Appendix D

Historical/Archaeological Resources Report,

Global Water Farms Pilot Project Site, near the Community of Bombay Beach,

Riverside County, California

RIVERSIDE COUNTY
PLANNING DEPARTMENT

John Hildebrand
Planning Director

June 28, 2022

RE: County Archaeological Report No. **PDA 8253**
Report Type: Phase I Cultural Resource Assessment

County Archaeological Report (PDA) No. 8253 submitted for this project (CUP220005) was prepared by CRM Tech and is entitled: "*Historical/Archaeological Resources Report Global Water Farms Pilot Project Site, near the community of Bombay Beach, Riverside County, California*", dated June 25, 2022.

PDA 8253 concludes: The field survey of the project area produced negative results, and no potentially significant cultural resources were encountered. A shallow pond with earthen berms around the perimeter, located at the western end of the project area, evidently dates to the 1950s (Figure 8; NETR Online 1953). However, this rudimentary infrastructure feature, clearly re-excavated repeatedly over the years, does not demonstrate any distinctively historical characteristics to relate to the 1950s era. More than 25 rusty, bullet-ridden cans of late 20th century character were noted in the project area, but these modern artifacts retain little historical/archaeological interest. As noted above, due to the presence of pockets of dense vegetation growth, both survey access and ground visibility were limited in portions of the project area. The result of the field survey, therefore, reflects only the condition of the portions that could be surveyed adequately.

PDA 8253 recommends: The present study has not encountered any significant cultural resources within the project area, but the reliability of this finding is hampered by the limited access and poor ground visibility resulting from pockets of dense vegetation growth over portions of the property. Based on the research results, and in response to Native American input received during this study, CRM TECH recommends that the proposed project be cleared to proceed in compliance with CEQA provisions on cultural resources under the following conditions, as formulated by the County of Riverside:

These documents are herein incorporated as a part of the record for project.

Riverside Office · 4080 Lemon Street, 12th Floor
P.O. Box 1409, Riverside, California 92502-1409
(951) 955-6892 · Fax (951) 955-1811

Desert Office · 77588 El Duna Court
Palm Desert, California 92211
(760) 863-8277 · Fax (760) 863-7555

Sincerely,

Heather A. Thomson M.A., RPA
County Archaeologist, TLMA-Planning

Attachment F-6

LEVEL OF SIGNIFICANCE CHECKLIST
For Archaeological Resources
(Must be attached to report)

APN: 731-170-001	Project No: CUP 220005		EA Number:
☐ Potentially Significant Impact	☐ Less than Significant with Mitigation Incorporated	☐ Less than Significant Impact	☒ No Impact

(Check the level of significance that applies)

Historic Resources
Would the project:

a) Alter or destroy a historic site? *Yes.*
b) Cause a substantial adverse change in the significance of a historical resource as defined in California Code of Regulations §15064.5? *No.*
c) Is the resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (Pub. Res. Code §5024.1)? *No.*

Findings of Fact: *No buildings, structures, or objects of potential historic significance were encountered in the project area. The only feature encountered on the property that may date to the late historic period is a shallow pond with earthen berms around the perimeter, which lies partially in the westernmost portion of the project area. This rudimentary infrastructure feature, clearly re-excavated repeatedly over the years, does not demonstrate any distinctively historical characteristics to relate to the 1950s era, when it was depicted in historical maps.*
Proposed Mitigation: *None.*
Monitoring: *Yes, due to limited access and poor ground visibility resulting from pockets of dense vegetation growth.*

Archaeological Resources
Would the project:

a) Alter or destroy an archaeological site? *No.*
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to California Code of Regulations §15064.5? *No.*
c) Disturb any human remains, including those interred outside of formal cemeteries? *No.*
d) Restrict existing religious or sacred uses within the potential impact area? *No.*

Findings of Fact: *No archaeological sites were recorded within the project area.*
Proposed Mitigation: *None.*
Monitoring Proposed: *Yes, due to limited access and poor ground visibility resulting from pockets of dense vegetation growth.*

Prepared By: Bai "Tom" Tang Date: June 1, 2022

County Use Only

Received by:_____ **Date**:_____

PD-B#_____ **Related Case #**:_____

Revised February 2001

HISTORICAL/ARCHAEOLOGICAL RESOURCES REPORT

GLOBAL WATER FARMS PILOT PROJECT SITE

Near the Community of Bombay Beach
Riverside County, California

For Submittal to:

County of Riverside Planning Department, Desert Office
77-588 El Duna Court, Suite H
Palm Desert, CA 92211

Prepared for:

Terra Nova Planning and Research, Inc.
42635 Melanie Place, Suite 101
Palm Desert, CA 92211

Prepared by:

CRM TECH
1016 E. Cooley Drive, Suite A/B
Colton, CA 92324

Bai "Tom" Tang, Principal Investigator
Michael Hogan, Principal Investigator

June 1, 2022
CRM TECH Project Number 3836A
Assessor's Parcel Number 731-170-001
County of Riverside Conditional Use Permit Number 220005

Title: Historical/Archaeological Resources Report: Global Water Farms Pilot Project Site, near the Community of Bombay Beach, Riverside County, California

Author(s): Bai "Tom" Tang, Principal Investigator/Historian
Daniel Ballester, Archaeologist/Field Director
Hunter O'Donnell, Archaeologist

Consulting Firm: CRM TECH
1016 E. Cooley Drive, Suite A/B
Colton, CA 92324
(909) 824-6400

Date: June 1, 2022

For Submittal to: County of Riverside Planning Department, Desert Office
77-588 El Duna Court, Suite H
Palm Desert, CA 92211
(760) 863-8277

Prepared for: Nicole Sauviat Criste, Principal
Terra Nova Planning and Research, Inc.
42635 Melanie Place, Suite 101
Palm Desert, CA 92211
(760) 341-4800

USGS Quadrangle: Frink NW, Calif., 7.5' quadrangle (Section 35, T8S R12E, San Bernardino Baseline and Meridian)

Project Size: Approximately 9.5 acres

Keywords: Coachella Valley area, southeastern Colorado Desert; Phase I historical/ archaeological resources survey; no "historical resources" under CEQA

MANAGEMENT SUMMARY

Between February and May 2022, at the request of the Terra Nova Planning and Research, Inc., CRM TECH performed a cultural resources study on approximately 9.5 acres of rural land in an unincorporated area near the community of Bombay Beach, Riverside County, California. The subject property of the study consists of a portion of Assessor's Parcel Number 731-170-001, located approximately one mile northwest of the Glamis North Hot Spring Resort and six miles north of Bombay Beach, in the northeast quarter of Section 35, Township 8 South Range 12 East, San Bernardino Baseline and Meridian.

