

APPENDIX E: CULTURAL RESOURCES REPORT

CULTURAL RESOURCES REPORT FOR THE US GYPSUM COMPANY EXPANSION/MODERNIZATION PROJECT SUPPLEMENTAL EIS, IMPERIAL COUNTY, CALIFORNIA



Overview of the Plaster City Quarry with Pacific Legacy Personnel William Shapiro and Mary O'Neill in the Foreground.

Prepared for

**US Bureau of Land Management
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and

**US Gypsum Company
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Sacramento, California 95883**

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CWA# 3215-01

June 2018

CONFIDENTIAL

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EXPANSION/MODERNIZATION PROJECT SUPPLEMENTAL EIS,
IMPERIAL COUNTY, CALIFORNIA**

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Project No. 3215-01

7.5-Minute USGS Topographic Maps:
Borrego Mountain SE (1958, 1959 ed.), Carrizo Mountain NE (1957, 1958 ed.),
Coyote Wells (1957, 1958 ed.), Painted Gorge (1957, 1958 ed.), and Plaster City (1957, 1958 ed.), California

June 2018

NATIONAL ARCHAEOLOGICAL DATABASE INFORMATION

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Report Date: June 2018

Title: Cultural Resources Report for the US Gypsum Company
Expansion/Modernization Project Supplemental EIS, Imperial County,
California

Prepared for: Bureau of Land Management and US Gypsum Company

Prepared by: Pacific Legacy, Inc.

Submitted to: Bureau of Land Management

Project No: 3215-01

Acreage: 1,981 acres

Keywords: Cultural resources, archaeology, Plaster City Quarry, Plaster City Plant, Imperial Valley, Colorado Desert

ACRONYMS AND ABBREVIATIONS

amsl	above mean sea level
ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effects
BP	Before Present
CA	California
CFR	Code of Federal Regulations
CHRIS	California Historical Resources Information System
CRHR/CR	California Register of Historical Resources/California Register
EIR/EIS	Environmental Impact Statement/Environmental Impact Report
GIS	Geographic information system
GPS	Global positioning system
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP/NR	National Register of Historic Places/National Register
OHP	Office of Historic Preservation
PRC	Public Resources Code
SCIC	South Coastal Information Center
SHPO	State Historic Preservation Officer
USACE	US Army Corps of Engineers
USC	United States Code
USG	US Gypsum Company
USGS	United States Geological Survey

MANAGEMENT SUMMARY

The United States Gypsum Company (USG) owns and operates the Plaster City Quarry and Plaster City Plant, an existing gypsum quarry and manufacturing facility located in northwestern Imperial County, California. Proposed developments to the quarry and plant were examined in the 2006 *United States Gypsum Company Expansion/Modernization Project Draft Environmental Impact Report/Environmental Impact Statement* (2006 Draft EIR/EIS) and in a Final EIR/EIS in 2008. The Imperial County Board of Supervisors, acting as the State Lead Agency under CEQA, certified the Final EIR/EIS in March 2008. The US Department of the Interior, Bureau of Land Management (BLM) served as the Federal Lead Agency for both the 2006 Draft and 2008 Final EIR/EIS, though to date no aspects of the federal actions analyzed in those documents have been implemented. No major changes to the Proposed Action analyzed in those documents are proposed, however a Supplemental EIS (SEIS) is being prepared to evaluate updated information and changes in the circumstances under which the USG Expansion/Modernization Project (the Project) is being undertaken that have occurred since the analysis for the 2006 Draft and 2008 Final EIR/EIS was completed.

As a condition of approval for the 2008 Final EIR/EIS, the Imperial County Board of Supervisors stipulated that USG contact the US Army Corps of Engineers (USACE) and pertinent regulatory agencies prior to initiating activities within the quarry that would include impacts to ephemeral drainages. After USG submitted an application for a Clean Water Act (CWA) Section 404 Permit in 2014 to expand operations within the quarry, the USACE determined that an EIS-level analysis would be required to evaluate impacts to Waters of the United States before those operations could be implemented. The USACE was not a Cooperating Agency in the development of the 2008 Final EIR/EIS and cannot adopt the Final EIR/EIS for the purposes of issuing a CWA 404 Permit. Further, the BLM did not complete Endangered Species Act consultation or issue a Record of Decision for the Final EIR/EIS. Both of these processes will be completed prior to the development of the Proposed Action on BLM-administered lands. The SEIS, which will be informed by this Cultural Resources Report (CRR) and other technical studies, will provide the Federal Lead Agency and Cooperating Agency with the opportunity to review and comment on the analysis of updated information and/or changes in circumstances related to the federal aspects of the Proposed Action as described in the 2006 Draft and 2008 Final EIR/EIS documents.

This CRR summarizes the cultural resource investigations that Pacific Legacy, Inc. has completed to date in support of the Project. These investigations included a Class I inventory or archival and records search of the Project Area of Potential Effects (APE) and a 0.25-mile area surrounding the APE as well as a Class III pedestrian inventory survey of approximately 1,464 acres and a “spot-check” survey of 517 acres to identify cultural resources that may be affected by the Project. These efforts built upon a cultural resources investigation that was completed by Pacific Legacy for the Project in 2002 in support of the 2006 Draft and 2008 Final EIR/EIS. Per BLM mandates regarding cultural resource identification efforts, areas not subject to inventory survey for over 10 years must be re-examined according to current federal standards. The 2018 cultural resources investigation was thus aimed at updating the 2002 study while examining additional areas, particularly jurisdictional waters subject to CWA 404 Permit authorization, which were not targeted during the prior inventory.

The 2018 cultural resources investigation involved the examination of all proposed mining areas and all jurisdictional waters within the Plaster City Quarry. It also included the proposed right-of-way for an approximate 3.45-mile long waterline/powerline that bridges the main quarry area and a proposed well (Well No. 3), an 8.7-mile waterline that spans facilities in Ocotillo and Plaster City, and a 5-mile alternative waterline between the Westside Main Canal and Plaster City. The right-of way for the waterline/powerline and the Ocotillo to Plaster City waterline was defined as a 50-foot buffer (100-foot corridor) centered on each alignment. The right-of way for the alternative Plaster City to Westside Main Canal waterline would be sited to the north of Highway 80 and to the south of an existing railway alignment, though the exact route has yet to be determined. Areas between the existing highway and railway alignments (695 feet distant at the widest point), were therefore examined in 2018. URS Corporation conducted a Class III pedestrian inventory survey of much of the proposed and alternative waterline routes in 2008, therefore those areas were subject to spot-check survey only to verify URS findings. A 100-foot buffer around all proposed disturbance areas on BLM lands within the Plaster City Quarry also was examined. Cumulatively, all of these areas comprised 1,981 acres and made up the Project APE. Approximately 539 acres were on BLM lands, 17 acres encompassed California State lands, and 1,425 acres were on private lands.

The Class I archival and records search revealed that 36 prior cultural resource studies have overlapped some portion of the Project APE while five additional studies have been conducted outside but within a 0.25-mile radius of the Project APE. These studies represented a wide array of cultural resource investigations, including archival and records search reviews, Class III pedestrian inventory surveys, Extended Phase I inventory survey and subsurface testing programs, cultural resource evaluation efforts, and data recovery excavations. The Class III pedestrian inventory survey conducted by Pacific Legacy in 2002, however, was the only one to encompass portions of the Plaster City Quarry. All other prior cultural resource studies overlapped or were proximate to the proposed waterline that spans Ocotillo and Plaster City and the alternative waterline between Plaster City and the Westside Main Canal.

The Class I archival and records search also revealed that 65 cultural resources have been previously documented within the Project APE while 118 resources have been recorded outside of the APE but within a surrounding 0.25-mile radius. Cultural resources documented within the Project APE include 14 prehistoric archaeological sites, 30 historic period archaeological sites or built environment resources, 11 multi-component resources containing both prehistoric and historic period elements, and 10 isolated finds. The prehistoric resources comprise mostly lithic and ceramic scatters and many of the historic period resources consist of debris scatters containing cans, glass, and metal likely associated with adjacent road or railway corridors. Fourteen of the historic period resources comprise concrete survey markers, some with associated debris or signage. Notable historic period built environment resources include Highway 80 as well as the Plaster City Quarry, Plaster City Plant, Plaster City Railroad, and San Diego and Arizona Eastern Railroad.

Pacific Legacy personnel conducted the Class III pedestrian inventory and spot-check survey of all accessible areas within the Project APE in April and May 2018. During the 2018 investigation, 879 acres were subject to an intensive Class III pedestrian inventory survey while 517 acres were examined as a part of the spot-check survey of the proposed and alternative waterline. Approximately 585 acres were inaccessible due to topographic or safety constraints. Areas

subject to Class III pedestrian inventory survey included 233 acres on BLM lands, 17 acres on California State lands, and 1,214 acres on privately owned lands. Spot-check survey areas included 306 acres of BLM lands and 211 acres of private lands.

Forty-three previously recorded cultural resources were relocated within the surveyed portions of the Project APE. As documented in 2018, these included three prehistoric archaeological sites; 17 historic period archaeological sites or built environment resources; seven multi-component resources containing prehistoric and historic period materials, including one that was combined with a previously recorded prehistoric resource; and two isolated finds. Thirteen additional resources comprising historic period "C" block markers associated with Highway 80 had been previously recorded as distinct entities with unique California State Primary numbers; they were noted as unchanged during the 2018 field effort but were not re-recorded and would be more correctly characterized as features of the historic period highway. Twenty-two resources were not relocated during the 2018 field effort, including 14 archaeological sites or built environment resources and eight isolated finds. Some of these resources were likely disturbed or destroyed by erosion or development, others appeared to have been poorly mapped or mis-plotted, and still others had been mapped as just intersecting the Project APE while the materials they encompassed lay outside of the APE. With the exception of the Plaster City Quarry, Plaster City Railroad, and one historic period site, all of the previously recorded cultural resources relocated in 2018 were found along the proposed waterline between Ocotillo and Plaster City and the alternative waterline between Plaster City and the Westside Main Canal.

In addition to the 43 previously recorded cultural resources that were relocated within the surveyed portions of the Project APE, two additional prehistoric archaeological sites, 13 prehistoric isolated finds and nine historic period isolated finds were newly discovered. Nineteen of these resources, including both archaeological sites and 17 isolated finds, were noted within the Plaster City Quarry, three were found along the proposed waterline/powerline or within the area encompassing proposed Well No. 3, and two were encountered along the proposed waterline between Ocotillo and Plaster City. The two newly discovered prehistoric archaeological sites have not been evaluated for listing in the National Register of Historic Places (NRHP) and/or the California Register of Historical Resources (CRHR), and the isolated finds by definition would not qualify for listing in either register.

The Class I archival and records search revealed that 13 archaeological sites or built environment resources previously recorded within the Project APE have been evaluated for listing in the NRHP and/or the CRHR through survey-level assessments conducted in support of other projects. Of those, one has been recommended eligible for listing in the NRHP and CRHR, 10 have been recommended not eligible for listing in either register, and portions of two resources have been alternatively recommended as eligible and not eligible for listing in the NRHP and CRHR. Four additional resources reportedly required further assessment before an eligibility recommendation could be offered while the remaining resources have not been evaluated. According to available documentation, these eligibility recommendations have not been formalized by a Federal Lead Agency or the State Historic Preservation Officer. A National Register Nomination form has been prepared for one resource that includes several recorded segments that have been recommended not eligible for listing in the NHRP and/or the CRHR; this form remains under review, however, and has not been submitted to the Keeper.

Regardless of their NRHP and/or CRHR status, the BLM proposes to avoid impacts to all archaeological and built environment resources within the Project APE. A Construction Monitoring and Inadvertent Discovery Plan will be prepared prior to implementation of the Proposed Action examined under the Project SEIS. This plan will be finalized prior to the issuance of a Record of Decision and will describe the worker awareness training, avoidance measures, and monitoring procedures that will be implemented in support of the Project to protect avoid impacts to cultural resources.

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1.0 INTRODUCTION

The United States Gypsum Company (USG) owns and operates the Plaster City Quarry and Plaster City Plant, an existing gypsum quarry and manufacturing facility located in northwestern Imperial County, California. Proposed developments to the quarry and plant were examined in the 2006 *United States Gypsum Company Expansion/Modernization Project Draft Environmental Impact Report/Environmental Impact Statement* (2006 Draft EIR/EIS) and in a Final EIR/EIS in 2008. The Imperial County Board of Supervisors, acting as the State Lead Agency under CEQA, certified the Final EIR/EIS, adopted findings of fact, a statement of overriding considerations, and a mitigation monitoring program in March 2008. The US Department of the Interior, Bureau of Land Management (BLM) served as the Federal Lead Agency for both the 2006 Draft and 2008 Final EIR/EIS, though to date no aspects of the federal actions analyzed in those documents have been implemented. No major changes to the Proposed Action analyzed in those documents are proposed, however a Supplemental EIS (SEIS) is being prepared to evaluate updated information and changes in the circumstances under which the USG Expansion/Modernization Project (the Project) is being undertaken that have occurred since the analysis for the 2006 Draft and 2008 Final EIR/EIS was completed.

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additional areas, particularly jurisdictional waters subject to CWA 404 Permit authorization that were not targeted during the prior inventory. Contact with Native American tribal representatives was not conducted by Pacific Legacy in 2018, but instead was managed by the BLM. The following sections describe the Proposed Action, the Project location and APE, and the Project's regulatory setting as well as the structure of this report. Successive chapters in this CRR discuss the environmental and cultural setting of the Project area, the Class I archival and records search results, and the Class III pedestrian inventory survey results before offering conclusions and recommendations.

1.1 PROJECT DESCRIPTION

The Plaster City Quarry is located in the northwestern portion of Imperial County near the San Diego County border (*see* Figures 1-1 through 1-3). Approximately 2,032 acres within the quarry are owned by USG while 48 acres comprise active mill site claims on public land. To date, quarrying has occurred across roughly 437 acres (Quarry 1A, Quarry 1B, and the Shoveler Annex), with mining restricted to gypsum resources that were disturbed prior to the approval of the 2008 Conditional Use Permit issued by the Imperial County Board of Supervisors. Many of the available gypsum outcrops in these areas have been exhausted, exposing contaminants such as granite and anhydrite that are harmful to processing equipment or not useful in manufacturing. Development of future mine phases will include the removal of overlying alluvium in other parts of the quarry to expose further gypsum deposits.

Quarry development areas under the Proposed Action include approximately 73 acres of public lands as well as three new mill site claims. Two additional mill site claims are proposed along the edge of the mine plan boundary. No quarrying is proposed within the mill site claims. Instead, disturbance will be limited to activities associated with the development of a quarry top of slope and flood control berm. In addition, ongoing development of the Plaster City Quarry will impact approximately 1,119 acres of private land. This total does not include a 40-acre privately-owned inholding (Georgia Pacific Parcel) that was acquired by USG in 2006. That parcel is located within the boundaries of the quarry but has not been identified for development under the Proposed Action.

Development of the Plaster City Quarry will involve outcrop quarrying or alluvial wash quarrying. Outcrop quarrying will rely on removing gypsum from outcrops above the alluvial wash located in the central quarry area by developing and extending a series of 25-foot high benches. As quarrying extends southward, gypsum underlying alluvial overburden will be extracted through alluvial wash quarrying. Gypsum extraction will progress downward from the toe of the overburden in 25-foot vertical benches at a 1:1 slope until the bottom of the mineable zone is reached. An earthen berm measuring approximately 5 feet in height and 20 feet in width will be constructed along the west side of the quarry to preserve the natural drainage pathway to the west while protecting quarry operations to the east from floodwaters. As alluvial material is stripped during alluvial wash quarrying, a portion of that overburden will be pushed to the east bank of the wash forming a permanent retention berm intended to divert sheet flow from quarry operations in the event of storm runoff.

Historically, water used to support quarry operations has been obtained from on-site wells. Water from two wells, one drilled in 1983 (Quarry Well No. 1) and the other in 1993 (Quarry

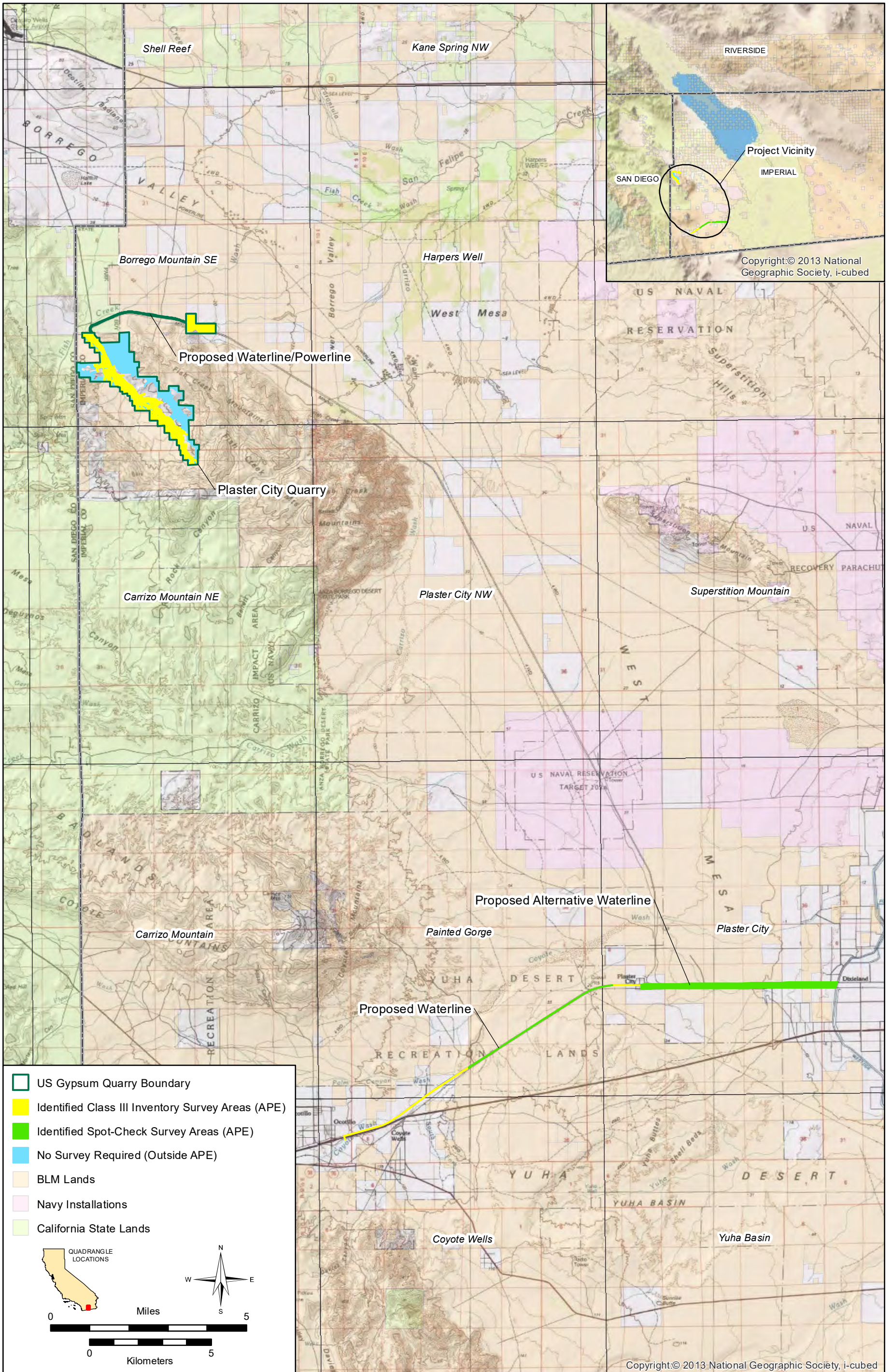


Figure 1-1. Project Vicinity Map.

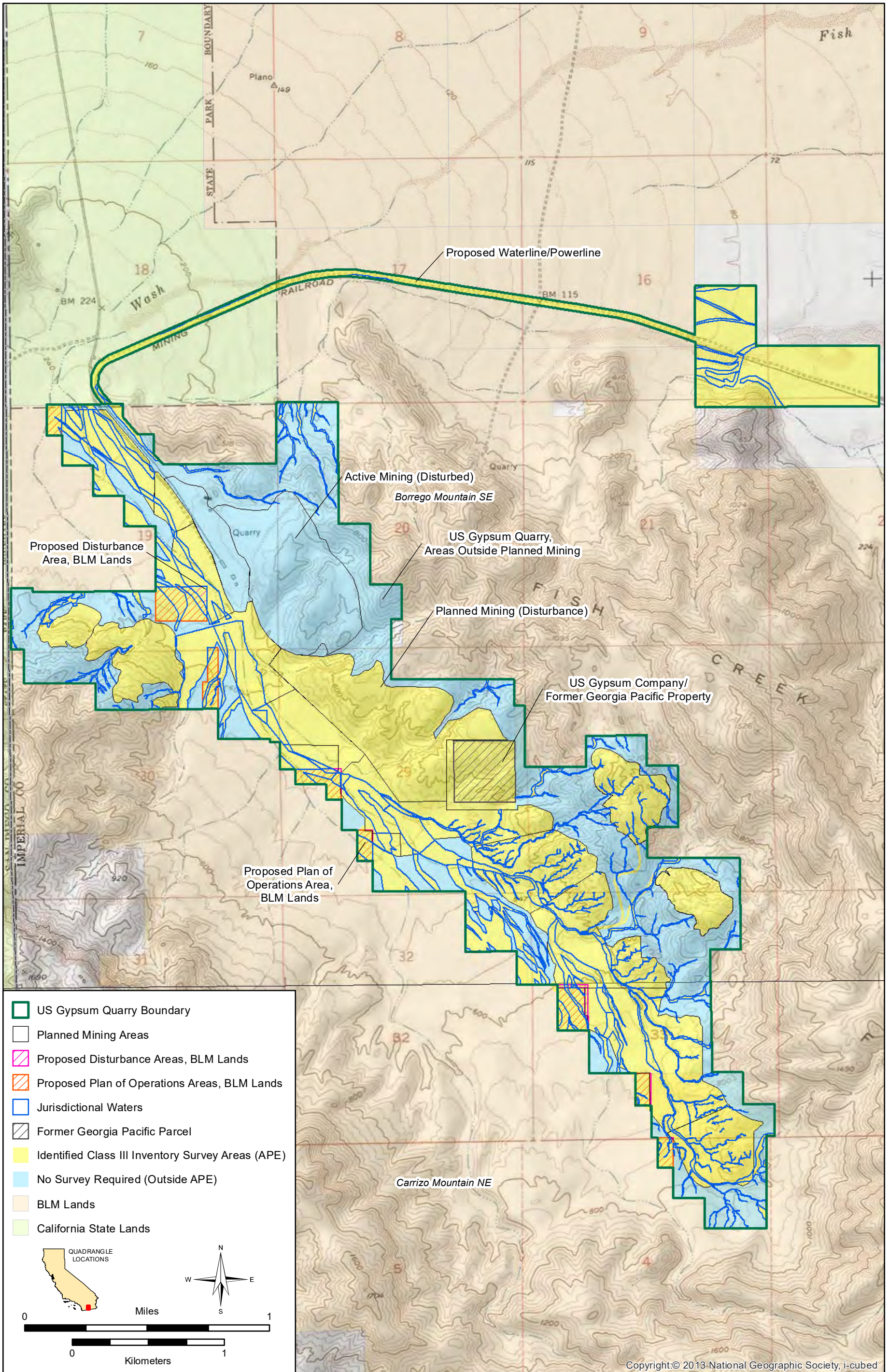


Figure 1-2. Project Location and Area of Potential Effects Map 1 of 3.



Figure 1-3. Project Location and Area of Potential Effects Map 2 of 3.

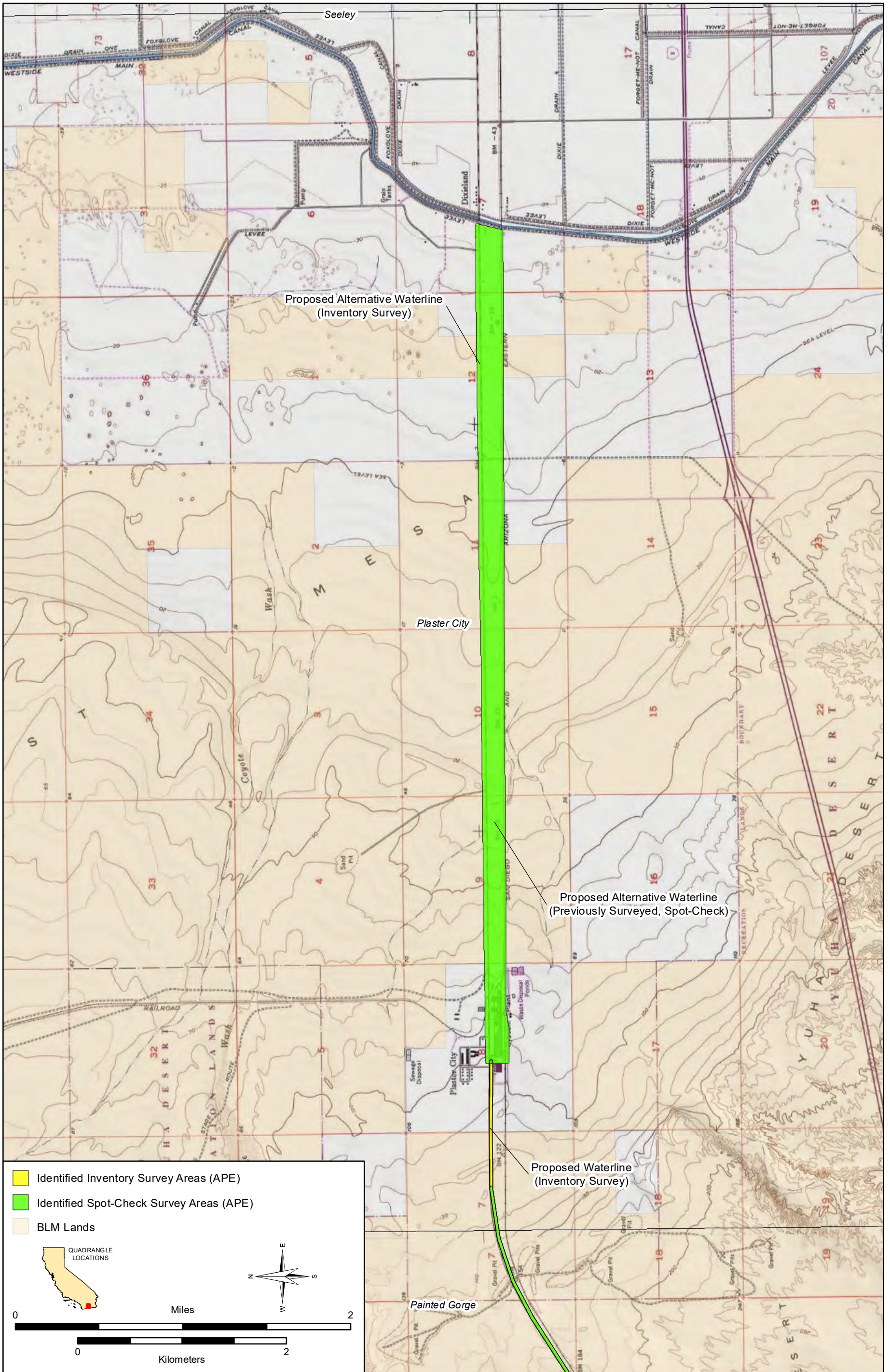


Figure 1-4. Project Location and Area of Potential Effects Map 3 of 3.

Well No. 2), supplied non-potable water for dust suppression, though the output of both wells declined over time and no longer meets operational demands. Additional water, including potable water for drinking and sanitation, is supplied by a railroad tank car from the Plaster City Plant. The Plaster City Plant spans 437 acres of private land, 340 acres of which have been developed or disturbed through plant operations. With the exception of improvements to the water system, other improvements identified under the 2006 Draft and 2008 Final EIR/EIS have been completed. Water for the plant is delivered through an 8-inch gravity fed pipeline from three groundwater wells located approximately 8.5 miles west of the plant within the Ocotillo/Coyote Wells Groundwater Basin. It is used for potable water, sanitation, fire protection, and production. Under the Proposed Action, the 8-inch diameter waterline would be replaced with a 10-inch diameter waterline bridging USG wells in Ocotillo and the plant. The 9-mile alignment occurs generally south of the present day alignment of Highway 80 and crosses private and federal lands as well as jurisdictional waters subject to CWA Section 404 authorization by the USACE. The right-of-way on BLM lands would be approximately 5 miles in length and 30 feet in width.

In addition, a new water well, Well No. 3, would be drilled on USG land east of the main entrance to the Plaster City Quarry and water would be transported to the quarry via an underground pipeline. Along with the development of this waterline, USG would install a powerline to serve the well pump that would follow the same alignment. The powerline would be underground from the well head to the quarry gate, with overhead power poles installed within the quarry boundaries. The total length of these utility alignments between the well and quarry would be approximately 3.45 miles. The proposed water pipeline and powerline would be installed parallel within the same trench between the existing Plaster City Railroad and an associated access/maintenance road. The water and pipeline right-of-way is expected to span a 30-foot wide corridor centered on a line 30 feet north of the centerline of the existing access road. The disturbance area for utilities installation would be completely within existing right-of-way and would include approximately 9,500 linear feet of public land. The utilities installation right-of-way does not cross jurisdictional waters subject to CWA Section 404 authorization from the USACE.

1.2 PROJECT LOCATION AND AREA OF POTENTIAL EFFECTS

For the purposes of this Project, the APE is defined as all proposed mining areas and all jurisdictional waters within the Plaster City Quarry. The APE also includes the proposed right-of-way for an approximate 3.45-mile long waterline/powerline that bridges the main quarry area and Well No. 3, an 8.7-mile waterline that spans facilities in Ocotillo and Plaster City, and a 5-mile alternative waterline between Plaster City and the Westside Main Canal. The right-of-way for the waterline/powerline and the Ocotillo to Plaster City waterline is defined as a 50-foot buffer (100-foot corridor) centered on each alignment. For the Plaster City to Westside Main Canal alternative waterline, the proposed alignment may be sited to the north of Highway 80, to the south of an existing railway alignment, or between the highway and railway, which are approximately 695 feet distant at the widest point along the proposed alignment. A 50-foot buffer (100-foot corridor) along the proposed right-of-way north of the highway and south of the railway were joined to encompass intervening lands, which were examined in 2008 by URS Corporation (URS 2010) and therefore subject to a spot-check survey only in 2018. Although this corridor is broadly defined to offer flexibility in routing, it is expected to require only a 15-foot

buffer (30-foot corridor) for construction. In addition to the areas defined above, a 100-foot buffer around all proposed disturbance areas on BLM lands within the Plaster City Quarry also is included. Cumulatively, all of these areas total 1,981 acres and make up the Project APE. Approximately 539 acres are on BLM lands, 17 acres include California State lands, and 1,425 acres are on private lands. Figures 1-2 and 1-3 depict each of the areas within the Project APE that were targeted during the 2018 cultural resources investigation.

1.3 REGULATORY SETTING

1.3.1 SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT

Under Section 106 of the 1966 National Historic Preservation Act (NHPA) (54 USC 300101 et seq., as amended), the BLM is required to take into consideration the effects of the proposed undertaking on historic properties. Per 36 CFR Part 800.16(l)(1) a historic property is defined as

any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria.

Implementing regulations for the NHPA put forth by the Advisory Council on Historic Preservation (ACHP) may be found under 36 CFR Part 800. Those regulations describe the steps that federal lead agencies must take to identify and evaluate potential historic properties, assess potential adverse effects to those properties that may occur through the implementation of an undertaking, and outline steps that may be taken to resolve potential adverse effects through avoidance or appropriate mitigation measures. Section 106 of the NHPA also affords the ACHP a reasonable opportunity to comment on federal undertakings. A main goal of the Section 106 review process is to offer interested parties an opportunity to consult and reach consensus on measures of protection for historic properties. Amendments to the NHPA (1986, 1992, and most recently in 2006) and subsequent revisions to the implementing regulations have, among other things, strengthened the provisions for Native American consultation and participation in the Section 106 review process.

1.3.2 NATIONAL REGISTER OF HISTORIC PLACES

Criteria for determining National Register of Historic Places (NRHP) eligibility are found in 36 CFR Part 60. The NRHP is “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” (36 CFR Part 60.2). Eligibility for inclusion in the NRHP is determined by applying the following criteria, which were developed by the National Park Service in accordance with the NHPA and outlined in 36 CFR Part 60.4:

The quality of significance in American history, architecture, archeology, 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

- A) That are associated with events that have made a significant contribution to the broad patterns of our history; or
- B) That are associated with the lives of persons significant in our past; or
- C) That embody distinctive characteristics of a type, period, or method of construction, 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) That have yielded, or may be likely to yield, information important in prehistory or history.

Any prehistoric or historic period district, site, building, structure, or object that meets one or more of the criteria above and possesses sufficient integrity may be eligible for inclusion in the NRHP as a historic property.

1.3.3 CALIFORNIA ENVIRONMENTAL QUALITY ACT

State historic preservation regulations affecting the Project include the statutes and guidelines contained in CEQA. CEQA requires lead agencies to carefully consider the potential effects of a project on historical resources. A “historical resource” includes, but is not limited to, any object, building, structure, site, area, place, record or manuscript that is considered historically or archaeologically significant (PRC 5020.1). Section 15064.5 of state CEQA *Guidelines* specifies criteria for evaluating the significance or importance of cultural resources as follows:

- 1) The resource is associated with events that have made a contribution to the broad patterns of California history;
- 2) The resource is associated with the lives of persons important in our past;
- 3) The resource embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important individual or possesses high artistic values; or
- 4) The resource has yielded, or may be likely to yield, important information in prehistory or history.

The technical advice series produced by the California Governor’s Office of Planning and Research offers guidance on procedures to identify historical resources, evaluate their importance and potential for listing in the California Register of Historical Resources (CRHR), and estimate potential effects to historical resources. The advice series strongly recommends that Native American concerns and the concerns of other interested persons and corporate entities including, but not limited to, museums, historical commissions, associates, and societies be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains, and associated grave goods regardless of their antiquity and provides for the sensitive treatment and disposition of those remains.

1.3.4 CALIFORNIA REGISTER OF HISTORICAL RESOURCES

The CRHR, which is similar to the NRHP, is an authoritative guide that was created to identify the state’s historical resources and to indicate what properties are subject to protection, to the extent prudent and feasible, from substantial adverse change. The criteria for CRHR eligibility are based upon NRHP criteria. Certain resources are determined by the statute to be

automatically included in the CRHR, including California properties formally determined eligible for or listed in the NRHP; California Historical Landmarks, numbers 770 and above; and California Points of Historical Interest.

Per the CRHR, historical resources may consist of buildings, structures, objects, or archeological sites. Each of these entities is assessed for its historical, architectural, archaeological, cultural, or scientific importance. Per CEQA *Guidelines*, (Section 15064.5[b]), project activities may have a significant impact on the environment if they may cause a substantial adverse change in the significance of a historical resource. Activities that could result in a significant impact include demolition, replacement, substantial alteration, and/or relocation of the resource. Steps that must be implemented in order to comply with state CEQA *Guidelines* include the following:

- Identify cultural resources;
- Evaluate the significance of the cultural resources based on established thresholds of historical, architectural, archaeological, cultural, or scientific importance;
- Evaluate the effects of a project on all cultural resources; and
- Develop and implement measures to mitigate the effects of the project on significant cultural resources.

The BLM executed a national Programmatic Agreement (PA), on February 9, 2012, (Part 2) with the ACHP and the National Council of State Historic Preservation Officers (SHPOs). The PA governs the manner in which the BLM meets its responsibilities under the NHPA and directs each BLM State Director to develop a mutually agreed upon Protocol with each SHPO in their respective jurisdictions. The PA encourages BLM State Directors and SHPOs to develop mutually agreed upon BLM-SHPO protocols regulating their relationship and how consultation will take place by establishing streamlined (as opposed to case-by-case) consultations. Since California BLM administers land in California and Nevada, the Protocol was negotiated by the California State Director of the BLM with the California SHPO and the Nevada SHPO in 2014. The applicable standards for this Project are found under the *Secretary of the Interior's Guidelines for Identification* on pages 69-71 of the 2014 Protocol Agreement.

1.4 PURPOSE AND REPORT ORGANIZATION

As noted above, this report presents identification efforts that have been undertaken for the Project to date. It is intended to assist USG and the BLM by identifying previously recorded cultural resources, including known historic properties and/or historical resources, as well as cultural resources that have been newly discovered through a Class III pedestrian inventory survey of the Project APE. This document also is intended as an aid for the management of cultural resources that may be directly or indirectly impacted by the Project if avoidance measures are not implemented.

