <http://www.ci.pasadena.ca.us/WaterAndPower/WaterCentennial/>

Civilian Conservation Corps Legacy. *Brief History of the CCC*. [www.ccclegacy.org](http://www.ccclegacy.org)

General Land Office (GLO) records for Section 5, Township 1 North, Range 12 West, and Sections 31 and 32, Township 2 North, Range 12 West, San Bernardino Base and Meridian. <http://www.glorerecords.blm.gov/>

General Land Office (GLO) plat maps for Sections 31 and 32, Township 2 North, Range 12 West, San Bernardino Base and Meridian. <http://www.glorerecords.blm.gov/>

*Los Angeles Times.*

"Start on Flood Job Urged." May 24, 1924.

"Speed on Flood Control Asked." August 24, 1924.

"Flood Dams of County Viewed." September 24, 1926.

"Small Losses Prove Value of Dam System." March 4, 1938.

"Water Diversion Project Speeded by Sierra Madre." January 24, 1951.

"Debris Basins Stand Guard at Hillside Areas." December 13, 1954.

Romani, Gwen. Primary Form # 19-003086. *Teddy's Outpost Picnic Area; USFS Angeles National Forest*. Compass Rose Archeological Inc. April 2002.

Sapphos Environmental, Inc. *Draft Master Environmental Impact Report: Arroyo Seco Master Plan Project, Volume 1*, State Clearinghouse Number 2000091062

Sapphos Environmental, Inc. *Final Master Environmental Impact Report: Arroyo Seco Master Plan Project, Volume III*, State Clearinghouse Number 2000091062. March 2003.

Stone, Mitchel R. and Judith Triem. Primary Form # 19-150024. *Arroyo Seco Ranger Station; USFS Angeles National Forest*. San Buenaventura Research Associates, 1992.

Stone, Mitchel R. and Judith Triem. Primary Form # 19-150023. *Arroyo Seco Ranger Station; USFS Angeles National Forest*. San Buenaventura Research Associates, 1992.

## **Appendix F**

### **Personnel Qualifications**

# Patrick O. Maxon, RPA

Director, Cultural Resources

## EDUCATION

1994 / Master of Arts /  
Anthropology, California State  
University, Fullerton, CA

1987 / Bachelor of Arts /  
Psychology/Sociology, Towson  
State University, Maryland, MD

## PROFESSIONAL REGISTRATION

Registered Professional  
Archaeologist (National), 1999 –  
present

Certified Archaeologist – Riverside  
County TLMA, 2008 – present

Certified Archaeologist – Orange  
County Environmental  
Management Agency, 1998 –  
present

Cultural Resources Specialist –  
California Energy Commission,  
2004

## AFFILIATIONS AND COMMITTEES

Pacific Coast Archaeological  
Society (PCAS)

Society for California Archaeology  
(SCA)

Society for American Archaeology  
(SAA)

Association of Environmental  
Professionals (AEP) (Board of  
Directors, 2005 to present)

American Cultural Resources  
Association (ACRA)

## PROFESSIONAL EXPERIENCE

BonTerra Consulting, Director,  
Cultural Resources 2008–present

Chambers Group, Director, Cultural  
Resources 2006–2008

SWCA, Project Manager/Director,  
Cultural Resources 2001–2006

RMW Paleo Associates, Staff  
Archaeologist/Senior Project  
Manager 1994–2001

Patrick Maxon is a Registered Professional Archaeologist, is certified by the County of Orange Environmental Management Agency and the Riverside County Transportation and Land Management Agency. He has 20 years of experience in all aspects of cultural resources management, including prehistoric and historic archaeology, paleontology, ethnography, and tribal consultation. He has expertise in compliance with the National Environmental Policy Act (NEPA), the California Environmental Quality Act (CEQA), the National Historic Preservation Act (NHPA), the Archaeological Resources Protection Act (ARPA), and the Clean Water Act (CWA), among others. Mr. Maxon has been previously certified by the City of San Diego, and meets the Secretary of Interior's standards for historic preservation programs for archaeology. Mr. Maxon has completed hundreds of cultural resources projects that have involved (1) agency, client, Native American, and subcontractor coordination; (2) treatment plans and research design development; (3) archival research; (4) field reconnaissance; (5) site testing; (6) data recovery excavation; (7) construction monitoring; (8) site recordation; (9) site protection/preservation; (10) mapping/cartography; (11) laboratory analysis; and (12) report production. He has managed a number of projects within the jurisdiction of the U.S. Army Corps of Engineers (USACE), the Bureau of Land Management (BLM), the Bureau of Reclamation, and other federal agencies that require compliance with Section 106 of the NHPA. He has also completed projects throughout Southern California under CEQA for State and local governments and municipalities, including the California Department of Transportation (Caltrans), the Department of General Services (DGS), the California Energy Commission (CEC), the California Department of Water Resources, the Los Angeles County Department of Public Works (LADPW), the Los Angeles Department of Water and Power (LADWP), the Los Angeles Unified School District, and others.