The study is a part of the environmental review process for a proposed industrial pilot project, which entails the construction of a water desalination facility and a mounted solar field. The County of Riverside, as the lead agency for the project, required the study in compliance with the California Environmental Quality Act (CEQA). The purpose of the study is to provide the County with the necessary information and analysis to determine whether the proposed project would cause substantial adverse changes to any "historical resources," as defined by CEQA, that may exist in or around the project area.

In order to identify such resources, CRM TECH initiated a historical/archaeological resources records search, pursued historical background research, consulted with Native American representatives, and carried out a systematic field survey. Through the various avenues of research, the study did not encounter any significant cultural resources within the project area, but the reliability of this finding is hampered by the limited access and poor ground visibility resulting from pockets of dense vegetation growth over portions of the property.

Based on the research results summarized above, and in response to Native American input received during this study, CRM TECH recommends to the County of Riverside that archaeological and Native American monitoring be required during all earth-moving operations associated with the proposed project. Under this condition, the project may be cleared to proceed in compliance with CEQA provisions on cultural resources. Human remains unearthed during the project will need to be addressed in accordance with Health and Safety Code §7050.5 and Public Resources Code §5097.98.

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INTRODUCTION

Between February and May 2022, at the request of the Terra Nova Planning and Research, Inc., CRM TECH performed a cultural resources study on approximately 9.5 acres of rural land in an unincorporated area near the community of Bombay Beach, Riverside County, California (Figure 1). The subject property of the study consists of a portion of Assessor's Parcel Number 731-170-001, located approximately one mile northwest of the Glamis North Hot Spring Resort and six miles north of Bombay Beach, in the northeast quarter of Section 35, Township 8 South Range 12 East, San Bernardino Baseline and Meridian (Figures 2, 3).

The study is a part of the environmental review process for a proposed industrial pilot project, which entails the construction of a water desalination facility and a mounted solar field. The County of Riverside, as the lead agency for the project, required the study in compliance with the California Environmental Quality Act (CEQA; PRC §21000, et seq.). The purpose of the study is to provide the County with the necessary information and analysis to determine whether the proposed project would cause substantial adverse changes to any "historical resources," as defined by CEQA, that may exist in or around the project area.

In order to identify such resources, CRM TECH initiated a historical/archaeological resources records search, pursued historical background research, consulted with Native American representatives, and carried out a systematic field survey. The following report is a complete account of the methods, results, and conclusion of the study. Personnel who participated in these research procedures are named in the appropriate sections below, and their qualifications are provided in Appendix 1.

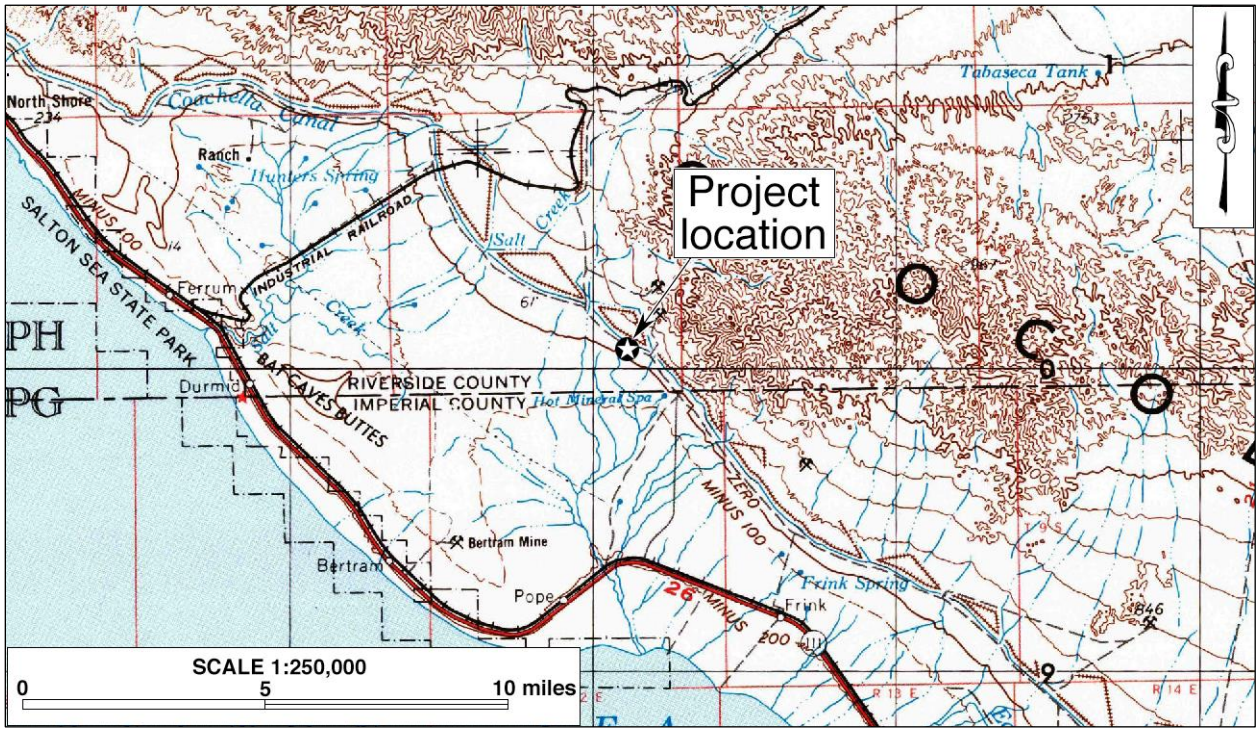

Figure 1. Project vicinity. (Based on USGS Salton Sea, Calif.-Ariz., Calif., 120'x60' quadrangle [USGS 1969])