This CRR includes seven sections as well as three appendices. This section provides an introduction to the Project, including its geographic and regulatory context. Section 2.0 presents a brief overview of the Project's environmental setting, which is relevant to a discussion of the region's cultural history and to a discussion of the 2018 Class III pedestrian inventory survey. Section 3.0 outlines the cultural history of the Project vicinity from the prehistoric habitation of the region through its settlement by Euro-Americans. The results of the Class I archival and

records search are presented in Section 4.0, followed in Section 5.0 by a discussion of the survey and recording methods that were used during the Class III pedestrian inventory and spot-check survey. Section 6.0 summarizes the results of Pacific Legacy's field efforts and describes the previously recorded and newly discovered cultural resources that were encountered within the Project APE. Finally, Section 7.0 outlines existing information regarding the NRHP/CRHR eligibility status of previously recorded cultural resources within the Project APE and offers recommendations for further action. Maps of previously recorded cultural resources within the Project APE are included in Appendix A, while maps depicting the findings from the 2018 Class III pedestrian inventory survey are offered in Appendix B. Full copies of confidential records for cultural resources encountered within the Project APE are included in Appendix C.

2.0 NATURAL ENVIRONMENT

The Project area's natural environment has played a large role in shaping its cultural history. The locations and characteristics of Native American habitation sites, procurement areas, and travel routes were influenced by local physiography, flora, and fauna as were later historic period settlements, infrastructural developments, and commercial enterprises. Although the Project area lies fully within the Colorado Desert, it encompasses great physiographic and biotic diversity as it stretches from the rugged eastern Peninsular Ranges to the low-lying West Mesa basin. Treatments of Colorado Desert physiography, flora, and fauna may be found in Schoenherr (1992), Munz (1963), and Lightfoot and Parrish (2009). The following discussion draws on these sources and presents a brief overview of the Project area's natural environment so that its cultural history may be better understood.

2.1 PHYSIOGRAPHY, GEOLOGY, AND SOILS

The Project area lies within the Colorado Desert, the California portion of the much larger Sonoran Desert, which encircles the Gulf of California and includes portions of Baja California, southeastern California, southwestern Arizona, and northwestern Mexico. Much of the Colorado Desert is dominated by the Salton Trough, a long valley that measures roughly 84 miles in length and 31 miles in width that is marked at its lowest point (274 feet amsl) by the Salton Sea. At the southern end of the Salton Trough, the delta of the Colorado River separates the area from the Gulf of California. The Orocopia and Chocolate mountains, uplifted by the San Andreas Fault, lie to the east of the Salton Trough. Further eastward, the Colorado Desert is punctuated by other mountain ranges, such as the Chuckwalla Mountains, before terminating at the Colorado River. The ridge formed by the Little San Bernardino, Pinto, and Eagle mountains separates the Colorado Desert and the Mojave Desert to the north. The Peninsular Ranges, which include the Laguna Mountains, lie to the west of the Colorado Desert. Low-lying mountains associated with the Peninsular Ranges dominate the western portion of Imperial County, which descends into the Imperial Valley and Salton Trough to the east. The Imperial Valley forms the northernmost extension of the Gulf of California geologic trough that extends east to the Chocolate and Cargo Muchacho Mountains and west to the Coyote and Fish Creek Mountains (Zimmerman 1981), and the Salton Sea makes up the deepest part of this basin.

The Plaster City Quarry spans an elongated valley and an unnamed wash bordered by rugged foothills at the northwest end of the Fish Creek Mountains, to the east of Split Mountain, and southwest of the Fish Creek Wash. The proposed waterline/powerline is located in the West Mesa area, which is characterized by alluvial fans emanating from the Jacumba, Coyote, and Fish Creek Mountains. The Fish Creek Mountains generally trend northwest-southeast and reach a maximum elevation of 2,330 feet amsl, though elevations within the immediate vicinity of the quarry range only from 500 to 800 feet amsl. Geologically, much of the quarry area is characterized by 100 to 200-foot thick beds of gypsum dating to the Miocene. Basal layers consist of interbedded shale, gypsum, and sandstone. In contrast, the proposed waterline/powerline is marked Quaternary alluvial deposits made up of silts, sands, and gravels that have eroded from the surrounding mountains. These deposits are very shallow near the western and northern margins of the basin but reach up to 600 feet in thickness in the vicinity of Ocotillo. The West Mesa area is marked by several fault zones, including the Elsinore Fault that separates the mesa from the Coyote Mountains and the Laguna Salada Fault that

separates mostly alluvial sediments to the west (near Plaster City) from mostly Tertiary marine sediments to the east (near Ocotillo).

The Fish Creek Mountains contain the thickest, most expansive gypsum deposits in California, though they likely covered a much larger area than is currently exposed. The most extensive remnant deposits that remain are to be found in the northwest half of the Plaster City Quarry, which is the largest gypsum quarry in the country and the only one that remains active. On average, the Plaster City Plant produces one million tons of gypsum per year. While the quarry area is dominated by exposed gypsum deposits, other portions of the Project area are characterized by more varied soil series classes. For instance, soils along the water pipeline replacement alignment consist of Rositas and Superstition loamy fine sands (Zimmerman 1981). Rositas Series soils are weakly-developed, exhibiting only C-horizons. These soils form in aeolian or alluvial sands on flood plains, basins, terraces, and sand hills. Superstition Series soils form in sandy aeolian and alluvial sands on old Quaternary terraces and alluvial fans. These soils are slightly more developed than the Rositas soils and exhibit A-C horizons (Zimmerman 1981). According to US Department of Agriculture (USDA) soil survey data, soils within the Project area include Rositas, Carrizo, Orita, Aco, and Superstition series soils as well as rock outcrop (USDA-NRCS 2015). Generally, these may be characterized as follows:

- *Rositas series soils* consist of very deep, somewhat excessively drained soils formed in sandy aeolian material. Rositas soils are found on dunes and sand sheets with slopes of 0 to 30 percent.
- *Carrizo series soils* comprise very deep, excessively drained soils formed in mixed igneous alluvium; they are formed on floodplains, fan piedmonts and bolson floors and tend to occur on slopes that vary from 0 to 15 percent.
- *Orita series soils* consist of consist of very deep, well drained soils formed in alluvium from mixed sources. Orita soils occur on fan remnants and terraces with slopes of 0 to 2 percent.
- *Arco series soils* consist of very deep, well to somewhat excessively drained soils formed in mixed alluvium on terraces with slopes of 0 to 8 percent just above the floodplain.
- *Superstition series soils* consist of very deep, somewhat excessively drained soils formed in sandy aeolian deposits. Superstition soils are found on dunes with slopes of 0 to 10 percent.

The surface or near surface texture of these soils ranges from fine sand (Rositas) to gravelly sand with 70% gravel inclusions (Carrizo) to gravelly fine sandy loam (Orita) or sandy loam (USDA-NRCS 2015). As noted below, many of these soils support biotic communities that are dominated by creosote bush, burrobush, and range ratany.

2.2 CLIMATE AND HYDROLOGY

The Peninsular Ranges, which border the Colorado Desert to the west, create a rain-shadow that contributes to the desert's aridity. The Colorado Desert receives more summer precipitation than the northern deserts, though annual precipitation remains low and falls mostly between December and March with some thunderstorm precipitation in August and September. To the northwest of the Project area at Anza-Borrego Desert State Park, annual rainfall averages 6.9

inches; to the east in the City of Imperial, annual rainfall averages just 3.6 inches, much of it falling in December. Localized thunderstorms in the Colorado Desert can be especially severe, depositing 3 to 5 inches of rainfall in just a few hours (Schoenherr 1992:413).

In addition to low, unevenly distributed precipitation, the Colorado Desert is characterized by extreme temperatures, windy conditions, high light intensity, and nutrient-poor alkaline soils. It experiences greater summer daytime temperatures than higher-elevation deserts and almost never experiences frost. The City of Imperial has a recorded temperature range of 111° F (54° C), between a record high of 125° F (51° C) and a record low of 14° F (-10° C). Average low to high temperatures in the summer are 68 to 103° F (25 to 41° C) and in the winter are 38 to 69° F (4 to 20° C).

The most notable hydrologic feature in the Project vicinity is the Salton Sink. It represents the topographic low point of the Salton Trough and encompasses the Salton Sea, which is located approximately 15 miles northeast of the Project area. The Salton Sea is a shallow, endorheic rift lake fed by the New, Whitewater, and Alamo rivers as well as agricultural runoff from the Coachella and Imperial valleys (Schoenherr 1992). Currently saline, the sea is the largest water body in California. Several times in the geologically recent past, much of the Salton Trough was covered by a series of lakes known collectively as Lake Cahuilla, of which only playa surfaces, beach terraces, and the Salton Sea remain (Moratto 1980:18). Lake Cahuilla, which spanned between the Coachella Valley and the upper Gulf, formed when water from the Colorado River was diverted into the Salton Trough for extended intervals. These lacustral periods were punctuated by centuries in which the river did not flow into the region but instead deposited silt and sediments across its southern end. This cyclical filling of the trough occurred roughly every 400 to 500 years, with the latest natural episode occurring around AD 1600 to 1700.

Currently, groundwater is the most significant source water in the Project vicinity. The West Mesa area, which encompasses the proposed waterline/powerline and the Plaster City Plant, is located in the Ocotillo/Coyote Wells Groundwater Basin. The silts, sands, and gravels within the basin are highly permeable and provide groundwater to the area fed by runoff from the mountains. The Plaster City Quarry is located in the Ocotillo Valley Groundwater Basin, which also is fed by mountain runoff. In contrast to the Ocotillo/Coyote Wells Groundwater Basin, however, it is marked by surface drainages. The most prominent of these is the San Felipe Creek, which extends from the Peninsular Ranges to the Salton Sea. Near Well No. 3 of the Plaster City Quarry, the primary surface drainage is the Fish Creek Wash. Both the San Felipe Creek and Fish Creek Wash flow seasonally. The confluence of these two drainages is located approximately 10 miles to the northeast of the Plaster City Quarry near the San Felipe and Fish Creek springs.

2.3 FLORA AND FAUNA

Vegetation communities within the Colorado Desert are largely influenced by soils, latitude, and elevation (Schoenherr 1992). These habitats are dominated by shrub species, including creosote (*Larrea tridentate*), bursage or burro bush (*Ambrosia dumosa*), brittlebush (*Encelia farinosa*) wild buckwheat (*Eriogonum fasciculatum*), ephedra (*Ephedra californica*), pygmy cedar (*Peucephyllum schottii*), cataclaw acacia (*Acacia greggii*), indigo bush (*Psoralea schottii*), and mesquite (*Prosopis glandulosa*). A variety of cactus species are also common in these habitats and

include barrel cactus (*Ferocactus cylindraceus*), cholla (*Opuntia bigelovii*), beavertail cactus (*Opuntia basilaris*), and ocotillo (*Fouquieria splendens*) (Bowers 1993). Vegetation within the Plaster City Quarry is dominated by Creosote Bush Scrub and Desert Dry Wash communities, which are evident in the wash channels and surrounding hillsides, though the quarry's gypsum outcrops are nearly devoid of vegetation, marked only by the occasional pygmy cedar. The proposed waterline/powerline passes through desert shrubland while the narrow-gauge railroad alignment is marked by creosote bush series and creosote bush-white bursage series vegetation with occasional dense areas of mesquite.

Animal species present in these habitats include big horned sheep (*Ovis canadensis californiana*), which are listed as an endangered species, coyote (*Canis latrans*), desert woodrat (*Neotoma lepida*), black-tailed jackrabbit (*Lepus californicus*), kit fox (*Vulpes macrotis arsipus*), and California ground squirrel (*Spermophilus beecheyi*). Reptiles include the Colorado Desert sidewinder (*Crotalus cerastes laterorepens*), sideblotched lizard (*Uta stansburiana*), zebra-tailed lizard (*Callisaurus draconoides*), desert horned lizard (*Phrynosoma platyrhinos*), northern desert iguana (*Dipsosaurus dorsalis dorsalis*), and Great Basin whiptail (*Aspidoscelis tigris tigris*). Bird species include the common raven (*Corvus corax*), turkey vulture (*Cathartes aura*), American kestrel (*Falco sparverius*), red-tailed hawk (*Buteo jamaicensis*), California horned lark (*Eremophila alpestris actia*), and black-tailed gnatcatcher (*Polioptila melanura*).

3.0 CULTURAL SETTING

3.1 THE PREHISTORIC PERIOD

Beginning in the 1920s, Malcolm Rogers and Elizabeth and William Campbell conducted some of the earliest archaeological investigations in the desert regions of California. Much of Malcolm Rogers' initial work was concentrated in the Mojave Sink and Lower Colorado River region, though his later work was more wide-ranging and involved extensive surveys and limited excavations. His 1939 *Early Lithic Industries* provided a basic cultural sequence for the California desert region that was used for the next several decades. Elizabeth and William Campbell focused on the Twenty-Nine Palms area but later worked throughout much of the Mojave and Colorado deserts. In her 1931 *An Archaeological Survey of the Twenty-Nine Palms Region*, Elizabeth Campbell described whole pottery vessels and other artifacts that showed affinities to the Lower Colorado River area and much of the Colorado Desert. In a 1936 article, she used an environmental approach to examine desert region archaeological sites and presented the outlines of a basic cultural chronology. Though much of the terminology she used in her cultural sequence was never reused, the term "Pinto" and Pinto Basin culture as described by Campbell and Campbell (1935) became widely embraced. Other researchers working in the 1940s and 1950s (Rogers 1945; Schroeder 1952, 1957; Harner 1958) continued to focus on constructing chronological sequences for the California desert regions with an increasing emphasis on inter-regional variability.

Apart from early efforts by Rogers and the Campbells, the Colorado Desert remained understudied when compared to the Mojave Desert to the north, the Sonoran Desert to the east, or the mountains and coast of southern California. Spurred mostly by state and federal historic preservation laws, an increasing number of large-scale surveys and data recovery excavations began to take place in the Colorado Desert. These efforts have increased our understanding of Colorado Desert cultural history, chronology, and settlement patterns by adding to an expanding body of radiocarbon-dated archaeological contexts. Advances in lithic studies and the integration of theoretical inputs from forager theory and environmental archaeology also have contributed our knowledge about mobility, interaction, and economic practices within the region (Schaefer and Laylander 2007:247).

At least two major cultural traditions have been identified within the Colorado Desert. These include the Early Period/ Archaic and the Late Period, which have been defined on the basis of general patterns in economy and material culture. The Early Period/ Archaic spanned approximately 10,000 to 1,300 BP, while the Late Period began around 1,300 BP and ended with Euro-American contact. An earlier PaleoIndian Period bridging the Late Pleistocene and Early Holocene has been identified in certain parts of California, most notably in the Mojave Desert, though evidence for the human occupation of the Colorado Desert during that time has remained comparatively scarce. Rather than reflecting the absence of PaleoIndian populations, however, this relative lack of evidence may have more to do with highly mobile early settlement strategies and the nature of the landforms that make up the Salton Basin and Colorado River Valley.

3.1.1 PALEOINDIAN PERIOD

The PaleoIndian Period was marked by a transition from the cool, moist conditions of the Late Pleistocene to the warmer, more arid conditions of the Early Holocene. The PaleoIndian tradition has typically been associated with fluted point complexes identified in the Southern California desert region and beyond. They have been linked to large game hunting, including the hunting of now-extinct as well as modern species, using large fluted points associated with Clovis and Folsom assemblages. Rondeau et al. (2007) noted that over 400 fluted points have been recovered in California, though most have been discovered as isolated finds in surface contexts lacking stratigraphic, chronological, and clear functional associations. The age range of many these points has been estimated at 13,000 to 11,000 BP based on the age range of similar points recovered in the North American interior (Erlandson et al. 2007). Significantly, fluted points have been recovered from Ocotillo Wells and from the Yuha Desert (Rondeau et al. 2007).

3.1.2 EARLY PERIOD/ARCHAIC

The Early Period/ Archaic includes the San Dieguito Complex and the Archaic Complex, which encompasses regional geographic expressions in coastal, inland valley or foothill, and desert settings (*see* Table 3-1). In general these archaeological complexes remain poorly defined, as do the interrelationships between them as they spanned coastal, inland valley or foothill, and desert areas (Gallegos 1987). Based on the prevalence of large points, knives, and scraping tools and the comparative paucity of milling implements in some assemblages, the San Dieguito Complex was initially associated with hunting large game. Ongoing research revealed, however, that the San Dieguito Complex was characterized by relatively mobile hunting and gathering populations who relied on a diverse range of plant and animal resources. The mobility of these early groups may have been influenced by the pluvial lake system that characterized portions of the Great Basin until roughly 11,000 to 8,000 BP.

Artifacts typically associated with Early Period/ Archaic sites include crescents, scrapers, and large bifaces. San Dieguito sites in the Colorado Desert typically include cleared circles, rock rings, other rock features, and heavily patinated stone tools. Artifact assemblages attributed to the San Dieguito Complex have been recorded in Imperial County, and were subdivided by Rogers into three phases (San Dieguito I, II, and III) that were characterized by increasingly sophisticated tool kits. Although Rogers (1966) believed that the San Dieguito I, II, and III phases represented cultural progression, others have suggested that these distinctions could be ascribed to differences in site-specific activities and/or errors in sampling (Warren 1967, Schaefer 1994).

As Schaefer and Laylander (2007:247) have pointed out, much of the evidence available for San Dieguito Complex populations in the Colorado Desert still lacks solid chronological controls. Sites ascribed to the San Dieguito Complex have been identified largely on the basis of artifact morphology, the presence of heavily patinated cores or scrapers, the degree to which artifacts are embedded in desert pavement, and/or the position of sites above a now-dry washes or lakeshores; reliably dated, stratified sites have mostly remained elusive (Rogers 1966). This has impeded archaeological research on the early Holocene in the western Colorado Desert but may be largely ascribed to the geomorphic processes that have shaped the Salton Trough and the agricultural practices that have impacted the region.

Like the Early Holocene, the Middle Holocene is somewhat underrepresented in the archaeological record. Increased aridity in roughly 7,000-5,000 BP may have led to depopulation in the region, but little is known about the fluctuating lacustrine intervals of Lake Cahuilla before the later Archaic (Schaefer and Laylander 2007), and the region may have been more favorable to settlement than other desert regions such as the Mojave Desert. Indian Hill Rockshelter, located on the eastern slopes of the Peninsular Ranges, has revealed stratified deposits dating from about 4,000 BP into the Late Prehistoric. Schaefer and Laylander (2007:247) argued that the site represented a stable habitation base with floral remains suggesting a year-round human presence. Subsurface caches at the site indicating food storage were interpreted as evidence of a foraging economy in which groups returned to key habitation loci on a regular or seasonal basis.

Table 1-1. Native American Chronology of the Southern California Desert

Geologic Period	Period	Years BP	Other Designations	Material Correlates
Late Holocene	Late Period	Present	Contact / Historic Period Pre-Contact/Yuman Cuyamaca Complex (Peninsular Ranges)	Seasonal resource procurement; introduction of brown and buffware ceramics; lacustrine settlement along Lake Cahuilla; groundstone; projectile points; shell ornaments; cremation burials; trail systems; obsidian from Obsidian Butte source
		1,300	Patayan Complex, including Patayan I, II, and III	
Middle Holocene	Early Period/ Archaic	4,000	Archaic Period (Desert) Pauma Complex (Valley Foothills)	Milling implements, triangular projectile points, bone gorges for fishing
Early Holocene		5,000		
		6,000	San Dieguito Complex, including San Dieguito I, II, and III	Dart points, leaf-shaped points or knives, corner-notched and stemmed projectile points, bone gorges
		7,000		
8,000				
		9,000		Large leaf-shaped, spear, crescentric, and lanceolate points or knives; scraping tools

3.1.3 LATE PERIOD

During the Late Period, patterns of material cultural in the archaeological record emerged that were similar to those documented in ethnographic and ethnohistoric accounts. There was an increasing focus on the use of local resources accompanied by increasing population numbers throughout the region. Archaeological expressions typical of the Late Period include small projectile points reflecting bow and arrow technology, pottery, the use of permanent or semi-permanent village sites, the expansion of acorn milling in upland sites, the proliferation of obsidian from the Obsidian Butte source located near the southern edge of the Salton Sea, and cremation burials (Schaefer and Laylander 2007).

Within the Colorado Desert, Rogers (1945) defined Late Period cultural expressions using three chronological phases he designated as Yuman I, II, and III. Rogers' sequence has since been recharacterized as the Patayan sequence to avoid confusion between the archaeological pattern and the linguistic or cultural group. The Patayan sequence was based on chronologically distinct ceramic types (Waters 1982). Patayan I ceramic types, dating to AD 700-1000, have been identified along and to the east of the Colorado River but rarely in the western desert region.

Patayan II ceramics, dating to AD 1000 to 1500, have been found along the former shoreline of Lake Cahuilla and represented the rapid diffusion of pottery in desert contexts. Patayan III ceramics, dating to about AD 1500 or later, were marked by the addition of Colorado Buffware ceramics, which have rarely been noted along the former Lake Cahuilla shoreline but were among the most widely distributed of the Patayan types (Waters 1982). Waters reworked Rogers' Colorado Buffware ceramic typology. He gave primacy to rim form as the first step in classifying buffware types (Schaefer and Laylander 2007:252) in contrast to Schroeder (1979), who focused on temper, inclusions, and surface treatment. Both Warren and Schroeder attempted to define the geographic limits of buffware types but both relied on surface collections with little stratigraphic information or accompanying radiometric data. Some researchers continue to rely on Waters' typology while including descriptions of variants or hybrids to account for assemblage variability. Schaefer and Laylander (2007:252) have argued that despite these refinements Patayan ceramic classification schemes still allow only for broad chronological estimates or the ascription of manufacturing regions.

Critical to an understanding of the Late Period within the western Colorado Desert and along the eastern slopes of the Peninsular Ranges is an awareness of the environmental processes that were occurring during that time. Waters (1983) posited that the Salton Trough witnessed four major lacustrine episodes between 1,200 and 400 BP. A partial fifth refilling of the Salton Trough also was proposed based on fish bones recovered from a site in southeastern Imperial County that demonstrated recharge from the Colorado River (Schaefer 1994). Laylander (1997) also modeled fluctuations of Lake Cahuilla by analyzing radiocarbon dates and early historic period records. He identified at least three distinct cycles of inundation and desiccation between AD 1200 and the late 1600s when it receded for the last time. A Late Archaic phase also has been established from investigations at sites on the northern end of Lake Cahuilla (Love and Dahdul 2002; Schaefer and Laylander 2007:250).

The final retreat of Lake Cahuilla has been documented archaeologically through numerous Late Period sites along descending shorelines. These sites included "fish camps" containing fish traps and abundant fish bones along recessional shorelines as well as slab-lined house pits representing short-term as well as more sustained occupation (Schaefer and Laylander 2007:250). Wilke (1978) noted that occupants of the Lake Cahuilla shoreline accessed a wide range of lacustrine resources, including Colorado River fish species, mussels, aquatic birds, grasses, bulrush, honey mesquite, lagomorphs, rodents, and desert tortoises. He posited that the sites in his study represented permanent or year-round residential bases but acknowledged that other site types likely existed along the Late Period shoreline. In contrast, Weide (1973) argued that year-round habitation was unlikely and that occupation probably occurred on a temporary, seasonal basis. While Wilke's findings indicated major outward migration following the final desiccation of the lake, Weide's model suggested that it merely caused a shift in seasonal movement and procurement. Using Late Period data derived from the Indian Hill Rockshelter and Superstition Mountain, Schaefer (1994) appeared to side with Weide in arguing that the Lake Cahuilla shoreline was likely used for short-term, temporary camps as a part of a seasonal round. Sutton (1998) further supported that hypothesis using data on plant and animal species derived from coprolites recovered at three Late Period sites along the Lake Cahuilla shoreline, including two that were investigated by Wilke. He determined that the three sites examined in his study were not occupied during the winter months and argued that large habitation sites

represented spring/summer occupation while smaller habitation sites represented a wintertime adaptation.

Schaefer and Laylander (2007:254) emphasized that the high level of mobility that seemed to characterize many Patayan settlement and subsistence practices was an important factor in promoting cross-cultural integration and interaction through time. Through the study of the spatial distribution of site types, rock art, shell, obsidian sources, and other indicators, they argued that interactions between mobile Patayan hunter-gatherers and sedentary mixed-horticultural peoples are becoming better understood. Ethnohistoric accounts have documented extensive trade networks spanning from the Pacific coast to the California-Arizona and California-Mexico borders. Archaeological evidence for intra and inter-regional movement or trade has been noted through the distribution of obsidian materials from Obsidian Butte south of the Salton Sea and from San Felipe in Baja, California. Desert manufactured ceramics have been discovered in coastal contexts, and Pacific coast and Gulf of California shell ornaments and shellfish species have been recorded at Colorado Desert sites (Schaefer and Laylander 2007:255). A protohistoric Lake Cahuilla site (CA-IMP-6427) in western Imperial County revealed shell debitage that represented the local manufacture of *Olivella* beads and other shell artifacts. A focus on trade, movement through the landscape via trails, and symbolic practices interpreted through cairns, geoglyphs, and other features within the western Colorado Desert has received increasing attention from archaeologists in recent years and continues to be a promising avenue of further research (Schaefer and Laylander 2007:254).

3.2 THE ETHNOGRAPHIC PERIOD

Kumeyaay inhabit the area currently encompassed by western Imperial County, and comprise groups formerly identified as Tipai and Ipai (Carrico 1983; Cline 1979; Hedges 1975; Ladastida and Caldeira 1995; Luomala 1978; and Shipek 1991). Kumeyaay territory extends east nearly to Yuma, Arizona, southwest to Todos Santos Bay, west to the Pacific Ocean, and northwest to the San Luis Rey River and San Felipe Creek. Quechan, Cahuilla, and Cocopah border Kumeyaay territory to the east, north, and south respectively.

The Kumeyaay language, formerly known as Diegueño, is part of the Hokan stock of the Yuman language family (Langdon 1990). The Kumeyaay were organized into autonomous tribelets under the control of a chief (*kwaaypaay*) who had at least one assistant (Ladastida and Caldeira 1995; Luomala 1978; and Shipek 1991). The position of chief was inherited from father to eldest son. The chief directed ceremonies and resolved differences within the group. Kroeber (1925:712) suggests that Tipai and Ipai populations numbered approximately 3,000 at the time of contact, circa 1770–1790. Subsequent to contact, the Native American population decreased, and in 1821 Mission San Diego records document a population of 1,711, which would have included Kumeyaay (Luomala 1978).

Kumeyaay relied heavily on seasonally available vegetal foods on valley floors and in the foothills and mountains (Ladastida and Caldeira 1995). In the spring, blossoms and buds were collected from blooming plants in the foothills. During the summer, cactus fruits, agave, and mesquite pods were collected in valleys. Small animals were hunted during both seasons. During the fall and winter months, Kumeyaay moved into the mountains seeking shelter and

food. Rockshelters and overhangs provided shelter from winter rain and snow, and acorns, pinyon nuts, and small game provided food.

Kumeyaay material culture includes: seed processing implements such as the mortar and pestle and milling stones; baskets which were used for seed winnowing and storage; plain and decorated reddish-brown ceramic vessels were used for both cooking and storing water; and the bow and arrow (Ladastida and Caldeira 1995). Structures built by the Kumeyaay varied in form depending on the season. For example, summer residential structures often consisted only of a windbreak while winter residential structures were semi-subterranean pit houses with a tie-pole framework and brush thatch. Kumeyaay also built ceremonial structures, such as rock-supported brush fence circles, for events such as harvest dances (Luomala 1978 and Shipek 1991).

Kumeyaay primarily engaged in intra-group trade but did involve neighboring groups in certain trading activities. For example, coastal groups traded salt, dried fish, and abalone shells with interior valley groups for gourds, acorns, agave, and mesquite pods. Kumeyaay also traded for granite to manufacture mortar and pestles, and Quechans traded with the Kumeyaay for acorns and acorn flour (Luomala 1978 and Shipek 1991).

3.3 THE HISTORIC PERIOD

3.3.1 SPANISH PERIOD (1540-1821)

Spanish exploration of the northern Sonoran Desert region of New Spain (Southern California) began in the 1500s. The Hernando de Alarcón expedition was possibly the first European expedition to enter Alta California when it reached the mouth of the Río del Tizon (Colorado River) in 1540 (Hoover et al. 1990:103). The expedition was also likely the first to encounter the local Quechan (Yuma) Indians there. Spanish exploration of the area continued into the eighteenth century, with notable expeditions led by Melchior Diaz (1540), Father Eusebio Kino (1700), and Father Francisco Garcés (1771) (Hoover et al. 1990:103-104).

Spanish interest in Alta California intensified in the 1760s with rumors that Russia was planning to expand their colonial sphere southward from Alaska into California. In response, the Spanish government sent Father Junípero Serra and Spanish settlers northward from Mexico. In 1769, Mission San Diego and the first *presidio* were established. This success was followed by a string of settlements, *presidios*, and missions that began in the south and extended north to Mission San Francisco Solano in Sonoma County by 1823 (Hoover et al. 1990).

In 1774, Juan Bautista de Anza volunteered to find an overland trail to connect Spanish settlements in Sonora, Mexico with the new missions on the California Coast (Beck and Haase 1974). Proceeding northward from near the current US and Mexico border, de Anza and his party used the Yuha Well or *Santa Rosa de las Lajas*, located roughly 6 miles southwest of Plaster City, on March 8, 1774 (Hoover et al. 1990). In 1775, three divisions of Anza's colonizing expedition used the Yuha Well as the first good watering locale on the way from Sonora to San Francisco. The Yuha Well is listed at California Historical Landmark #1008. Another stopping point on de Anza's journey was Camp #48, which is now an off-highway vehicle area near Plaster City. The de Anza expedition also camped near the current Harper's Well at the base of

the Fish Creek Mountains to the northeast of the Project area during their desert crossing (Hoover et al. 1990:104).

Juan Bautista de Anza explored several possible routes, though he was not completely successful in his attempt to identify a practical trail across the southern California deserts. Nevertheless, the Spanish used de Anza's trail and established two missions, Misión de La Purísima Concepción and Misión San Pedro y San Pablo, along it in 1780. Conflict between the Spanish and the local Native American community ensued, and Yuma Indians dissatisfied with their treatment by the Spanish destroyed the two missions and killed 100 people in 1781 (Hoover et al. 1990:104, 105-106). Due to lack of water and hostile Native residents, the Spanish were unsuccessful in establishing permanent settlements in the area and the Anza Trail became a dangerous alternative to travel by sea. The overland route was closed for the remainder of the Spanish Period (Hoover et al. 1990:106). Regardless of the failure of the Spanish to establish missions or settlements in the area, the Anza Trail eventually became a well-traveled route across what is now Imperial County.

3.3.2 MEXICAN PERIOD (1821-1848)

By the early nineteenth century, Spain's empire and world influence were in decline. In 1821, there were uprisings in Florida and Texas, and Augustin de Iturbide led a successful rebellion in Mexico City. In August 1821, Mexico gained its independence from Spain with the Treaty of Córdoba. In the following year, California was declared a territory of the Mexican republic. During this period, there was little successful development in the northern Sonoran Desert region of the new colony.

In 1822, the Mexican government attempted to reopen the overland road between Mexico and California by establishing a fort to protect travelers. In 1825, Lt. Romualdo Pacheco and his troops built an adobe fort on the west bank of the current New River to the northwest of El Centro and east of the Project area. A year later, the Kumeyaay Native peoples attacked the fort and killed three of the soldiers, which resulted in abandonment of the fort. Pacheco and his soldiers returned to San Diego (Hoover et al. 1990:106). After the failure of the fort, the Mexican government took scant notice of the region except to chase occasional Yuma horse thieves through the desert (URS 2010:2-28).

In the 1834, the missions were secularized and mission lands were granted as numerous *ranchos* (Hoover et al. 1990). Since there were no mission lands to secularize in the northern Sonoran Desert region, this administrative change had no effect on the region. In the 1840s, relations between Mexico and the United States became strained as the United States expanded westward toward the Pacific Ocean. These political stresses erupted in the Mexican-American War (1846-1848), which led to the end of Mexican Period control in Alta California and its other frontier colonies north of Mexico.

3.3.3 AMERICAN PERIOD (1848-PRESENT)

In 1846, leading up to the end of the Mexican-American War, the United States Army took control of the Presidio of San Francisco and the Monterey harbor to establish a strategic location for the coastal defense of its new territory (Alley et al. 1994:8-23; Horne 2007:35). At the close of the war in 1848, Alta California became part of the United States with the signing of the Treaty

of Guadalupe Hidalgo. As the Mexican-American War ended, James Marshall discovered gold on the American River while surveying a prospective sawmill site and announced the find at Sutter's Fort. The 1848 discovery brought tens of thousands of gold seekers from all over the world to California. The discovery of gold short-circuited the usual territory phase and California became a state in 1850.

Euro-American contact with Native Americans across the southern California deserts became more frequent as gold seekers passed through the region in 1848 and 1849. The route they took was the Emigrant Trail, as the Spanish Anza Trail became known. In 1852, due to numerous hostile confrontations between Euro-Americans and Native Americans in the area, the military fortification of Fort Yuma was constructed near the Yuma Crossing of the Colorado River and the site of Misión de La Purísima Concepción (Hoover et al. 1990:106). The rediscovery of gold, which was originally discovered by Spanish prospectors in the 1700s near Julian, Banner Grade, and in the Cargo Muchacho Mountains in the 1870s-1890s, caused the Euro-American population to expand in the northern Sonoran Desert region and also fostered the development of towns such as Hedges (Van Wormer and Newland 1996). Despite these events, the settlement and population growth of Imperial County did not begin to dramatically increase until the introduction of irrigation.

Prior to the advent of irrigation, the Imperial Valley was mostly used for cattle ranching. The Spanish established cattle ranching in Alta California in the 1760s along with the mission system, but located their livestock closer to the coast (Burcham 1982:118-119). During the Mexican Period, cattle ranching expanded exponentially as a part of the tallow and hide trade, though the desert region was never intensively used for ranching due to the lack of *ranchos* land grants (Beck and Haase 1974). In the second half of the nineteenth century, cattle ranching in the Imperial Valley was limited to the southeastern area near the Colorado River and other reliable water sources (Brooks in Farr 1918:293). Substantial livestock ranching did not emerge in Imperial County until ca. 1910 when reliable water from irrigation was available (Burcham 1982:Appendix II Tables).

Imperial County did not attract large numbers of settlers until its agricultural potential was developed in the early 1900s. Irrigation of the valley was first suggested by Oliver Wozencraft in the late 1800s, and was accomplished in 1901 by Charles R. Rockwood and George Chaffey (Hoover et al. 1990:108). The introduction of irrigation in the Imperial Valley spawned both the development of large and small-scale agriculture and the establishment of many small towns. The area grew rapidly, and by 1907 nearly 15,000 people lived in the valley. In 1907, Imperial County was the last county in California to be incorporated as a jurisdiction separate from San Diego County (Hoover 1990:102). Agricultural crop production in Imperial Valley during the early twentieth century included grains such as barley and sorghum; fruits and vegetables such as cantaloupes, grapes, corn, and lettuce; cotton; and alfalfa for livestock (Packard 1918). The growth of the region was supported by the construction of the Southern Pacific Railroad branch line from Niland to Imperial and the construction of the San Diego and Arizona Eastern Railroad, both of which facilitated commercial export of agricultural products.

Imperial Valley was accidentally flooded between 1905 and 1907 due to a faulty irrigation canal gate, and consequently the Salton Basin was inundated and the Salton Sea was formed. Major improvements were subsequently made to the irrigation system to prevent future flooding. The

Imperial Irrigation District (IID) took control of the irrigation system in 1916 and, by 1941, a more reliable and consistent water supply was assured for the area with the completion of the All-American Canal (Imperial County Planning & Development Services Department 1993). Although agriculture continues to be the predominant activity in the Imperial Valley, other industries have become part of the wider economic base, including geothermal energy development, mining, customs brokers, tourism, and the provision of essential regional and national facilities such as correctional institutions and military training facilities (Zimmerman 1981).

During World War II, the Imperial Valley region was associated with several military uses. During the early years of World War II, “Buffalo Soldiers” (the all-Black unit formed in 1866) of the 9th and 10th Cavalry Regiments stationed at Camp Lockett in Campo patrolled the railroad (Vezina 1993). The United States military also maintained a presence in the area in the form of training (e.g., General George S. Patton, Jr. trained troops in the area) and test facilities (e.g., Naval Air Facility in El Centro). From 1939 to 1955, there was a United States Navy emergency outlying landing field located just east of Coyote Wells and south of the railroad tracks. The air field improvements were minimal and described as three leveled and graded unpaved runways, placed approach markers, and an installed wind sock (Military Museum.org 2016).

TRANSPORTATION

The northern Sonoran Desert and Imperial Valley historically formed parts of a transportation corridor connecting northern Mexico and Arizona with coastal California that was based on local topography and access to springs or wells. The original route was formed during Spanish Period explorations, witnessed continued, intermittent use during the Mexican Period, and became a well-known route in the early American Period. Highway 80 improved the east-west transportation network in the early twentieth century. Today, this approximate route continues as Interstate-8. The Spanish Anza Trail was used by other explorers, trappers, and gold seekers passing through California and subsequently became known as the Sonora Road, the Colorado Road, the Emigrant Trail, and the Butterfield Stage Route (Hoover et al. 1990:105; Beck and Haase 1974:52). In addition to its use by settlers and gold-seekers, the Sonora Road/Emigrant Trail was used from 1825 to 1865 for cattle drives from New Mexico and Texas to ranches in the Coast Ranges (Imperial County Planning & Development Services Department 1993). The Butterfield Overland Stage Company also used the Anza Trail wagon road route as part of its overland mail service from St. Louis to San Francisco beginning in 1857 and continuing until 1861 (Zimmerman 1981). The Butterfield Stage Route was used by subsequent stage lines until the railroads came to the region. According to historian M. Romer (1922:28), there were three stage stops across Imperial Valley en route to San Diego, including one at Coyote Wells. The stage stops consisted of a well, an adobe waiting room, and an adobe stable for changing horses. The Southern Pacific Railroad route across the region was completed in 1878 and superseded the wagon road for long-distance shipping.