## Relevant Project Experience

***Lancaster Solar Farm Initial Study/Mitigated Negative Declaration, Lancaster (CoLACAO).*** BonTerra Consulting is currently preparing an Initial Study/Mitigated Negative Declaration (MND) for the proposed Solar Energy Project to be developed on approximately 63 acres of undeveloped County-owned land within the City of Lancaster. The project site is surrounded on the east and west by several County facilities, and the California State Prison-Los Angeles County (CSP-LAC) is located to the south. The County is proposing to develop the project site with a solar facility capable of generating up to 4 megawatts (MW) of electricity under peak solar conditions, and the energy would be made equally available to the adjacent Mira Loma Detention Center and the Challenger Memorial Youth Center.

The cultural resources investigation at the site included a California Historical Resources Information System (CHRIS) records search and literature review for the project at the South Central Coastal Information Center (SCCIC) at the California State University, Fullerton. Native American consultation was initiated with the Native American Heritage Commission (NAHC) with a request for a Sacred Lands File Search and contact list, and informational letters were mailed to tribes requesting comment. A paleontological resources records search, completed previously by the Los Angeles County Natural History Museum (LACNHM) was reviewed for information on known paleontological resources in the project site and surrounding area. In addition, a current records review of the museum's vertebrate paleontology records for the project site and vicinity was undertaken and reviewed. A cultural resources survey of the project site was conducted and a Historic Resources Assessment involving a pedestrian survey of the project site and research into the historic development of the site and surrounding area, including individual property information available from archival sources, was also completed. The study concluded that five on-site structures of an extant but defunct wastewater treatment and reclamation system are eligible for listing in the National Register of Historic Places and the California Register of Historical Resources. Avoidance or formal documentation via a Historic American Engineering Report (HAER) to document the history of early sewage treatment and water reclamation systems of the type found in the project area, and the physical properties of the system, was recommended. No other significant cultural resources were identified as a result of the study; however, because of the presence of historic and prehistoric resources in the vicinity, and the possibility of significant resources buried under development at the project site, monitoring of grading was recommended.

***Sylmar Ground Return Replacement Return System, City of Los Angeles (MWatson).*** BonTerra Consulting has been hired by Montgomery Watson Harza to perform an assessment of biological and cultural resources for the Sylmar Ground Replacement Return System Project in Los Angeles. The northern segment extends from north to south within the utility easement corridor that runs between the Sylmar West Converter Station in Sylmar to the Kenter Canyon Terminal Tower near Brentwood. The southern extension, from the Kenter Canyon Terminal Tower to the ocean, is currently being considered under three alternatives. Cultural resources work included a California Historical Resources Information System (CHRIS) records search and literature review for the project at the South Central Coastal Information Center (SCCIC) at the California State University, Fullerton. Native American consultation was initiated with the Native American Heritage Commission (NAHC) with a request for a Sacred Lands File Search and contact list, and informational letters were mailed to tribes requesting comment. A paleontological resources records search was completed by the Los Angeles County Natural History Museum (LACNHM) to compile information on known paleontological resources in the project site and surrounding area. Brief, one-day field surveys were conducted for the northern segment and memo reports were produced that identified constraints to the construction work. Cultural resources

surveys of the southern extension's three alternatives were subsequently conducted.

***Centennial Specific Plan Environmental Impact Report, Cultural Resources Surveys, Los Angeles County.*** BonTerra Consulting is preparing the environmental documentation for the Centennial Specific Plan EIR that involves a new community consisting of residential, commercial, business park, and cultural and civic/institutional uses and encompassing approximately 11,680 acres. Mr. Maxon, as the Cultural Resources Manager for the project, is managing the review, evaluation, and mitigation of cultural resources for this proposed project. To consider the current status of the project area's cultural and paleontological resources in the environmental analysis, others initially performed a Phase I cultural resources study of the entire project area. Mr. Maxon surveyed an off-site Caltrans right-of-way south of the project site. This included a records search at the South Central Coastal Information Center at the California State University, Fullerton; a paleontological records search at the Los Angeles County Museum; and an intensive pedestrian survey to evaluate the project area for the presence of cultural and paleontological resources. Numerous cultural resources sites were discovered on the project site, and some were evaluated for significance. Those that were determined significant and were in the Phase I development area were preserved in place. As the project evolves and expands beyond the Phase I area, additional sites must be evaluated for significance. Some may need to undergo data recovery excavations, while one structure must be recorded and evaluated. Consultations with regulatory agencies, County staff, Native American tribes, the interested public, and Clients will be completed and their comments considered, and the monitoring of disturbances around the known sites will be undertaken when construction activities commence.