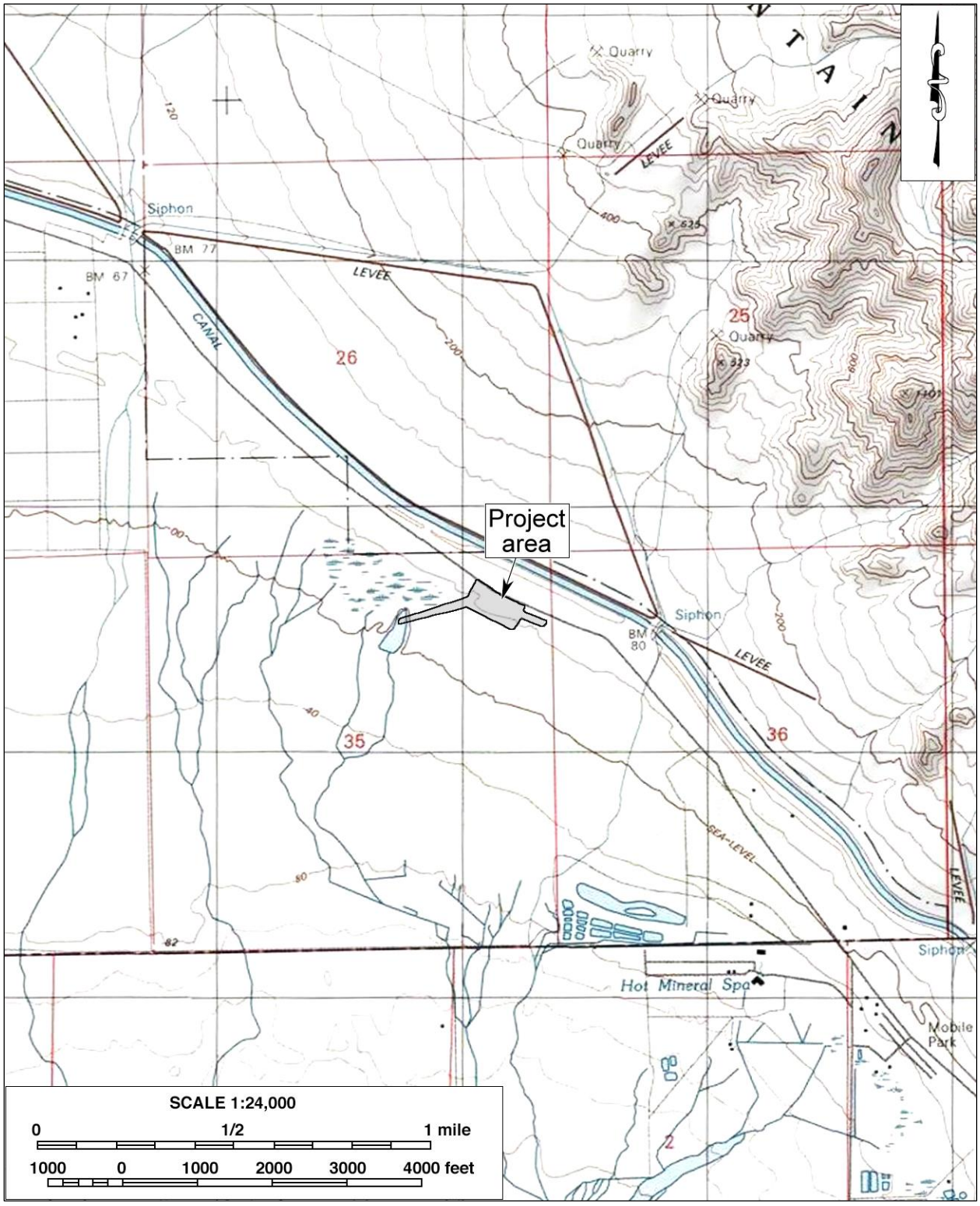

Figure 2. Project area. (Based on USGS Frink NW, Calif., 7.5' quadrangle [USGS 1998])

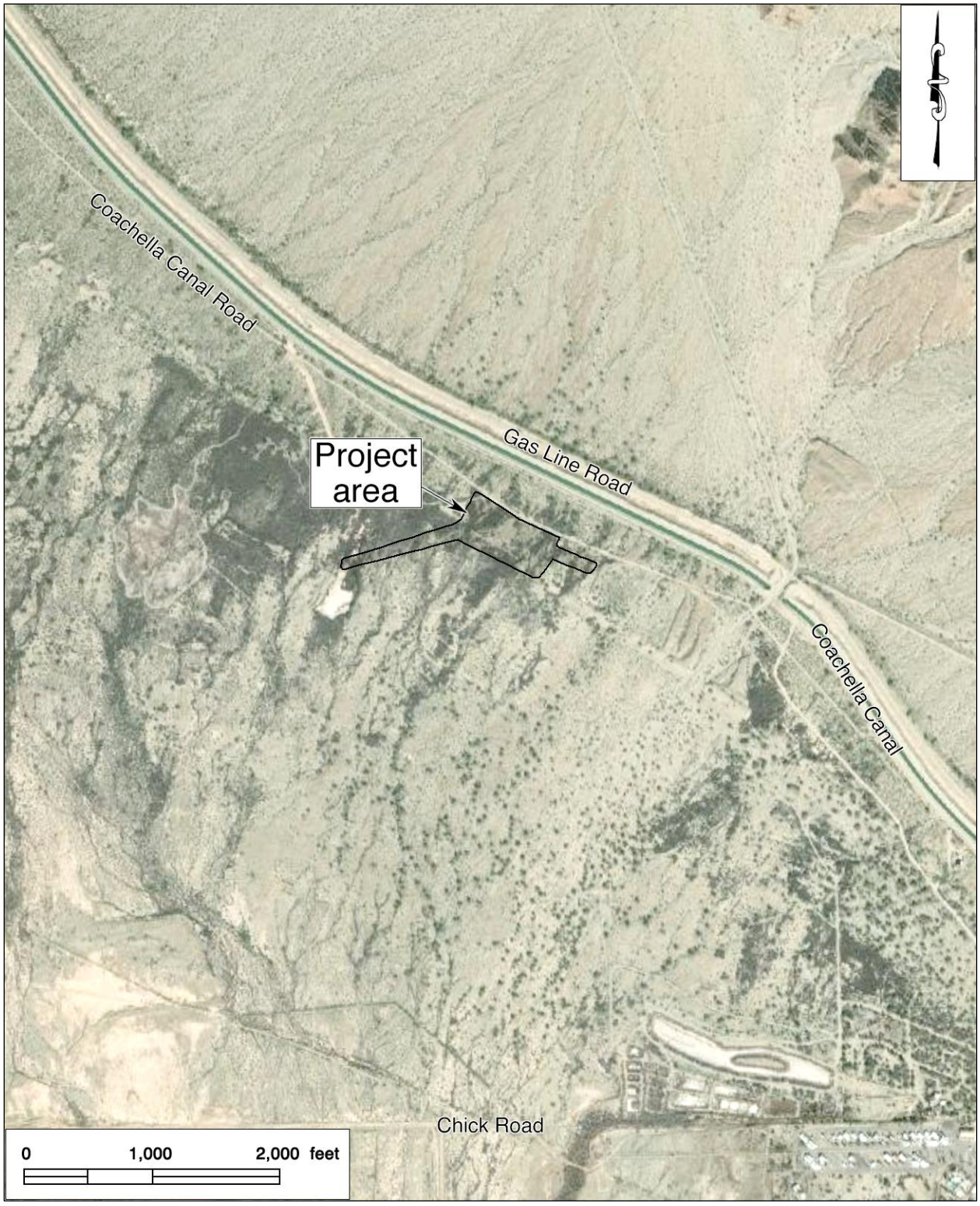

Figure 3. Recent satellite image of the project area.