The advent of the Southern Pacific Railroad and later railroads such as the San Diego and Arizona Eastern railroads improved the transportation of people and commodities across the region. The Southern Pacific Railroad linked Los Angeles with Yuma in the spring of 1877 (Daggett 1966). The rail line ran southeast across the Imperial Valley from Bertram to Yuma with a maintenance camp at Niland (Farr 1918:224). This line segment, which was completed in 1883, became part of the Sunset Route that extended between Los Angeles and New Orleans

(Solomon 1999). As the need for transportation facilities increased across the area, the Southern Pacific Railroad built a branch line south from Niland to Calexico, reaching Imperial in 1903 and El Centro by 1904 (Farr 1918:224). The Southern Pacific, however, did not extend service west to San Diego (Beck and Haase 1974:68).

The Southern Pacific, however, was not the only railroad in the area. The San Diego and Arizona Railroad was established in 1906 with the goal of constructing a transcontinental rail line from San Diego across San Diego and Imperial counties that would connect with the Southern Pacific Railroad at New River (Farr 1918:225). The San Diego and Arizona ownership was a secret partnership of Southern Pacific's Edward Harriman with John and Adolph Spreckels, who had better relations with San Diego society. The east-west oriented railroad construction lasted from 1907 to 1919, with passenger service available from San Diego to El Centro beginning in 1919. Communities that formed along this rail line included Coyote Wells, Plaster City, and Dixieland. From Plaster City, a private narrow gauge railway extended north to the Project area, which is described below. In 1933, the Spreckels-Harriman partnership dissolved and Southern Pacific reorganized the San Diego and Arizona Railroad as the San Diego and Arizona Eastern Railway Company. The San Diego and Arizona Eastern Railway continued to provide a vital link across the region until passenger service ceased in 1951 and Southern Pacific abandoned the line in 1977 (Fickewirth 1992:121). One rail segment between Plaster City and El Centro continued to support the gypsum industry until it was discontinued in 1984.

Highway 80 within Imperial County is part of a transcontinental highway extending across the southern United States from San Diego, California to Tybee Island, Georgia (Cooper 2004). Although some segments of the alignment existed prior to the 1920s, Highway 80 was formally commissioned in 1926. The pre-highway era east-west roadway alignment was first developed in 1912 by Tom Morgan, the future president of Pickwick Stage Lines (predecessor to Greyhound Lines), as an early motor stageline route (Henderson 1968). In 1913, the Auto Club of Southern California and local governments developed a plan to improve the roadway from El Centro to Yuma by building a wood plank road across the sand dunes. From 1916 to 1926, the road was plank-paved. In 1926, the planks were mostly removed and superseded by an oil-surfaced road (Henderson 1968). To the west of Winterhaven along Interstate-8, a section of existing plank road is currently designated as California State Landmark No. 845 (Office of Historic Preservation 1996). A second improvement to the roadway was made between 1913 and 1917 when a poured concrete segment of the road alignment west of Dixieland and south of the asphalt alignment was placed. In 1929, the State Highway paved sections of the highway including three miles west of Coyote Wells and a segment between Dixieland and Seeley. Highway 80 continued to be an important east-west transportation route until it was superseded by Interstate 8. The highway was decommissioned in 1964, but remained in use until Interstate 8 was completed in 1974 (Cooper 2004).

LOCAL SETTLEMENT

The region of Imperial County surrounding the Project area was settled primarily in the early twentieth century as irrigation systems were being developed and agricultural opportunities were becoming feasible. Historic period settlements near the Project area included El Centro, the nearest larger town, and several small settlements (Dixieland, Plaster City, and Coyote Wells) along the railroad and highway alignments.

El Centro

El Centro is located east of the Project area and is situated along the Southern Pacific Railroad branch between Niland and Calexico. The San Diego and Arizona Eastern Railway intersects the Southern Pacific line at El Centro. The El Centro Townsite Company filed a town plat for El Centro in 1905 to develop a town. El Centro was developed in conjunction with Holtville to the east as community hubs for the Holton Interurban Railroad and a community along the Southern Pacific branch line. By 1918, the population was 7,500. Local infrastructure included a fire department, an electric power plant, an ice plant, and a sewer system. Commercial ventures included a creamery, a cottonseed oil mill, and agriculture (Farr 1918:279-285).

DIXIELAND

Located 5 miles east of Plaster City, Dixieland was named in 1909 by land promoters hoping to attract cotton agriculture using the newly planned west side irrigation system (Gudde 2004:110). A post office was operating in the small, unincorporated community between 1912 and 1935 (Forte 2018). The expanded irrigation system was never built and the town never fully developed (URS 2010:2-35).

Plaster City

Plaster City was developed as a company town in the early 1920s adjacent to the San Diego and Arizona Eastern Railway line. An ore crusher was initially located at the site and a narrow gauge railroad was built to move ore to the crusher for shipment. In 1924, a plaster manufacturing plant was installed and a town was built for the employees (Tucker 1926:271). The Plaster City post office operated between 1924 and 1964 (Forte 2018). The 1942 State Mineralogist report noted that at that time, the Plaster City plant was operating three days a week with 15-20 employees manufacturing fertilizer, cement retardant, hard wall and finished building plasters, casting molding, and dental plaster (Sampson and Tucker 1942:136).

Coyote Wells

Coyote Wells was initially a stop along the Butterfield Stage Route. M. Romer (1922:28) noted the station would have featured a well and two adobe structures (waiting room and stables) present. In 1922, Romer (1922:28) noted the structures present at Coyote Wells were a garage, a wood frame store, and a post office. The historic post office listing (Forte 2018) does not indicate that Coyote Wells had an official post office.

MINING

The earliest recorded mining in Imperial County occurred during the Spanish Period (ca. 1779-1781) when placer gold was mined north of the short-lived Misión de La Purísima Concepción. When the mission was abandoned, mining ceased. During the Mexican Period, mining resumed in the Cargo Muchacho Mountains using arrastras (Henshaw 1942:152). Mining during the American Period did not become fully established until Fort Yuma was built and regional transportation systems improved sufficiently to allow for the transport of large, heavy machinery proximate to the mines. The advent of steamboats on the Colorado River (1852-1895) and the completion of the Southern Pacific Railroad in 1879 opened access to mining in the Cargo Muchacho Mountains and other areas of Imperial County in the later nineteenth century (Morton 1977:7). The railroad also provided national access for safely shipping ore out of the region.

Gypsum mining in California has been documented as early as 1875 with a plaster mill advertised in San Francisco. The mineral was initially ground and used for agriculture in the nineteenth century, but by the 1900-ca. 1908 period plaster of Paris, wall plaster, and stucco were being produced in Los Angeles (Ver Plank 1952:67). During the 1909-1919 period, gypsum mills such as the Pacific Cement Plaster Company started producing hardwall plaster and “cement” plaster (Ver Plank 1952:70). During the 1919-1940s period, companies like the US Gypsum Company were using calcined gypsum to produce plaster wall-boards (Ver Plank 1952:71). After World War II, gypsum plaster production declined generally and a number of companies left the wall-board industry. Following World War II, a few large companies such as US Gypsum Company remained in business and modernized their operations; a larger number of smaller companies also arose to producing agricultural-grade gypsum, or gypsite. Most gypsite has come from the Lost Hills region since the 1930s (Ver Plank 1952:72). In 1938, the Westvaco Chemical Division of Food Machinery and Chemical Corporation developed a synthetic gypsum that is used as a cement retarder and for agricultural purposes, which has affected the industry (Ver Plank 1952:72).

Much of the Project area, including the Plaster City Quarry with its associated gypsum deposits, is located in the Fish Creek Mountains Mining District in the southwest region of Imperial County. The mining district is primarily known for its gypsum deposits, though other minerals have been noted including gold, copper, tungsten, limestone, and silica (Morton 1977:26). The Fish Creek Mountains gypsum deposits were identified in the early 1900s (ca. 1902), but were not mined on a large scale until transportation systems were available to move the ore to processing locations. The Plaster City Quarry is the only active gypsum mine in Imperial County and the largest gypsum mine in the United States (Imperial County General Plan 1993). The 1942 State Mineralogist’s report noted the gypsum deposit measured three miles long by one mile wide by 150 feet thick (Sampson and Tucker 1942:135). The first mining operations at the quarry date to 1902, but mining activities were sporadic and did not produce a large volume of gypsum until the completion of the San Diego and Arizona Eastern Railroad in 1920 and the Plaster City Railroad in 1922 (Imperial County General Plan 1993). The San Diego and Arizona Eastern Railroad provided an efficient means of moving gypsum out of the Imperial Valley by connecting to the Southern Pacific Railroad in El Centro. The 26-mile long Plaster City Railroad connected the Plaster City Quarry to the San Diego and Arizona Eastern Railroad depot at Plaster City.

The Imperial Gypsum and Oil Corporation owned the quarry in the early 1900s and built the narrow gauge US Gypsum Rail Line (also known as the Plaster City Railroad) in 1920-1921 to facilitate removal of large quantities of gypsum ore from the quarry to a crusher plant next to the San Diego and Arizona Eastern Railroad alignment (Tucker 1926:271). The Imperial Gypsum and Oil Corporation, however was not very successful and sold the quarry to the Pacific Portland Cement Company in 1924. The Pacific Portland Cement Company added a plaster manufacturing plant to the ore crusher, which became Plaster City, and operated the quarry until the mid 1940s (Tucker 1926:271). In 1947, the Plaster City Quarry and the Plaster City Railroad were purchased by US Gypsum Company, which continues to own and operate the quarry and its facilities. The US Gypsum Company modernized quarry operations by adding a 900-foot belt and two kilns among other improvements. During the 1940s-1960s, the Plaster City Plant produced plaster board, sacked lath, and plaster for agricultural uses (URS 2010:2-32). The US Gypsum Company continues to operate the quarry and plant today.

4.0 CLASS I INVENTORY ARCHIVAL AND RECORDS SEARCH

On April 9, 2018, a Class I inventory or archival and records search was conducted for the Project APE and a surrounding 0.25-mile radius at the South Coastal Information Center (SCIC) of the California Historical Resources Information System (CHRIS) at San Diego State University. The purpose of the archival and records search was to obtain documentation relating to prior studies and known cultural resources within and proximate to the Project APE (*see* Section 1.4). The locations and unique identifiers¹ for prior studies and known cultural resources were obtained from five USGS 7.5-minute topographic reference maps on file with the SCIC, including Borrego Mountain SE (1958 [1959 ed.]), Carrizo Mountain NE (1957 [1958 ed.]), Coyote Wells (1957 [1958 ed.]), Painted Gorge (1957 [1958 ed.]), and Plaster City (1957 [1958 ed.]), California.

The SCIC also provided copies of the following historic registers maintained by the State of California:

- NRHP Directory of Determinations of Eligibility (California Office of Historic Preservation, Volumes I and II 1990);
- Historic Property Data File for Imperial County (California Department of Parks and Recreation 2013);
- California Inventory of Historic Resources (California Department of Parks and Recreation 1976); and
- California Historical Landmarks (California Office of Historic Preservation 1996);
- California Points of Historical Interest (California Department of Parks and Recreation 1992).

Ancillary information obtained from the SCIC included the following:

- Caltrans Statewide Historic Bridge Inventory (California Department of Transportation 2018), which includes listings of bridges previously evaluated for listing in the NRHP and determined eligible for listing be not re-evaluated, bridges that remain unevaluated, and local agency bridges;
- Historic Highway Bridges of California (California Department of Transportation 1990), which includes listings of bridges previously evaluated for listing in the NRHP and determined eligible for listing be not re-evaluated, bridges that remain unevaluated, and local agency bridges;
- Historic American Landscapes Survey (HALS) Inventory – Northern California (California Office of Historic Preservation 2009);
- List of Historic Survey Reports (Bibliography) (California Office of Historic Preservation 1994); and
- Survey of Surveys: A Summary of California’s Historical and Architectural Resource Surveys (Department of Parks and Recreation 1989).

¹ Unique identifiers for prior studies within Imperial County on file with the SCIC begin with “IM-”. Previously recorded cultural resources may or may not have been assigned a state Trinomial number (beginning “CA-IMP-”), but all will have a Primary number as a unique identifier. Primary numbers consist of a “P-” followed by a two-digit numeric county code (“13-” for Imperial County) followed by a six digit number indicating the order in which it was assigned (e.g., P-13-000269, P-13-000321, etc.).

The Class I archival and records search included a review of all relevant USGS 7.5-minute and 15-minute topographic maps on file with the SCIC. Historic period GLO maps, available online, were consulted at the Berkeley Office of Pacific Legacy. Reports for prior studies conducted within the Class I archival and records search area were obtained in full if they resulted in positive findings (i.e., if they reported on the discovery of cultural resources) or in part if they yielded negative findings (i.e., they reported on no newly discovered cultural resources). Cultural resource records for archaeological sites, isolated finds, and historic period built environment resources also were collected in full from the SCIC. The spatial extents and basic attributes of each previously recorded cultural resource and prior study were acquired from the SCIC in the form of ArcGIS shapefiles. These data were “clipped” to the extents of the Class I archival and records search area and portrayed on USGS topographic maps and true-color orthophotographs to aid field personnel in relocating known cultural resources during the Class III pedestrian inventory survey.

4.1 SUMMARY OF PREVIOUS STUDIES

The Class I archival and records search revealed that 36 prior cultural resource studies have overlapped some portion of the Project APE while five additional studies have been conducted outside but within a 0.25-mile radius of the APE (*see* Table 4-1). These studies represented a wide array of cultural resource investigations, including archival and records search reviews, Class III pedestrian inventory surveys, Extended Phase I inventory survey and subsurface testing programs, cultural resource evaluation efforts, and data recovery excavations. The Class III pedestrian inventory survey conducted by Pacific Legacy in 2002 was the only one to encompass portions of the Plaster City Quarry. All other prior cultural resource studies overlapped or were proximate to the proposed waterline between Ocotillo and Plaster City or alternative waterline between Plaster City and the Westside Main Canal.

Of the 36 prior studies that overlapped the Project APE, only five were conducted in the last 10 years. These included studies undertaken in support of the SDG&E Sunrise Powerlink Project (IM-01350), Bragg Shooflies Project (IM-01351), USG Plaster City Plant Water Pipeline Pump House Development Project (IM-01541), Plaster City Water Pipeline Project (IM-01542), and Imperial Valley Solar Project (URS 2010).

- In 2008, Gallegos & Associates completed a cultural resource investigation for the SDG&E Sunrise Powerlink Project (IM-01350), which involved the Class III pedestrian inventory survey of a 155-mile long corridor for San Diego Gas & Electric spanning San Diego and Imperial counties. It overlapped approximately 58 acres within the current Project APE along the eastern end of the proposed alternative waterline identified for spot-check survey in 2018.
- The cultural resource investigation for the Bragg Shooflies Project (IM-01351) was completed by SWCA in 2008. It overlapped just 4.5 acres within the Project APE along the eastern end of the proposed alternative waterline identified for spot-check survey in 2018 and did not result in the discovery of cultural resources.
- In 2011, J. McKenna completed an impacts assessment for the SG Plaster City Plant Water Pipeline Pump House Development Project (IM-01541), which overlapped 1.8 acres within the Project APE along the proposed alternative waterline as it approaches the Westside Main Canal.

- The Plaster City Water Pipeline Project (IM-01542), completed by the US Army in 2012, encompassed much of the Plaster City Plant as well as a 315-foot corridor that bordered the southern margin of the current Project APE extending east towards the Westside Main Canal.
- In 2010, URS completed a Class III cultural resources inventory for the Imperial Valley Solar Project, which was noteworthy because it overlapped approximately 517 acres within the Project APE, or much of the proposed alternative waterline as it spans Plaster City and the Westside Main Canal. The area previously examined by URS within the Project APE defined the spot-check survey area examined by Pacific Legacy in 2018. A copy of the report detailing URS's findings was provided to Pacific Legacy by the El Centro Office of the BLM. Copies of records for cultural resources discovered or re-recorded during the Imperial Valley Solar Project served as critical baseline data for the spot-check survey along much of the proposed alternative waterline.

As noted above, Pacific Legacy conducted a cultural resources investigation for the Project in 2002 in support of the 2006 Draft and 2008 Final EIR/EIS (Holmes and Nadolski 2003). The investigation focused on the Plaster City Quarry area but did not encompass drainages that are subject to USACE permit authorization that have since been identified as part of the current APE. Three cultural resources were recorded during the 2002 study. These include the Plaster City Quarry and a historic period locus within the quarry (designated USG-01 in 2002 and renamed Locus 1 in 2018), Highway 80 (P-13-008418), and the Plaster City Railroad (P-13-008139). These resources are discussed below and in Section 6.0.

Table 4-1. Prior Cultural Resource Studies within the Class I Archival and Records Search Area.

Study Designation	Study Type	Title	Author(s)	Date	Positive/Negative
<i>Cultural Resource Studies within the Project APE</i>					
IM-01275	Reconnaissance	An Analysis Of Culture Resources Along The Proposed Yuha Desert Orv Courses	E. Ritter	1975	Positive
IM-00199	Inventory	Cultural Resource Study of A Proposed Electric Transmission Line From Jade To The Sand Hills, Imperial County, California	C. Walker, C. Bull, and J. Von Werlhof	1979	Positive
IM-00203	Inventory	Class II Cultural Resource Inventory East Mesa And West Mesa Regions Imperial Valley, California, Volume I	D. Gallegos	1979	Positive
IM-00536	Inventory	Phase One Regional Studies APS/SDG&E Interconnection Project Transmission System Environmental Study Cultural Resources: History	D. Burkenroad	1979	Positive
IM-00537	Archaeological, Evaluation, Other research	Phase One Regional Studies APS/SDG&E Interconnection Project Transmission System Environmental Study Cultural Resources: Archaeology	Wirth Associates, Inc.	1979	---
IM-00538	Archaeological, Evaluation, Other research	Proposed Workscope Phase II Cultural Resources Studies APS-SDG&E Transmission Interconnect Project, Miguel to Sand Hills	Imperial County	1979	---
IM-00207	Inventory	Class II Cultural Resource Inventory East Mesa And West Mesa Regions Imperial Valley, California	E. Davis	1980	Positive

Study Designation	Study Type	Title	Author(s)	Date	Positive/Negative
IM-00210	Excavation and Analysis	Archaeological Examinations Of The Republic Geothermal Field, East Mesa, Imperial County	J. Von Werlhof, and K. McNitt	1980	Positive
IM-01306	Ethnology	APS/SDG&E Interconnection Project Environmental Study Phase II Corridor Studies - Native American Cultural Resources Appendices	Wirth Associates, Inc.	1980	Positive
IM-01313	District and Site Evaluations	APS/SDG&E Interconnection Project (Phase II Corridor Studies) - Cultural Resources: Archaeology	Wirth Associates, Inc.	1980	Positive
IM-00233	Inventory	Cultural Resource Study Of A Proposed Electric Transmission Line From Jade To The Sand Hills, Imperial County, California	C. Walker, C. Bull, and J. Von Werlhof	1981	Positive
IM-00235	Archaeological, Evaluation, Other research	APS/SDG&E Interconnection Project - Supplement To The Draft Environmental Document	BLM	1981	---
IM-00252	Inventory Supplement (Site Table)	Volume II Appendix; Phase II; Archaeological Survey Of The La Rosita 230 kV Interconnection Project	J. Schaefer	1981	Positive
IM-00279	Inventory	Phase III Archaeological Survey Of The Mountain Springs (Jade) To Sand Hills Portion Of The APS/SDG&E Interconnection Project 500 kV Transmission Line	S. Shackley	1982	Positive
IM-00547	Research Design and Data Recovery	Draft Archaeological Research Design And Data Recovery Program For Cultural Resources Within The Mountain Springs (Jade) To Sand Hills Portion Of The APS/SDG&E Interconnection Project 500 kV Transmission Line	Cultural Systems Research, Inc.	1982	Positive
IM-00595	Data Recovery	Mountain Springs (Jade) To Sand Hills Data Recovery Preliminary Report	CSRI	1982	Positive
IM-01315	Record Search and Inventory Maps	Volume II - Phase III Archaeological Survey Of The Mountain Springs (Jade) To Sand Hills Portion Of The APS/SDG&E Interconnection Project 500 kV Transmission Line Confidential Technical Appendices	S. Shackley	1982	Positive
IM-00297	Inventory	Archaeological Examinations Of Petty Ray Geophysical Transects On West Mesa	J. Von Werlhof	1983	Positive
IM-01308	Archaeological, Evaluation, Other research	Southwest Powerlink Cultural Resources Management Plan (Draft)	J. Townsend	1983	---
IM-00311	Archaeological, Evaluation, Other research	Southwest Powerlink Cultural Resources Management Plan - Volume II	J. Townsend	1984	---
IM-00313	Management Plan	Southwest Powerlink Cultural Resources Management Plan - Volume I	J. Townsend	1984	Positive
IM-00316	Data Recovery Tables	Volume II - Appendixes, Data Recovery On The Mountain Spring (Jade) To Sand Hills Segment: Southwest Powerlink Project	S. Shackley	1984	Positive

Study Designation	Study Type	Title	Author(s)	Date	Positive/Negative
IM-00319	Testing, Data Recovery and Analysis	Archaeological Investigations In The Western Colorado Desert: A Socioecological Approach; Data Recovery On The Mountain Spring (Jade) To Sand Hills Segment: Southwest Powerlink Project - Volume I	S. Shackley	1984	Positive
IM-00737	Archaeological, Evaluation, Other research	Desert Material Sites: West Imperial County Bear, Coyote, Plaster City, Underpass, Yuha	Caltrans	1989	---
IM-00766	Inventory and Testing	Extended Phase I Study Of Eight Archaeological Sites (Ca-IMP-1427, -3969, -6914, -6915, -6916, -6918, -6920, -6923) On State Route 98, Imperial County, California	J. Schaefer, D. Palette, C. O'Neill, and J. Eighmey	1999	Positive
IM-00892	Archaeological, Evaluation, Other research	Cultural Resources Inventory Report For NEPA 2001-39, CACA-42904 NTCH-CA, Inc., DBA RIO-TEL Communication Site	M. Hangan	2001	---
IM-01182	Testing and Monitoring	Final Report On Cultural Resource Monitoring Along The Level (3) Long Haul Fiber Optic Running Line, San Diego, California To Yuma, Arizona, San Diego And Imperial Counties	S. Yost, M. Mirro, L. Rhodes, J. Ing, H. Higgins	2001	Positive
---	Inventory	Archaeological Investigations for the U.S. Gypsum Company Quarry Expansion and Water Pipeline Replacement Project In Imperial County, California	A. Holmes, J. Nadolski (Pacific Legacy)	2003	Positive
IM-00984	Archaeological, Evaluation, Other research	Proposed Cellular Phone Communications Tower & Facility	J. Redlin	2005	---
IM-01228	Inventory and Monitoring	Volume I - Cultural Resources Final Report Of Monitoring And Findings For The Qwest Network Construction Project, State Of California	SWCA	2006	Positive
IM-01092	Inventory	A Phase I Cultural Resources Investigation Of The Proposed USG Pipeline Alignment, Approximately Five Linear Miles Near Plaster City, Imperial County, California	J. McKenna	2007	Positive
IM-01350	Archaeological, Evaluation, Other research	Final Class III Archaeological Inventory For The SDG&E Sunrise Powerlink Project, San Diego And Imperial Counties, California	A. Noah, D. Gallegos	2008	---
IM-01351	Archaeological, Evaluation, Other research	Cultural Resources Survey For The Bragg Shooflies Project, Imperial County, California	M. Tuma, V. Austerman, J. Dietler	2008	---
---	Inventory	Class III Cultural Resources Technical Report for the Imperial Valley Solar Project, Imperial County, California	URS (R. Farmer, E. Roberts, G. Tucker, R. Mutaw)	2010	Positive
IM-01541	Archaeological, Evaluation, Other research	A Cultural Resources Assessment Of Potentially Adverse Impacts To The Westside Main Canal As A Result Of The USG Plaster City Plant Water Pipeline Pump House Development West Of El Centro, Imperial County, California	J. McKenna	2011	---

Study Designation	Study Type	Title	Author(s)	Date	Positive/Negative
IM-01542	Archaeological, Evaluation, Other research	Plaster City Water Pipeline Project	Department of the Army	2012	---
Cultural Resource Studies Outside the Project APE and within a 0.25-Mile Radius					
IM-00603	Archaeological, Evaluation, Other research	Archaeological Report On Proposed Water Main Lines For Coyote Valley Mutual Water Company	J. Von Werlhof	1997	---
IM-00918	Inventory and Testing	Cultural Resources Survey And Assessment Of A Cellular Phone Tower Site Near Coyote Wells And The Results Of Test Excavations At Prehistoric Site CA-IMP-7813, Imperial County, California	P. de Barros	2000	Positive
IM-01057	Reconnaissance	Cultural Resource Study Of The Mount Signal And Dixie Ranch Imperial County Prison Alternatives Imperial County, California	A. Pignolo, R. Phillips, D. Gallegos	1990	Positive
IM-01245	Inventory	Cultural Resources Inventory For Plaster City And Superstition Mountain Open Areas Race Routes, Imperial County, California	K. Ahmet, S. Bholat, and E. Chandler	2007	Positive
IM-01330	Inventory	Final Cultural Resources Survey Of Alternatives For The Sunrise Powerlink Project In Imperial, Orange, Riverside, And San Diego Counties, California	SWCA	2008	Positive

Note: Positive/Negative indicates whether studies resulted in the recordation of cultural resources. Unless otherwise cited within the text, bibliographic information for the reports listed above is not replicated in the references in Section 8.0, though all reports are on file with the SCIC.

4.2 SUMMARY OF PREVIOUSLY RECORDED CULTURAL RESOURCES

The Class I archival and records search revealed that 65 cultural resources have been previously documented within the Project APE while an additional 118 resources have been recorded outside of the APE but within a surrounding 0.25-mile radius (*see* Tables 4-2 and 4-3). Cultural resources that intersect the Project APE include 14 prehistoric archaeological sites, 30 historic period archaeological sites or built environment resources, 11 multi-component resources containing both prehistoric and historic period elements, and 10 isolated finds. The prehistoric resources comprise mostly lithic and ceramic scatters, though some were reported to contain groundstone (P-13-000269, P-13-004954, P-13-008139, P-13-008323, P-13-009594, P-13-011165, and P-13-011628) or hearth features (P-13-010068 and P-13-009594) and one was recorded as a remnant Native American trail (P-13-007421). Nine of the 10 isolated finds are prehistoric flaked stone or groundstone artifacts while one consists of a 1941 USGS survey marker.

Many of the historic period resources recorded in the Project APE consist of debris scatters containing cans, bottle glass, and/or ceramics likely associated with road or railway corridors. Fourteen of the historic period resources comprise concrete survey markers, some with associated debris or signage. Notable historic period built environment resources include Highway 80 (P-13-008418) as well as the Plaster City Quarry, Plaster City Plant (P-13-009303), Plaster City Railroad (P-13-008139), and San Diego and Arizona Eastern Railroad (P-13-009302). The Plaster City Plant and Plaster City Railroad (also known as the US Gypsum Rail Line) were built in 1920-1921 to facilitate the transport and processing of gypsum from the Plaster City Quarry, which was established in 1902. The Plaster City Railroad was most recently recorded in

2009 by URS as a part of a multi-component resource featuring a prehistoric lithic and ceramic scatter located approximately 8 miles from the quarry along the railroad alignment well beyond the Project APE. Appendix A depicts previously recorded cultural resources within the Project APE according to data provided by the SCIC. Table 4-2 provides a summary of those resources and the recording history of each. Table 4-3 provides a summary of the 118 resources (87 archaeological sites or built environment resources and 31 isolated finds) that have been recorded outside of the APE but within the broader Class I inventory area. Although these 118 resources will not be impacted by the Project, they provide a useful context through which to better understand the prehistoric and historic period use of the Project vicinity.

Table 4-2. Cultural Resources Previously Recorded within the Project Area of Potential Effects.

Resource Designation(s)	Period	Author(s)	Date	Description	NRHP/ CRHR Status
Archaeological Sites and Historic Period Built Environment Resources within the Project APE					
P-13-000001 CA-IMP-1	Prehistoric	Unknown	1950	Scatter of Yuma Desert Ware ceramic potsherds.	NEV
		A. Lower	1983		
P-13-000269 CA-IMP-269 (Subsumes: CA-IMP-994, CA-IMP-995, CA-IMP-997, CA-IMP-1426, CA-IMP-2443, and CA-IMP-4677)	Prehistoric	E. Acker, R. Avels, E. Collins	1976	Extensive prehistoric site extending across five sections of the Plaster City 7.5-min. quadrangle, consisting of over 50 sites/loci that were recorded beginning in 1976 and subsumed under site CA-IMP-000269 (originally recorded as seven sites by Ackers, Avels, and Collins in 1976) by 2016. The site comprises lithic scatters (noted as "massive") composed of debitage and a wide range of tools (green porphyry, CCS, quartzite, and metavolcanic material) described as "innumerable", including projectile points, scrapers, choppers, cores, hammerstones, drills, knives, milling stone fragments, and cooking stones. Also present are high quantities of buffware and brownware potsherds (many blackened), at least one hearth feature and other possible hearths, and a cremation (Von Werlhof 1976).	RE (URS 2008)
		B. Johnson (CA-IMP-364)	1976		
		Mcl (CA-IMP-1426)	1976		
		J. von Werlhof (CA-IMP-994, - 995, 997)	1976 1976 1976		
		J. Vogel (CA-IMP-2443)	1978		
		W. Hyde (CA-IMP-4677)	1981		
		J. McKenna	2007		
		R. Nixon	2008		
		URS (CA-IMP-995)	2008		
		E. Kowalski	2009		
		B. Williams, B. Comeau	2009		
J. Lennen	2016				
P-13-000321 CA-IMP-321	Prehistoric	H. Ronnenburg	1974	Lithic and ceramic scatter consisting of debitage, charcoal, and potsherd, located 100 feet from a cremation site (CA-IMP-000360). P-13-000321 was not relocated in 2007; possibly disturbed by railroad construction.	NEV
		J. McKenna	2007		
P-13-002355 CA-IMP-2355	Prehistoric	H. Pritchett	1977	Lithic scatter of six light green porphyry debitage.	NEV
P-13-004193 CA-IMP-4193H	Historic	J. Townsend	1979	Debris scatter with two loci, consisting of bottle/jar glass, ceramic piece, metal.	NEV

Resource Designation(s)	Period	Author(s)	Date	Description	NRHP/ CRHR Status
P-13-004340 CA-IMP-4340	Prehistoric	R. Norwood	1980	Sparse lithic scatter with cores. Later recordings of P-13-004391 (Fariello 2008; Albush 2009) were mistakenly lumped and identified with this site.	NEV
P-13-004391 CA-IMP-4391/H	Multi-component	J. Townsend, S. Fulmer	1981	Prehistoric component consists of a sparse lithic scatter with debitage, cores, and Tizon brownware and Colorado Buffware sherds. Historic component consists of berms, depressions, coal-clinker stained soil, and a debris scatter of metal, ceramics, and glass vessel fragments, including amethyst, bottles, and cans, 1900s-1920s.	NEV
		J. Fariello	2008		
		C. Albush	2009		
P-13-004954 CA-IMP-4954	Prehistoric	McNitt and Collins	1983	Lithic scatter, including debitage, scrapers, cores, blades, and hammerstones, one "white quartz cairn", and one "white quartz power station". The site was not relocated in 2007, and the area was found to have impacts from the railway realignment and water treatment facility development.	NEV
		J. McKenna	2007		
P-13-007421 CA-IMP-7421	Prehistoric	IVC Archaeological Field School	1993	Prehistoric trail; the northern extension destroyed by road frontage and Interstate 8, southern extension destroyed by sheet wash erosion.	NEV
P-13-008139 CA-IMP-7739/H Plaster City Railroad	Multi-component	L. Kastoll	1998	Prehistoric component is a lithic and ceramic scatter including debitage, cores, tools, groundstone, fire-affected rock, midden, cairns, fish and mammal bone, and 300+ potsherds (Colorado Buffware, Tumco, Tizon brownware, Salton buffware, Black Mesa buffware), and a coprolite of unknown date. The recorded historic component consists of a portion of the 27-mile narrow gauge US Gypsum Rail Line (which traveled between the mine and plant), locomotives, 11 drainage culverts, a railroad bridge (1922) over Carrizo Wash, and a possible iron flintlock/sidelock.	RNE (URS 2009)
		J. Berryman	2002		
		A. Holmes	2002		
		URS	2009		
P-13-008323 CA-IMP-7816/H SDY-S-4	Multi-component	D. James, R. Bark, M. Caldwell	1999	Prehistoric component consists of one highly polished bifacial granite handstone. Historic component originally recorded as a historic railroad stop with debris scatter on either side of a Union Pacific Railroad alignment, it was later determined to be a likely temporary campsite along the railroad and adjacent roads, with corrections made to location (McKenna 2007).	NEV
		J. McKenna	2007		
		R. Nixon	2008		

Resource Designation(s)	Period	Author(s)	Date	Description	NRHP/ CRHR Status
P-13-008334 CA-IMP-7834H Westside Main Canal	Historic	J. Hupp	1999	Sections of the approximately 40-mile long Westside Main Canal (built in 1907), an earthen levee canal, including associated structures and bordered by dirt roads for maintenance. Part of the Imperial Irrigation District Canal System.	Various segments RE (Harris 2000, McKenna 2007, Burkhard et al. 2007, EPG 2007, Mitchell et al. 2012)
		N. Harris	2000		
		J. Burkhard, H. Thompson, J. Covert	2007		
		EPG	2007		
		J. McKenna	2007		
		URS	2009		
		C. Bowden-Renna	2010		
		AECOM	2011		
		C. Bodmer, B. Bartram, B. Johnson	2011		
		J. Krintz	2011 2011 2011		
		Heather Thompson	2011		
		H. Thomson	2011		
		P. Mitchell, E. Maier, H. Thomson	2012		
J. Lennen	2017	Portion of Canal under Interstate 8 determined NE (Hupp 1999)			
P-13-008418 CA-IMP-7886 US Highway 80	Historic	D. Pallette, S. Ghabhláin	2001	Portions of US Highway 80 (2,671 miles from Savannah, Georgia, to San Diego) that fall within Imperial County and extend through Plaster City, built in the 1910s-1920s. Improvements were made in the 1930s as New Deal projects of the Federal Bureau of Public Roads. Recorded alignments consist of in-use segments as well as portions used up to the 1960s, and comprise Portland Cement paved two-lane roadway, original oil and sand roadbed, bridges, and culverts. (The "Old Highway 80" in San Diego County is P-37-024023.)	Various segments RNE (URS 2009, ASM Affiliates 2010, AECOM 2011)
		A. Holmes	2002		
		J. Steely	2007		
		J. McKenna	2007		
		URS	2009		
		Brian Williams	2009		
		M. Pumphrey	2010		
		AECOM	2011		
		Jill Gibson, M. Meiser	2011		
		J. Krintz	2011		
P-13-009302 CA-IMP-8489H San Diego and Arizona Eastern Railroad	Historic	J. McKenna	2007	Segments of the San Diego and Arizona Eastern Railroad (built 1907-1919), which connected San Diego to El Centro (the connection to Southern Pacific network). The resource includes intact rails and tracks; railroad bridges, including several timber trestle bridges with railroad signs; fences; historic and modern debris scatters.	Various segments RE (ASM Affiliates 2009, AECOM 2011) Two segments RNE (URS 2009)
		A. Wesson, J. Shrieve, M. Hares, K. McLean, G. Connell, J. Burkhard	2007		
		M. Dalope, S. Gunderman/ ASM Affiliates	2009		
		URS	2009		
		C. Bowden-Renna	2010		