***Newport Banning Ranch (City of Newport Beach).*** As project manager of the cultural resources portion of this on going project, Mr. Maxon conducted archaeological, historic, and paleontological investigations for resources potentially impacted by the proposed Newport Banning Ranch development. The investigation consisted of (1) a Phase II test level excavation of eight prehistoric and three historic archaeological sites present on the site; (2) an assessment and evaluation of the built environment resources associated with the West Newport Oil Company development on site; and (3) a paleontological assessment of the project site's potential for the presence of sensitive rock formations and fossil resources. Three archaeological sites were deemed significant as a result of the study and the paleontological significance of the project site was deemed as high. However, no historic resources associated with oil extraction operations were identified. Mr. Maxon oversaw the completion of fieldwork, the preparation of archaeological, historical and paleontological technical reports, and subsequently prepared the cultural resources section of the EIR for the project. Future work will include data recovery excavations and/or site protection/preservation of significant cultural and paleontological resources impacted by the proposed project. Archaeological/Paleontological monitoring will be undertaken during grading of the project site.

***Poseidon Desalination Plant, Cultural Resources Services, Huntington Beach and Newport Beach.*** BonTerra Consulting completed cultural and biological resources Phase I and II studies for the proposed Poseidon Resources Desalination Plant project in the City of Huntington Beach and the associated desalination plant pump station in the City of Newport Beach. The project included a Phase I cultural resources reconnaissance study that consisted of a California Historical Resources Information System (CHRIS) records search and literature review for the project at the South Central Coastal Information Center (SCCIC) at the California State University, Fullerton, Native American coordination with the Native American Heritage Commission and local Native American tribes and individuals, a pedestrian survey of both locations, and a cultural resources technical report describing the results of the study and offering management recommendations.

While no archaeological or paleontological resources were discovered, historic structures are present on the property and were evaluated for significance. The proposed desalination plant location in Huntington Beach, currently developed with three defunct fuel oil tanks and their infrastructure, is located within the existing AES Huntington Power Generation Plant facility in Huntington Beach. The second parcel is located in unincorporated County of Orange, immediately adjacent to the City of Newport Beach. It consists of an existing pump station site that will be expanded as part of the current project. Because they are nearly 50 years old, the fuel oil tanks in Huntington Beach were recorded on DPR Series 523 forms and evaluated for eligibility for listing in the California Register of Historical Resources. They were found not eligible. Mitigation for potential project effects included recommendations for the historic structures present on site and retention of an Archaeologist and/or Paleontologist in the event that cultural resources or fossil resources are discovered during grading.

***Atlanta Ave Widening Project HPSR/ASR/XPI (KOMEX).*** As project manager for the Atlanta Avenue widening project, Mr. Maxon conducted a Phase I cultural resources study to evaluate the potential effects of the project on cultural resources. The initial work included consultation with Caltrans cultural resources specialists regarding the Area of Potential Effects (APE) to cultural resources; a cultural resources literature review; Native American consultation; a field survey of the project area; and submittal to Caltrans of an Archaeological Survey Report (ASR), and a Historic Property Survey Report (HPSR). After further consultation with Caltrans, Mr. Maxon directed the historic evaluation of the Pacific Mobile Home Park south of the site; and completed an Extended Phase I (XPI) study consisting of subsurface archaeological excavation to evaluate the presence of the archaeological site within the APE, An updated ASR, XPI report, DPR 523 site forms, and HPSR was submitted to Caltrans and SHPO for review and comment.

***Wintersburg Channel (OrCo).*** Mr. Maxon performed a Phase I cultural resources study to determine if the proposed widening of the channel would have the potential to impact cultural resources. The study included a literature review at the South Central Coastal Information

Patrick O. Maxon  
(Continued)

Center, a paleontological literature review at the Los Angeles County Museum, a pedestrian survey of the Area of Potential Effects, and completion of the CEQA section describing the results of the study. As cultural resources project manager on this contract, Mr. Maxon also consulted with regulators at the US Army Corps of Engineers, Native American tribes and individuals, and with a local archaeologist who has extensive experience working in and around Bolsa Chica. Elements of the defunct Bolsa Chica Gun Club were identified in the wetlands, but it was determined that the channel work would have no impact on them. Recordation of the channel itself and the Slater Bridge to the north was subsequently completed by an architectural historian. Construction monitoring was recommended.