SETTING

CURRENT NATURAL SETTING

The project area is located in a sparsely populated rural area along the northeastern shoreline of the Salton Sea, an inland saltwater lake that occupies the lowest portion of the lakebed of Holocene Lake Cahuilla. The general area lies near the vaguely delineated "border" between the Coachella Valley and the Imperial Valley. Dictated by this geographic setting, the climate and environment of the surrounding region are typical of southern California desert country, marked by extremes in temperature and aridity. Temperatures in the region reach over 120 degrees in summer. Average annual precipitation is less than five inches, and average annual evaporation rate exceeds three feet.

The project area consists of an irregularly shaped patch of undeveloped desert floor surrounded mostly by land of similar character, with Coachella Canal Road running along the northeastern boundary and the canal itself 250 feet beyond (Figure 3). It occupies the southwestern end of a wide bajada, the convergence of several alluvial fans that have eroded from the extended finger ridges of the Chocolate Mountains further to the northeast, approximately a mile away at the nearest spot. The terrain of the project area is uneven and rough, with elevations ranging from 0 to 50 feet above mean sea level. Several arroyos cross the property from northeast to southwest, with elevations declining the same direction.

The project area lies across the former shoreline of Holocene Lake Cahuilla, which reached the present-day 42-foot contour line at the last high stand of the lake (Wilke 1978; Waters 1983), with most of the property sitting above that elevation. Surface soil at higher elevations in the project area is composed of a light brown, coarse-grained alluvial sand with clusters of angular and sub-angular granitic rocks (Figure 4). At lower elevations, the surface soil features deposits of highly compacted silty clay mixed with small to large rocks covered with tufa, a variety of limestone formed when carbonate minerals precipitate out of ambient temperature water and associated with the ancient lake.

In past centuries, Native lifeways in the Coachella and Imperial Valleys was greatly influenced by the lacustral intervals—i.e., inundation and subsequent desiccation—of Holocene Lake Cahuilla, an ancient freshwater lake that repeatedly filled the Salton Basin over a period of at least 2,300 years before 1731 A.D. (Bard 2022). Because of the many natural resources offered be the lake, the former lakeshore would be a favored setting for aboriginal settlement and is thus highly sensitive for prehistoric archaeological remains today. In contrast, locations at the bottom of the lake during its high stands are generally considered to be of lesser archaeological sensitivity.

CULTURAL SETTING

Prehistoric Context

Numerous investigations on the history of cultural development in southern California have led researchers to propose a number of cultural chronologies for the desert regions. A specific cultural sequence for the Colorado Desert was offered by Schaefer (1994) on the basis of the many archaeological studies conducted in the area. The earliest time period identified is the Paleoindian

Figure 4. Current natural setting of the project area, view to the northwest. (Photograph taken on May 17, 2022)

(ca. 8,000 to 10,000-12,000 years ago), when "small, mobile bands" of hunters and gatherers, who relied on a variety of small and large game animals as well as wild plants for subsistence, roamed the region (*ibid*.:63). These small groups settled "on mesas and terraces overlooking larger washes" (*ibid*.:64). The artifact assemblage of that period typically consists of very simple stone tools, "cleared circles, rock rings, [and] some geoglyph types" (*ibid*.).

The Early Archaic Period follows and dates to ca. 8,000 to 4,000 years ago. It appears that a decrease in population density occurred at this time and that the indigenous groups of the area relied more on foraging than hunting. Very few archaeological remains have been identified to this time period. The ensuing Late Archaic Period (ca. 4,000 to 1,500 years ago) is characterized by continued low population densities and groups of "flexible" sizes that settled near available seasonal food resources and relied on "opportunistic" hunting of game animals. Groundstone artifacts for food processing were prominent during this time period.

The most recent period in Schaefer's scheme, the Late Prehistoric, dates from ca. 1,500 years ago to the time of the Spanish missions, and saw the continuation of the seasonal settlement pattern. Peoples of the Late Prehistoric Period were associated with the Patayan cultural pattern and relied more heavily on the availability of seasonal "wild plants and animal resources" (Schaefer 1994:66). It was during this period that brown and buff ware ceramics were introduced into the region.

The shores of Holocene Lake Cahuilla, during times of its presence, attracted much settlement and resource procurement; but in times of the lake's desiccation around 1700, according to Schaefer (1994:66), the Native people moved away from its receding shores towards rivers, streams, and

mountains. Numerous archaeological sites dating to this time period have been identified along the shoreline of Holocene Lake Cahuilla. Testing and mitigative excavations at these sites have recovered brown and buff ware ceramics, a variety of groundstone and projectile point types, ornaments, and cremations.

Ethnohistoric Context

The Coachella Valley is a historical center of Native American settlement, where U.S. surveyors noted large numbers of Indian villages and *rancherías*, occupied by the Cahuilla people, in the mid-19th century. The Cahuilla, a Takic-speaking people whose society was once based on hunting and gathering, are generally divided by anthropologists into three groups, according to their geographic setting: the Pass Cahuilla of the San Gorgonio Pass-Palm Springs area, the Mountain Cahuilla of the San Jacinto and Santa Rosa Mountains and the Cahuilla Valley, and the Desert Cahuilla of the eastern Coachella Valley. The basic written sources on Cahuilla culture and history include Kroeber (1925), Strong (1929), and Bean (1978). The following ethnohistoric discussion of the Cahuilla is based primarily on these sources.

The Cahuilla did not have a single name that referred to an all-inclusive tribal affiliation. Instead, membership was in terms of lineages or clans. Each lineage or clan belonged to one of two main divisions of the people, known as moieties. Members of clans in one moiety had to marry into clans from the other moiety. Individual clans had villages, or central places, and territories they called their own, for purposes of hunting game, gathering food, or utilizing other necessary resources. They interacted with other clans through trade, intermarriage, and ceremonies.

Population data prior to European contact are almost impossible to obtain, but estimates range from 3,600 to as high as 10,000 persons. During the 19th century, however, the Cahuilla population was decimated, largely as a result of extermination and European diseases, most notably smallpox, for which the Native peoples had no immunity. Today, Native Americans of Pass or Desert Cahuilla heritage are mostly affiliated with one or more of the Indian reservations in and near the Coachella Valley, including Torres Martinez, Cabazon, Augustine, Agua Caliente, and Morongo.

Historic Context

In 1823-1825, José Romero, José Maria Estudillo, and Romualdo Pacheco became the first noted European explorers to travel through the Coachella Valley when they led a series of expeditions in search of a route to Yuma (Johnston 1987:92-95). Due to its harsh environment, few non-Indians ventured into the desert valley during the Mexican and early American periods, except those who traveled along the established trails. The most important of these trails was the Cocomaricopa Trail, an ancient Indian trading route that was “discovered” in 1862 by William David Bradshaw and known after that as the Bradshaw Trail (Gunther 1984:71; Ross 1992:25). In much of the Coachella Valley, this historic wagon road traversed a similar course to that of present-day Highway 111. During the 1860s-1870s, the Bradshaw Trail served as the main thoroughfare between coastal southern California and the Colorado River, until the completion of the Southern Pacific Railroad in 1876-1877 brought an end to its heyday (Johnston 1987:185).