Resource Designation(s)	Period	Author(s)	Date	Description	NRHP/ CRHR Status
		P. McGinnis	2010		
		AECOM	2011		
		J. Krintz	2011		
P-13-009303 Plaster City Plant	Historic	URS	2009	The Plaster City Plant, built in 1920-1921 by Imperial Gypsum and Oil Corporation (1922-1924), sold to Portland Cement Company (1924-1945), then to US Gypsum (1945-present). The plant is divided into two portions by Highway-80. The north side includes the administration building (partially 1940s), non-historic processing barn, and parking lot. The South side has a greater concentration of structures, mostly non-historic warehouses and storage containers, with one historic period two-story warehouse (1940s). The plant has had several building/improvement episodes from the 1940s onward.	RNE (URS 2009)
		J. McKenna	2007		
P-13-009594 CA-IMP-8658 DP-S-046	Prehistoric	N. Doose, W. Welsh, J. Huval, M. Werle, T. Osura	2007	Sparse lithic and ceramic scatter, including debitage (metavolcanic, obsidian), battering stone, core, corner-notched projectile points (CCS), two handstones, groundstone fragment, a hearth feature, and 29 pottery sherds.	NEV
P-13-009729 D3-S-59	Prehistoric	L. Piek, B. Williams, B. Linton	2007	Lithic and ceramic scatter consisting of debitage (metavolcanic and jasper), two metavolcanic cores, and 15 potsherd fragments (buffware and brownware).	NEV
P-13-010066 CA-IMP-8969/H EBR-303	Multi-component	A. Ruelas	2008	Prehistoric component consists of a metavolcanic primary flake, a quartzite primary flake, and three Colorado Buffware potsherds. Historic component is comprised of two loci of debris scatter, consisting of cans, bottle glass, and faunal bones, all material mostly burnt.	NEV
		URS	2008		
P-13-010068 CA-IMP-8971 EBR-305	Prehistoric	A. Ruelas	2008	Lithic and ceramic scatter consisting of a metavolcanic flake, a quartzite flake, a deflated hearth, two black ceramic sherds, and three Colorado Buffware sherds.	NEV
		URS	2008		
P-13-011165 CA-IMP-10171 DP1	Prehistoric	E. Collins, IID & IVC Archaeology Class	1999	Lithic and ceramic scatter, consisting of 30 flakes (quartzite, porphyry, jasper), 14 porphyry cores/fragments, two quartzite cores, three handstones (granite, basalt, quartzite), and 110 potsherds, mostly probable Colorado buff, two with black interior and temper.	NEV
P-13-011542 CA-IMP-10455/H JM-021	Multi-component	C. Albush	2009	Prehistoric component consists of eight pieces of debitage, two cores, and one core tool. The historic component consists of 20 pieces of bottle glass, including bases, one white ceramic fragment, a bucket handle, and cans. There are eight rock cluster features (metavolcanic and quartz cobbles) of indeterminable age.	NEV

Resource Designation(s)	Period	Author(s)	Date	Description	NRHP/ CRHR Status
P-13-011544 CA-IMP-10457/H JM-026	Multi-component	C. Albush	2009	Prehistoric component is comprised of approximately 1,319 artifacts, consisting of debitage, edge-modified flakes, bifaces, hammerstones, cores/core tools, and choppers (metavolcanic, quartzite, CCS, petrified wood), in 69 concentrations, and two possible deflated hearths. Historic component includes a rock collection pile and three concentrations of debris (cans, glass, metal, ceramics, and burnt faunal bone), totaling approximately 676 artifacts.	NEV
P-13-011626 CA-IMP-10538/H S2-SLY-1	Multi-component	K. McLean	2009	Prehistoric component consists of 131 artifacts (CCS, quartzite, metavolcanic) in two loci, including debitage, two cores, and two hammerstones, and 94 buffware and 15 brownware ceramic sherds. Historic component consists of 203 artifacts, including bottle glass, cans, fish tins, and tableware fragments.	NEV (subsurface testing recommended, McLean 2009)
P-13-011627 CA-IMP-10539/H S2-SLY-3	Multi-component	B. Glenn	2009	Prehistoric component is concentrated in one loci, and consists of four flakes (CCS, metavolcanic), and 27 brownware ceramic sherds. Historic component (date range 1935+) is located in one locus and consists of nine cans and eight glass fragments.	NEV (subsurface testing recommended, Glenn 2009)
P-13-011628 CA-IMP-10540 S2-SLY-5	Prehistoric	D. Kay	2009	Lithic (CCS, quartzite, metavolcanic) and ceramic scatter, including three loci; consisting of debitage, cores, hammerstones, handstone and milling slab fragments, and 258 buffware sherds.	NEV (subsurface testing recommended, Kay 2009)
P-13-011629 CA-IMP-10541H S2-SLY-25	Historic	D. Kay	2009	Debris scatter of 64 artifacts, consisting of cans, bottle glass, and rubber tire fragments (deposited 1935+).	RNE (Kay 2009)
P-13-011630 CA-IMP-10542H S2-SLY-26	Historic	D. Kay	2009	Debris scatter of 20 artifacts, consisting of cans, bottle glass, miscellaneous metal, and a rubber mat (deposited 1955+).	RNE (Kay 2009)
P-13-011631 CA-IMP-10543H S2-SLY-27	Historic	D. Kay	2009	Debris scatter of 20 artifacts, consisting of cans, bottle glass, and a metal ring (deposited 1956+); a dislodged concrete state route marker with beveled edges, impressed "C", and copper plug inset at top (1914-1934); and an isolate basalt flake.	RNE (Kay 2009)
P-13-011632 CA-IMP-10544H S2-SLY-28	Historic	D. Kay	2009	Debris scatter of 17 artifacts, consisting of cans and bottle glass (deposited 1935-1960s).	RNE (Kay 2009)
P-13-011633 CA-IMP-10545/H S2-SLY-29	Multi-component	D. Kay	2009	Prehistoric component consists of 6 pieces of lithic debitage (metavolcanic, jasper, CCS). Historic component consists of 106 artifacts, comprised of cans, bottle glass, and one metal plate (deposited 1958+).	RNE (Kay 2009)

Resource Designation(s)	Period	Author(s)	Date	Description	NRHP/ CRHR Status
P-13-011634 CA-IMP-10546H S2-SLY-30	Historic	D. Kay	2009	Debris scatter in two concentrations, consisting of at least 137 artifacts, including bottle glass, cans, box spring remains, and rubber tire fragments (1920s-1950s).	RNE (Kay 2009)
P-13-011635 CA-IMP-10547/H S2-SLY-31	Multi-component	D. Kay	2009	Prehistoric component consists of one basalt tertiary flake and two buffware ceramic sherds. Historic component is a concrete "C" state survey marker with copper plug, and 723 artifacts, including bottle glass, cans, miscellaneous metal, ceramic insulators, and electrical wire (1916-1954+).	NEV (subsurface testing recommended, Kay 2009)
P-13-011636 CA-IMP-10548H S2-SLY-32	Historic	K. McLean	2009	Concrete "C" state survey marker with copper plug, and debris scatter of 13 artifacts, including cans, a glass tumbler and bottle base.	RNE (McLean 2009)
P-13-011637 S2-SLY-33	Historic	K. McLean	2009	Concrete "C" marked state survey marker with copper plug (1914-1935).	NEV
P-13-011638 S2-SLY-34	Historic	K. McLean	2009	Concrete "C" marked state survey marker with copper plug (1914-1935).	NEV
P-13-011639 S2-SLY-35	Historic	K. McLean	2009	Concrete "C" marked state survey marker with copper plug (1914-1935).	NEV
P-13-011640 S2-SLY-36	Historic	K. McLean	2009	Concrete "C" marked state survey marker with copper plug (1914-1935), and a later T-post.	NEV
P-13-011641 S2-SLY-37	Historic	K. McLean	2009	Concrete "C" marked state survey marker with copper plug (1914-1935), and associated post and metal sign.	NEV
P-13-011642 S2-SLY-38	Historic	K. McLean	2009	Concrete "C" marked state survey marker with copper plug, and a later T-post.	NEV
P-13-011643 S2-SLY-39	Historic	K. McLean	2009	Concrete "C" marked state survey marker with copper plug (1914-1935), and a later T-post.	NEV
P-13-011644 S2-SLY-40	Historic	K. McLean	2009	Concrete "C" marked state survey marker with copper plug (1914-1935), and a later T-post and metal sign.	NEV
P-13-011645 S2-SLY-41	Historic	K. McLean	2009	Concrete "C" marked state survey marker with copper plug (1914-1935), associated metal sign, and nearby broken wood lath pieces.	NEV
P-13-011646 S2-SLY-42	Historic	K. McLean	2009	Concrete "C" marked state survey marker with copper plug (1914-1935), a dislodged later T-post and wood lath piece.	NEV
P-13-011647 S2-SLY-43	Historic	K. McLean	2009	Concrete "C" marked state survey marker with copper plug (1914-1935), and a later T-post.	NEV
P-13-011648 S2-SLY-44	Historic	K. McLean	2009	Concrete "C" marked state survey marker with copper plug (1914-1935), an adjacent associated T-post and metal sign, and wood lath piece.	NEV
P-13-011649 S2-SLY-45	Historic	K. McLean	2009	Concrete "C" marked state survey marker with copper plug (1914-1935) and a later T-post and associated metal sign.	NEV

Resource Designation(s)	Period	Author(s)	Date	Description	NRHP/ CRHR Status
P-13-011790 CA-IMP-10612H JF-015E	Historic	J. Fariello	2008	Debris scatter of 23 artifacts, consisting of cans and bottles (1930s-1960s).	NEV
P-13-011792 CA-IMP-10613H JF-017	Historic	J. Fariello	2008	Debris scatter consisting of 30 cans and several bottles (1930s-1960s).	NEV
P-13-011793 CA-IMP-10614 JF-022	Prehistoric	J. Fariello	2008	One metavolcanic flake and four Tizon brownware ceramic sherds.	NEV
P-13-011794 CA-IMP-10615/H JF-025	Multi-component	J. Fariello	2008	Prehistoric component consists of three metavolcanic flakes, and three Tizon brownware ceramic sherds. Historic component is a debris scatter in three loci, comprising bottle glass and a .50-caliber cartridge (1940s-1960s).	NEV
P-13-011801 CA-IMP-10621H JFB-010E	Historic	J. Fariello	2008	Debris scatter comprised of cans, bottle glass, and a single ceramic handle fragment (1920s-1940s).	NEV
P-13-012244 CA-IMP-12424H Fages-De Anza Trail	Historic	B. Williams	2009	Historic trail utilized by early Spanish occupants, trappers, the US Army, 49ers, settlers, and as a delivery route. The recorded portion is 100-meter segment severely worn and widened by off-highway vehicles.	NEV
P-13-012732 CA-IMP-11181 T-2570	Prehistoric	E. Collins, D. Bradshaw	2003	Prehistoric scatter of over 25 Colorado Buffware ceramic sherds, at least five black porphyry flakes, and four fire-affected rocks.	NEV
P-13-013126 CA-IMP-11437H IID-S-002	Historic	C. Bowden-Renna, T. Cooley, W. Glenny, L. Kry	2009	Debris scatter beside railroad tracks, consisting of cans, bottle glass, and milled lumber (1885-1930s). Possibly associated with the San Diego and Arizona Eastern Railroad.	NEV
Plaster City Quarry	Historic	A. Holmes	2002	<p>This resource consists of an active gypsum quarry that has been in operation since 1902. Imperial Valley Gypsum and Oil Company. The Pacific Portland Cement Company bought the quarry in 1924 and operated it until 1946. USG acquired the quarry in 1946 and currently owns and operates it. The record for this resource was not submitted to the SCIC in 2002 and did not receive a Primary or Trinomial designation.</p> <p>Originally recorded as USG-01, the Plaster City Quarry contains a historic period locus (Locus 1) that consists of a U-shaped, dry-laid stacked stone structure with a hearth inside and a historic debris scatter. Because the record for USG-01 was not submitted to the SCIC in 2002 as a separate resource and did not receive a Primary or Trinomial designation, it has been included as a part of the larger Plaster City Quarry site.</p>	NEV

Resource Designation(s)	Period	Author(s)	Date	Description	NRHP/ CRHR Status
Isolated Finds within the Project APE					
P-13-002040 CA-IMP-2040	Prehistoric	H. Pritchett	1977	Isolated quartzite scraper.	NE
P-13-004389 CA-IMP-4389	Prehistoric	J. Townsend	1981	Isolated buffware ceramic sherd.	NE
P-13-009727 D3-I-58	Prehistoric	L. Piek, B. Williams, B. Linton	2007	Isolate gray metavolcanic flake.	NE
P-13-011740 SLY-ISO-2	Prehistoric	B. Glenn	2009	Isolate metavolcanic hammerstone.	NE
P-13-011741 SLY-ISO-4	Prehistoric	B. Glenn	2009	Isolate metavolcanic secondary flake.	NE
P-13-011742 SLY-ISO-6	Prehistoric	B. Glenn	2009	Isolate metavolcanic tested cobble.	NE
P-13-011743 SLY-ISO-7	Prehistoric	B. Glenn	2009	Isolate metavolcanic secondary flake.	NE
P-13-011744 SLY-ISO-8	Prehistoric	Caltrans	2009	Isolate handstone fragment.	NE
P-13-011847 JF-002-I	Prehistoric	J. Fariello	2008	Isolate chalcedony tertiary flake.	NE
P-13-013118 IID-I-022	Historic	C. Bowden- Renna, T. Cooley, W. Glenny, L. Kry	2009	Isolated USGS Survey marker (1941), located on north side of railroad tracks.	NE

Note: NRHP/CRHR Status indicates the eligibility status of Class I resources for listing in the National and/or California Register according to the Historic Property Data File for Imperial County (California Department of Parks and Recreation 2013) and cultural resource records on file with the SCIC. NE = Not Eligible; NEV = Not Evaluated; RE = Recommended Eligible; RNE = Recommended Not Eligible.

Unless otherwise cited within the text, bibliographic information for the cultural resource records listed above is not replicated in Section 8.0 References, but all records cited above are on file with the SCIC.

Table 4-3. Cultural Resources Previously Recorded Outside of the Project Area of Potential Effects and Within the Class I Archival and Records Search Area.

Resource Designation(s)	Period	Author(s)	Date	Description
Archaeological Sites and Historic Period Built Environment Resources Outside the Project APE and within a 0.25-Mile Radius				
P-13-000453 CA-IMP-453	Prehistoric	M. Barker	1976	Site comprised of a large quantity of potsherds; one intact pot reportedly recovered. The site was destroyed by heavy equipment leveling.
P-13-001417 CA-IMP-1417/H	Multi-component	P. Meadville	2009	Prehistoric component is a lithic scatter, buffware and brownware potsherd scatter, and one fire-affected rock feature. Historic component was recorded separately (Nixon 2009) and consists of a 1920s-1950s can and bottle debris scatter.
		R. Nixon	2009	
P-13-001663 CA-IMP-1663	Prehistoric	L. Laurie	2008	Extensive lithic and buffware/brownware ceramic potsherd scatter, comprising 12 features and 15 loci; including cores, bifaces, a Desert Side-notched projectile point, hearth features, and a possible human cremation.
P-13-001996 CA-IMP-1996	Prehistoric	R. Miller	1977	Lithic scatter comprised of black basalt and green porphyry.
P-13-001997 CA-IMP-1997	Prehistoric	H. Pritchett	1977	Lithic scatter with tools and hammerstone, all porphyry.
P-13-002034 CA-IMP-2034	Prehistoric	H. Pritchett	1977	Lithic scatter, mostly porphyry, including two cores and a chopper; site was bladed.

Resource Designation(s)	Period	Author(s)	Date	Description
P-13-002356 CA-IMP-2356	Prehistoric	H. Pritchett	1977	Lithic scatter of four green porphyry flakes and a core, and a basalt hammerstone.
P-13-002358 CA-IMP-2358	Prehistoric	H. Pritchett	1977	Lithic scatter consisting of a green porphyry chopper, debitage, and hammerstone.
P-13-002361 CA-IMP-2361	Prehistoric	H. Pritchett	1977	Site consisting of two porphyry cores and an igneous chopper.
P-13-002420 CA-IMP-2420	Multi-component	K. Avels, E. Collins	1975	Prehistoric component is a lithic scatter of at least five porphyritic flakes, six granite milling slab fragments, a deflated hearth with 30 fire-affected rocks and charcoal deposits, and over 12 Tizon brownware ceramic sherds, and quartz. An earlier recording (Avels and Collins 1975) describes a scatter of worked porphyry, including choppers, a scraper, a knife, and some redware sherds. The historic component (Miller 1977) was originally recorded as CA-IMP-3184-H (subsumed by P-13-0002420; not noted in 2007 record) and consists of an old watering place where a store was established about 1909.
		R. May, R. Pettus	1976	
		R. Miller (CA-IMP-3184-H)	1977	
		A. Pignoli, J. Aguilar	2007	
P-13-003396 CA-IMP-3396H	Historic	Unknown	No Date	Site originally recorded as the Crossed Express Trail to Fort Yuma, Nevada. The trail was not relocated in 2009.
		B. Williams	2009	
P-13-003505 CA-IMP-3505H	Historic	J. Johnson	1977	Two loci of rock cairns, one with 68 cairns, one with four, in an area heavily impacted by military occupation and off-highway vehicles.
P-13-003689 CA-IMP-3689/H	Multi-component	J. von Werlthof	1980 1981	Lithic workshop and artifact scatter of numerous porphyry tools, one redware potsherd, and likely historic rock ring and cairns. In 2003 the site found to be generally as originally recorded, but significantly smaller/diminished.
		M. Hangan	2003	
P-13-003761 CA-IMP-3761H (Subsumes P-13-010017, P-13-010018, P-13-010019)	Historic	C. Walker, DarD.la Ferguson	1979	Debris scatter with three loci, consisting of cans, bottles, ceramics, auto parts, insulators, barbed wire, and structural debris.
		R. Nixon (P-13-010017/CA-MRP-8919)	2008	
		URS (P-13-010017/CA-IMP-8919; P-13-010018/CA-IMP-8920; P-13-010019/CA-IMP-8921)	2008	
		D. Barklow (P-13-010017/CA-IMP-8919; P-13-010018/ CA-IMP-8920)	2009	
		B. Comeau	2009	
		P. Meadville, R. Nixon, S. Black (P-13-010019/CA-IMP-8921)	2009	
P-13-004471 CA-IMP-4471	Prehistoric	N. Nagle	1981	Ceramic scatter of six Colorado Buffware sherds.
P-13-004603 CA-IMP-4603-I	Prehistoric	F. Nelson	1981	Ceramic and lithic tool, groundstone, and debitage scatter, and two hearth features.
		J. Fariello	2008	
P-13-006687 CA-IMP-6687	Prehistoric	J. Schaefer, D. Palette	1992	Lithic debitage scatter, poor quality brown chalcedony.

Resource Designation(s)	Period	Author(s)	Date	Description
P-13-006887 CA-IMP-6887	Prehistoric	IVC Archaeological Field School	1993	Lithic tool and debitage scatter, including basalt, rhyolite, porphyry, and quartz.
P-13-008215 CA-IMP-7785 CW-1	Prehistoric	A. Apple, R. Nagle, M. Wade, N. Swidler	1982 1983	Lithic tool and debitage scatter, including a quartzite handstone and quartzite projectile point (collected), and ceramic sherds (Tizon and buffware).
P-13-008318 CA-IMP-7813/H CW-1	Multi-component	P. de Barros	2000	Prehistoric component is a lithic scatter (disturbed), with debitage, a milling slab, cores, Tumco Buff pottery sherds, and rabbit bone. Historic component is a small can scatter (early-late 20 th century) and faunal bones.
P-13-008391 CA-IMP-7868H PF-ASM-3	Historic	S. Andrews	2000	Debris scatter consisting of bottle glass, ceramics, cans, and rubber (ca. 1940s-1950s).
P-13-008861 CA-IMP-8281 6730-1	Prehistoric	S. Andrews	2004	Ceramic scatter/pot drop of Tumco buff sherds, with indication of further buried sherds.
P-13-009202 CA-IMP-8426 BLM-004	Prehistoric	K. Ahmet, S. Bholat, N. Howell, S. Hale, J. Vadala	2007	Diffused rock feature, with surface charcoal flecks indicating it was later used as modern campfire.
P-13-009203 CA-IMP-8427 BLM-005	Prehistoric	K. Ahmet, S. Bholat, N. Howell, S. Hale, J. Vadala	2007	Lithic debitage and tool scatter, ceramic sherds, and three dispersed rock features.
P-13-009206 CA-IMP-8430 BLM-008	Prehistoric	K. Ahmet, S. Bholat, N. Howell, S. Hale, J. Vadala	2007	Lithic scatter of one flake, one core, two tools, and a ceramic sherd scatter/pot drop.
P-13-009473 CA-IMP-8590H OC-S-99	Historic	N. Brodie, J. Aguilar, A. Pignolo	2007	Railroad associated debris scatter, including two train rails, slag, and a bottle fragment. Other possible historic debris is mixed with more recent trash.
P-13-009474 CA-IMP-8591 OC-S-100	Prehistoric	N. Brodie, J. Aguilar, A. Pignolo	2007	Ceramic scatter of at least five Salton brownware body sherds.
P-13-009880 CA-IMP-8821H Fox Glove Canal	Historic	SWCA	2007	Segments of the 9-mile long Foxglove Canal, a concrete-lined irrigation canal and culverts, built ca. 1912 (modified in the 1960s).
		URS	2009	
		AECOM	2011	
		S. Davis	2011	
		H. Thomson	2011	
P-13-009687 CA-IMP-8706H Other - D2-S-252	Historic	H. Thomson, R. Anderson, P. K. Sharp-Garcia, L. Carrier	2006	Debris scatter of three cans.
P-13-010000 CA-IMP-8902H JF-008	Historic	URS	2008	Debris scatter (1930s-1950s), consisting of bottle glass, cans, wire nails, and a bicycle tire pump.
		D. Barklow	2009	
P-13-010004 CA-IMP-8906 JFB-012	Prehistoric	URS	2008	Lithic scatter, including debitage, three cores, and a hammerstone.
		R. Nixon	2009	
P-13-010008 CA-IMP-8910H RAN-005	Historic	URS	2008	US GLO survey benchmark (1912), and a tobacco tin.
		R. Nixon	2009	

Resource Designation(s)	Period	Author(s)	Date	Description
P-13-010009 CA-IMP-8911H RAN-006	Historic	URS	2008	Debris scatter (1940s-1950s) with one locus, consisting of cans, bottle glass, and a braided metal cable.
		D. Barklow, K. McLean, V. Parsick	2009	
P-13-010012 CA-IMP-8914 RAN-008	Multi-component	URS	2008	Prehistoric component consists of two Tizon brownware ceramic sherds. Historic component is a US GLO survey benchmark, undated, and three modern lath stakes.
		R. Nixon	2009	
P-13-010013 CA-IMP-8915 RAN-009	Historic	URS	2008	Debris scatter (1940s-1950s) comprised of cans, bottle and jar glass, one spent bullet casing, and propane can.
		R. Nixon	2009	
P-13-010015 CA-IMP-8917 RAN-011	Multi-component	URS	2008	Prehistoric component is three cores and a hammerstone. Historic component is a small debris scatter (1930s-1950s) of cans and a bottle base.
		R. Nixon	2009	
P-13-010016 CA-IMP-8918 RAN-012	Multi-component	URS	2008	Prehistoric component is a large lithic scatter of debitage, cores, and tested cobbles, three loci, six rock cluster and rock pile features, and Colorado buff ceramic sherds. Historic component is a small debris scatter of cans, bottle glass, a mammal bone, and a bullet casing.
		R. Nixon	2009	
P-13-010020 CA-IMP-8922 RAN-019	Historic	URS	2008	Debris scatter (1900-1950s) with two loci, milk bottle and other bottle glass, ceramics, cans, insulators, auto parts, a shoe sole.
		R. Nixon	2009	
P-13-010021 CA-IMP-8923 RAN-020	Historic	URS	2008	Debris scatter of almost 600 artifacts, two loci, consisting of bottle and jar glass, numerous plate glass fragments, ceramics, miscellaneous metal, and two shoes.
		D. Barklow	2009	
P-13-010067 CA-IMP-8970 EBR-304	Prehistoric	E. Roberts	2008	Lithic and ceramic scatter, consisting of three flakes and a hammerstone, and Tizon and Colorado Buffware sherds.
		URS	2008	
P-13-010071 CA-IMP-8974 JF-026	Prehistoric	J. Fariello	2008	Lithic scatter including debitage, cores, hammerstones, other groundstone, a side-notched projectile point, three hearth/fire-affected rock features, and ceramic sherds.
		URS	2008	
P-13-011472 CA-IMP-10389 CJA-S2-007	Prehistoric	C. Albush	2009	Ceramic scatter of brownware and buffware sherds and one quartz core.
P-13-011476 CA-IMP-10393 CJA-S2-017	Prehistoric	C. Albush	2009	Lithic scatter of obsidian debitage, one core, one biface, and one projectile point.
P-13-011528 CA-IMP-10441 JFB-004	Historic	R. Nixon, B. Gothar, T. Sowles	2009	US GLO benchmark and associated rock clusters, wooden lath stakes, and wire (1900-1950s).
P-13-011530 CA-IMP-10443 JFB-010	Multi-component	R. Nixon, B. Gothar, T. Sowles	2009	Prehistoric component is a lithic scatter of six flakes and a hammerstone. Historic component is an undated brass cap survey point marker.
P-13-011531 CA-IMP-010444 JFB-011	Historic	R. Nixon	2009	Debris scatter (1950s+) of bottle glass, cans, an insulator, and a railroad spike.
P-13-011540 CA-IMP-10453 JM-017	Prehistoric	C. Albush	2009	Lithic scatter with five loci, including debitage, cores, tested cobbles, and hammerstones.
P-13-011541 CA-IMP-10454 JM-020	Multi-component	C. Albush	2009	Prehistoric component is a lithic scatter with five loci, consisting of cores, hammerstones, and a tested cobble. The historic component is a scatter of one broken jar and a can (1903-1958).

Resource Designation(s)	Period	Author(s)	Date	Description
P-13-011543 CA-IMP-10456 JM-023	Prehistoric	C. Albush	2009	Lithic scatter of debitage, bifaces, performs, and cores.
P-13-011545 CA-IMP-10458 JM-027	Prehistoric	C. Albush	2009	Lithic scatter with seven loci, consisting of debitage, cores, tested cobbles, and a hammerstone.
P-13-011546 CA-IMP-10459 JM-028	Prehistoric	C. Albush	2009	Small lithic scatter of debitage, one core, one flaked tool, and a hammerstone.
P-13-011569 CA-IMP-10482 JMR-021	Prehistoric	P. Meadville	2009	Prehistoric lithic and ceramic scatter, consisting of one flake and four buffware sherds.
P-13-011588 CA-IMP-10500 RAN-017	Multi-component	P. Meadville	2009	Prehistoric component consists of six green metavolcanic flakes. Historic component is a debris scatter of approximately 6,100 artifacts, including bottle glass, ceramics, cans, nails and structural materials, and a large quantity of miscellaneous metal.
P-13-011620 CA-IMP-10532 RAN-S2-005	Prehistoric	R. Nixon	2009	Lithic scatter with three loci, consisting of debitage, a core, edge-modified flake, and hammerstones.
P-13-011759 CA-IMP-010581 DRK-115	Prehistoric	D. Kay	2008	Possible deflated hearth feature with associated Tizon brownware ceramic sherd.
P-13-011778 CA-IMP-10600 GCT-001	Prehistoric	G. Tucker, Jr.	2008	Lithic and ceramic scatter with four loci, including debitage, handstones and pestles, cores, tested cobbles, buffware and Tizon brown ceramic sherds, a deflated hearth feature, and a rock cluster.
P-13-011781 CA-IMP-10603 GCT-004	Prehistoric	G. Tucker, Jr.	2008	Lithic and ceramic scatter, consisting of three flakes, one core, and a Colorado Buffware sherd.
P-13-011782 CA-IMP-10604 GCT-005	Prehistoric	G. Tucker, Jr.	2008	Lithic and ceramic scatter, consisting of debitage, a tested cobble, a chopper, Tizon brown and Colorado buff ceramic sherds, and a deflated hearth feature.
P-13-011783 CA-IMP-10605 GCT-007	Prehistoric	G. Tucker, Jr.	2008	Lithic and ceramic scatter with three loci, including debitage, a core, handstone and milling slab fragments, and over 200 Tizon brown and buff ceramic sherds, one human cremation feature with bone fragments, and nine deflated hearth features.
P-13-011784 CA-IMP-10606 GCT-009	Prehistoric	J. Fariello	2008	Lithic and ceramic scatter, including debitage, tested cobbles, a milling slab, handstones, over 50 Tizon brown and Colorado buff sherds, and two hearth features.
		G. Tucker, Jr.	2008	
P-13-011785 CA-IMP-10607 GCT-010	Prehistoric	G. Tucker, Jr.	2008	Scatter of 16 Colorado buff and one Tizon brown ceramic sherd, and one handstone.
P-13-011786 CA-IMP-10608 GCT-011	Prehistoric	G. Tucker, Jr.	2008	Scatter of ten Colorado buff and two Tizon brown ceramic sherds.
P-13-011788 CA-IMP-10610 JF-010	Historic	J. Fariello	2008	Debris scatter (1900s-1940s), consisting of cans and one cut cow bone.
P-13-011789 CA-IMP-10611 JF-012	Historic	J. Fariello	2008	Debris scatter (1900s-1940s) of mostly half-buried cans.
P-13-011791 JF-016	Historic	J. Sahagun	2014	US GLO bronze cap survey marker (1912), and a debris scatter of glass, ceramics, and cans; site impacted by heavy off-highway vehicle use.
		J. Fariello	2008	

Resource Designation(s)	Period	Author(s)	Date	Description
P-13-011802 CA-IMP-10622 JMK-001A	Prehistoric	J. Fariello	2008	Potential oven/hearth feature and a hammerstone.
P-13-011805 CA-IMP-010625 JMK-003A	Historic	J. Fariello	2008	Scatter of historic rocket launcher pod and rocket casings (minus warhead).
P-13-011806 CA-IMP-10626 JMK-004	Prehistoric	J. Fariello	2008	Lithic scatter of debitage and three cores, and one Colorado buff ceramic sherd.
P-13-011807 CA-IMP-10627 JMK-005	Prehistoric	J. Fariello	2008	Lithic and ceramic scatter including debitage, tools, cores, groundstone, over 275 brownware sherds, six incised buff sherds, and two roasting oven features.
P-13-011808 CA-IMP-10628 JMK-006	Prehistoric	J. Fariello	2008	Lithic scatter of six flakes, quartzite, metavolcanic, and basalt.
P-13-011810 CA-IMP-10630 JMK-008	Prehistoric	J. Fariello	2008	Lithic and ceramic scatter of debitage, milling slab fragments, and brownware sherds.
P-13-011811 CA-IMP-010631 JMK-014	Multi-component	J. Fariello	2008	Prehistoric component consists of a lithic and ceramic scatter including debitage, cores, handstones, hammerstones, scrapers, edge-modified flakes, tested cobbles, and five buffware and brownware ceramic sherds, and four hearth features. Historic component is a debris scatter (1880-1930s) comprised of four loci, including bottle glass, industrial or possible railroad related artifacts (scrap, hardware, steel plates, coal slag), and 400 fragments of saw cut and burnt faunal bone.
P-13-011836 CA-IMP-10656 RAN-049	Historic	C. Albush	2009	Debris deposit (early 1900s) of ten cans and a ceramic cup.
P-13-012393 CA-IMP-11008 PF-ASM-2	Historic	S. Andrews	2000	Debris scatter (1940s/1950s) of bottle glass and over 100 cans.
P-13-012697 CA-IMP-11151 RAN-048	Prehistoric	R. Nixon	2008	Sparse lithic scatter of debitage and a tested cobble.
P-13-012699 CA-IMP-11153 JMK-010	Prehistoric	J. Fariello	2008	Sparse lithic and ceramic scatter of 10 flakes, one core, and one Colorado Buffware sherd.
P-13-013043 CA-IMP-11402 NAT-S-51	Historic	J. Roy	2007	Segment of a concrete agricultural canal (post-1945), nearly filled with sand and gravel.
P-13-013044 CA-IMP-11403 NAT-S-52	Historic	J. Roy	2007	Segment of a concrete agricultural canal (post-1945), nearly filled with sand.
P-13-013125 CA-IMP-11436 IID-S-001	Multi-component	C. Bowden-Renna, T. Cooley, W. Glenny	2009	Prehistoric component is a lithic debitage and petrified wood secondary deposit; "recently flaked" obsidian was observed. A 1930s can and 1941 USGS survey marker were also noted, but the site was not recorded as Multi-component. The site was relocated in 2015, and found to be mixed with modern shotgun shells. (Bowden-Renna and McGinnis mention a 2007 recording, but record not present).
		D. Brunzell, M. van Rensselear	2015	
P-13-014652 CA-IMP-12254 IID-S-CBR-1	---	---	---	Mapped, but no record present at SCIC.

Resource Designation(s)	Period	Author(s)	Date	Description
P-13-014897 CA-IMP-12423	Historic	C. Simmons, C. McCollum, J. Sahagun	2014	Debris scatter of fifteen cans (post-1945), heavily impacted by off-highway vehicles.
P-13-014898 CA-IMP-12424H	Historic	C. Simmons, C. McCollum, J. Sahagun	2014	Debris scatter comprising cans, a bed frame, and bed springs (post-1945).
P-13-014899 CA-IMP-12425	Historic	C. Simmons, C. McCollum, J. Sahagun	2014	Concrete road segment, measuring 79 x 15 feet, possibly a segment of historic period Highway 80.
P-13-014900 CA-IMP-12426	Multi-component	C. Simmons, C. McCollum, J. Sahagun	2014	Prehistoric component is one handstone fragment with striations. Historic component is a debris scatter of bottle glass and cans (post-1945).
P-13-014901 CA-IMP-12427	Historic	C. Simmons, C. McCollum, J. Sahagun	2014	Debris scatter consisting of bottle glass, cans, and several chunks of asphalt (post-1945).
P-13-014902 CA-IMP-12428	Historic	C. Simmons, C. McCollum, J. Sahagun	2014	Debris scatter of cans (post-1945), heavily impacted by off-highway vehicles.
P-13-014961 CA-IMP-12445	Prehistoric	D. Brunzell, M. van Rensselear	2015	Low density scatter of one andesite core, one andesite reduction flake, fire-affected rock, two ceramic sherds, and two fish bone fragments.
Isolated Finds Outside the Project APE and within a 0.25-Mile Radius				
P-13-001425 CA-IMP-1425-I	Prehistoric	Mcl	1976	Potsherd isolate, buff inside/red outside.
P-13-002352 CA-IMP-2352-I	Prehistoric	J. Johnson	1977	Isolate green porphyry scraper.
P-13-002353 CA-IMP-2353-I	Prehistoric	J. Johnson	1977	Isolate green porphyry scraper.
P-13-002357 CA-IMP-2357-I	Prehistoric	H. Pritchett	1977	Isolate schist hammerstone.
P-13-002374 CA-IMP-2374-I	Prehistoric	J. von Werlhof	1977	One dark green porphyry bulbous flake scraper and a possible "anvil" boulder.
P-13-008212 CW-Iso-2	Prehistoric	A. Apple, R. Nagle, M. Wade, N. Swidler	1982	Isolate porphyritic debitage.
P-13-008213 CW-Iso-3	Prehistoric	A. Apple, R. Nagle, M. Wade, N. Swidler	1982	Isolate porphyritic debitage.
P-13-008214 CW-Iso-4	Prehistoric	A. Apple, R. Nagle, M. Wade, N. Swidler	1982	Isolate porphyritic debitage.
P-13-009179 BLM-1002-I	Prehistoric	K. Ahmet, S. Bholat, N. Howell, S. Hale, J. Vadala	2007	Isolate fine-grained basalt core.
P-13-009221 BLM-1017-I	Prehistoric	K. Ahmet, S. Bholat	2007	Isolate of two porphyry secondary flakes.
P-13-009222 BLM-1018-I	Historic	K. Ahmet, S. Bholat	2007	Historic isolate glass insulator cap.
P-13-009472 CA-IMP-8589 OC-S-98	Prehistoric	N. Brodie, J. Aguilar, A. Pigniolo	2007	Single pot drop consisting of over 15 Salton brownware body sherds.
P-13-009475 OC-I-68	Prehistoric	N. Brodie, J. Aguilar, A. Pigniolo	2007	Isolate Salton brownware ceramic body fragment.
P-13-009538 BLM-1001-I	Prehistoric	K. Ahmet, S. Bholat, N. Howell, S. Hale, J. Vadala	2007	Isolate multi-directional basalt core and one Colorado buff ceramic sherd.