Non-Indian settlement in the Coachella Valley began in the 1870s with the establishment of railroad stations along the Southern Pacific Railroad, and spread further in the 1880s after public land was

opened for claims under the Homestead Act, the Desert Land Act, and other federal land laws (Laflin 1998:35-36; Robinson 1948:169-171). Farming became the dominant economic activity in the valley thanks to the development of underground water sources, often in the form of artesian wells. Around the turn of the century, the date palm was introduced into the Coachella Valley, and by the late 1910s dates were the main agricultural crop and the tree an iconic image celebrating the region as the "Arabia of America" (Shields Date Gardens 1957). Then, starting in the 1920s, a new industry featuring equestrian camps, resorts, hotels, and eventually country clubs began to spread throughout the Coachella Valley, transforming it into southern California's premier winter retreat.

Closer to the project location, the lower portion of the Salton Basin was once widely known for the rich salt deposit left by the repeated desiccation of Holocene Lake Cahuilla. As early as the 1810s, salt was transported to Mission San Gabriel and the pueblo of Los Angeles (Gunther 1984:445). In 1884, organized production of salt began with the establishment of the New Liverpool Salt Company's plant in what is now the northwestern end of the Salton Sea (*ibid.*). In 1905-1906, however, a dam break on the Colorado River caused the Salton Basin to be once again inundated, resulting in today's Salton Sea. Since then, the Salton Sea has enjoyed some success as a resort area. However, due to increased salinity and pollution of the lake, mainly from agricultural runoff, the tourist industry has been on the decline in recent decades, but not before bringing about the creation of a string of small communities and resorts that thrived in the 1950s-1960s. Bombay Beach is one of these communities that were once popular beachgoing destinations, known in particular for fishing, boating, and water skiing.

RESEARCH METHODS

RECORDS SEARCH

The historical/archaeological resources records search for this study was provided by the Eastern Information Center (EIC) at the University of California, Riverside, which is the State of California's official cultural resource records repository for the County of Riverside. The records search entailed primarily examination of maps and records on file for previously identified cultural resources and existing cultural resources reports in the vicinity of the project location. Due to facility closure during the COVID-19 pandemic and the resulting surge in the workload of EIC staff, a half-mile radius from the project boundaries was adopted for the scope of the records search for this study.

NATIVE AMERICAN PARTICIPATION

On February 8, 2022, CRM TECH submitted a written request to the State of California Native American Heritage Commission (NAHC) for a records search in the commission's Sacred Lands File. Following the NAHC's recommendation and previously established consultation protocols, on March 31 CRM TECH contacted a total of 12 local tribes in writing for further information on potential Native American cultural resources in or near the project area. In addition, at the request of the nearby Torres Martinez Desert Cahuilla Indians, CRM TECH field director Daniel Ballester attended a meeting of the Torres Martinez Cultural Committee on May 21, 2022, to present the research results and project information, and a representative of the tribe participated in the

archaeological fieldwork (see below). The correspondence between CRM TECH and the Native American representatives are summarized in the sections below, and a complete record is attached to this report in Appendix 2.

HISTORICAL BACKGROUND RESEARCH

Historical background research for this study was conducted by Daniel Ballester. In addition to published literature in local and regional history, sources consulted during the research included U.S. General Land Office (GLO) land survey plat maps dated 1856, U.S. Geological Survey (USGS) topographic maps dated 1940-1956, and aerial/satellite photographs taken in 1953-2021. The historical maps are accessible at the websites of the USGS and the U.S. Bureau of Land Management, and the aerial and satellite photographs are available at the Nationwide Environmental Title Research (NETR) Online website and through the Google Earth software.

FIELD SURVEY

On May 17, 2022, Daniel Ballester and project archaeologist Hunter O'Donnell carried out the field survey of the project area with the assistance of Native American monitor Gary Resvaloso, Jr., from the Torres Martinez Desert Cahuilla Indians. Wherever possible, the survey was completed at an intensive level by walking a series of parallel north-south transects spaced 15 meters (approximately 50 feet) apart. Due to the presence of thick clusters of vegetation growth (Figure 4), however, the transect system could not be maintained throughout the survey, while portions of the project area were impassable. In these areas, the field crew followed the courses of the transects as closely as possible and inspected the ground surface wherever it was exposed. Using these methods, the project area was inspected systematically for any evidence of human activities dating to the prehistoric or historic period (i.e., 50 years or older) to the best of the field crew's ability. Ground visibility was generally poor to fair (30 to 40 percent) because large quantities of living and dead vegetation obscured the surface over much of the property.

RESULTS AND FINDINGS

RECORDS SEARCH

The records search results indicate that the project area had not been surveyed for cultural resources prior to this study and that no cultural resources had been recorded within or adjacent to project boundaries. Within the half-mile scope of the records search, only two previous studies, both of them carried out in 2003 and focused on the Coachella Canal (Figure 5), have been reported to the EIC. Also within the half-mile radius, EIC records identify a total of eight known cultural resources, including seven sites and an isolate (i.e., a locality with fewer than three artifacts), as listed in Table 1.

As Table 1 shows, five of the seven sites were of prehistoric (i.e., Native American) origin, as was the isolate. These six localities consisted primarily of scattered lithic and ceramic artifacts and cleared rock circles (see Appendix 3 for further information). The nearest among these was Site 33-004079, which was recorded in 1990 as a lithic and ceramic scatter with 16 cleared circles located a few hundred feet to the southeast of the project area (see Appendix 3). The other two sites dated to

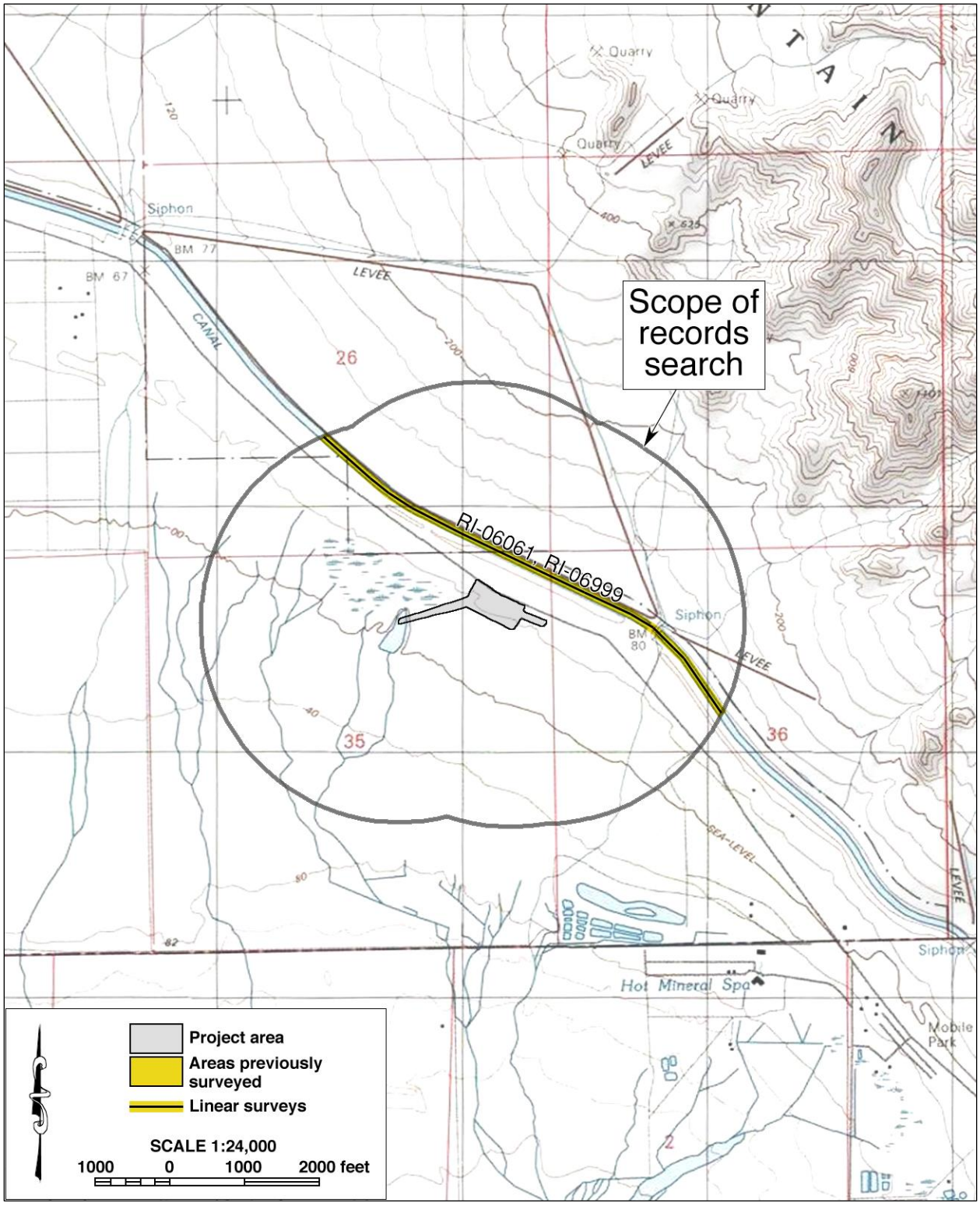

Figure 5. Previous cultural resources studies in the vicinity of the project area, listed by EIC file number.

Table 1. Previously Recorded Cultural Resources within the Scope of the Records Search (See Appendix 3 for locations and further information)		
Resource No.	**Recorded by/Date**	**Description**
33-001152	Smith 1977	Isolate: two buffware ceramic sherds
33-004077 (CA-RIV-4077)	Wilcox 1990	Lithic scatter and rock circle
33-004078 (CA-RIV-4078)	Wilcox 1990	Lithic scatter and rock circle
33-004079 (CA-RIV-4079)	Wilcox 1990	Lithic scatter and 16 rock circles
33-004082 (CA-RIV-4082)	Wilcox 1990	Lithic and ceramic scatter
33-004083 (CA-RIV-4083)	Wilcox 1990	Cleared rock circle
33-005705	Various 1983-2017	Coachella Canal
33-023792 (CA-RIV-11686)	Various 2012	Network of dirt roads

the historic period and represented the Coachella Canal and a network of dirt roads (see Appendix 3). None of these known cultural resources were found within or immediately adjacent to the project area, and thus none of them require further consideration during this study.

HISTORICAL BACKGROUND RESEARCH

Historic maps consulted for this study suggest that the project area is relatively low in sensitivity for cultural resources from the historic period. In the 1850s, when the U.S. government conducted the first systematic land surveys in California, no evidence of any human activities was observed in the project vicinity (Figure 6). By 1940, the Coachella Canal, then under construction, and an accompanying access road (now Coachella Canal Road) had become the nearest human-made features (Figure 7). Throughout the historic period, the entire project area was evidently unsettled and developed, as it has remained to the present time (Figures 2, 8; NETR Online 1953-2018; Google Earth 1996-2021).

NATIVE AMERICAN PARTICIPATION

In response to CRM TECH's inquiry, the NAHC reported in a letter dated March 28, 2022, that the Sacred Lands File identified no Native American cultural resources in the project vicinity but recommended that local Native American groups be contacted for further information. For that purpose, NAHC provided a list of potential contacts in the region (see Appendix 2). Upon receiving NAHC's reply, CRM TECH sent written requests for comments to all 12 Native American groups on the referral list. For some of the tribes, the designated spokespersons on cultural resources issues were contacted in lieu of the tribal political leaders on the referral list, as recommended in the past by the tribal government staff. The 12 tribal representatives contacted during this study are listed below:

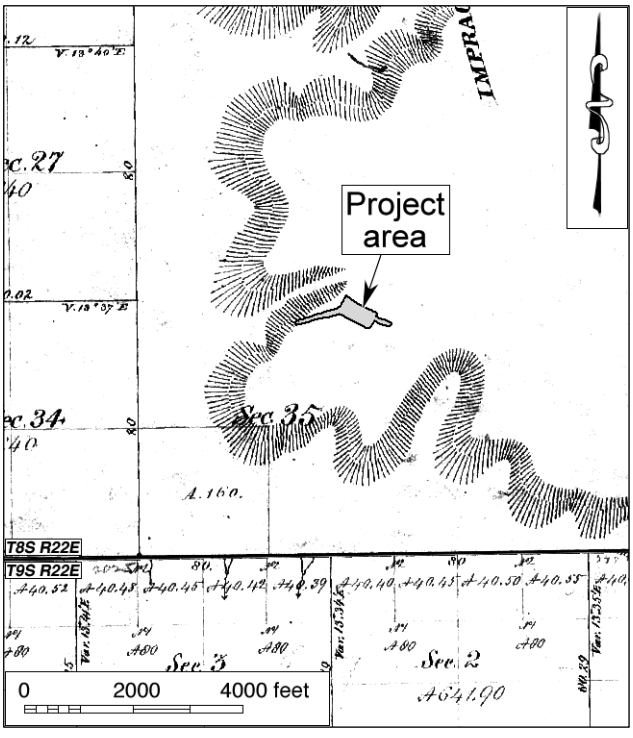

Figure 6. The project area and vicinity in 1855-1856. (Source: GLO 1856)