Resource Designation(s)	Period	Author(s)	Date	Description
P-13-009539 DP-I-044	Prehistoric	N. Doose, W. Welsh, J. Huval, M. Werle, T. Osuna	2007	Two isolate pieces of debitage; not relocated in 2010.
		C. Bowden-Renna	2010	
P-13-009540 DP-I-045	Prehistoric	N. Doose, W. Welsh, J. Huval, M. Werle, T. Osuna	2007	Single isolate debitage; not relocated in 2010.
		C. Bowden-Renna	2010	
P-13-009589 DP-I-043	Prehistoric	N. Doose, W. Welsh, J. Huval, M. Werle, T. Osuna	2007	Isolate of two buffware pottery sherds; not relocated in 2015.
		D. Brunzell, M. van Rensselear	2015	
P-13-009728 CA-IMP-8729 D3-S-57	Prehistoric	L. Davidson, J. Roy, H. Thompson	2007	Isolate black porphyritic tertiary flake.
P-13-009929 JFB-004-I	Historic	URS	2008	Brass US GLO benchmark (1912).
P-13-011719 JMR-023-I	Prehistoric	J. Reid	2008	Isolate Tizon brownware ceramic sherd.
P-13-011723 PRM-S2-007-I	Prehistoric	P. Meadville	2009	Isolate of two buffware ceramic sherds.
P-13-011725 RAN-003-I	Prehistoric	R. Nixon	2008	Isolate weathered metavolcanic flake.
P-13-011842 DRK-135-I	Prehistoric	D. Kay	2008	Two isolate Tizon brownware ceramic sherds.
P-13-011848 JF-004-I	Historic	J. Fariello	2008	Isolate crown top bottle finish (1895-1920s).
P-13-011850 JF-013-I	Prehistoric	J. Fariello	2008	Isolate granite handstone.
P-13-011851 JF-014-I	Prehistoric	J. Fariello	2008	Isolate ceramic sherd.
P-13-011852 JF-020-I	Prehistoric	J. Fariello	2008	Two isolate chert flakes.
P-13-012969 NAT-I-30	Prehistoric	R. Davidson, J. Roy, H. Thompson	2007	Isolate Salton buffware ceramic sherd.
P-13-013122 IID-I-31	Prehistoric	C. Bowden-Renna, P. McGinnis	2010	Isolate porphyritic, black, metavolcanic flake; not relocated in 2015 (Bowden-Renna and McGinnis mention a 2007 recording, but record not present at SCIC).
		D. Brunzell, M. van Rensselear	2015	
P-13-013123 IID-I-32	Prehistoric	C. Bowden-Renna, P. McGinnis	2010	Isolate weathered buffware ceramic sherd, blackened interior; not relocated in 2015 (Bowden-Renna and McGinnis mention a 2007 recording, but record not present at SCIC).
		D. Brunzell, M. van Rensselear	2015	
P-13-013124 IID-I-33	Prehistoric	C. Bowden-Renna, P. McGinnis	2010	Isolate blue/gray porphyritic, metavolcanic flake; not relocated in 2015 (Bowden-Renna and McGinnis mention a 2007 recording, but record not present at SCIC).
		D. Brunzell, M. van Rensselear	2015	

Note: Unless otherwise cited within the text, bibliographic information for the cultural resource records listed above is not replicated in Section 8.0 References.

Three of the cultural resources previously recorded within the Project APE are spatially associated with the Plaster City Quarry and/or the proposed waterline/powerline that bridges the quarry and proposed Well No. 3. These resources include the Plaster City Quarry itself,

which encompasses a small u-shaped historic period stone structure with debris (USG-01 or Locus 1); the Plaster City Railroad (P-13-008139); and a small prehistoric scatter of “Yuman Desert ware” (P-13-000001) that was first documented in 1950. The remaining cultural resources previously recorded within the Project APE were noted in association with the proposed waterline between Ocotillo and Plaster City and the alternative waterline between Plaster City and the Westside Main Canal. Many of these resources, including the individually recorded concrete survey markers and most of the isolated finds, were recorded to the east of the Plaster City Plant and west of the Westside Main Canal. This area coincided with the ancient extents of Lake Cahuilla, thus a relatively high number of prehistoric resources would be anticipated.

The remaining resources noted along the proposed waterline or alternative waterline consist overwhelmingly of prehistoric ceramic or flaked stone scatters or historic period debris scatters (*see* Appendix A). The most expansive of these is P-13-000269, a prehistoric site with flaked stone scatters, groundstone, ceramics, at least one hearth feature, and one recorded cremation that extends across multiple sections on the USGS 7.5-minute Plaster City topographic map. It was originally documented as seven separate resources by Ackers, Avels, and Collins in 1976 but as of 2016 encompasses at least 50 sites or loci that were recorded over the past four decades. Prior recordings of P-13-000269 indicate that most of the site materials and features are concentrated to the south of the San Diego and Arizona Eastern Railroad (P-13-009302) and south of the Project APE. This resource and others encountered during the Class III pedestrian inventory survey are discussed further in Section 6.0, while the survey and recording methodology that was used during the field effort is detailed in the next section.

5.0 SURVEY AND RECORDING METHODOLOGY

5.1 CLASS III PEDESTRIAN INVENTORY SURVEY METHODS

The Class III pedestrian inventory survey of the Project APE was carried out by qualified personnel familiar with the prehistoric and historic period archaeology of desert settings in California. Field personnel comprised one team of two to three professional archaeologists led by a field director. Survey methods consisted of either intensive or spot-check survey. The Class III pedestrian inventory survey was performed using systematic transects in which team members were spaced no more than 10-15 meters apart in most areas and up to 30 meters apart in wide washes and on gypsum slopes. Transect spacing was reduced to 3-5 meters within previously identified cultural resource boundaries. A spot-check survey was conducted in areas that were examined in by URS (2010) in support of the Imperial Valley Solar Project. Spot-check areas included portions of the proposed waterline between Ocotillo and Plaster City as well as the full extents of the alternative waterline between Plaster City and the Westside Main Canal. No artifacts were collected and no subsurface testing or excavation was undertaken. The main objective of the Class III pedestrian inventory survey was to identify previously recorded cultural resources, discover previously undocumented cultural resources, and note the potential of surveyed areas to contain buried cultural deposits.

The Class III inventory was conducted between April 17 and May 19, 2018 by personnel from Pacific Legacy, Inc. Will Shapiro, MA, served as the field director and Mary O'Neill, BA, served as Supervisor. Crew members included Jack Sprague, BA, during the April 17-26 field rotation, and Matthew Cappetta, BA, during the May 1-10 field rotation. John Holson, MA/RPA, served as the Principal Investigator for this Project and Lisa Holm, PhD, served as the Project Manager. Using data derived from GIS shapefiles and AutoCAD drawings provided by Lilburn Corporation as well as data provided by the SCIC, Lisa Holm generated GPS files and Class III inventory maps to facilitate the field effort. Lisa Holm, Mary O'Neill, Shanna Streich, BA, Alexandra McCleary, MA, and Kylie Tuitavuki, BA, all contributed to the production of this CRR and the 2018 cultural resource records included in Appendix C.

5.2 CULTURAL RESOURCE RECORDING METHODS

Prior to the start of the Class III pedestrian inventory survey, a half-day orientation was held at the Plaster City Quarry to provide field personnel with a safety orientation, biological awareness training, communications equipment, escort protocols, notification of evacuation areas, and a tour of all access roads and access points within the quarry area. In addition, Pacific Legacy staff reviewed background information on the types of cultural resources anticipated within the Project APE, site recording procedures, GPS receiver and data dictionary use, safety issues and protocols outlined in a project-specific Activity Hazard Analysis (AHA) document, and other pertinent information prior to the start of the survey. Field personnel were supplied with all available records for cultural resources previously recorded within the Project APE as well as copies of relevant historic period maps. Personnel also were provided with information regarding the identification and anticipated age range of prehistoric and historic period cultural resources within the Project APE. Katherine Crosmer, BLM Archaeologist with the El Centro field office, met twice with Pacific Legacy field personnel during the Class III inventory effort and received regular updates on the progress of the investigation.

Field personnel were provided with location information on Trimble Geo 7X GPS receivers and on field inventory maps for previously recorded cultural resources within the Project APE. Every effort was made to relocate document these known resource. If a resource could not be relocated, field personnel examined potential nearby locations within or adjacent to the Project APE based on the resource description and maps from the original records. When a new cultural resource was discovered, field personnel conducted a careful inspection of the vicinity, assigned the resource a temporary number, plotted the resource's location using a Trimble Geo 7x GPS receiver and topographic maps, and documented the nature and extent of the resource. All prehistoric and historic period cultural resources were fully documented as they were encountered.

Field recording efforts were limited to the Project APE. There were several instances, however, in which cultural resources, particularly linear features, extended beyond the Project APE (e.g., highways, railroads) but were clearly evident from true-color orthophotographs or from Project engineering data. The physical characteristics and any features associated with these resources were therefore documented and described as they intersected the Project APE but noted on location maps as they paralleled or extended beyond it. Resources recorded using this methodology included the narrow-gauge Plaster City Railroad (P-13-008139) that extends between the Plaster City Quarry and the Plaster City Plant (P-13-009303); current and former alignments of Highway 80 (P-13-008418); and the San Diego and Arizona Eastern Railroad (P-13-009302) alignment. The segment of the Plaster City Railroad (P-13-008139) spanning the quarry and proposed Well No. 3 was recorded in detail in the field, while the portion of the railroad that extends south outside of the Project APE to the Plaster City Plant was not subject to pedestrian survey.

Twenty-two previously recorded cultural resources could not be relocated during the 2018 Class III pedestrian inventory and spot-check survey, and several were found to have been mis-plotted in the ArcGIS shapefiles provided by the SCIC. For instance, one was a prehistoric scatter of lithics, ceramics, and charcoal (P-13-00321) that was first documented in 1974. The site was plotted to the south of the San Diego and Arizona Eastern Railroad tracks in the Southeast $\frac{1}{4}$ of the Northwest $\frac{1}{4}$ of the Southeast $\frac{1}{4}$ of Section 10 outside of the Project APE. In 2007, the site was revisited and found to lie both north and south of the railroad tracks; it was also associated with a cremation site (P-13-000360) to the south of the railroad tracks. The resource was not relocated north of the railroad tracks in 2018 and is likely located south of the railroad tracks as originally plotted in 1974. Another resource that was found to have been mis-plotted was a historic period glass and metal debris deposit (P-13-004193) that was originally documented in 1979. The site was plotted in the Northwest $\frac{1}{4}$ of the Southwest $\frac{1}{4}$ of the Northwest $\frac{1}{4}$ of Section 10 outside of the Project APE. The resource was not relocated during this study but was originally plotted in 1979 approximately 1,000 feet to the north of the position mapped by the SCIC. The third resource was a prehistoric lithic scatter (P-13-004340) that was originally documented in 1980. It was plotted approximately 2.5 miles to the south of the location portrayed in ArcGIS shapefiles provided by the SCIC. The total number of cultural resources not relocated included 14 archaeological sites or built environment resources and eight isolated finds. These resources are discussed further in Section 6.0.

For previously recorded cultural resources that were relocated, field personnel noted the condition of the resource, documented any materials not previously observed, created new site

and location maps as necessary, and updated other pertinent information on Department of Parks and Recreation (DPR) Forms 523. For previously recorded cultural resources within the spot-check survey areas, field personnel focused on the locations of known cultural resources to verify the boundaries of those resources with respect to the Project APE and to assess the adequacy of prior survey efforts. The current condition of resources within the spot-check survey areas also was assessed, and any materials not observed during prior recordings were documented. If the resource extended beyond the Project APE, only the portion of the resource within the APE was subject to in-depth re-examination, and any undefined cultural resource boundaries were noted.

5.3 TERRAIN AND OTHER ACCESS LIMITATIONS

The Plaster City Quarry is dominated by active quarry areas and largely undisturbed gypsum slopes that will be the focus of future mining activities. The Project APE for the proposed waterline/powerline between the main quarry area and Well No. 3 is marked by the existing alignment of the narrow-gauge Plaster City Railroad (P-13-008139) and its associated access or maintenance road. Areas along the proposed waterline between Ocotillo and Plaster City and the alternative waterline between Plaster City and the Westside Main Canal are largely undeveloped, though the Plaster City Plant (P-13-009303), Highway 80 (P-13-008418), and the San Diego and Arizona Eastern Railroad (P-13-009302) are all prominent infrastructural features.

The Plaster City Quarry area is dominated by Creosote Bush Scrub and Desert Dry Wash vegetation communities, which are evident in the wash channels and on the surrounding hillsides, though the quarry's gypsum outcrops are nearly devoid of vegetation, marked only by the occasional pygmy cedar. The narrow-gauge railroad alignment and proposed waterline/powerline is marked by creosote bush series and creosote bush-white bursage series vegetation with occasional areas of mesquite, while the APE spanning Ocotillo and the Westside Main Canal passes through desert shrubland. Few patches of dense vegetation are present within the Project APE and are mostly limited to narrow corridors along existing washes or drainages. Vegetation posed no impediment to ground surface visibility during the Class III pedestrian inventory survey. Many areas along the slopes and in the central portion of the quarry featured recent bulldozer tracks and/or push piles from core testing activities. The far northern end of the Project APE, areas north of the quarry proper, and portions of the proposed waterline and waterline alternative alignments at the southern end of the Project APE had been heavily disturbed by off-highway vehicle (OHV) activity, which appeared to have impacted the desert vegetation.

The terrain within the Plaster City Quarry was highly variable, with slopes ranging from 0 to over 30 degrees. The gypsum domes and adjacent mountains were typically characterized slopes of 30 degrees or more, while many of the quarry washes, draws, ravines, and canyons were marked by vertical cliff-cuts, undercut cliff faces, and steep walls that provided no access. In contrast, areas of relatively flat terrain were encountered within the valley and alluvial fans of the quarry as well as all along the proposed waterline and waterline alternative alignments between Ocotillo and the Westside Main Canal. In general, the northern portions of the Project APE within the quarry and along the proposed waterline/powerline were characterized by areas of greater relief and terrain variability while areas near Ocotillo, Plaster City, and the

Westside Main Canal tended to be more level and easily accessible. In areas of extreme relief, field personnel examined all safely accessible portions of the Project APE to the greatest extent feasible. By necessity, field personnel used irregular transects in certain areas but essentially achieved coverage of all areas within the APE that might be expected to feature prehistoric or historic period cultural resources.

Certain areas within the quarry were not accessible due to safety concerns. These areas included the active quarry zone and areas that had been previously quarried; deep gorge-like ravines, draws, or washes; steep-sided and deep slot canyons; steep gypsum mountains, domes, and uplifts with more than a 30 degree slope; and areas of extreme or unstable terrain. All areas that could not be surveyed were plotted and mapped on detailed survey maps and submitted daily to Pacific Legacy's Berkeley Office. Areas that were inaccessible during the Class III pedestrian inventory survey are depicted in Appendix B. While vegetation and access issues posed little or no barrier to an examination of the Project APE, topographic constraints posed severe challenges and proved to be of greatest concern. Of the 1,981 acres that make up the Project APE, which included approximately 1,464 acres targeted for intensive survey and 517 acres scheduled spot-check survey, roughly 585 acres associated with the quarry and proposed waterline/powerline (over 29% of the total area) were inaccessible due to safety reasons.

5.4 CULTURAL RESOURCE DOCUMENTATION

All cultural resources encountered during the Class III pedestrian inventory survey were documented on DPR Forms 523 and on supplemental records in keeping with procedures identified in the *Instructions for Recording Historical Resources* (California Office of Historic Preservation 1995). At a minimum, resource documentation was completed on DPR Form 523(a) (a Primary form) and DPR Form 523(j) (a 1:24,000-scale map depicting the cultural resource location). Sites were defined as one or more archaeological features and/or as three or more artifacts within a 15-meter radius. Isolated finds were defined as a single artifact or two artifacts located less than 15 meters apart (e.g., a single projectile point, an assayed cobble, two historic period bottle bases, etc.), or as an isolated, discrete feature within the landscape (e.g., a rock cairn, a benchmark, or a well head).

Isolated finds were recorded via GPS receiver, photographed, and briefly described. Prehistoric and historic period sites and structures were recorded via GPS receiver, photographed, described, documented on a site sketch map drawn to an appropriate scale, and supplemented with additional forms as necessary. Sketch maps were prepared that depicted the resource boundary; its datum location, if applicable; its constituent elements; and its relationship to other resources or natural features in the vicinity. Sketch maps were rendered against true color orthophotographs to better depict their surrounding environment. Trimble Geo 7x GPS receivers were used to record both location and attribute data to facilitate reporting and to serve as a backup to analog records generated in the field. These data were downloaded and corrected using GPS Pathfinder Office and converted into ArcGIS shapefiles. All sites were photographed to capture their landscape setting, internal features, and diagnostic artifacts. All photographs were logged using image numbers that included information on photograph orientation, content, and date.

In addition to the standard DPR Forms 523, additional data sheets were included as necessary to document each cultural resource. Diagnostic and unusual, rare, or unique artifacts were assigned artifact numbers and recorded via GPS and on site sketch maps. The potential for buried cultural deposits was noted through an inspection of natural or artificial exposures of soil stratigraphy (e.g., vertical soil exposures, areas of bioturbation, etc.). Daily field notes documenting the Class III pedestrian inventory survey were kept on standardized forms and submitted daily to Pacific Legacy's Berkeley Office. DPR Forms 523 were regularly checked by the field director for completeness and consistency.

6.0 CLASS III PEDESTRIAN INVENTORY SURVEY RESULTS

6.1 SURVEY COVERAGE

All areas within the Project APE were targeted for investigation during the Class III pedestrian inventory and spot-check survey conducted by Pacific Legacy personnel in April and May 2018. As was noted in Section 1.2, the APE includes all proposed mining areas and all jurisdictional waters within the Plaster City Quarry, the proposed right-of-way for an approximate 3.45-mile long waterline/powerline that bridges the main quarry area and Well No. 3, an 8.7-mile waterline that spans facilities in Ocotillo and Plaster City, and a 5-mile waterline between Plaster City and the Westside Main Canal. Approximately 517 acres within the Project APE for the proposed waterline or alternative waterline were examined in 2008 by URS Corporation (URS 2010) and were targeted for spot-check survey only, while the remaining 1,464 acres that make up the APE were the focus of the Class III pedestrian inventory survey. Cumulatively, these areas total 1,981 acres. Approximately 539 acres consist of BLM lands, 17 acres are California State lands, and the remaining 1,425 acres are private lands. Table 6-1 presents the total number of acres within each main portion of the Project APE subject to intensive Class III pedestrian inventory survey versus the total area subject to spot-check survey. Acreage calculations for those areas that remained inaccessible due terrain or safety considerations also are noted.

Table 6-1. Survey Coverage within the Project Area of Potential Effects.

Project APE	Total Acreage	Area Identified for Class III Survey	Area Identified for Spot-Check Survey	Class III Survey Completed	Spot-Check Survey Completed	Inaccessible Area	Total Area Surveyed
Plaster City Quarry	1,201	1,201 (155 BLM) (1,046 Private)	0	632 (102 BLM) (530 Private)	0	569 (53 BLM) (516 Private)	632 (102 BLM) (530 Private)
Proposed Waterline/Powerline	208	208 (32 BLM) (17 State) (159 Private)	0	192 (32 BLM) (17 State) (143 Private)	0	16 (<1 State) (16 Private)	192 (32 BLM) (17 State) (143 Private)
Proposed Waterline	572	55 (46 BLM) (9 Private)	517 (306 BLM) (211 Private)	55 (46 BLM) (9 Private)	517 (306 BLM) (211 Private)	0	572 (352 BLM) (220 Private)
<i>Total</i>	1,981	1,464 (233 BLM) (17 State) (1,214 Private)	517 (306 BLM) (211 Private)	879 (180 BLM) (17 State) (682 Private)	517 (306 BLM) (211 Private)	585 (53 BLM) (<1 State) (532 Private)	1,396 (486 BLM) (17 State) (893 Private)

Note: Total acreage calculations are provided for each major portion of the Project APE in each column with total acreage by landowner provided in parentheses.

Under Project APE Location, Proposed Waterline refers to the proposed segment between Ocotillo and Plaster City and/or the alternative waterline between Plaster City and the Westside Main Canal.

Totals do not include areas within the Plaster City Quarry that lay outside of the Project APE and did not require Class III pedestrian inventory or spot-check survey.

Inaccessible areas included portions of the Project APE marked by steep or unstable terrain, areas that were fully developed, or areas that had been actively mined.

During the 2018 investigation, 879 acres were subject to intensive Class III pedestrian inventory survey while 517 acres were examined as a part of the spot-check survey of the proposed waterline and alternative waterline to verify the accuracy and adequacy of the 2008 URS

investigation. Approximately 585 acres were inaccessible due to topographic or safety constraints. Areas subject to Class III pedestrian inventory survey included 180 acres on BLM lands, 17 acres on California State lands, and 682 acres on privately owned lands. Spot-check survey areas included 306 acres of BLM lands and 211 acres of private lands (see Table 6-1). The sections below discuss the cultural resources that were relocated or newly encountered within the Project APE in each of these areas and notes cultural resources that were anticipated within the APE but were not relocated.

6.2 PREVIOUSLY RECORDED CULTURAL RESOURCES

Forty-three previously recorded cultural resources were relocated within the surveyed portions of the Project APE. As documented in 2018, these included three prehistoric archaeological sites; 17 historic period archaeological sites or built environment resources; seven multi-component resources containing prehistoric and historic period materials, including one that subsumed a previously recorded prehistoric resource; and two isolated finds. Thirteen additional resources, all historic period “C” block markers associated with Highway 80 (P-13008418), had been previously recorded as distinct entities with separate California State Primary numbers. These were noted as unchanged during the 2018 field effort but were not re-recorded and would be more correctly characterized as features of P-13008418. Twenty-two resources were not relocated during the 2018 field effort, including 14 archaeological sites or built environment resources and eight isolated finds. Some of these resources have likely been disturbed or destroyed by erosion or development, others were mis-plotted, and several were noted just outside but not within the Project APE.

With the exception of the Plaster City Quarry and Plaster City Railroad (P-13-008139), all of the resources relocated in 2018 were encountered along the proposed waterline between Ocotillo and Plaster City and the alternative waterline between Plaster City and the Westside Main Canal. Table 6-2 presents a summary of all cultural resources that were relocated within the Project APE in 2018, while fuller descriptions of the archaeological sites and built environment resources that were re-recorded are offered below. The 22 resources that were not relocated in 2018 are summarized in Table 6-3. The spatial extents of all of these resources as provided by the SCIC through the Class I archival and records search are presented in Appendix A, and their extents as re-recorded during the 2018 field investigation are illustrated in Appendix B. Appendix C contains full DPR Forms 523 for each of these resources.

Table 6-2. Previously Recorded Cultural Resources Relocated within the Project Area of Potential Effects.

Resource Designation	Site Type	Description	Author	Date	APE Location
Previously Recorded Archaeological Sites or Built Environment Resources – Relocated					
P-13-000269 CA-IMP-269 (Subsumes: CA-IMP-994, CA-IMP-995, CA-IMP-997, CA-IMP-1426, CA-IMP-2443, and CA-IMP-4677)	Prehistoric	Extensive prehistoric site extending across five sections of the Plaster City 7.5-min. quadrangle, consisting of over 50 sites/loci that were recorded beginning in 1976 and subsumed under site CA-IMP-000269 (originally recorded as seven sites by Ackers, Avels, and Collins in 1976) by 2016. The site comprises lithic scatters (noted as “massive”) composed of debitage and a wide range of tools (green porphyry, CCS, quartzite, and metavolcanic material) described as “innumerable”, including projectile points, scrapers, choppers, cores, hammerstones, drills, knives, milling slab fragments, and cooking stones. Also present are high quantities	O’Neill	2018	Proposed waterline

Resource Designation	Site Type	Description	Author	Date	APE Location
		<p>of buffware and brownware potsherds (many blackened), at least one hearth feature and other possible hearths, and a cremation (Von Werlhof 1976).</p> <p>The individual prehistoric and multi-component sites that fall within the APE were revisited. However, although these resources are inside the boundary of P-13-000269 as recorded by URS Corporation in 2009 and plotted by the South Coastal Information Center, they were not formally documented as part of the larger resource. Therefore, these sites have been updated individually: P-13-000321, P-13-004389, P-13-004391, P-13-010066, P-13-010068, P-13-011165, P-13-011627, P-13-011633, P-13-011635, P-13-017740, P-13-011741, P-13-011793, and P-13-011794. The updated record for P-13-000269 will only summarize the past recording efforts, and confirm which sites were found to be present in the APE.</p>			
P-13-002355 CA-IMP-2355 (Updated)	Prehistoric	<p>Originally recorded as a lithic scatter of six light green porphyry debitage.</p> <p>Only one piece of green debitage was located; at least 12 pieces of CCS debitage and three pottery sherd concentrations were newly identified.</p>	Shapiro, O'Neill, Sprague	2018	Proposed waterline
*P-13-004391 CA-IMP-4391/H (Updated)	Multi- component	<p>Prehistoric component consists of a sparse lithic scatter with debitage, cores, and Tizon brownware and Colorado Buffware sherds. Historic component consists of berms, depressions, coal-clinker stained soil, and a debris scatter (1900s-1920s) of metal, ceramics, and glass vessel fragments, including amethyst glass and cans.</p> <p>The site was relocated and found to be as previously described, although approximately sixteen ceramic sherds and one piece of CCS debitage were found beyond the northeast site boundary. Site boundary was expanded approximately 30 m to the northeast to include the newly identified material.</p>	Shapiro, O'Neill	2018	Proposed waterline
P-13-008139 CA-IMP-7739H Plaster City Railroad Project (Updated)	Historic (Previously Multi- component)	<p>As determined by the site revisit, the previously recorded prehistoric component should be documented as a separate site and removed from this record (which has been updated to Historic only). That component consists of a lithic scatter, groundstone, fire-affected rock, midden, cairns, fish and mammal bone, 300+ potsherds, and a coprolite of unknown date.</p> <p>The previously recorded historic component consists of a portion of the 27-mile narrow gauge US Gypsum Rail Line (which traveled between the mine and plant), locomotives, 11 drainage culverts, a railroad bridge (1922) over Carrizo Wash, and a possible iron flintlock/sidelock. This recording effort documented a 300-foot portion of the railroad line at the north end. Ten features associated with the railroad line were documented (nine maintenance offset tracks; one large culvert with drain pipes aligned horizontally), and a remnant telegraph line along the grade.</p>	Shapiro, O'Neill, Cappetta	2018	Plaster City Quarry; proposed waterline/ powerline

Resource Designation	Site Type	Description	Author	Date	APE Location
P-13-008323 CA-IMP-7816/H (Updated)	Multi-component	<p>Prehistoric component consists of one highly polished bifacial granite handstone. Historic component originally recorded as a historic railroad stop with debris scatter on either side of a Union Pacific Railroad alignment, it was later determined to be a likely temporary campsite along the railroad and adjacent roads, with corrections made to location (McKenna 2007).</p> <p>The historic dump was relocated on both sides of the railroad track, and extends further on the north side of the tracks than was previously documented. The update is for the north side of the tracks only. Prehistoric component not included.</p>	Shapiro, O'Neill	2018	Proposed waterline
P-13-008334 CA-IMP-7834H Westside Main Canal (Updated)	Historic	<p>The Westside Main Canal is an irrigation canal that spans approximately 40 miles through agricultural lands in the Imperial Valley section of Imperial County.</p> <p>The current update documents a 0.25-mile long segment of the irrigation canal at the eastern edge of the proposed waterline, which terminates at the canal.</p>	O'Neill	2018	Proposed waterline
P-13-008418 CA-IMP-7886H Imperial County S80 Evan Hewes Highway US Highway 80 (Updated)	Historic	<p>Portions of Highway 80 (also known as Imperial County S80, the Evan Hewes Highway, SH80, or US State Highway) that fall within Imperial County and extend through Plaster City were built in the 1910s-1920s. Improvements were made in the 1930s as New Deal projects of the Federal Bureau of Public Roads. The full highway extends 2,671 miles from Savannah, Georgia, to San Diego, California. Much of Highway 80 has been subsumed by Interstate 8, but portions of the original alignment are still visible in some locations.</p> <p>The current update documents two discrete parallel sections of Highway 80, one 2,000-foot long portion (north), and one 1,919-foot portion (south). The southern section is presumed to be an earlier single-lane concrete and aggregate section of the current highway. It is situated between the railroad (P-13-009302) and the current highway alignment. Additionally, there are five bridges and three culverts, which all date to 1932. Spare scatters of historic debris also were noted along the highway.</p> <p>Note: There are 13 "C" block markers along the highway that have been previously recorded. They include P-13-011637, P-13-011638, P-13-011639, P-13-011640, P-13-011641, P-13-011642, P-13-011643, P-13-011644, P-13-011645, P-13-011646, P-13-011647, P-13-011648, and P-13-011649. These markers were relocated but are features of the road and so were not re-recorded as discrete resources. Also, four historic period debris scatter sites, each with a "C" block marker within their boundaries, are related to this site. They include P-13-011630, P-13-011631, P-13-011635, and P-13-011636.</p>	Shapiro, O'Neill, Cappetta	2018	Proposed waterline

Resource Designation	Site Type	Description	Author	Date	APE Location
P-13-009302 CA-IMP-8489H (Updated)	Historic	<p>Segments of the San Diego and Arizona Eastern Railroad (built 1907-1919), which connected San Diego to El Centro (the connection to Southern Pacific network). The resource includes intact rails and tracks; railroad bridges, including several timber trestle bridges with railroad signs; fences; historic and modern debris scatters.</p> <p>The current record is an update for the portion of the railroad that clips the southern edge of the project area. The railroad continues to function for its original purpose and is in good condition.</p>	Shapiro, O'Neill, Cappetta	2018	Proposed waterline
P-13-009303 Plaster City Plant (Updated)	Historic	<p>Plaster City Plant, built in 1920-1921 by Imperial Gypsum and Oil Corporation (1922-1924), sold to Portland Cement Company (1924-1945), and then to US Gypsum (1945-present), comprises multiple historic and non-historic structures, mostly warehouses and storage containers.</p> <p>The plant was found to be in the same condition as previously recorded, and continues to function as a gypsum processing facility.</p>	Shapiro, O'Neill, Sprague	2018	Proposed waterline
*P-13-010066 CA-IMP-8969H EBR-303 (Updated)	Historic (Previously Multi-component)	<p>Prehistoric component originally recorded as a metavolcanic primary flake, a quartzite primary flake, and three Colorado Buffware potsherds; however, the prehistoric only appears on the Primary record and is not discussed further. Historic component is comprised of two loci of debris scatter, consisting of cans, bottle glass, and faunal bones, all material mostly burnt.</p> <p>Only a sparse scatter of historic debris and the historic loci were identified in the site boundaries. It is uncertain if this is really a multi-component site as no updated sketch was generated with the location and prehistoric material. One piece of pottery was found at the edge of a drop-off to a wash, approximately 10 meters to the southeast out of the project area. No other prehistoric material was observed.</p>	Shapiro, O'Neill	2018	Proposed waterline
*P-13-011165 CA-IMP-10171 (Updated)	Prehistoric	<p>Lithic and ceramic scatter, consisting of 30 flakes (quartzite, porphyry, jasper), 14 porphyry cores/fragments, two quartzite cores, three handstones (granite, basalt, quartzite), and 110 potsherds, mostly probable Colorado buff, two with black interior and temper.</p> <p>The survey boundary was found to be accurate, and just extends into the current APE with the southern edge of the site extending underneath a high voltage power line, approximately 15 m north of the edge of the existing Evan Hewes Hwy pavement. Approximately 20 ceramic pieces and 6+ flakes were observed.</p>	Shapiro, O'Neill	2018	Proposed waterline

Resource Designation	Site Type	Description	Author	Date	APE Location
P-13-011626/ P-13-012732 CA-IMP-10538/ CA-IMP-11181/H (Updated)	Multi-component	Prehistoric component consists of 131 artifacts (CCS, quartzite, metavolcanic) in two loci, including debitage, two cores, and two hammerstones, and 94 buffware and 15 brownware ceramic sherds. Historic component consists of 203 artifacts, including bottle glass, cans/tins, and tableware fragments. All loci and some artifacts, as previously recorded, were relocated. The area is continually impacted by erosion and OHV use. Note: Due to their spatial overlap, this site combines two previously distinct resources, multi-component site P-13-011626 and prehistoric site P-13-012732, into a single resource.	Shapiro, O'Neill	2018	Proposed waterline
*P-13-011627 CA-IMP-10539/H (Updated)	Multi-component	Prehistoric component is concentrated in one loci, and consists of four flakes (CCS, metavolcanic), and 27 brownware ceramic sherds. Historic component (date range 1935+) is located in one locus, and consists of 9 cans and 8 glass fragments. The site was relocated, and artifacts were found as previously recorded. The condition appears the same, though there is evidence of erosion and OHV use.	Shapiro, O'Neill	2018	Proposed waterline
P-13-011628 CA-IMP-10540/H (Updated)	Multi-component (Previously Prehistoric)	Originally recorded as a prehistoric site, consisting of a lithic and ceramic scatter, including three loci of debitage, cores, hammerstones, handstone and milling slab fragments, 258 buffware sherds, and a deflated hearth. All three prehistoric loci and artifacts were relocated as documented. The hearth was not relocated. Additionally, historic debris was found to be scattered throughout the site area. The entire site is impacted by erosion and OHV use.	Shapiro, O'Neill	2018	Proposed waterline
P-13-011629 CA-IMP-10541H S2-SLY-25 (Updated)	Historic	Debris scatter of 64 artifacts, consisting of cans, bottle glass, and rubber tire fragments (deposited 1935+). The artifacts were relocated as described. No additional cultural constituents were observed. The area is disturbed by erosion and continued OHV use.	Shapiro, O'Neill	2018	Proposed waterline
P-13-011630 CA-IMP-10542H S2-SLY-26 (Updated)	Historic	Debris scatter of 20 artifacts, consisting of cans, bottle glass, miscellaneous metal, and a rubber mat (deposited 1955+), and a "C" block marker recorded as associated with Highway 80 site P-13-008418. The site was found to be in the same condition as originally recorded, including the "C" block marker.	Shapiro, O'Neill	2018	Proposed waterline
P-13-011631 CA-IMP-10543H S2-SLY-27 (Updated)	Historic	Debris scatter of 20 artifacts, consisting of cans, bottle glass, and a metal ring (deposited 1956+); a dislodged concrete state route marker with beveled edges, impressed "C", and copper plug inset at top (1914-1934); and an isolate basalt flake. This site was been found to be associated with S80 site P-13-008418. All cultural constituents were relocated, excepting one milk glass jar. The right of way marker and site is associated with the Evan Hewes Highway P-13-008418. Continued impacts from erosion and OHV use.	Shapiro, O'Neill	2018	Proposed waterline

Resource Designation	Site Type	Description	Author	Date	APE Location
P-13-011632 CA-IMP-010544H S2-SLY-28 (Updated)	Historic	Debris scatter of 17 artifacts, consisting of cans and bottle glass (deposited 1935-1960s). The site was found to be as previously recorded. A "C" marker is mentioned as present in the earlier record, but was recorded separately as an isolate P-13-011649.	Shapiro, O'Neill	2018	Proposed waterline
*P-13-011633 CA-IMP-10545/H S2-SLY-29 (Updated)	Multi- component	Prehistoric component consists of 6 pieces of lithic debitage (metavolcanic, jasper, CCS). Historic component consists of 106 artifacts, comprised of cans, bottle glass, and one metal plate (deposited 1958+). The site appeared as originally documented; all three loci were relocated. Newly identified artifacts consist of: one flake, one pottery fragment, and two bottle glass fragments. The site continues to be impacted by aeolian and alluvial erosion.	Shapiro, O'Neill	2018	Proposed waterline
P-13-011634 CA-IMP-10546H S2-SLY-30 (Updated)	Historic	Debris scatter in two concentrations, consisting of at least 137 artifacts, including bottle glass, cans, box spring remains, and rubber tire fragments (1920s-1950s). The site appears as originally documented. Both loci are still intact although aeolian and alluvial erosion has likely impacted the site, which represents Imperial County S80 Hwy roadside debris.	Shapiro, O'Neill	2018	Proposed waterline
*P-13-011635 CA-IMP-10547/H S2-SLY-31 (Updated)	Multi- component	Prehistoric component consists of one basalt tertiary flake and two buffware ceramic sherds. Historic component is a concrete "C" state survey marker with copper plug, and 723 artifacts, including bottle glass, cans, miscellaneous metal, ceramic insulators, and electrical wire (1916-1954+). This site is associated with SH80 site P-13-008418. The isolated prehistoric flake and pottery sherd were not relocated. The debris scatter was relocated and found to be sparse and dispersed along both sides of the abandoned Imperial County S80 highway, south of the current S80 highway. The Row Marker is also a part of the abandoned highway. The site continues to be impacted by erosion and OHV use	Shapiro, O'Neill	2018	Proposed waterline
P-13-011636 CA-IMP-10548H S2-SLY-32 (Updated)	Historic	Concrete "C" state survey marker with copper plug, and debris scatter of 13 artifacts, including cans, a glass tumbler and bottle base. This site has been found to be associated with SH80 site P-13-008418. The site was found to be as previously recorded, with the exception of the sketch map which does not include Evan Hewes Hwy (E-W immediately north of the site), or a high pressure gas utility pipeline that runs NE-SW and passes the sites northernmost extension. The single C-block right-of-way marker is associated with the Evan Hewes Highway (P-13-008418).	Shapiro, O'Neill, Cappetta	2018	Proposed waterline
P-13-011790 CA-IMP-10612H (Updated)	Historic	Debris scatter of 23 artifacts consisting of cans and bottles (1930s-1960s). Only the northern edge of the site extends into the current APE, with the majority of the constituents and can concentration found to be located to the south.	Shapiro, O'Neill	2018d	Proposed waterline

Resource Designation	Site Type	Description	Author	Date	APE Location
P-13-011792 CA-IMP-10613H (Updated)	Historic	Debris scatter consisting of 30 cans and several bottles (1930s-1960s). The site constituents were relocated and the boundaries were found to be accurate. The debris is widely scattered trash associated with the Evan Hewes Hwy.	Shapiro, O'Neill	2018	Proposed waterline
P-13-011801 CA-IMP-10621H (Update)	Historic	Debris scatter comprised of cans, bottle glass, and a single ceramic handle fragment (1920s-1940s). The widely scattered roadside debris was relocated, the boundaries and constituents reflect original recording.	Shapiro, O'Neill	2018	Proposed waterline
P-13-013126 CA-IMP-11437H (Updated)	Historic	Debris scatter beside railroad tracks, consisting of cans, bottle glass, and milled lumber (1885-1930s). Possibly associated with the San Diego and Arizona Eastern Railroad. The debris and tracks were relocated. The debris is likely related to the railroad. The site also overlays previously recorded prehistoric site P-13-009594.	Shapiro, O'Neill	2018	Proposed waterline
Plaster City Quarry (Updated)	Historic	The resource was originally documented in 2002 (Holmes) as being a functioning quarry since 1902, modernized after purchase by US Gypsum in 1946; however, the record was never submitted to the Information Center for P# assignment. The quarry appears as previously described, although the active mining area may now be more extensive. A U-shaped dry-laid stacked stone structure with an interior hearth and a historic period debris scatter was documented within the quarry in 2002 and found to be unchanged in 2018. It contains hinged lid tobacco tins and many condensed milk cans. A dirt road enters the site at the northeast, and bulldozer tracks are present in addition to signs of erosion and target shooting.	Shapiro, O'Neill, Sprague	2018	Plaster City Quarry
Previously Recorded Isolated Finds – Relocated					
P-13-011847 (Updated)	Prehistoric	Isolate chalcedony tertiary flake. Relocated, not updated.	N/A	N/A	Proposed waterline
P-13-013118 (Updated)	Historic	Isolate USGS Survey marker (1941), located on north side of railroad tracks. The marker was found to be as previously recorded. Additionally, another concrete block base is located just to the east, brass cap removed. This isolate is located within previously recorded prehistoric site P-13-009594.	Shapiro, O'Neill	2018	Proposed waterline

Note: *These resources fall within the boundaries of prehistoric site P-13-000269 as plotted by the SCIC. Although it falls within the boundary of site P-13-000269, it was not formally documented as a part of that larger resource. The resource was re-recorded on updated DPR Forms 523 following its last discrete recording effort.