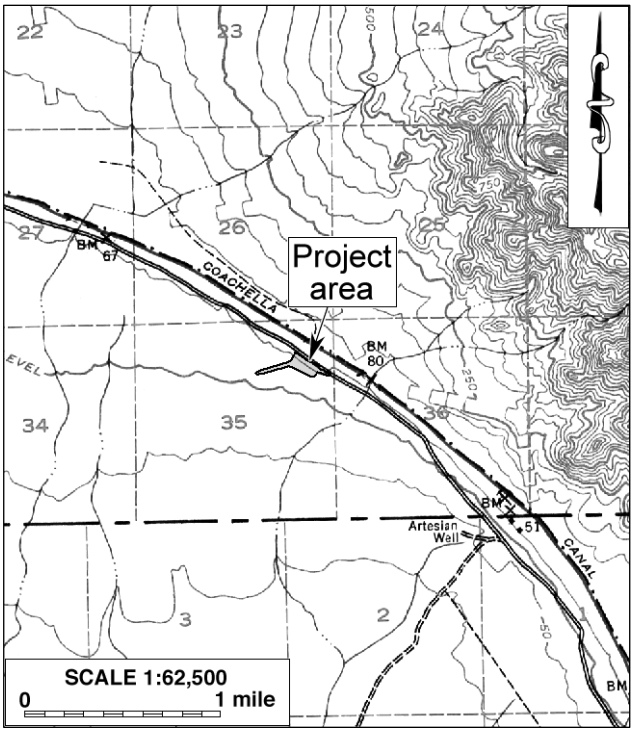

Figure 7. The project area and vicinity in 1940. (Source: USGS 1940)

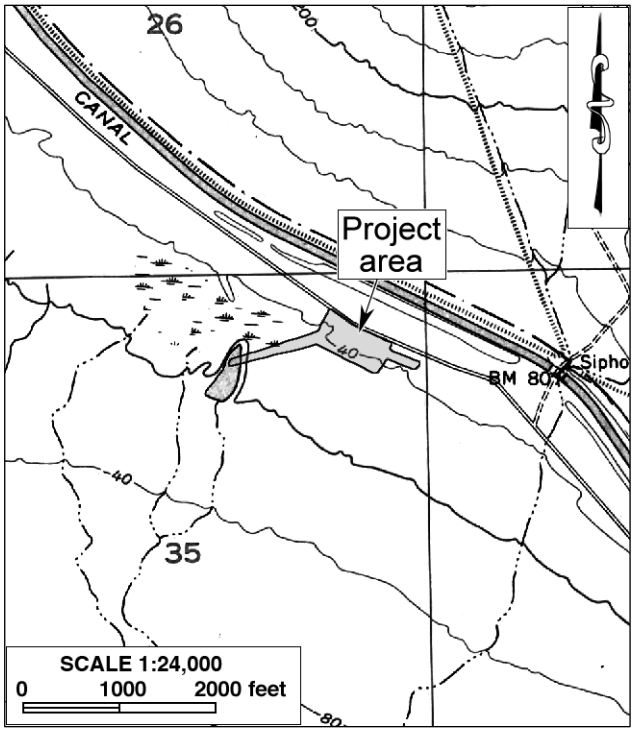

Figure 8. The project area and vicinity in 1953. (Source: USGS 1956)

- Patricia Garcia-Plotkin, Tribal Historic Preservation Officer (THPO), Agua Caliente Band of Cahuilla Indians;
- Amanda Vance, Chairperson, Augustine Band of Cahuilla Indians;
- Michael Mirelez, Director of Cultural Affairs, Cabazon Band of Mission Indians;
- BobbyRay Esparza, Cultural Coordinator, Cahuilla Band of Indians;
- Ray Chapparosa, Chairperson, Los Coyotes Band of Cahuilla and Cupeño Indians;
- Ann Brierty, THPO, Morongo Band of Mission Indians;
- Jill McCormick, THPO, Quechan Tribe of the Fort Yuma Reservation;
- John Gomez, Jr., Cultural Resource Coordinator, Ramona Band of Cahuilla Indians;
- Vanessa Minott, Tribal Administrator, Santa Rosa Band of Cahuilla Indians;
- Joseph Ontiveros, THPO, Soboba Band of Luiseño Indians;
- Alesia Reed, Cultural Chair, Torres Martinez Desert Cahuilla Indians;
- Sarah Bliss, Cultural Resources Manager, Twenty-Nine Palms Band of Mission Indians.

As of this time, five of the 12 tribes have responded to the inquiry in writing (see Appendix 2). Among them, the Morongo Band and the Santa Rosa Band deferred further consultation to other tribes located in closer proximity, with the Santa Rosa Band naming specifically the Torres Martinez band. The Augustine Band stated that they were unaware of any Native American cultural resources in or near the project area but requested immediate notification if such resources were discovered. The Agua Caliente Band requested copies of all cultural resource documentation generated in association with this project for tribal review as well as the presence of approved Agua Caliente Native American Cultural Resource Monitor(s) during any ground-disturbing activities in the project area.

In e-mail responses dated April 1 and 5 and during the subsequent meeting, Gary Resvaloso, Jr., of the Torres Martinez Desert Cahuilla Indians emphasized that the project area was a part of the Desert Cahuilla cultural landscape and discussed the presence of known Native American cultural remains nearby. Based on those factors, Mr. Resvaloso expressed concerns over the possibility of finding subsurface cultural deposits of prehistoric origin in the project area.

FIELD SURVEY

The field survey of the project area produced negative results, and no potentially significant cultural resources were encountered. A shallow pond with earthen berms around the perimeter, located at the western end of the project area, evidently dates to the 1950s (Figure 8; NETR Online 1953). However, this rudimentary infrastructure feature, clearly re-excavated repeatedly over the years, does not demonstrate any distinctively historical characteristics to relate to the 1950s era. More than 25 rusty, bullet-ridden cans of late 20th century character were noted in the project area, but these modern artifacts retain little historical/archaeological interest. As noted above, due to the presence of pockets of dense vegetation growth, both survey access and ground visibility were limited in portions of the project area. The result of the field survey, therefore, reflects only the condition of the portions that could be surveyed adequately.

DISCUSSION

CEQA establishes that "a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment" (PRC §21084.1). "Substantial adverse change," according to PRC §5020.1(q), "means demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired." As defined by PRC §5020.1(j), "'historical resource' includes, but is not limited to, any object, building, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California."