Under APE Location, Proposed Waterline refers to the proposed waterline between Ocotillo and Plaster City and/or the alternative waterline between Plaster City and the Westside Main Canal.

Table 6-3. Previously Recorded Cultural Resources Not Relocated within the Project Area of Potential Effects.

Resource Designation	Site Type	Description	Author	Date	Presumed APE Location
Previously Recorded Sites – Not Relocated					
P-13-000001 CA-IMP-1 (Updated)	Prehistoric	Scatter of Yuma Desert Ware potsherds. Site was not relocated; the area is in an active mining zone and completely disturbed.	Shapiro, O'Neill, Sprague	2018	Plaster City Quarry
*P-13-00321 CA-IMP-321 (Updated)	Prehistoric	Lithic and ceramic scatter consisting of debitage, charcoal, and potsherds, near a cremation site. The site was previously recorded in two locations to the north and south of the railroad. No evidence of the site was found in the Project Area north of the railroad, and areas south of the railroad (outside of the APE) were not revisited.	Shapiro, O'Neill	2018	Proposed waterline
P-13-004193 CA-IMP-4193H (Updated)	Historic	Debris scatter with two loci, consisting of bottle/jar glass, ceramic piece, metal. The site was not relocated; it is likely located to the northeast of the current SCIC plot, at least 1000 feet north of the survey corridor and well beyond the Project APE. In the current location there have been heavy impacts from fiber optic pipeline construction.	Shapiro, O'Neill, Cappetta	2018	Proposed waterline
P-13-004340 CA-IMP-4340 (Updated)	Prehistoric	Sparse lithic scatter with cores. Recordings of P-13-004391 (Fariello 2008; Albush 2009) were mistakenly lumped and identified with this site. P-13-004340 was not relocated, as it appears it has been mis-plotted and is not in Section 10 (field checked) but is likely 2.5 miles to the south as originally documented by Norwood (1980). The site is out of the Project APE.	Shapiro, O'Neill	2018	Proposed waterline
P-13-004954 CA-IMP-4954 (Updated)	Prehistoric	Lithic scatter, including debitage, scrapers, cores, blades, hammerstones, and a cairn; not relocated in 2007. The buffer area of the site was visited (where it clips the current site), and no cultural features or constituents were observed. This area has been heavily impacted by the railroad and clean-up activities by the US Gypsum Plaster City Plant.	Shapiro, O'Neill, Cappetta	2018	Proposed waterline
P-13-007421 (Updated)	Prehistoric	Prehistoric trail; the northern extension destroyed by road frontage and Interstate 8, southern extension destroyed by sheet wash erosion. This resource is outside of the APE and was not relocated. Not updated.	N/A	N/A	Proposed waterline

Resource Designation	Site Type	Description	Author	Date	Presumed APE Location
P-13-009594 CA-IMP-8658 (Updated)	Prehistoric	<p>Sparse lithic and ceramic scatter, including debitage (metavolcanic, obsidian), battering stone, core, corner-notched projectile points (CCS), two handstones, groundstone fragment, a hearth feature, and 29 pottery sherds.</p> <p>No prehistoric cultural constituents were relocated, and the site has been and continues to be heavily impacted by erosion. Historic debris site P-13-013126 overlays this site; and benchmark isolate P-13-013118 is located within it.</p>	Shapiro, O'Neill	2018	Proposed waterline
P-13-009729 CA-IMP-8730 (Updated)	Prehistoric	<p>The site is comprised of a ceramic and debitage scatter, with cores. The southwest portion of the site just clips the current Project APE.</p> <p>No cultural constituents were found to be in this southern portion of the site. The north side of the highway has been heavily disturbed by at least five linear alignments related to highway and transmission line infrastructure, and underground telephone cable. All of these disturbances are within the survey corridor.</p>	Shapiro, O'Neill	2018	Proposed waterline
*P-13-010068 CA-IMP-8971 EBR-305 (Updated)	Prehistoric	<p>Lithic and ceramic scatter consisting of a metavolcanic flake, a quartzite flake, a deflated hearth, two black ceramic sherds, and three Colorado Buffware sherds.</p> <p>No hearth feature or cultural constituents were found. The site area has been heavily impacted by grading, leveling, and small rock compaction. Prehistoric materials have likely been smeared and buried by this maintenance activity for the railroad.</p>	Shapiro, O'Neill, Cappetta	2018	Proposed waterline
P-13-011542 CA-IMP-10455/H JM-021 (Updated)	Multi-component	<p>Prehistoric component consists of eight pieces of debitage, two cores, and one core tool. The historic component consists of 20 pieces of bottle glass, including bases, one white ceramic fragment, a bucket handle, and cans. There are eight rock cluster features (metavolcanic and quartz cobbles) of indeterminable age.</p> <p>The resource clips the southern end of our project area and this portion likely represents a buffer for the site. No cultural constituents were observed in this corridor. The site has been impacted by the construction of the railroad (P-13-009302).</p>	Shapiro, O'Neill, Cappetta	2018	Proposed waterline

Resource Designation	Site Type	Description	Author	Date	Presumed APE Location
P-13-011544 CA-IMP-10457/H JM-026 (Updated)	Multi-component	Prehistoric component is comprised of approximately 1,319 artifacts, consisting of debitage, edge-modified flakes, bifaces, hammerstones, cores/core tools, and choppers (metavolcanic, quartzite, CCS, petrified wood), in 69 concentrations, and two possible deflated hearths. Historic component includes a rock collection pile and three concentrations of debris (cans, glass, metal, ceramics, and burnt faunal bone totaling approximately 676 artifacts). The site boundary slightly overlaps the southern end of the Project APE and likely represents a buffer area. None of the sites constituents were noted in this area, which has been impacted by the construction of the San Diego and Arizona Eastern Railroad (P-13-009302).	Shapiro, O'Neill, Cappetta	2018	Proposed waterline
*P-13-011793 CA-IMP-10614 JF-022 (Updated)	Prehistoric	One metavolcanic flake and four Tizon brownware ceramic sherds. None of the cultural constituents were relocated, possibly due to erosion, OHV impact, or it may have been mis-plotted.	Shapiro, O'Neill	2018	Proposed waterline
*P-13-011794 CA-IMP-10615/H JF-025 (Updated)	Multi-component	Prehistoric component consists of three metavolcanic flakes, and three Tizon brownware ceramic sherds. Historic component is a debris scatter in three loci, comprising bottle glass and a .50-caliber cartridge (1940s-1960s). No cultural constituents were relocated within the site boundaries provided (no artifacts were plotted on the Fariello 2008 sketch map). There is heavy aeolian erosion, which may have buried/displaced the artifacts.	Shapiro, O'Neill	2018	Proposed waterline
P-13-012244 CA-IMP-12424H Fages-De Anza Trail0 (Updated)	Historic	Historic trail utilized by early Spanish occupants, trappers, the US Army, 49ers, settlers, and as a delivery route. The recorded portion is 100-meter segment severely worn and widened by off-highway vehicles that just abuts the southern boundary of the Project APE. No evidence of the trail exists within the current APE, and no trace of the trail was noted prior to impacts to the area from the construction of the existing Evan Hewes Hwy, the old Evan Hewes Hwy (P-13-008418), and the San Diego and Arizona Eastern Railroad (P-13-009302). The trajectory of the trail has largely been determined through a plot of known historic period camp locations.	Shapiro, O'Neill	2018	Proposed waterline
Previously Recorded Isolated Finds – Not Relocated					
P-13-002040 (Updated)	Prehistoric	Isolate quartzite scraper, not relocated. Since the previous recording, the area has been impacted by erosion and OHV use.	Shapiro, O'Neill	2018	Proposed waterline
P-13-004389 CA-IMP-4389 (Updated)	Prehistoric	Isolated Colorado Buffware ceramic sherd. The isolate was not relocated, and has likely been buried by aeolian and alluvial erosion.	Shapiro, O'Neill	2018	Proposed waterline

Resource Designation	Site Type	Description	Author	Date	Presumed APE Location
P-13-009727 (Updated)	Prehistoric	Isolate gray metavolcanic flake. This isolate was not relocated, and no cultural constituents were observed.	Shapiro, O'Neill	2018	Proposed waterline
*P-13-011740 SLY-ISO-2 (Updated)	Prehistoric	Isolate metavolcanic hammerstone was not relocated. It is likely disturbance has occurred since the initial recording as a natural gas pipeline parallels the old highway and at the location plot is a newly cut road (compacted soil).	Shapiro, O'Neill	2018	Proposed waterline
*P-13-011741 SLY-ISO-4 (Updated)	Prehistoric	Isolate metavolcanic secondary flake was not relocated. The area has been heavily disturbed by construction of the highway, a berm, a transmission line parallel to the highway, and a dirt road.	Shapiro, O'Neill	2018	Proposed waterline
P-13-011742 (Updated)	Prehistoric	Isolate metavolcanic tested cobble, not relocated. The area has been severely disturbed by installation of a natural gas pipeline.	Shapiro, O'Neill	2018	Proposed waterline
P-13-011743 (Updated)	Prehistoric	Isolate metavolcanic secondary flake, not relocated. The area has been severely disturbed by installation of a natural gas pipeline.	Shapiro, O'Neill	2018	Proposed waterline
P-13-011744 (Updated)	Prehistoric	Isolate sandstone handstone fragment, not relocated. Area has been disturbed by old Evan Hewes Hwy, erosion, and installation of natural gas pipeline.	Shapiro, O'Neill	2018	Proposed waterline

Note: DPR Forms 523 were updated to indicate that the resources above were not relocated.

*This resource falls within the boundary of prehistoric site P-13-000269 as recorded in 2009 by URS and plotted by the SCIC. Although it falls within the boundary of site P-13-000269, it was not formally documented as a part of that larger resource. This resource was therefore re-recorded on updated DPR Forms 523 following its last prior recording.

Under Presumed APE Location, Proposed Waterline refers to the proposed waterline between Ocotillo and Plaster City and/or the alternative waterline between Plaster City and the Westside Main Canal.

6.2.1 P-13-000269 (CA-IMP-269)

P-13-000269 was first recorded by Ackers, Avels, and Collins in 1976 as a series of seven archaeological sites that were ultimately combined and extended to encompass multiple sections on the USGS 7.5-minute Plaster City topographic map by 2016. Portions of P-13-000269 have been re-recorded numerous times, though URS produced the most extensive documentation for the site in 2009. The 2009 site record documents at least 64 features, including hearths, rock cairns, and one cremation. Cultural constituents include lithic scatters with formal artifacts such as projectile points, cores, bifaces, edge-modified flakes, choppers, and performs; groundstone implements such as handstones, milling slabs, hammerstones, and sandstone manuports; *Olivella* shell beads; fire-affected rock; and calcined human and faunal bone fragments, including some identified in hearth features. Although the site boundary for P-13-000269 provided by the SCIC spans multiple sections and corresponds to the location map boundary for the site produced by ASM in 2016, the 2009 URS location map for the resource is much more constrained and depicts the resource and its features predominantly in Sections 9 and 16 south of the San Diego and Arizona Eastern Railroad (P-13-009302) alignment and outside of the Project APE.

The Project APE for the alternative waterline intersects the current boundary of P-13-000269 between Highway 80 and the San Diego and Arizona Eastern Railroad (P-13-009302) alignment in Section 10 between the Plaster City Plant and Westside Main Canal. The individual

prehistoric and multi-component sites that intersect the Project APE and P-13-000269 boundary were revisited by Pacific Legacy personnel in 2018. Although these resources were encompassed by the 2016 boundary of P-13-000269, however, they were not formally documented as part of that larger resource. Based on the documentation provided by ASM in 2016 and URS in 2009, it was difficult to discern what previously recorded resources corresponded to or lay within the boundary of P-13-000269 as currently defined by the SCIC. Thirteen archaeological sites were therefore re-recorded as individual resources (P-13-000321, P-13-004389, P-13-004391, P-13-010066, P-13-010068, P-13-011165, P-13-011627, P-13-011633, P-13-011635, P-13-017740, P-13-011741, P-13-011793, and P-13-011794) following prior, discrete recording events in an effort to better portray the true extents and distribution of cultural materials within the Project APE. URS (2010) offered no formal evaluation of P-13-000269, but suggested that the site may be eligible for listing in the NRHP and CRHR under Criterion D/4, or its potential to reveal intact, subsurface deposits with significant research or data potential.

6.2.2 P-13-002355 (CA-IMP-2355)

P-13-002355 is a prehistoric site that was first recorded in 1977 and described as a lithic scatter with six pieces of light green porphyry debitage. During the 2018 Class III pedestrian inventory survey, only one piece of green debitage was noted at the west end of the site location. A concentration of at least 12 pieces of mostly umber-colored CCS debitage was noted, however in addition to three concentrations of pottery fragments. The site appears to have been impacted by the construction of Highway 80, as prehistoric pottery fragments were found in a cut bank eroding downslope towards the highway. The site lies on a terrace with patches of desert pavement and is bisected by a gravel OHV road.

6.2.3 P-13-004391 (CA-IMP-4391/H)

P-13-004391 was first documented in 1981 as a historic period debris scatter. It was later re-recorded by URS in 2008 and in 2009 when it was described as a multi-component site with a prehistoric lithic and ceramic scatter and a 1900-1920s historic period debris scatter with metal, ceramics, glass, and cans as well as a series of berms and depressions. URS recommended data recovery efforts at the site in 2009 to determine its eligibility for listing in the NRHP. In 2018, the site was found to be as previously described, though approximately 16 pottery fragments and one piece of CCS debitage were found beyond the northeastern boundary of the site as it was defined in 2009. The site boundary was therefore expanded approximately 30 meters to the northeast to include these debitage and pottery fragments. The pottery fragments varied from gray to red in color and measured 2.0-5.5 centimeters in size and 0.5 centimeters in thickness. The northern edge of P-13-004391 is near the old Highway 80 alignment (P-13-008418), and the prehistoric component of the site is likely associated with prehistoric site P-13-011165, which is across Highway 80 to the north. The area around P-13-004391 has been impacted by OHV activity and by aeolian and alluvial erosion.

6.2.4 P-13-008139 (CA-IMP-7739H)

P-13-008139 was originally documented in 1998 as a 4,920-foot segment of the 27-mile long historic period Plaster City Railroad as it approaches its southern terminus at the Plaster City Plant. Also included as a part of the resource was a prehistoric site component including midden soils, hearths, fire altered rock, pottery, groundstone, flaked stone, faunal and fish bone

fragments, bedrock mortars, a rock cairn, a coprolite specimen, and a few metal fragments, possibly from a flintlock or sidelock. This prehistoric component was recorded along the railroad alignment over 5 miles southeast of proposed Well No. 3 and well outside of the current Project APE. The prehistoric component was, therefore, not revisited during the current investigation. In 2009, URS recorded a portion of P-13-008139 near the Plaster City Plant and evaluated it for listing in the NRHP and CRHR. URS recommended the recorded portion of the resource not eligible for listing in the NRHP and CRHR as an individual resource and/or as a possible contributor to the larger railway alignment.

An approximate 3.45-mile segment of the narrow-gauge railroad alignment was recorded in 2018 as it extends from the Plaster City Quarry towards proposed Well No. 3 within the Project APE for the waterline/powerline. The railroad alignment features rails that are 36 inches apart and are supported by wooden ties. Ten features associated with the alignment were documented in 2018, including nine maintenance offset tracks (Features 1-9) and one large culvert (Feature 10) with horizontally aligned drain pipes. A remnant telegraph line also was documented along the railroad grade. The remaining portion of the Plaster City Railroad alignment, which was not recorded in 2018, continues generally south before terminating at the Plaster City Plant. The Plaster City Plant and Plaster City Railroad were planned and built between 1920 and 1921, though URS noted during their 2009 recording of the southern portion of the alignment that many of the tie plates and joint bars have been replaced and the rails have apparently been replaced to support heavier loads.

6.2.5 P-13-008323 (CA-IMP-7816/H)

P-13-008323 was first recorded in 1999 as a historic period railroad stop with associated features and historic period and modern debris located along both sides of BLM Road 151 and the San Diego and Arizona Eastern Railroad alignment (P-13-009302). The site was re-recorded in 2007 when it was interpreted it as a temporary campsite along the railroad. P-13-008323 was documented again in 2008 by URS, though only debris along the south side of the railroad was recorded and the resource was recharacterized as a multi-component site following the discovery of one highly polished bifacial granite handstone within its boundaries.

In 2018, historic period debris was relocated along both sides of the railroad tracks and was found to extend further north than previously documented. The granite handstone was not relocated in 2018, and only historic period site constituents were documented. The historic period deposit includes debris dating from the late 1910s to modern times and, as currently documented, extends 436 feet north of the railroad tracks and 688 feet east to west. P-13-008323 appears to represent multiple secondary roadside discard events along both sides of BLM Road 151. The resource has been impacted by aeolian and alluvial erosion and modern-day trash deposition. Historic period materials noted to the north of the road comprise mostly sanitary, hole-in-top, and tobacco cans similar to those previously documented to the south side of the railroad.

6.2.6 P-13-008334

Various segments of P-13-008334, the Westside Main Canal, have been recorded since 1999. The Westside Main Canal is an irrigation canal that was built in 1908 as a part of the Imperial Irrigation District canal system. It spans approximately 40 miles through agricultural lands in

the Imperial Valley section of Imperial County. The Westside Main Canal consists of an earthen canal with earthen levees and measures approximately 25 feet in width and 10 feet in depth near the Project APE. The 1940 Plaster City and Coyote Wells 15-minute USGS topographic map revealed that its general course has remained consistent and it has not been substantially realigned (USGS 1940a, 1940b). In the 1930s, the canal was integrated into the All American Canal system, which runs east-west just north of the US-Mexico border. In 2018, a 0.25-mile segment of the canal at the eastern end of the alternative waterline that was documented by URS in 2009 was re-recorded as it spans the Class I archival and records search area for the Project. Various segments of the canal have been recommended eligible for listing in the NRHP and/or the CRHR for its significance in the development of Imperial Valley, though other segments have been recommended not eligible for listing in either register due to lack of integrity. The segment that was re-recorded by Pacific Legacy personnel in 2018 was recommended not eligible by URS in 2009 through a survey-level evaluation. URS (2009) noted that while the canal appeared eligible for listing in the NRHP and CRHR under Criteria A/1 and C/3, it did not appear to possess sufficient integrity of workmanship, design, setting, feeling, and association.

6.2.7 P-13-008418 (CA-IMP-7886)

Segments of P-13-008418--alternatively known as Highway 80, US Highway 80, or the Evan Hewes Highway – have been recorded numerous times between 2001 and 2011. The highway parallels the Project APE for the proposed and alternative waterline between Ocotillo and the Westside Main Canal and intersects the APE for much of its length. Highway 80 within Imperial County was part of a transcontinental highway spanning from San Diego, California to Tybee Island, Georgia (Cooper 2004). From 1916 to 1926, the pre-highway alignment from El Centro to Yuma consisted of a wood plank roadway. In 1926, these planks were mostly removed and replaced by an oil-surfaced road (Henderson 1968). A second improvement to the roadway was made between 1913 and 1917 when a poured concrete segment west of Dixieland and south of the asphalt alignment was placed. In 1929, the State Highway paved sections of the roadway included a segment 3 miles west of Coyote Wells and a segment between Dixieland and Seeley. Highway 80 continued to be an important east-west transportation route until it was superseded by Interstate 8. The highway was decommissioned in 1964, but remained in use until Interstate 8 was completed in 1974. Within Imperial County, Interstate 8 is still often referred to as Highway 80.

In 2018, Pacific Legacy conducted detailed recording of two discrete parallel sections of Highway 80, one 2,000-foot long portion (north), and one 1,919-foot portion (south), while relying on true-color orthophotographs to document the other sections of the highway within and along the Project APE for the proposed and alternative waterline. The southern section is presumed to be an earlier single-lane concrete and aggregate section of the highway. It is situated between the San Diego and Arizona Eastern Railroad (P-13-009302) and the current highway alignments. Five bridges and three culverts also were recorded in 2018, which all date to 1932. Sparse scatters of historic debris also were noted along the highway. In 2012, a National Register Nomination form was prepared by ASM Affiliates for Highway 80, however this nomination remains under review and has not yet been submitted to the Keeper. In 2011, AECOM noted that a 1-mile segment of the highway in Dixieland did not appear to be eligible for listing in the NRHP and/or the CRHR. A segment of the old highway in the Mountain

Springs Grade area evaluated in 2010 by ASM Affiliates also was recommended not eligible for listing in the NRHP and/or the CRHR. In 2009, URS made the same recommendation for a segment of Highway 80 as it passes through the Plaster City area.

6.2.8 P-13-009302 (CA-IMP-8489H)

P-13-009302 is the San Diego and Arizona Eastern Railroad, which encompasses intact rail and track segments; railroad bridges, including several timber trestle bridges with railroad signs; fences; and associated historic period debris scatters. The railroad consists of standard-gauge track on a raised berm that parallels the old Highway 80 alignment, which is located to the north of the railroad alignment. The railroad was constructed between 1907 and 1919, and served as an important connection between the cities of San Diego and El Centro. At El Centro, the railroad connected to the Southern Pacific's network of rail lines extending into the eastern US. Numerous segments of the railroad and a number of its associated features have been recorded in Imperial County between 2007 and 2011.

In 2018, Pacific Legacy personnel re-recorded the portion of the railroad that intersects the Southern edge of the Project APE for the proposed and alternative waterline between Ocotillo and Westside Main Canal. Following the same methodology used for Highway 80 (P-13-008418), portions of the railroad alignment extending outside of but paralleling the Project APE were mapped with the assistance of true-color orthophotographs. In 2009, ASM Affiliates recorded segments of the railroad near Ocotillo and Plaster City and also recorded three railroad bridges and a fence. ASM Affiliates recommended that these recorded segments of the railroad be regarded as eligible for listing in the NRHP and CRHR under Criteria A/1 and C/3 because of the critical role the railroad played in the economic development of Imperial and San Diego counties from the 1920s to the present. In 2011, AECOM recommended two non-contiguous segments of the railroad eligible for listing in the NRHP and CRHR.

6.2.9 P-13-009303

P-13-009303 is the Plaster City Plant, which was built in 1920-1921 by the Imperial Gypsum and Oil Corporation (1922-1924), sold to the Portland Cement Company (1924-1945), and then sold again to the US Gypsum Company (1945-present), which currently operates the plant. The Plaster City Plant is bisected by Highway 80. The north side of the plant includes the administration building (with elements dating to the 1940s) as well as a modern processing barn and parking lot. The south side has a greater number of structures, mostly modern warehouses and storage containers, with one two-story warehouse that dates to the 1940s. The plant has been the object of several building and improvement efforts since the 1940s.

The Plaster City Plant was originally documented in 2007 and then more extensively by URS in 2009. In 2018, the Plaster City Plant was revisited by Pacific Legacy personnel and was found to be unchanged since it was last recorded. The plant continues to function as a processing facility for gypsum materials delivered to the site from the USG Plaster City Quarry to the north. In 2009, URS recommended the Plaster City Plant not eligible for listing in the NRHP and/or the CRHR.

6.2.10 P-13-010066 (CA-IMP-8969H)

According to records provided by the SCIC, P-13-010066 was recorded by URS on the same date in two separate recording events. One record describes the site as a historic period refuse scatter adjacent to the San Diego and Arizona Eastern Railroad alignment (P-13-009302). The other describes a sparse lithic and ceramic scatter containing one metavolcanic primary flake, one quartzite primary flake, and three Colorado Buffware ceramic sherds; the Primary Form for this second record notes the site as "Historic," though the accompanying Archaeological Site Form describes a historic period site with two loci containing glass, metal fragments, white wear ceramic sherds, and cans. When P-13-010066 was revisited by Pacific Legacy in 2018, two historic period loci and a sparse scatter of historic period debris were identified within the site boundaries, and a very wide wash was noted to the south of the site. One piece of prehistoric pottery was found on the edge of a drop-off adjacent to the wash approximately 10 meters to the southeast of the site boundary and outside of the current Project APE. No other prehistoric material was observed in the area. The site has been impacted by OHV activity as well as aeolian and alluvial erosion.

6.2.11 P-13-011165 (CA-IMP-10171)

P-13-011165 was originally recorded in 1999 as a lithic and ceramic scatter consisting of 30 flakes (quartzite, porphyry, and jasper), 14 porphyry cores or core fragments, two quartzite cores, three handstones (granite, basalt, and quartzite), and 110 likely Colorado Buffware sherds, two with black interior and temper. When P-13-011165 was revisited in 2018, the previously recorded boundaries of the site were found to be accurate. The southern edge of the site just extends into the northern edge of the current Project APE for the alternative waterline between the Plaster City Plant and Westside Main Canal. It lies beneath a high voltage power line and is approximately 15 meters north of the edge of Highway 80 (P-13-008418). Approximately 20 ceramic sherds and at least six flakes were noted within the current Project APE.

6.2.12 P-13-011626/P-13-012732 (CA-IMP-10538/CA-IMP-11181/H)

P-13-011626 was first recorded by URS in 2009 as a multi-component resource consisting of 131 prehistoric and 203 historic period artifacts within three loci. Prehistoric artifacts included flaked stone (CCS, quartzite, metavolcanic) debitage and cores as well as hammerstones and ceramics (94 buffware and 15 brownware sherds) in three loci. Historic period materials included bottle glass, cans or tins, and tableware fragments concentrated in one locus. P-13-012732 was first recorded in 2003 as a prehistoric site with over 25 Colorado Buffware sherds, five black porphyry flakes, and four fire-affected rocks clustered around an existing wooden distribution pole.

In 2018, P-13-011626 and P-13-012732 were noted less than 5 meters apart and so were combined as a single resource. Pacific Legacy personnel found that P-13-012732 appeared to coincide with one locus (Locus 1) in P-13-011626 as well as a part of a second locus (Locus 3). Since P-13-011626 and P-13-012732 were last recorded, the wooden distribution line pole at P-13-012732 was fully removed and a natural gas pipeline was installed paralleling the highway. The newly designated multi-component site P-13-011626/P-13-012732 still contains three loci (Loci 1-3) of concentrated materials as well as cultural constituents scattered throughout the combined site area. All loci and many artifacts were relocated as previously described in 2009, though the area has been subject to ongoing impacts from OHV use and aeolian and alluvial erosion. Although

P-13-011626 and P-13-012732 do not appear to have been formally evaluated, URS recommended in 2009 that P-13-011626 be subject to subsurface testing to determine its data potential and eligibility for listing in the NRHP and/or CRHR under Criterion D/4.

6.2.13 P-13-011627 (CA-IMP-10539/H)

First recorded by URS in 2009, P-13-011627 is a multi-component site located along the northern portion of the Project APE between the Plaster City Plant and Westside Main Canal. The prehistoric site component is concentrated in one locus (Locus 1) and consists of four CCS and metavolcanic flakes as well as 27 brownware ceramic sherds. The historic period component also is concentrated in one locus (Locus2) and consists of one key-wind opened, one vent-hole, and seven church-key opened cans as well as brown, colorless, and aqua glass fragments dating to 1935 or later. In 2018, P-13-011627 was relocated and the artifacts and loci were found as previously described. The condition of the site appeared unchanged since it was recorded in 2009, though there was evidence for erosion and OHV use within and around the site area. URS did not evaluate the site in 2009, but recommended that P-13-011627 be subject to subsurface testing to determine its data potential and eligibility for listing in the NRHP and/or CRHR under Criterion D/4.

6.2.14 P-13-011628 (CA-IMP-10540/H)

P-13-011628 was originally recorded by URS in 2009 as a prehistoric site with three loci containing lithic debitage, cores, hammerstones, handstones, and milling slab fragments, 258 buffware sherds, and a deflated hearth. When the site was revisited in 2018, Pacific Legacy personnel found all three loci as previously described in 2009 as well as historic period debris scattered throughout the site area. The deflated hearth feature was not observed, but a concentration of black slag measuring 10 feet by 2 feet was found just west of the hearth feature's reported location. Just northeast of the slag concentration, a barrel hoop, tin cans (church-key opened and knife opened), white earthenware ceramic fragments, a solarized glass finish, fragments of milk glass, and bottle glass fragments (7-Up, green, and colorless) were identified. Another barrel hoop was located between the deflated hearth feature location and one of the three loci (Locus 2). Colorless bottle glass fragments also were found west of another locus (Locus 3). Hazel-Atlas, Owens Illinois, and Dura glass marker's marks were present on some of the glass bottle bases, indicating a likely 1930s to 1940s date range for the site's historic period debris. P-13-011628 has been recharacterized as a multi-component site with both prehistoric and historic period components. With the addition of the historic period debris, the previous site boundaries have been extended to encompass a rounder, less amorphous shape. P-13-011628 is located on a rise above a wash to the south of Highway 80 (P-13-008418) and north of the railroad (P-13-009302). The site slopes to the south, and prehistoric materials were observed in 2018 eroding downslope towards a wash. The entire site area has been impacted by erosion as well as OHV activity. As with other prehistoric sites or sites with prehistoric components, URS did not evaluate P-13-011628 in 2009, but recommended it be subject to subsurface testing to determine its data potential and eligibility for listing in the NRHP and/or CRHR under Criterion D/4.

6.2.15 P-13-011629 (CA-IMP-10541H)

P-13-011629 was first documented by URS in 2009 as a historic period debris scatter intersected by the former Highway 80 alignment (P-13-008418). As documented in 2009, the site contained

29 metal cans (25 church key-opened, one condensed milk, and three cone top cans), one green and 24 brown glass fragments, 10 or more rubber tire fragments, and one metal auto pipe dating to between the 1900s to 1950s. In 2018, the site was found to be as previously described, and no additional cultural constituents were observed. P-13-011629 is located between the Plaster City Plant and Westside Main Canal, and it likely represents a secondary debris scatter associated with roadside deposition. In a 2009 survey-level evaluation of the site, URS recommended P-13-011629 not eligible for listing in the NRHP and/or the CRHR.

6.2.16 P-13-011630 (CA-IMP-10542H)

P-13-011630 was first documented by URS in 2009 as a historic period debris scatter of 20 artifacts consisting of cans, bottle glass, miscellaneous metal, and a rubber mat (deposited after 1955) as well as a “C” block marker. In 2018, the site was found to be as previously described, and no additional cultural constituents were observed. Given to its proximity to Highway 80 (P-13-008418), the site likely represents multiple secondary roadside discard events. The “C” block marker also is associated with the highway. URS recommended P-13-011630 not eligible for listing in the NRHP and/or the CRHR in a 2009 survey-level evaluation of the site.

6.2.17 P-13-011631 (CA-IMP-10543H)

As first documented in 2009 by URS, P-13-011631 comprises a debris scatter of 20 artifacts consisting of cans, bottle glass, and a metal ring (deposited 1956+); a dislodged concrete state route marker with beveled edges that has been impressed with a “C” and topped by a copper plug inset (1914-1934); and an isolated basalt flake. In 2018, all cultural constituents were relocated, excepting one milk glass jar. The site has been impacted by erosion and OHV activity. Due to its proximity to Highway 80 (P-13-008418), the historic period debris likely represents multiple episodes of casual roadside discard. The “C” block marker is also associated with the highway. URS recommended P-13-011631 not eligible for listing in the NRHP and/or the CRHR in a 2009 survey-level evaluation of the site.

6.2.18 P-13-011632 (CA-IMP-010544H)

P-13-011632 was first documented by URS in 2009 as a debris scatter with 17 artifacts consisting of cans and bottle glass deposited circa 1935-1960s. In 2018, the site was found to be as previously recorded and all cultural constituents were relocated. A “C” marker was mentioned as present within the site boundary in the earlier record, but was documented separately (P-13-011649) and was not re-recorded in 2018. URS recommended P-13-011632 not eligible for listing in the NRHP and/or the CRHR in a 2009 survey-level evaluation of the site.

6.2.19 P-13-011633 (CA-IMP-10545/H)

P-13-011633 is a multi-component site that was originally documented by URS in 2009. The historic period component consisted of three loci with 106 artifacts, including church-key opened and sanitary cans, bottle glass, and one metal plate (deposited after 1958). The prehistoric component comprised six pieces of metavolcanic, jasper, and CCS debitage and one buffware pottery sherd. In 2018, Pacific Legacy personnel found P-13-011633 to be as previously documented and recorded several additional artifacts including one flake, one pottery fragment, and two bottle glass fragments. The site has been impacted by aeolian and alluvial erosion. Through a survey-level evaluation of the site in 2009, URS recommended the

prehistoric and historic period components of P-13-011633 not eligible for listing in the NRHP and/or the CRHR.

6.2.20 P-13-011634 (CA-IMP-10546H)

P-13-011634 was first documented by URS in 2009 as two historic period debris loci as well as a scatter of historic period materials outside the loci representing roadside discard along Highway 80 (P-13008418). When Pacific Legacy revisited the site in 2018, the resource appeared as originally documented. P-13-011634 contains at least 137 artifacts including bottle glass; church-key opened, sanitary, and crimp seam cans; metal and box spring fragments; and rubber tire remnants dating to the 1920s-1950s. Both loci remained evident, though aeolian and alluvial erosion appeared to have impacted the site. URS recommended P-13-011634 not eligible for listing in the NRHP and/or the CRHR in a 2009 survey-level evaluation of the site.

6.2.21 P-13-011635 (CA-IMP-10547/H)

URS first recorded P-13-011635 in 2009 as a multi-component site. The prehistoric site component consisted of one basalt tertiary flake and two buffware pottery sherds. The historic period component comprised a concrete “C” marker with a copper plug as well as 723 artifacts, including 523 glass fragments; church-key opened, sanitary, removable lid, key wind, hole and cap and other cans; miscellaneous metal, including fragments of a metal bucket and molded sheet metal; ceramic insulators; and electrical wire dating from 1916 to 1954 or later. The isolated prehistoric flake and pottery sherds were not relocated when Pacific Legacy revisited the site in 2018. The debris scatter was relocated and found to be sparse and dispersed along both sides of an abandoned segment of the old Highway 80 corridor (P-13-008418) south of the current highway. The “C” marker was associated with the abandoned highway, and the historic period debris likely represented casual roadside discard along the route. The site has been impacted by erosion and OHV use. URS did not evaluate P-13-011635 in 2009, but recommended that the site be subject to subsurface testing to determine its data potential and eligibility for listing in the NRHP and/or CRHR under Criterion D/4.

6.2.22 P-13-011636 (CA-IMP-10548H)

P-13-011636 was first documented by URS in 2009 as a concrete “C” marker with a copper plug and a debris scatter of 13 artifacts, including one matchstick condensed milk can, nine sanitary can fragments, one rectangular internal friction closure spice can, one glass tumbler fragment and one aqua glass bottle base. In 2018, the site was found to be as previously recorded, though the 2009 sketch map did not depict Highway, which was immediately north of the site, or a high pressure gas utility pipeline that runs northeast-southwest and intersects the northernmost edge of the site. The single “C” marker is associated with the Highway 80 corridor (P-13-008418), and it seems likely that the historic period debris, which dates from the 1900-1950s era, represents casual roadside deposition. In a 2009 survey-level evaluation of the site, URS recommended P-13-011636 not eligible for listing in the NRHP and/or the CRHR.

6.2.23 P-13-011790 (CA-IMP-10612H)

P-13-011790 was first documented by URS in 2008 as a ca. 1930s-1960s historic period debris scatter of 23 artifacts including church-key cans, one cone top one beer can, one square meat can, a bottle with applied lettering, four bottle bases with maker’s marks, a pull tab, and a one

quart oil can. When Pacific Legacy revisited the site in 2018, the resource appeared as originally recorded, though only the northern edge of the site extends into the Project APE with the majority of the site constituents located to the south of the APE. The debris scatter was recorded between Highway 80 (P-13-008418) and the San Diego and Arizona Eastern Railroad (P-13-009302) and likely represents secondary roadside deposition. A northeast-southwest trending dry wash bisects the central portion of the site, and P-13-011790 has been somewhat impacted by aeolian and alluvial erosion.

6.2.24 P-13-011792 (CA-IMP-10613H)

P-13-011792 was originally recorded in 2008 by URS Corporation and described as a historic period artifact scatter comprised of cans and bottles in a highly disturbed area between Highway 80 (P-13-008418) and the San Diego and Arizona Eastern Railroad (P-13-009302). Site constituents recorded in 2009 included 20 church-key opened cans, ten pull-tab cans, one crushed coffee can with a key opening, a metal can and lid, and several glass bottles including at least four with maker's marks indicating a 1930s-1960s date for the site. P-13-011792 was relocated by Pacific Legacy in 2018 and the site was found as previously recorded. The artifacts are dispersed along Highway 80 (P-13-008418) and were likely scattered during multiple roadside discard events.

6.2.25 P-13-011801 (CA-IMP-10621H)

URS first recorded P-13-011801 in 2008 as a historic period debris scatter comprised mostly of church-key opened beer cans, though bottle glass bases and fragments and one stoneware cup fragment also were noted. Maker's marks from the glass artifacts indicate the site likely dates to between the 1920s and 1940s. Pacific Legacy personnel relocated P-13-011801 in 2018 and the site was found as previously recorded between Highway 80 (P-13-008418) and the San Diego and Arizona Eastern Railroad (P-13-009302). As with other sites in the vicinity, P-13-011801 likely represents the result of expedient roadside discard.

6.2.26 P-13-013126 (CA-IMP-11437H)

P-13-013126 was first recorded by AECOM in 2009 as a historic period debris scatter comprised of one cone-top, one church-key opened, and one evaporated milk can along with other can fragments; glass and bottle fragments; and milled lumber. The age range for the cans indicated that the debris was likely deposited in the 1930s. The site was recorded immediately south of the San Diego and Arizona Eastern Railroad (P-13-009302). Pacific Legacy personnel revisited the site in 2018 and relocated the historic period debris, which included railroad ties associated with the railroad. P-13-013126 also overlapped a prehistoric site (P-13-009594) that was documented in 2007 by Gallegos & Associates but that resource was not relocated in 2018. The area encompassing the prehistoric site, which overlapped the western half of P-13-013126, had been heavily disturbed as indicated by the presence of push piles, graded areas devoid of vegetation, and piles of palm tree trimmings.

6.2.27 PLASTER CITY QUARRY

The historic period Plaster City Quarry was originally documented in 2002 as a part of the initial Class III pedestrian inventory survey conducted by Pacific Legacy in support of the 2006 Draft and 2008 Final EIR/EIS. The Imperial Gypsum and Oil Corporation owned the quarry in the

early 1900s and built the narrow-gauge Plaster City Railroad (P-13-008139) in 1920-1921 to facilitate removal of large quantities of gypsum from the quarry to a crusher plant near the San Diego and Arizona Eastern Railroad alignment (Tucker 1926:271). The Imperial Gypsum and Oil Corporation, however was not very successful and sold the quarry to the Pacific Portland Cement Company in 1924. The Pacific Portland Cement Company added a plaster manufacturing plant to the ore crusher, which became Plaster City, and operated the quarry until the mid 1940s (Tucker 1926:271). In 1947, the Plaster City Quarry and the Plaster City Railroad were purchased by USG, which continues to own and operate the quarry and its facilities. USG modernized quarry operations by adding a 900-foot belt and two kilns among other improvements. During the 1940s-1960s, the Plaster City Plant (P-13-009303) produced plaster board, sacked lath, and plaster for agricultural purposes (URS 2010:2-32). A fuller overview of the historic period Plaster City Quarry is provided in Section 3.3.3.

The Plaster City Quarry was the main focus of Pacific Legacy investigations in 2002 and in 2018, and a number of resources have been recorded within its boundaries as a result. These include one prehistoric archaeological site (PLI-2018-1), one historic period locus (designated USG-01 in 2002 and renamed Locus 1 in 2018), and 15 isolated finds recorded within the main quarry area as well as one prehistoric site, the historic period Plaster City Railroad (P-13-008139), and three isolated finds associated with the proposed waterline/powerline and/or the parcel surrounding proposed Well No. 3. Although the other resources located within the boundaries of the Plaster City Quarry have received unique designations and are discussed above and in Section 6.2, Locus 1 deserves further mention. It was first recorded in 2002 as a U-shaped, dry-laid stacked stone structure with an interior hearth and a historic period debris scatter. When it was revisited in 2018, its condition was found largely unchanged as the stone structure remained standing, the fire pit was relocated, and the historic period debris noted in 2002 was present. A dirt road enters the locus from the northeast and the east end features multiple bulldozer tracks. A cluster of cans with bullet holes, likely used for target practice, also were noted. One oval-shaped tobacco tin with a hinged lid with a striker plate was observed as well as many condensed milk tins. Artifacts remain scattered about the locus with a few areas featuring more concentrated materials. The area has been somewhat impacted by aeolian erosion, which has likely buried and/or unearthed some of the historic period debris. USG personnel noted that Locus 1 had been used in the past by quarry employees as a recreational or gathering area.

6.3 NEWLY DISCOVERED CULTURAL RESOURCES

In addition to the previously recorded cultural resources that were relocated within the surveyed portions of the Project APE, two additional prehistoric archaeological sites, 13 prehistoric isolated finds, and nine historic period isolated finds were newly discovered. Nineteen of these resources, including both archaeological sites and 17 isolated finds, were noted within the Plaster City Quarry. Three were found along the proposed waterline/powerline or the area encompassing proposed Well No. 3 and two were encountered along the proposed waterline between Ocotillo and the Plaster City Plant. Each of these resources is summarized in Table 6-4, and both archaeological sites are further described below. These resources are depicted in Appendix B, and DPR Forms 523 are provided for each in Appendix C.

Table 6-4. Newly Recorded Cultural Resources within the Project Area of Potential Effects.

Resource Designation	Site Type	Description	Author	Date	APE Location
Newly Identified and Recorded Sites					
PLI-2018-1	Prehistoric	Lithic scatter of a few quartz flakes, an edge-modified flake, handstone, milling slab fragment, at least 50 ceramic sherds, two possible hearth features, and a gypsum outcrop overhang feature.	Shapiro, O'Neill, Sprague	2018	Plaster City Quarry
PLI-2018-2	Prehistoric	Discrete scatter of at least 26 ceramic fragments, appearing to be from a single vessel. The site is heavily impacted from OHVs and target shooting.	Shapiro, O'Neill, Sprague	2018	Plaster City Quarry
Newly Identified Isolated Finds					
PLI-2018-ISO-1	Prehistoric	Isolate assayed/shattered quartz cobble.	W. Shapiro, M. O'Neill, W. Sprague	2018	Plaster City Quarry
PLI-2018-ISO-2	Prehistoric	Isolate assayed quartz boulder, partially shattered.	W. Shapiro, M. O'Neill, W. Sprague	2018	Plaster City Quarry
PLI-2018-ISO-3	Prehistoric	Isolate quartz Desert Side-notched projectile point.	W. Shapiro, M. O'Neill, W. Sprague	201	Proposed Waterline
PLI-2018-ISO-4	Historic	Isolate amethyst glass fragments from a single bottle.	W. Shapiro, M. O'Neill, W. Sprague	2018	Proposed Waterline
PLI-2018-ISO-5	Prehistoric	Isolate quartz shatter from an assayed cobble.	W. Shapiro, M. O'Neill, W. Sprague	2018	Plaster City Quarry
PLI-2018-ISO-6	Prehistoric	Isolate assayed quartz cobble with shatter.	W. Shapiro, M. O'Neill, W. Sprague	2018	Plaster City Quarry
PLI-2018-ISO-7	Prehistoric	Isolate assayed quartz cobble with shatter.	W. Shapiro, M. O'Neill, W. Sprague	2018	Plaster City Quarry
PLI-2018-ISO-8	Prehistoric	Isolate assayed quartz cobble shatter.	W. Shapiro, M. O'Neill, W. Sprague	2018	Plaster City Quarry
PLI-2018-ISO-9	Prehistoric	Isolate assayed quartz cobble shatter.	W. Shapiro, M. O'Neill, W. Sprague	2018	Plaster City Quarry
PLI-2018-ISO-10	Historic	Isolate brass cap US GLO survey marker (1921).	W. Shapiro, M. O'Neill, W. Sprague	2018	Plaster City Quarry
PLI-2018-ISO-11	Historic	Isolate brass cap US GLO survey marker (1916) set in mound of boulders; three other large boulder mounds and two tobacco tins located nearby.	W. Shapiro, M. O'Neill, W. Sprague	2018	Plaster City Quarry
PLI-2018-ISO-12	Prehistoric	Isolate assayed quartz cobble and shatter.	W. Shapiro, M. O'Neill, M. Cappetta	2018	Plaster City Quarry
PLI-2018-ISO-13	Historic	Two isolate rock cairns separated by a cut, one with a brass cap US GLO survey marker (1921); the other with a tobacco tin and knife-opened sanitary can.	W. Shapiro, M. O'Neill, M. Cappetta	2018	Plaster City Quarry

Resource Designation	Site Type	Description	Author	Date	APE Location
PLI-2018-ISO-14	Historic	Isolate brass cap US GLO survey marker (1921) in a rock cairn, with a Kerr Mason jar containing 1994 claim papers and two wooden lath pieces.	W. Shapiro, M. O'Neill, M. Cappetta	2018	Plaster City Quarry
PLI-2018-ISO-15	Historic	Isolate rock cairn with PVC pipe in the center, an "X" aerial target made from reflective cloth crossing through it, and a Sir Walter Raleigh tobacco tin.	W. Shapiro, M. O'Neill, M. Cappetta	2018	Plaster City Quarry
PLI-2018-ISO-16	Historic	Isolated historic and modern debris scatter of auto parts, melted window and bottle glass, charcoal and slag.	W. Shapiro, M. O'Neill, M. Cappetta	2018	Plaster City Quarry
PLI-2018-ISO-17	Historic	Isolate cylindrical steep pipe water well head with welded steel cap; bullet holes present.	W. Shapiro, M. O'Neill, M. Cappetta	2018	Proposed Waterline/ Powerline
PLI-2018-ISO-18	Prehistoric	Isolate ceramic sherd with scratch lines.	W. Shapiro, M. O'Neill, M. Cappetta	2018	Proposed Waterline/ Powerline
PLI-2018-ISO-19	Historic	Isolate knife-opened holes-in-top can with bullet holes.	W. Shapiro, M. O'Neill, M. Cappetta	2018	Proposed Waterline/ Powerline
PLI-2018-ISO-20	Prehistoric	Isolate of three ceramic sherds from the same vessel.	W. Shapiro, M. O'Neill, M. Cappetta	2018	Plaster City Quarry
PLI-2018-ISO-21	Prehistoric	Isolate ceramic sherd.	Shapiro, O'Neill, Cappetta	2018	Plaster City Quarry
PLI-2018-ISO-22	Prehistoric	Isolate assayed quartz cobble shatter.	W. Shapiro, M. O'Neill, M. Cappetta	2018	Plaster City Quarry

Note: Under APE Location, Proposed Waterline refers to the proposed waterline between Ocotillo and Plaster City and/or the alternative waterline between Plaster City and the Westside Main Canal.

6.3.1 PLI-2018-1

PLI-2018-1 is a prehistoric site that was first encountered in 2018 at the extreme southern end of the Plaster City Quarry adjacent to and upslope from a meandering draw that widens within the site area. The site encompasses two hearth features (Features 1 and 2), a rock overhang, a ceramic scatter, one granitic milling slab fragment (Artifact 1), a granitic handstone (Artifact 2), an edge-modified flake (Artifact 3), and a few quartz flakes. Feature 1 consists of a granitic rock circle containing charcoal and lightly blackened soil that measures 2 meters north-south and 1.6 meters east-west. It has been impacted by aeolian erosion and is slightly deflated but may be at least 2 centimeters deep. It was unclear if the feature represented a prehistoric, historic period, or modern fire ring. Feature 2 is a rock concentration with charcoal stained soils that also may represent a prehistoric hearth, though its age remains uncertain. It measures 1.8 meters north-south and 1.9 meters east-west. It is located within the wash to the southwest of Feature 1. Feature 3 is an overhang upslope from Feature 1. It is located in a gypsum outcrop with a talus slope of gypsum blocks emanating from the outcrop. The overhang is deep enough to crawl into and the floor is comprised of a light-colored gypsum soil. The overhang measures 1.25 meters high at the left side of the opening and 0.8 meters high at the right side of the opening. The overhang is 3.95 meters wide and 2.8 meters deep. Pottery sherds were found at the

opening of the overhang and charcoal was scattered mostly at the edge of the overhang and downslope to Feature 1, but also to the east of the opening on the slope.

At least 50 pottery fragments were found at PLI-2018-1, most scattered downslope between Features 1 and 3. Two fragments were found in the draw on the southeast side of the site. Three fragments also were found in the southwestern portion of the site. At least two ceramic types were observed – Brownware with a light orange interior and tan exterior with these colors reversed in some instances and a reddish and tan pottery. All recorded ceramics were body sherds, many of which were curved. The tan and orange pottery was 4-5 centimeters thick and the largest fragments measured 8 by 10 centimeters. The reddish pottery was 5-6 centimeters thick and was more fragmented. Many sherds of both types displayed blackening. The granitic milling slab fragment (Artifact 1) was found on a slope near Artifact 2 and measured 29 (l) by 19 (w) by 7 (th) centimeters. The milling surface measured 13 by 13 centimeters. The granitic handstone (Artifact 2) was complete and measured 12 (l) by 9 (w) by 6 (th) centimeters. The edge modified flake (Artifact 3) was made from quartz and featured flake scars all along one margin. PLI-2018-1 crosses the Project APE for an unnamed wash or draw that witnesses seasonal rains. On-site vegetation includes creosote, ocotillo, barrel cactus and other shrubs. Gypsum outcrops are present in and around the site area.

6.3.2 PLI-2018-2

PLI-2018-2 is a prehistoric site that was first encountered in 2018 near the southern end of the US Gypsum parcel that encompasses proposed Well No. 3 and a portion of the proposed waterline/powerline. The site comprises a discrete pottery scatter with at least 26 sherds. Twenty sherds were recorded within a 2-meter radius in a low area of compacted sand that had been impacted by alluvial erosion. Six other ceramic sherds were found scattered to the east. Other fragments may be present and have likely been buried or displaced by alluvial action. All of the pottery fragments appeared to be from a single vessel. The exterior of each sherd was characterized by the same red/brown color while the interior was buff colored with gray to black temper. No rim fragments were found and all appeared to be body sherds with slight curvature. The sherds ranged in size from 1.5-5.5 centimeters and were 0.4-0.5 centimeters in thickness. The area surrounding PLI-2018-2 has been heavily disturbed by OHV activity as well as alluvial and aeolian erosion. The area also has been used for recreational shooting, evidenced by numerous skeet fragments, ammunition cartridges and casings, and glass shards as well as other modern debris.

7.0 SUMMARY

A Class I archival and records search of the Project APE and a surrounding 0.25-mile radius revealed that 36 prior cultural resource studies overlapped some portion of the APE, though only five of those studies were conducted within the past ten years. With the exception of Pacific Legacy's 2002 investigation of the Plaster City Quarry, all of these studies focused on the proposed waterline between Ocotillo and Plaster City and/or the alternative waterline between Plaster City and the Westside Main Canal. The Class I archival and records search also revealed that 65 cultural resources have been previously recorded within the Project APE, including 14 prehistoric archaeological sites, 30 historic period archaeological sites or built environment resources, 11 multi-component resources, and 10 isolated finds. A further 118 resources (87 archaeological sites or built environment resources and 31 isolated finds) were documented outside of the Project APE but within a surrounding 0.25-mile radius. Most of the prehistoric resources recorded within Project APE comprised lithic and ceramic scatters while most of the historic period resources consisted of cans, glass, and metal debris scatters likely associated with road and railway corridors.

In April and May 2018, Pacific Legacy personnel conducted a Class III pedestrian inventory and spot-check survey of all accessible areas within the Project APE. Approximately 879 acres were subject to an intensive Class III pedestrian inventory survey while 517 acres were examined as a part of the spot-check survey of the proposed and alternative waterline. A total of 585 acres were inaccessible due to topographic or safety constraints. The Class III pedestrian inventory survey encompassed 180 acres of BLM lands, 17 acres of California State lands, and 682 acres of private lands. Spot-check survey areas included 306 acres of BLM lands and 211 acres of private lands.

Forty-three of the 65 cultural resources previously recorded within the Project APE were relocated during Pacific Legacy's 2018 investigations. These included three prehistoric archaeological sites; 17 historic period archaeological sites or built environment resources; seven multi-component resources, including one that was combined with a previously recorded prehistoric resource; and two isolated finds. Thirteen historic period survey markers associated with Highway 80 that had been previously recorded as distinct resources also were relocated but not individually re-recorded. Twenty-two cultural resources previously recorded within the Project APE were not relocated during the 2018 field effort, including 14 archaeological sites or built environment resources and eight isolated finds. Some were apparently disturbed or destroyed, others were mis-plotted in datasets maintained by the SCIC, and others had been mapped just within the Project APE but contained cultural constituents only outside of the APE. With the exception of the Plaster City Quarry and Plaster City Railroad, all of the previously recorded cultural resources relocated in 2018 were found along the proposed waterline between Ocotillo and Plaster City and/or the alternative waterline between Plaster City and the Westside Main Canal.

During the Class III pedestrian inventory and spot-check survey, 24 cultural resources were newly discovered. These included two prehistoric archaeological sites, 13 prehistoric isolated finds and nine historic period isolated finds. Nineteen of these resources, including both archaeological sites and 17 isolated finds, were found within the Plaster City Quarry. Three isolated finds were noted along the proposed waterline/powerline or within the area

encompassing proposed Well No. 3 and two isolated finds were encountered along the proposed waterline between Ocotillo and Plaster City. The two newly discovered prehistoric archaeological sites have not been evaluated for listing in the NRHP and/or the CRHR.

Thirteen of the archaeological sites or built environment resources previously recorded within the Project APE and relocated in 2018 have been evaluated for listing in the NRHP and/or the CRHR through survey-level assessments conducted in support of other projects. One resource has been recommended eligible for listing in the NRHP and CRHR (P-13-000269), 10 have been recommended not eligible for listing in either register (P-13-008139, P-13-008418, P-13-009303, P-13-011629, P-13-011630, P-13-011631, P-13-011632, P-13-011633, P-13-011634, and P-13-011636), and portions of two resources have been alternatively recommended as eligible and not eligible for listing in the NRHP and CRHR (P-13-008334 and P-13-009302). Four additional resources (P-13-011626, P-13-011627, P-13-011628, and P-13-011635) reportedly required further assessment before an eligibility recommendation could be offered. According to available documentation provided by the SCIC, these eligibility recommendations have not been formalized by a Federal Lead Agency or the SHPO.

7.1 RECOMMENDATIONS

To the extent prudent and feasible, the BLM intends to avoid impacts to known archaeological sites and built environment resources within the Project APE. According to the 2014 Protocol Agreement,

Where resources are identified but will be avoided by moving the project or by implementing protection measures, then, the BLM may treat cultural resources as eligible for inclusion in the National Register without formally evaluating or consulting with the SHPO for the purposes of that individual undertaking at that time. If the undertaking changes in any manner, a re-initiation of consultation as outlined under this Protocol should be undertaken. Avoidance treatments that rely on protection measures to preserve assumed eligible properties must ensure that all direct and indirect effects do not alter the characteristics of the property that would make it eligible and must ensure the qualifying characteristics of the integrity of the property are not diminished. Assuming a property as eligible and avoiding it neither precludes nor prejudices formal evaluation of the resource in the future (BLM and SHPO 2014:14).

Avoidance treatments and protection measures for cultural resources within the Project APE will be outlined in a Construction Monitoring and Inadvertent Discovery Plan (Plan). This Plan will be prepared and approved prior to the implementation of the federal actions outlined in the SEIS. It will describe worker awareness training, avoidance measures, and monitoring procedures that will be implemented to protect known cultural resources from Project impacts.

Worker awareness training will be directed by a qualified archaeologist prior to the start of ground disturbing activities associated with the Project to educate construction personnel about the kinds of cultural resources that may be encountered within the APE. This training will outline the protocols that must be followed to ensure avoidance of known cultural resources and proper treatment of inadvertent discoveries. Avoidance measures that may be employed could include the definition of exclusion or environmentally sensitive areas (ESAs) demarcated

through fencing, signage, and/or engineering plans. In certain cases, capping may be appropriate to ensure avoidance of cultural resources – for instance, when an existing unpaved road that will be used for Project construction intersects a known archaeological site. Identifying the terms and conditions for archaeological monitoring will be critical to the Plan in order to ensure ESAs are properly established and enforced during ground disturbing activities within the APE.

Based on the Class III pedestrian inventory and spot-check survey results, it would appear that ten resources cannot be avoided given the extents of the current Project APE. One resource cannot be avoided even if the Project is redesigned. That resource is the Plaster City Quarry, which cannot be avoided because the quarry itself is the main focus of the Proposed Action. The nine remaining resources, however, may be avoided through Project redesign or through the use of the proposed waterline between Ocotillo and Plaster City instead of the alternative waterline between Plaster City and the Westside Main Canal. These resources include prehistoric sites P-13-000269 and P-13-002355; multi-component sites P-13-004391 and P-13-008323; historic period site P-13-011792; and historic period built environment resources P-13-008334 (Westside Main Canal), P-13-008418 (Highway 80), P-13-009302 (San Diego and Arizona Eastern Railroad) and P-13-009303 (Plaster City Plant). Of these resources, one (P-13-000269) has been recommended eligible, two have been recommended not eligible (P-13-008418 and P-13-009303), and four have not been evaluated (P-13-002355, P-13-004391, P-13-008323, and P-13-011792) for listing in the NRHP and/or the CRHR. Segments of two resources (P-13-008334 and P-13-009302) have alternatively been recommended both eligible and not eligible for listing in the NRHP and/or the CRHR. A National Register Nomination form was prepared by ASM Affiliates in 2012 for Highway 80, which includes several recorded segments that have been recommended not eligible for listing in the NHRP and/or the CRHR (P-13-008418). This form remains under review, however, and has not been submitted to the Keeper.

Upon review of this CRR and final engineering data, the BLM may determine that it is not feasible to avoid all known cultural resources within the Project APE. Following such a determination, the BLM will pursue measures outlined in the 2014 Protocol Agreement. These measures call for the evaluation of cultural resources that may be affected by the Project according to NRHP criteria (36 CFR Part 60.4); an assessment of effects to determine if historic properties will be adversely affected by the Project (36 CFR Part 800.5(a)(1)); and, as necessary, consultation with the SHPO and any consulting parties.

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August 13, 2018

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RE: US Gypsum Supplemental EIS Phase II, Cultural Resource Evaluation
for CA-IMP-7816/H (P-13-008323) (Project No. 3215-02)

Dear Ms. Crosmer:

In support of the US Gypsum Supplemental Environmental Impact Statement (EIS) for the US Gypsum Expansion/Modernization Project (the Project), Pacific Legacy, Inc. archaeologists revisited a previously recorded multi-component site (CA-IMP-7816/H; P-13-008323) that lies within the area of potential effects (APE) for a proposed alternative waterline between Plaster City and the Westside Main Canal in northwestern Imperial County, California. The aim in revisiting the site was to evaluate CA-IMP-7816/H for listing in the National Register of Historic Places (NRHP) and to determine if the Project would have an adverse effect or significant impact on the resource. All work was performed under contract to US Gypsum Company at the request of the US Department of the Interior, Bureau of Land Management (BLM), which serves as the lead federal agency for the Project. The Imperial County Board of Supervisors, acting as the state lead agency under the California Environmental Quality Act (CEQA), certified the Final Environmental Impact Report (EIR)/EIS for the Project in March 2008. All fieldwork for the evaluation of CA-IMP-7816/H was conducted during the week of July 2, 2018. Later archival and map research was performed by personnel from the Bay Area Division of Pacific Legacy in Berkeley, California.

Prior Investigation of Site CA-IMP-7816/H

Site CA-IMP-7816/H was first recorded in 1999 as a historic period “railroad stop” with associated features and historic period and modern debris located along both sides of BLM Road 151 and the San Diego and Arizona Eastern Railroad alignment (P-13-009302) (James, Bark and Caldwell 1999). The site was re-recorded in 2007 and interpreted as a temporary campsite along the railroad (McKenna 2007). A portion of CA-IMP-7816/H was documented again in 2008 by URS Corporation (Nixon 2008), though only artifacts along the south side of the railroad were recorded. The resource was re-characterized by URS personnel as a multi-component resource following the discovery of one bifacial granite handstone within the site’s boundaries.

In May 2018, Pacific Legacy personnel revisited CA-IMP-7816/H to verify the accuracy of the site’s boundaries within the Project APE for a proposed alternative waterline that extends between existing US Gypsum Company facilities in Plaster City and the Westside Main Canal (Pacific Legacy 2018). The APE for the proposed alternative waterline consists of an approximate 250-meter corridor that extends from just north of the Evan Hewes Highway (State

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Route-80) to just south of the San Diego and Arizona Eastern Railroad alignment (P-13-009302). Pacific Legacy personnel found that the boundaries of CA-IMP-7816/H extended further north from the railroad tracks than was previously documented. The northern site boundary was therefore modified in May 2018, though the site boundary as it extends to the south outside of the APE was not explored (*see* Appendix A). In July 2018, Pacific Legacy personnel conducted a more thorough surface examination of the site to document the nature of the materials present as well as their density and diversity. No subsurface excavations were conducted.

Surface Inventory of Site CA-IMP-7816/H

Pacific Legacy archaeologists began their efforts in July 2018 by defining the limits of CA-IMP-7816/H, including those portions of the site that extended south and outside of the APE (*see* Appendices B and C). An intensive pedestrian survey using 3 to 5-meter transects was conducted across the site area. Three historic period debris concentrations or loci (Loci 1, 2, and 3) were documented to the north of the railroad alignment and one locus (Locus 4) was documented to the south of the railroad alignment. Site and locus boundaries were recorded using a handheld Trimble Geo 7X receiver. Locus 1, which measured 260 feet north-south by 75 feet east-west, was recorded immediately to the west of BLM Road 151. Twenty-seven diagnostic artifacts with manufacturer's marks were noted within the locus, mapped, and photographed. Non-diagnostic artifacts were noted and described. An erosional cut with materials extending to a depth of roughly 25 centimeters below the ground surface revealed that some of the cultural constituents within the locus had become partially buried by aeolian erosion. An existing east-west access road and a buried fiber-optic cable alignment cut through the site, paralleling the northern side of the railroad. That route appears to offer the least disruptive path through the recorded boundaries of the site, as it has been marked by prior subsurface disturbance.

An examination of the cultural constituents in Locus 1 revealed that they comprised mostly domestic debris, specifically cans (sanitary cans with church-key and rotary openings, oil cans with threaded metal tops, hole-in-top condensed milk cans, and steel pull-tab beverage cans with aluminum tops); bottle glass (clear, brown, teal, cobalt, and milk); and tablewares (domestic glazed earthenware and fiestaware), though other functional artifact categories also were represented (*see* Table 1). Personal artifacts included toys (a glass marble); clothing-related items (coiled wire coat hangers and leather shoe soles with nails); toothpaste containers; and alcohol bottles. Structural debris included bricks, nails, terracotta pipe fragments, and pieces of corrugated sheet metal. Transportation related items comprised mostly tire fragments. Based on the temporally diagnostic items present in Locus 1, the deposit appeared to date to the 1930s through the 1980s, with most items representing the 1940s to 1960s period. The spatial distribution of the materials in Locus 1 suggested that it was formed from at least 24 discrete deposition events.

Locus 2 of CA-IMP-7816/H was recorded approximately 25 feet southwest of Locus 1 to the north of the railroad alignment and immediately west of a large stand of vegetation. It measured 50 feet north-south by 40 feet east-west and encompassed at least two discrete deposition events. Some cultural constituents observed within Locus 2 were obscured by aeolian and alluvial erosion and were buried up to an estimated depth of 1 foot below the ground surface. The cultural materials in Locus 2 appeared to slightly post-date those in Locus

Table 1. Sample of Diagnostic Artifacts in Locus 1.

Artifact #	Description	Function	Date Range	Source
1	Brown glass bottle base with stippling; 2.5" diameter base. Marked: "2481/3 40/52/MTC" (Thatcher Manufacturing Company). The number '52' appears on the base, possibly a production date.	Indefinite	1944-1985; possibly 1952	Lockhart et al. 2007:9
2	Brown glass bottle base with stippling. 2.5" diameter base. Marked: "53-38A/3 [anchor logo] 52/49" (Anchor Hocking Glass Corp.). Factory code '3' indicates bottle produced in Winchester, Indiana.	Indefinite	1938-2011; possibly 1949 or 1952	Lockhart et al. 2013a:429, 433
3	5 gallon aqua glass spring water jug marked "...ACNETIC/SPRING WATER/CONTENTS FIVE GALLONS"	Domestic/Non-alcoholic Beverage Container	-	-
4	Olympia aluminum top steel can with pull-tab opening "Olympia/Please Don't Litter" on top.	Personal/Alcoholic Beverage Container	c. 1963-c. 1972	Martells 1976:9-10, 14-18
5	Colorless glass jar base fragment. Marked: "...1767-7/Ball (Ball Corp.).	Indefinite	Either c. 1933-1960 or c. 1960-present	Lockhart et al. 2013b:68
6	Ball mason jar base, circular suction mark in center, texturing on base. Marked: "233-32/7B/Ball" (Ball Corp.).	Indefinite	c. 1960-present	Lockhart et al. 2013b:68
7	Tall steel sanitary beverage can, church key opening, stamp on top "APR 1/1982/HC-1118". Measures 3 6/16" dia. X 7 9/16" tall.	Indefinite/Beverage Container	1982	Based upon stamped date
8	Clear glass Mexican soda bottle with Applied Color Label (ACL). Marked: "...RO.../REES.S.A.33609 "A"/[HE]CHO EN MEXICO/BEBIDA R..."	Domestic/Non-alcoholic Beverage Container	1934+	Jones and Sullivan 1989:16
9	Clorox brown glass jug shoulder and base fragments. Outlined Clorox maker's mark with grained texture on shoulder.	Domestic/Household Maintenance	1951-1962	Clorox 2018
10	WIE plate fragments with black printed leaf pattern.	Domestic/Tableware	-	-
11	Colorless glass bottle base; 3.5" diameter. Marked: "D9/83 [angular G over C] 41/M32 F52" (Glass Containers Inc.).	Indefinite	c. 1945-c.1967	Toulouse 1971:229; Giarde 1980:45
12	Rectangular bottle base. Marked: "7 [O] in diamond] 8/6" (Owens-Illinois Glass Company).	Indefinite	1938-1948	Toulouse 1971:403; Lockhart 2006:22-27
13	WIE bowl fragment. Marked: "W. S. George/White Granite" on base (W. S. George Pottery Company).	Domestic/Tableware	1904-1960 (possibly 1930s-1940s)	Lehner 1988:162-163
14	Colorless glass bottle base. Marked: "10-50/MG/13" (Maywood Glass Company).	Indefinite	c. 1958	Toulouse 1971:357

Artifact #	Description	Function	Date Range	Source
15	WIE plate fragment glazed ivory.	Domestic/ Tableware	-	-
16	Metal coffee can lid; 5' diameter. Stamped: "FOR DRIP OR VACU...COFFEE MAKERS"	Domestic/ Food Storage	-	-
17	Colorless glass jar base with suction mark. Marked: "PALOMAR FOODS/S [angular G over C] 0/3553/RE-USE PROHIBITED" (Glass Containers Inc.).	Domestic/ Food Storage	c. 1945- c.1967	Toulouse 1971:229; Giarde 1980:45
18	Colorless glass bottle base. Marked: "Duraglas/SUN/23 [OI in diamond] 5" (Owens-Illinois Glass Co.)	Indefinite	Post 1945- present	Toulouse 1971:304
19	Brown glass oval bottle base. Marked: "MTC 8/D-126/224S/49" (Thatcher Manufacturing Company).	Personal/alcoholic beverage	1944-1985	Lockhart et al. 2007:9
20	Colorless glass bottle base. Marked: "6738/[H over A]"	Indefinite	1920-1964	Toulouse 1971:239
21	Colorless glass bottle base. Marked: "MADE IN U.S.A./1 24/12 [A in circle] 111/11" (Armstrong Cork Company).	Indefinite	1938-1969	Toulouse 1971:24
22	Colorless bottle base. Marked: "20 [OI in diamond] 0/3/3998 E" (Owens-Illinois Glass Co.).	Indefinite	1930-1950	Toulouse 1971:403; Lockhart 2006:22-27
23	Colorless glass bottle fragments, "house cleaner"	Indefinite	-	-
24	Triangular semi-translucent bottle base. Marked: "1337/[B in circle]/11" (probably Brockway Glass Co.).	Indefinite	1925+	Toulouse 1971:59
25	Fire Brick. Stamped "[GMB in an oval]/[three stars in a row]." (Gladding, McBean, and Co.).	Structural/Construction Material	1926-1935	Mosier 2015
26	Brown glass jug base. Marked: "[LM in oval]" (Latchford-Marble Glass Co.).	Indefinite	1939-1957	Toulouse 1971:332
27	Colorless glass bottle with crown finish. Marked: "Thirsty Just Whistle" and "23 [OI in diamond] 1" (Owens-Illinois Pacific Coast Co.).	Domestic/Non-alcoholic Beverage Container	1941- 1970s	Toulouse 1971:406

1, and again they represented a mix of mostly domestic artifacts with lesser quantities of personal, structural, and transportation-related items. Domestic artifacts included green glass and other bottle fragments, straight side-seamed beverage cans, ceramic tablewares, and saw-cut faunal bone. Personal items were represented by nine amber glass beer bottles (Artifact 28) and socks, while structural items included shaped concrete fragments and roof shingles. Transportation-related items were represented by rubber tire fragments. A steel cable of indefinite function also was recorded (*see* Table 2). Diagnostic artifacts noted within Locus 2 suggested that deposition occurred between the 1930s and 1970s, with clustering in the 1940s to 1950s period.

Locus 3 of CA-IMP-7816/H was recorded immediately east of BLM Road 151 and north of the railroad alignment. It measured 90 feet north-south by 57 feet east-west and appeared to comprise a single deposition episode. Like Loci 1 and 2, Locus 3 contained primarily domestic

Table 2. Sample of Diagnostic Artifacts in Locus 2.

Artifact #	Description	Function	Date Range	Source
28A	Brown glass beer bottle with crown finish. Marked: "20 [OI in diamond] 51/7D/Duraglas/1-Way/2766 6D" (Owens-Illinois Glass Co.).	Personal/Alcoholic Beverage Container	1951	Toulouse 1971:403; Lockhart 2006:22-27
28B	Brown glass beer bottle with crown finish. Marked: "S [angular G over C] 1/ 1-WAY/4808/90" on base; on neck: "Not to be Refilled, No Deposit, No Return" (Glass Containers Inc.).	Personal/Alcoholic Beverage Container	c. 1945- c.1967	Toulouse 1971:229; Giarde 1980:45
28C	Brown glass beer bottle with crown finish. Marked: "[L in keystone logo]/51." (Lincoln Bottle Glass CO.).	Personal/Alcoholic Beverage Container	1942-1952	Whitten 20118
28D	Brown glass beer bottle with crown finish. Marked: "21 [OI in diamond] 3", no knurling on base.	Personal/Alcoholic Beverage Container	c. 1933- 1953	Toulouse 1971:403; Lockhart 2006:22-27
29	WIE bowl base. Marked: "[S]TONEWARE/JAPAN"	Domestic/Tableware	1921-1940, post 1952	Stitt 1974:149
30	Ceramic plate base fragment glazed yellow with decal linear design band on rim. Stamped "USA" on base.	Domestic/Tableware	c. 1950s- 1960s	Stylistic decoration.
31	Brown glass oval bottle base. Marked: "A.A./0-9/101 [OI in diamond] 51/11-821A"	Likely Personal/Alcoholic Beverage Container	1951	Toulouse 1971:403; Lockhart 2006:22-27
32	Colorless tumbler with ACL figural image marked "PENNY/The Rescuers/Collector/Series © 1977 Walt Disney/Productions"	Domestic/Tableware	1977	Copyright date
33	Colorless glass bottle base Marked: on heel "TEQUILA/...ORENDIAN"; on base "4 [checkmark logo] 23"	Personal/Alcoholic Beverage Container	-	-
34	Brown glass bottle with ribbing. ACL logo: "ORANGE-/CRUSH/T.M.REG. U.S.PAT./COMPANY/BOTTLE". Marked: "9 [OI in diamond] 3./Duraglas" on base.	Domestic/Non-alcoholic Beverage Container	1943	Toulouse 1971:403; Lockhart 2006:22-27
35	Brown glass half pint liquor bottle. Marked: "D125/56 51/[OI in diamond]" (Owens-Illinois Glass Co.).	Personal/Alcoholic Beverage Container	c. 1951	Toulouse 1971:403; Lockhart 2006:22-27
36	Brown glass bottle base. Marked: "9 [OI in diamond] 48/Duraglas/X 2130"	Indefinite	1948	Toulouse 1971:403; Lockhart 2006:22-27
37	WIE plate fragment with grey scrollwork decal design on aqua rim band. Basemark: "...tino China Co./[semi]-vitreous/..., Ohio"	Domestic/Tableware	-	-
38	Porcelain plate base. Marked: "Translucent Porcelain China/[Crown logo]/Royal [Crown?]/China Co./Japan/Imported Fine Quality"	Domestic/Tableware	-	-
39	WIE cup with grey scrollwork decal design on aqua rim band, matches A 37.	Domestic/Tableware	-	-
40	Vent-hole condensed milk can. Measures 2 9/16" diameter x 2 5/16 " tall. Possibly Type 20 can.	Domestic/Non-Alcoholic Beverage Container	1950-c. 1985?	Simonis 1997

artifacts with some personal and structural items or items of indefinite function. Domestic items within the locus included colorless and green bottle glass, sanitary cans, steel beverage cans, tin foil, and aluminum-top, steel-sided cans. Personal items were represented by alcohol-related brown bottle glass and crown-cork bottle caps while structural items included brick fragments, asphalt tiles, and a metal screen. Sheet metal fragments of indefinite function also were recorded (*see* Table 3). Diagnostic artifacts noted within Locus 3 indicated that deposition occurred between the 1930s and 1970s, with most items representing the 1940s to 1950s period.

Table 3. Sample of Diagnostic Artifacts in Locus 3.

Artifact #	Description	Function	Date Range	Source
41A	Brown glass beer bottle with crown finish. Marked: "63-36 A/3 [anchor logo] 52/13" with stippled base (Anchor Hocking Glass Corp.).	Personal/Alcoholic Beverage Container	1938-present; possibly 1952	Toulouse 1971:48
41B	Brown glass beer bottle with crown finish. Marked: "2481/S 19/52/MTC" with stippled base (Thatcher Manufacturing Company).	Personal/Alcoholic Beverage Container	1944-1985; possibly 1952	Lockhart et al. 2007:9
41C	Brown glass beer bottle with crown finish. Marked: "2481/S 19A/52/MTC/TALL/1-WAY" with stippled base (Thatcher Manufacturing Company).	Personal/Alcoholic Beverage Container	1944-1985; possibly 1952	Lockhart et al. 2007:9
41D	Brown glass beer bottle with crown finish. Marked: "2481/S 18/52/MTC" with stippled base (Thatcher Manufacturing Company).	Personal/Alcoholic Beverage Container	1944-1985; possibly 1952	Lockhart et al. 2007:9
42	Colorless glass food storage jar (likely condiment) with a threaded finish. Marked: "17 [OI in diamond] 2" (Owens-Illinois Pacific Coast Co.).	Domestic/Food Container	c. 1932-1943	Toulouse 1971:406
43	Colorless glass food storage jar with threaded finish. Marked: "4412/[J in keystone]/8" (Knox Glass Bottle Co.).	Domestic/Food Container	1932-1953	Toulouse 1971:271
44	Colorless glass food storage jar with threaded finish. Marked: "804/[LM in circle]/5" (Latchford-Marble	Domestic/Food Container	1939-1957	Toulouse 1971:332
45	Aqua glass Coca Cola bottle. Marked: "25 [OI in diamond] 45 on heel; "Los Angeles/Calif./S" on base.	Domestic/Non-Alcoholic Beverage Container	1945	Toulouse 1971:403; Lockhart 2006:22-27
46	Colorless glass bottle finish fragment.	Indefinite	-	-
47	Brown glass beer bottle. Marked: "20 [OI in diamond] 3/23/Duraglas" (Owens-Illinois Glass Co.).	Personal/Alcoholic Beverage Container	1943-1953	Toulouse 1971:403; Lockhart 2006:22-27

Locus 4 of CA-IMP-7816/H was recorded to the south of the San Diego and Arizona Eastern Railroad alignment (P-13-009302). Because it lay outside of the Project APE, less emphasis was placed on the analysis or photo-documentation of individual artifacts in Locus 4, though its extents were mapped and recorded. The site record completed for the northern portion of the locus by URS personnel in 2008 was found to be accurate (Nixon 2008), though its boundaries extended further south than was previously noted. As recorded in July 2018, Locus 4 measured approximately 200 feet north-south by 400 feet east-west and appeared to encompass at least 12

discrete deposition events. Cultural constituents noted in Locus 4 largely mirrored those noted in Locus 2. They comprised mostly domestic artifacts (e.g., beverage or food containers, glass fragments, and ceramic tablewares) with lesser quantities of personal items (e.g., alcohol and medicine bottles, aerosol cans, and a flask), structural debris (e.g., dry wall fragments, brick fragments, concrete fragments, screws, and nails), transportation-related items (e.g., tire fragments), and items of indefinite function (e.g., cable, wire, paint cans, and miscellaneous glass and metal fragments). Diagnostic artifacts noted within Locus 4 suggested that deposition occurred between the 1930s and 1980s, with clustering in the 1940s to 1950s period. The prehistoric isolated find recorded by URS personnel in 2008 was not relocated, and no additional prehistoric artifacts were noted in 2018.

Interpretations of Site CA-IMP-7816/H

Loci 1, 2, and 3 of CA-IMP-7816/H all appeared to represent roadside discard along BLM Road 151 or along the access road that roughly parallels the north side of the San Diego and Arizona Eastern Railroad alignment (P-13-009302). Locus 4, located to the south of the railroad alignment, also appeared to represent repeated roadside discard. Locus 4 is bisected by BLM Road 151 and by an east-west trending access road that together divide the locus into four areas. Although a limited amount of structural debris was noted in each of the four loci, they consisted largely of domestic artifacts with lesser quantities of personal items, transportation-related items, and artifacts of indefinite function.

No evidence of former standing structures was noted within the boundaries of CA-IMP-7816/H, and it seems unlikely that the site served as a historic period railroad stop as initially posited in 1999 (James, Bark, and Caldwell 1999). The railroad alignment was constructed between 1907 and 1919, and the nearest railroad stop was located roughly 3 miles to the west in Plaster City. Passenger service along the San Diego and Arizona Eastern Railroad ceased in 1951, and the line was abandoned in 1977 (Fickewirth 1992:121). Cultural constituents noted within the four site loci indicated that deposition occurred well after the construction of the railroad alignment and towards the end of its period of operation, so it also seems unlikely that the site functioned as a workers camp for the railroad or as a “temporary camp” as argued by J. McKenna (2007). Instead, it seems most likely that CA-IMP-7816/H served as an informal trash dump for multiple nearby households that was used most intensively during the mid-20th century.

The Project area that encompasses the proposed alternative waterline was settled mostly in the early 20th century as irrigation systems were being developed and agricultural opportunities in the region expanded (Pacific Legacy 2018). El Centro was the nearest larger town, but several smaller settlements also developed along the railroad and highway alignments. These included Plaster City, located approximately 3.6 miles west of CA-IMP-7816/H, as well as Dixieland, located just 1 to 1.5 miles to the east of the site location. Plaster City was developed as a US Gypsum Company town in the early 1920s adjacent to the San Diego and Arizona Eastern Railroad alignment (P-13-009302). An ore crusher was initially located at the site, and a narrow gauge railroad was built to move ore to the crusher for shipment. In 1924, a plaster manufacturing plant was installed and a town was built around it for the employees (Tucker 1926:271). The Plaster City post office operated between 1924 and 1964 (Forte 2018). The 1942 State Mineralogist report noted that the Plaster City plant operated three days a week with 15-

20 employees manufacturing fertilizer, cement retardant, hard wall and finished building plasters, casting molding, and dental plaster (Sampson and Tucker 1942:136).

Dixieland was named in 1909 by land promoters hoping to attract cotton agriculture using the newly planned west side irrigation system (Gudde 2004:110). A post office operated in the small, unincorporated community between 1912 and 1935 (Forte 2018). The expanded irrigation system was never built, however, and the town never fully developed (URS 2010:2-35). Dixieland was depicted on the 1940 Plaster City USGS 1:62,500 topographic map less than 1.5 miles east of CA-IMP-7816/H and just east of the Westside Main Canal, though three historic period structures were shown just west of the canal in Section 7 of Township 16 South, Range 12 East approximately 1 mile east of the site area. Historic period aerial photographs from 1953 confirmed that settlement and agricultural fields were concentrated to the east of the Westside Main Canal, with little development to the west side of the canal near the highway or railroad alignments until sometime after the mid-1950s. BLM Road 151 also was depicted on the 1940 Plaster City USGS 1:62,500 topographic map, and was likely used by nearby residents who frequented the Evan Hewes Highway (USGS 1940).

Site CA-IMP-7816/H is located in the northeast quarter of the southeast quarter of Section 11 and the northwest quarter of the southwest quarter of Section 12 in Township 16 South, Range 11 East, San Bernardino Base & Meridian. A search of land patents for the site area showed that the quarter sections surrounding the site were patented to the Santa Fe Pacific Railroad Company in 1911 and 1915 (BLM 2018). No private individuals acquired patents for the lands surrounding the site until 1964, when a patent was issued to Ms. Kitty Nichols for the northwest quarter of Section 12. Beginning the mid-1990s, the northwest quarter of Section 12 was developed as the “Imperial Lakes” gated community, which is located to the north of the Evan Hewes Highway less than 0.25 miles from CA-IMP-7816/H. The community features two man-made lakes used for waterskiing that are bordered to the east and west by private residences and served by an internal, private road.

Given the date ranges of the temporally diagnostic artifacts noted within the boundaries of CA-IMP-7816/H, the high frequency of domestic items versus other functional artifact classes present, and the proximity of the debris deposit to a known residential area in the vicinity, it seems most likely that CA-IMP-7816/H was associated with the unincorporated community of Dixieland. BLM Road 151 appeared to pre-date the discard events encompassed by the site loci. The road would have been easily accessible from the Evan Hewes Highway and would have offered a discrete location to discard household debris away from the residences in Dixieland.

Historic period secondary debris deposits can range from extensive sites used by multiple households, institutions, or communities over the course of decades to small scatters with little indication of when or where they originated. Debris deposits that are found in association with other historic period resources, for instance a homestead or mining complex, are typically examined and evaluated as a part of that larger resource. Debris deposits encountered in isolation or as roadside discard locations are typically evaluated based on the quantity and diversity of materials they contain, as well as the ability to associate those materials with known individuals or communities, with a particular period of deposition, or with a specific type of site use (e.g., municipal dumps, workers’ camps, mining complexes, etc.). The sections below briefly

outline the eligibility criteria for listing cultural resources in the NRHP and offer an evaluation of CA-IMP-7816/H with respect to those criteria. Site CA-IMP-7816/H was not evaluated for listing in the California Register of Historical Resources in support of the current investigation.

NRHP Eligibility Criteria

As a federal undertaking, the Project must comply with Section 106 of the National Historic Preservation Act (NHPA) (54 USC 300101 et seq., as amended), and the BLM is required to take into consideration the effects of the proposed action on historic properties. Per 36 CFR Part 800.16(l)(1) a historic property is defined as

any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria.

Implementing regulations for the NHPA put forth by the Advisory Council on Historic Preservation may be found under 36 CFR Part 800. Those regulations describe the steps that federal lead agencies must take to identify and evaluate potential historic properties, assess potential adverse effects to those properties that may occur through the implementation of an undertaking, and outline steps that may be taken to resolve potential adverse effects through avoidance or appropriate mitigation measures.

Criteria for determining NRHP eligibility are found in 36 CFR Part 60. The NRHP is “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” (36 CFR Part 60.2). Eligibility for inclusion in the NRHP is determined by applying the following criteria, which were developed by the National Park Service in accordance with the NHPA and outlined in 36 CFR Part 60.4:

The quality of significance in American history, architecture, archeology, 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

- A) That are associated with events that have made a significant contribution to the broad patterns of our history; or
- B) That are associated with the lives of persons significant in our past; or
- C) That embody distinctive characteristics of a type, period, or method of construction, 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) That have yielded, or may be likely to yield, information important in prehistory or history.

Any prehistoric or historic period district, site, building, structure, or object that meets one or more of the criteria above and possesses sufficient integrity may be eligible for inclusion in the NRHP as a historic property.

The BLM executed a national Programmatic Agreement (PA), on February 9, 2012, (Part 2) with the ACHP and the National Council of State Historic Preservation Officers (SHPOs). The PA governs the manner in which the BLM meets its responsibilities under the NHPA and directs each BLM State Director to develop a mutually agreed upon Protocol with each SHPO in their respective jurisdictions. The PA encourages BLM State Directors and SHPOs to develop mutually agreed upon BLM-SHPO protocols regulating their relationship and how consultation will take place by establishing streamlined (as opposed to case-by-case) consultations. Since California BLM administers land in California and Nevada, the Protocol was negotiated by the California State Director of the BLM with the California SHPO and the Nevada SHPO in 2014. The applicable standards for this Project are found under the *Secretary of the Interior's Guidelines for Identification* on pages 69-71 of the 2014 Protocol Agreement.

NRHP Evaluation of CA-IMP-7816/H

Site CA-IMP-7816/H is an extensive historic period debris deposit comprised of mostly domestic refuse that may have originated from the unincorporated community of Dixieland. The site appears to have formed as a result of more than three dozen discrete deposition events that occurred between the 1930s and 1970s, with most materials deposited in the 1940s to 1950s period. Sullivan and Griffith (2005) prepared a context statement and guide for recording and evaluating historic period waste management and refuse deposits. They identified a number of different waste disposal site types, including trash scatters/middens, privies, wells, dumps, waste piles, and open dumps. Under their schema, CA-IMP-7816/H would be classified as an “open dump,” which is defined as a waste disposal area that occurs at a distance from where the debris was first generated, is marked by repeated dumping episodes by more than one party, and is recognized as part of a formal or informal waste disposal system. According to Sullivan and Griffith (2005:34):

Open dumps occur at different scales and have different time depth. They may be associated with smaller properties such as ranches and farms, a single or multiple business(es) and industry(ies), or military installations that have used a single area for the dumping of trash over a period of time. At its largest scale, an open dump is associated with a town or city (communal). A mining camp, military post, etc. may use a designated dump intensively for a few years, while a community may use a designated dump area for decades.

Materials in an open communal dump will represent a range of different activities while materials at an industrial site may reflect limited activities. Garbage deposits may be primarily concentrated in one area, dispersed widely over an area, or made up of a number of distinct smaller concentrations (loci) of trash deposits. Although community dumps are usually located at a distance from the generators, the source of the trash is usually easily identifiable because of the dump’s size, general proximity to a populated center, and volume and character of diagnostic artifacts.

Sullivan and Griffith (2005) noted that open dumps may be eligible for listing in the NRHP under any of the eligibility criteria, but will most often be eligible under NRHP Criterion D for their research and data potential.

To be eligible for listing under NRHP Criterion A, an open dump would need to be associated with an important historic period event such as a major shift in waste disposal management in a community, major policy changes, or significant technological innovations that resulted in changes in waste management policies or practices. Site CA-IMP-7816/H does not appear to have been associated with any significant historic period events. It appears to have been informally used over decades beginning in the 1930s, and it reflects no apparent shifts in local, regional, or national practices, policies, or modes of waste management. Site CA-IMP-7816/H is thus recommended not eligible for listing in the NRHP under Criterion A.

To be eligible for listing under NRHP Criterion B, an open dump site would need to be clearly associated with one or more individuals significant to the history of the region, the state, or the nation. No individuals, historically significant or otherwise, were identified in association with CA-IMP-7816/H. Although the site appears to be associated with the unincorporated community of Dixieland based on its proximity to that community, the prevalence of domestic artifacts at the site, and the site's position along a road that was likely used by Dixieland residents, a clear link could not be defined between the site and one or more members of that community. A review of land patents for the area surrounding the site also failed to reveal any individuals that might have been associated with site during the main period of deposition in the 1940s and 1950s. Site CA-IMP-7816/H is therefore recommended not eligible for listing in the NRHP under Criterion B.

In order to be eligible for listing in the NRHP under Criterion C, CA-IMP-7816/H would need to embody distinctive characteristics of design or construction. Open dumps, unless they employ cut and fill methods, are usually not designed or constructed features. Although portions of CA-IMP-7816/H have become partially buried through aeolian and alluvial erosion, there is no evidence to suggest that cut and fill methods were used at the site. Because CA-IMP-7816/H contains no designed or engineered features that might be evaluated under NRHP Criterion C, it is recommended not eligible for listing under those criteria.

Historic period open dumps typically feature a high density and diversity of artifacts. They can offer data potential relating to historic period research themes such as socio-economic status, trade, production, ethnicity, gender, diet, health or hygiene, technology, and demography. Site CA-IMP-7816/H consists of an extensive historic period debris deposit or open dump with four loci. It contains glass bottles and fragments; ceramic tablewares; saw cut bone; food, beverage, and paint cans; wire, screws, nails, and other miscellaneous metal debris; bricks, concrete, and drywall fragments; rubber tire fragments; and many other non-diagnostic items. Diagnostic artifacts and the distribution of cultural materials across the site revealed that it was likely formed through at least three dozen discrete deposition events that occurred between the 1930s and 1980s, with most materials deposited in the 1940s and 1950s period. Although CA-IMP-7816/H offers some clues about the consumption and discard habits of local residents in the mid-20th century, it offers little overall data potential. The site could not be clearly linked to specific local residents or to a single local community. Any interpretive value it might offer would thus be lessened by a lack of integrity of association. Site CA-IMP-7816/H also consists overwhelmingly of domestic refuse with some personal, transportation-related, and indeterminate items. The domestic lives and practices of mid-20th century communities are fairly well documented and understood. The further study of such communities through a

single open dump site in rural Imperial County would likely add little to our understanding of local, regional, or nation history. Site CA-IMP-7816/H is therefore recommended not eligible for listing in the NRHP under Criterion D.

Site Integrity

Site CA-IMP-7816/H is a historic period debris deposit that contains materials dating from the late 1930s to the 1980s, though the bulk of the deposit is represented by artifacts from the 1940s to 1950s. Following Sullivan and Griffith (2005), the site appears to represent an open dump that has accrued informally through at least three dozen deposition events. Three access roads intersect the site, with BLM Road 151 bisecting the site from north to south and two access roads near the railroad alignment bisecting the site from east to west. Site CA-IMP-7816/H was found to be in fair condition when it was recorded in July 2018 despite impacts from aeolian and alluvial erosion and some modern roadside trash dumping.

While the site retains aspects of integrity relating to location and setting, the aspects of feeling and association are diminished by the resource's lack of clear association with persons, places, or events that may have helped to convey its history. As an open dump, aspect of design, materials, and workmanship are not applicable, as the site includes no designed or constructed features such as cut and fill waste disposal pits. Overall, CA-IMP-7816/H retains poor integrity. Because it could not be associated with important events or persons in history (NRHP Criteria A and B), it lacks construction or design characteristics that would render it significant (NRHP Criterion C), it offers extremely limited data potential (NRHP Criterion D), and it possesses limited integrity. Therefore, CA-IMP-7816/H is recommended not eligible for listing in the NRHP.

Conclusions and Recommendations

Site CA-IMP-7816/H has been recommended not eligible for listing in the NRHP. No further studies and no specific management measures are recommended at the site. By routing the waterline along the existing access road and buried fiber optic line just north of the railroad alignment, however, the majority of the site loci would be avoided (*see* Attachment B). Pacific Legacy has revised the site record for CA-IMP-7816/H to reflect its updated boundaries (*see* Attachment A). The proposed alternative waterline route that would avoid impacting much of the resource is depicted in Appendix B, Figure 2. Pacific Legacy will also provide the BLM with GIS shapefiles of the proposed route. Should you have further questions, please do not hesitate to contact me.



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Attachments

Attachment A: Site Records

Attachment B: Figures

Attachment C: Photographic Record

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Appendix A: Site Records (Confidential)

Attachment B: Figures (Confidential)

Attachment C: Photographic Documentation

Attachment C: Pacific Legacy Photographic Documentation

Client: US Gypsum Company

Prepared by: L. Holm

Photograph No. 1

Direction: West

Date: 7/4/18

Location: Alternative
Waterline Between Plaster City
And The Westside Main Canal

Photographer:

William Shapiro

Description:

(DSCF-9919) Close-up of erosional cut showing buried cultural constituents in Locus 1 of CA-IMP-7816/H.



Photograph No. 2

Direction: East

Date: 7/5/18

Location: Alternative
Waterline Between Plaster City
And The Westside Main Canal

Photographer:

William Shapiro

Description:

(DSCF -9921) Overview from the eastern edge of CA-IMP-7816/H showing the preferred pipeline route marked by an existing access road and buried fiber optic cable.



Attachment C: Pacific Legacy Photographic Documentation

Client: US Gypsum Company

Prepared by: L. Holm

Photograph No. 3

Direction: South

Date: 7/5/18

Location: Alternative
Waterline Between Plaster City
And The Westside Main Canal

Photographer:

William Shapiro

Description:

(DSCF -9928) Overview
of Locus 2 at
CA-IMP-7816/H.



Photograph No. 4

Direction: East

Date: 7/5/18

Location: Alternative
Waterline Between Plaster City
And The Westside Main Canal

Photographer:

William Shapiro

Description:

(DSCF -9975) Overview
of Locus 3 at
CA-IMP-7816/H.



Attachment C: Pacific Legacy Photographic Documentation

Client: US Gypsum Company

Prepared by: L. Holm

Photograph No. 5

Direction: ---

Date: 7/5/18

Location: Alternative
Waterline Between Plaster City
and The Westside Main Canal

Photographer:

William Shapiro

Description:

(DSCN-9965) Close-up of
white improved earthenware
cup (Artifact 39) and plate
fragment (Artifact 37) found
in Locus 2 of
CA-IMP-7816/H.



Photograph No. 6

Direction: ---

Date: 7/5/18

Location: Alternative
Waterline Between Plaster City
and The Westside Main Canal

Photographer:

William Shapiro

Description:

(DSCN-9906) Close-up of
clear glass triangular bottle
base (Artifact 24) found in
Locus 1 of CA-IMP-7816/H.
Likely manufactured by
Brockway Glass Co.,
1925+.



Attachment C: Pacific Legacy Photographic Documentation

Client: US Gypsum Company

Prepared by: L. Holm

Photograph No. 7

Direction: ---

Date: 7/5/18

Location: Alternative Waterline Between Plaster City and The Westside Main Canal

Photographer:

William Shapiro

Description:

(DSCN 9914) Close-up of "Thirsty Just Whistle" bottle fragments (Artifact 27, ca. 1941-1970s) found in Locus 1 of CA-IMP-7816/H.



Photograph No. 8

Direction: ---

Date: 7/5/18

Location: Alternative Waterline Between Plaster City and The Westside Main Canal

Photographer:

William Shapiro

Description:

(DSCN-9978) Close-up of four brown beer bottles (Artifacts 41 A-D, ca. 1952) found in Locus 3 of CA-IMP-7816/H.





August 14, 2018

Katherine Crosmer
Archaeologist, Bureau of Land Management
El Centro Field Office
1661 S. 4th Street
El Centro, CA 92243

RE: US Gypsum Supplemental EIS Inventory Survey for Avoidance of CA-IMP-2355,
CA-IMP-4391/H, and CA-IMP-269 (Project No. 3215-02)

Ms. Crosmer:

In support of the US Gypsum Supplemental Environmental Impact Statement (EIS) for the US Gypsum Expansion/Modernization Project (the Project), Pacific Legacy, Inc. archaeologists revisited three previously recorded sites that lie within the area of potential effects (APE) for a proposed 8.7-mile waterline between Ocotillo and Plaster City and a 5-mile proposed alternative waterline between Plaster City and the Westside Main Canal in northwestern Imperial County, California. The aim in revisiting these sites was to determine if they could be avoided by Project ground disturbing activities through careful routing of both waterlines. All work was performed under contract to US Gypsum Company at the request of the US Department of the Interior, Bureau of Land Management (BLM), which serves as the lead federal agency for the Project. The Imperial County Board of Supervisors, acting as the state lead agency under the California Environmental Quality Act (CEQA), certified the Final Environmental Impact Report (EIR)/EIS for the Project in March 2008. Supplementary fieldwork for this report was conducted during the week of July 2, 2018. Later spatial data analysis was performed by personnel from the Bay Area Division of Pacific Legacy in Berkeley, California.

The resources revisited in July 2018 included prehistoric site CA-IMP-2355 (P-13-002355), multi-component site CA-IMP-4391/H (P-13-004391), and prehistoric site CA-IMP-269 (P-13-000269). Supplementary work at these sites was requested by the BLM and approved after the review of Pacific Legacy’s proposal dated June 22, 2018. Field inspections were conducted by a two-person crew, which included William Shapiro, MA, and Christopher Peske, BA. They performed a pedestrian surface examination of the three resources and the areas noted below. Redefined site boundaries were recorded on appropriate California Department of Parks and Recreation (DPR) Forms 523 based on updated observations (*see* Appendix A). Field personnel were provided with location information on Trimble Geo7X GPS receivers and on topographic maps and aerial photographs showing the locations of previously recorded cultural resources within the Project APE. After an examination of the resources and a discussion with Katherine Crosmer, BLM Archaeologist with the El Centro Field Office, Pacific Legacy archaeologists plotted the resource locations using a GPS receiver and documented the nature and extent of each resource. Potential waterline routes that would avoid each resource were mapped in

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consultation with Ms. Crosmer during her field visit on July 3, 2018. The results of these efforts are detailed below.

CA-IMP-2355 (P-13-002355)

CA-IMP-2355 is located to the south of the Evan Hewes Highway (P-13-008418 or Highway 80) within the APE for the proposed Ocotillo to Plaster City waterline. It was first recorded in 1977 as a prehistoric lithic scatter with six pieces of light green porphyry debitage. During a Class III pedestrian inventory survey conducted by Pacific Legacy personnel in April and May 2018, only one piece of green debitage was noted at the west end of the site location (Pacific Legacy 2018). Additionally, a concentration of at least 12 pieces of mostly umber-colored crypto-crystalline (CCS) debitage was identified along with three concentrations of pottery fragments. The site appears to have been impacted by the construction of the Evan Hewes Highway, as prehistoric pottery fragments were found in a cut bank eroding downslope towards the highway. The site lies on a terrace with patches of desert pavement and is bisected by a dirt off-highway vehicle trail.

CA-IMP-2355 was revisited by Pacific Legacy archaeologists on July 2, 2018. Particular attention was focused on the southern boundary of the site south and outside of the original 50-foot APE corridor for the Ocotillo to Plaster City waterline. No evidence of cultural materials were observed in this area. In consultation with the BLM archaeologist, it was determined that in order to avoid the resource, the proposed waterline could be placed to the south of the recorded site boundary and to the north Interstate 8. The preferred alternative is shown in Attachment B, Figure 1. This preferred alternative would loop south near the east end of the site parallel to the north side of Interstate 8 in a southwesterly direction, then tie-in to the original APE route as it proceeds southwest. The route would follow an existing wash and off-highway vehicle road as it parallels Interstate 8 and would avoid impacts to the resource. An updated site record for CA-IMP-2355 is provided in Attachment A.

A second potential avoidance route may be at the base of the cut bank on the southern shoulder of the Evan Hewes Highway. Inspection of the north side of the site on top of the terrace resulted in the recordation of 12 pieces of CCS debitage, suggesting that the Evan Hewes Highway has bisected the site in a southwest/northeast direction. The cut bank of the Evan Hughes Highway is approximately 3-4 meters from the terrace on which the site sits. Cultural materials were found eroding from the cut bank on the northwest side of the site along the shoulder of the Evan Hewes Highway. It is not clear if the artifacts noted on the shoulder are part of a subsurface deposit that extends below the shoulder.

CA-IMP-4391/H (P-13-004391).

CA-IMP-4391/H is located within the APE for the proposed alternative waterline between Plaster City and the Westside Main Canal. It lies to the south of the Evan Hewes Highway (P-13-008418 or Highway 80) and to the north of the San Diego and Arizona Eastern Railroad alignment (P-13-009302). The site was first documented in 1981 as a historic period debris scatter (Townsend and Fulmer 1981). It was later re-recorded by URS in 2008 and in 2009 when it was described as a multi-component site with a prehistoric lithic and ceramic scatter and a 1900-1920s historic period debris scatter with metal, ceramics, glass, and cans as well as a series

of berms and depressions. URS recommended data recovery efforts at the site in 2009 to determine its eligibility for listing in the National Register of Historic Places (NRHP) (Albush 2009). In April 2018, Pacific Legacy personnel found the site to be as previously described, though approximately 16 pottery fragments and one piece of CCS debitage were found beyond the northeastern boundary of the site as it was defined in 2009. The site boundary was therefore expanded approximately 30 meters to the northeast to include these debitage and pottery fragments (Pacific Legacy 2018). The pottery fragments varied from gray to red in color and measured 2.0-5.5 centimeters in size and 0.5 centimeters in thickness. The northern edge of CA-IMP-4391/H is near the Evan Hewes Highway alignment, and the prehistoric component of the site is likely associated with prehistoric site CA-IMP-10171 (P-13-011165), which is across the Evan Hewes Highway to the north. The area around CA-IMP-4391/H has been impacted by off-highway vehicle activity and by aeolian and alluvial erosion.

CA-IMP-4391/H was revisited by Pacific Legacy archaeologists on July 3, 2018. Particular attention was focused on the southern boundary of the site north and adjacent to the San Diego and Arizona Eastern Railroad (*see* Attachment B, Figure 2). The site boundary was slightly expanded to the southwest to include a group of four handstones observed in July 2018. These artifacts are not located in the preferred or suggested avoidance route. In consultation with the BLM archaeologist, it was determined that in order to avoid the resource, the proposed alternative waterline between Plaster City and the Westside Mail Canal could be placed within or adjacent to the disturbed San Diego and Arizona Eastern Railroad right-of-way along an existing dirt access road. The access road right-of-way has been previously disturbed through the installation of an underground fiber optic line, and further ground disturbing activity along the same alignment should not impact CA-IMP-4391/H. An updated site record for CA-IMP-4391/H is provided in Attachment A.

CA-IMP-269 (P-13-000269)

CA-IMP-269 is located within the APE for the proposed alternative waterline between Plaster City and the Westside Main Canal. It was first recorded by Ackers, Avels, and Collins in 1976 as a series of seven archaeological sites that were ultimately combined and extended to encompass multiple sections on the USGS 7.5-minute Plaster City topographic map by 2016. Portions of CA-IMP-269 have been re-recorded numerous times, though URS produced the most extensive documentation for the site in 2009 (Kowalski 2009). The 2009 site record documented at least 64 features, including hearths, rock cairns, and one cremation. Cultural constituents included lithic scatters with formal artifacts such as projectile points, cores, bifaces, edge-modified flakes, choppers, and performs; groundstone implements such as handstones, milling slabs, hammerstones, and sandstone manuports; *Olivella* shell beads; fire-affected rock; and calcined human and faunal bone fragments, including some identified in hearth features. Although the site boundary for CA-IMP-269 provided by the SCIC spans multiple sections and corresponds to the location map boundary for the site produced by ASM Affiliates in 2016 (J. Lennen), the 2009 URS location map for the resource is much more constrained and depicts the resource and its features predominantly in Sections 9 and 16 to the south of the San Diego and Arizona Eastern Railroad (P-13-009302) alignment and outside of the Project APE (Kowalski 2009). URS (Kowalski 2009) offered no formal evaluation of CA-IMP-269, but suggested that the site may be

eligible for listing in the NRHP under Criterion D, or its potential to reveal intact, subsurface deposits with significant research or data potential.

The Project APE for the proposed alternative waterline intersects the current boundary of CA-IMP-269 from just north of the Evan Hewes Highway (P-13-008418 or Highway 80) to just south of the San Diego and Arizona Eastern Railroad (P-13-009302) alignment in Section 10 between the Plaster City Plant and Westside Main Canal. The individual prehistoric and multi-component sites that intersect the Project APE and CA-IMP-269 boundary were revisited by Pacific Legacy personnel in May 2018 for the initial survey (Pacific Legacy 2018). Although these resources were encompassed by the 2016 boundary of CA-IMP-269, they were not formally documented as part of that larger resource. Based on the documentation provided by ASM in 2016 and URS in 2009, it was difficult to discern what previously recorded resources corresponded to or lay within the boundary of CA-IMP-269 as currently defined by the SCIC. Pacific Legacy archaeologists therefore re-recorded these 13 archaeological sites in May 2018 as individual resources (CA-IMP-321 [P-13-000321], CA-IMP-4389 [P-13-004389], CA-IMP-4391/H [P-13-004391], CA-IMP-8969 [P-13-010066], CA-IMP-8971 [P-13-010068], CA-IMP-10171 [P-13-011165], CA-IMP-10539 [P-13-011627], CA-IMP-10545 [P-13-011633], CA-IMP-10547 [P-13-011635], P-13-011740, P-13-011741, CA-IMP-10614 [P-13-011793], and CA-IMP-10615 [P-13-011794]) following prior, discrete recording events in an effort to better portray the true extents and distribution of cultural materials within the Project APE. No cultural constituents were recorded to the north of the San Diego and Arizona Eastern Railroad alignment that would suggest these sites are part of a larger CA-IMP-269 complex. In agreement with the BLM archaeologist, it was determined that the 2009 URS site boundary for CA-IMP-269 should be treated as the correct one.

CA-IMP-269 was revisited by Pacific Legacy archaeologists on July 3, 2018. Particular attention was paid to the previously recorded resource locations within the CA-IMP-269 boundary (*see* above), and the along the dirt access road to the north side of the San Diego and Arizona Eastern Railroad alignment (*see* Attachment B, Figure 2). Several prehistoric isolated finds were noted within the access road right-of-way during the July 2018 survey. These included a chalcedony flake, a tizon brownware sherd, a green porphyry flake, and an unworked granitic handstone that was abraded on one side. These finds were found spread out along a 590-meter segment of the access road right-of-way as it crosses the ASM boundary of CA-IMP-269 and the Project APE. Each was noted in an area that had been previously disturbed by road grading or railroad construction, so it is unlikely that the materials were found *in situ*. In consultation with the BLM archaeologist, it was determined that the preferred route for the proposed alternative waterline between Plaster City and the Westside Main Canal as it passes through the SCIC boundary of CA-IMP-269 would be along the access road on the north side of the San Diego and Arizona Eastern Railroad. The access road right-of-way has been previously disturbed through the installation of an underground fiber optic line, and further disturbance within the same area is not expected to impact CA-IMP-269 or the 13 resources noted above. An updated site record for CA-IMP-269 is provided in Attachment A.

Pacific Legacy has revised the site records for the resources above to reflect new finds or site boundaries. These updated records are presented in Attachment A. The proposed waterline

routes that would avoid CA-IMP-2355, CA-IMP-4391/H, and CA-IMP-269 are depicted in Attachment B, Figures 1 and 2. Pacific Legacy will also provide the BLM with GIS shapefiles of the proposed routes. Should you have further questions, do not hesitate to contact me at 510-524-3991, ex. 1.



John Holson
Senior Archaeologist
Pacific Legacy Inc.

Attachments:

Attachment A: Site Records
Attachment B: Figures

References

Acker, E., R. Avels, and E. Collins

1976 Site record for CA-IMP-269. On file at the South Coastal Information Center, San Diego State University, San Diego, California.

Albush, C.

2009 Site record for CA-IMP-4391H. On file at the South Coastal Information Center, San Diego State University, San Diego, California.

Lennen, J.

2016 Site record update for CA-IMP-269. On file at the South Coastal Information Center, San Diego State University, San Diego, California.

Kowlaski, E.

2009 Site record update for CA-IMP-269. On file at the South Coastal Information Center, San Diego State University, San Diego, California.

Townsend, J., and S. Fulmer

1981 Site record update for CA-IMP-4391H. On file at the South Coastal Information Center, San Diego State University, San Diego, California.

Pacific Legacy, Inc.

2018 Cultural Resources Report for the US Gypsum Company Expansion/Modernization Project Supplemental EIS, Imperial County, California. On file with the US Department of the Interior, Bureau of Land Management El Centro Field Office. El Centro, California.

Attachment A: Site Records (Confidential)

Attachment B: Figures (Confidential)

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