More specifically, CEQA guidelines state that the term "historical resources" applies to any such resources listed in or determined to be eligible for listing in the California Register of Historical Resources, included in a local register of historical resources, or determined to be historically significant by the lead agency (Title 14 CCR §15064.5(a)(1)-(3)). Regarding the proper criteria of historical significance, CEQA guidelines mandate that "generally a resource shall be considered by the lead agency to be 'historically significant' if the resource meets the criteria for listing on the California Register of Historical Resources" (Title 14 CCR §15064.5(a)(3)). A resource may be listed in the California Register if it meets any of the following criteria:

(1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
(2) Is associated with the lives of persons important in our past.
(3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
(4) Has yielded, or may be likely to yield, information important in prehistory or history. (PRC §5024.1(c))

As discussed above, no potential "historical resources" were previously recorded within the project area, and none were found during the present survey. However, the survey efforts in portions of the project area were hampered by both the lack of sufficient access and poor ground visibility resulting from dense vegetation growth. Meanwhile, the records search results indicate that five archaeological sites and one isolate of prehistoric origin were previously recorded within a half-mile radius, including a site located a few hundred feet from the project location. In light of these past discoveries, the possibility of prehistoric cultural remains concealed by the vegetation cannot be ruled out despite the negative finding on the rest of the property.

CONCLUSION AND RECOMMENDATIONS

In summary, the present study has not encountered any significant cultural resources within the project area, but the reliability of this finding is hampered by the limited access and poor ground visibility resulting from pockets of dense vegetation growth over portions of the property. Based on the research results summarized above, and in response to Native American input received during this study, CRM TECH recommends that the proposed project be cleared to proceed in compliance with CEQA provisions on cultural resources under the following conditions, as formulated by the County of Riverside:

- **Cultural Resource Monitoring Program** Prior to issuance of grading permits, the applicant/developer shall provide evidence to the County of Riverside Planning Department that a County-certified professional archaeologist has been contracted to implement a Cultural Resource Monitoring Program (CRMP). A CRMP shall be developed that addresses the details of all activities and provides procedures that must be followed in order to prevent impacts to undiscovered buried archaeological resources or reduce such impacts to a level that is less than significant. This document shall be provided to the County Archaeologist for review and approval prior to issuance of the grading permit. The CRMP shall contain at a minimum the following:
  - **Archaeological Monitor** An adequate number of qualified archaeological monitors shall be onsite to ensure all earth-moving activities are observed for areas being monitored. This includes all grubbing, grading, and trenching onsite and for all offsite improvements. Inspections will vary based on the rate of excavation, the materials excavated, and the presence and abundance of artifacts and features. The frequency and location of inspections will be determined and directed by the Project Archaeologist.
  - **Cultural and Tribal Sensitivity Training** The Project Archaeologist and a representative designated by the Tribes shall attend the pre-grading meeting with the contractors to provide Cultural Sensitivity Training for all construction personnel. Training will include a brief review of the cultural sensitivity of the project and the surrounding area; the areas to be avoided during grading activities; what resources could potentially be identified during earth-moving activities; the requirements of the monitoring program; the protocols that apply in the event unanticipated cultural resources are identified, including whom to contact and appropriate avoidance measures until the find(s) can be properly evaluated; and any other appropriate protocols. This is a *mandatory* training and all construction personnel must attend prior to beginning work on the project site. A sign-in sheet for attendees of this training shall be included in the Phase IV Monitoring Report.

    - **Unanticipated Resources** In the event that previously unidentified potentially significant cultural resources are discovered, the Archaeological and/or Tribal Monitor(s) shall have the authority to divert or temporarily halt ground disturbance in the area within 100 feet of the discovery to allow evaluation of potentially significant cultural resources. The Project Archaeologist, in consultation with the Tribal Monitor, shall determine the significance of the discovered resources. The County Archaeologist must concur with the evaluation before construction activities will be allowed to resume in the affected area. Further, before construction activities are allowed to resume in the affected area, the artifacts shall be recovered and features recorded using professional archaeological methods. The Project Archaeologist shall determine the amount of material to be recovered for an adequate artifact sample for analysis. Isolates and clearly non-significant deposits shall be minimally documented in the field and the monitored grading can proceed.
    - **Artifact Disposition** the landowner(s) shall relinquish ownership of all cultural resources that are unearthed in the project area during any ground-disturbing activities, including previous investigations and/or Phase III data recovery.
    - **Modification to Monitoring Program** The Project Archaeologist may submit a detailed letter to the County of Riverside during grading requesting a modification to the monitoring program if circumstances are encountered that reduce the need for monitoring.
- **Native American Monitoring** Prior to the issuance of grading permits, the applicant/developer shall enter into an agreement with the consulting tribe(s) for a Native American Monitor.
    - The Native American Monitor(s) shall be on-site during all initial ground-disturbing activities and excavation of each portion of the project site including clearing, grubbing, tree removals, grading, and trenching. In conjunction with the Archaeological Monitor(s), the Native American Monitor(s) shall have the authority to temporarily divert, redirect, or halt the ground disturbance to allow identification, evaluation, and potential recovery of cultural resources.
    - The applicant/developer shall submit a fully executed copy of the agreement to the County Archaeologist to ensure compliance with this condition of approval. Upon verification, the Archaeologist shall clear this condition.
    - This agreement shall not modify any condition of approval or mitigation measure.
- **Discovery of Human Remains** Pursuant to California Health and Safety Code §7050.5, if human remains are encountered, no further disturbance shall occur until the County Coroner has made the necessary findings as to origin. Further, pursuant to PRC §5097.98(b), remains shall be left in place and free from disturbance until a final decision as to the treatment and their disposition has been made. If the Riverside County Coroner determines the remains to be Native American, the NAHC shall be contacted by the Coroner within the period specified by law (24 hours). Subsequently, the NAHC shall identify the "Most Likely Descendant." The Most Likely Descendant shall then make recommendations and engage in consultation with the property owner concerning the treatment of the remains as provided in PRC §5097.98.
- **Cultural Resources Monitoring Report** Prior to Grading Permit Final Inspection, a Phase IV Cultural Resources Monitoring Report shall be submitted that complies with the Riverside County Planning Department's requirements for such reports for all ground-disturbing activities associated with this grading permit. The report shall follow the County of Riverside Planning Department Cultural Resources (Archaeological) Investigations Standard Scopes of Work posted on the TLMA website. The report shall include results of any artifact analysis required as well as evidence of the required cultural sensitivity training for the construction staff held during the

required pre-grade meeting and evidence that any artifacts have been treated in accordance to procedures stipulated in the CRMP.

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

DATE: June 1, 2022

SIGNED: _____
Name: Bai "Tom" Tang
County Registration No.: 114

REFERENCES

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1856a Plat Map: Township No. 8 South Range No. 12 East, San Bernardino Meridian; surveyed in 1855-1856.
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USGS (United States Geological Survey, U.S. Department of the Interior)
1940 Map: Frink, Calif. (15', 1:62,500); aerial photographs taken in 1940.
1956 Map: Frink NW, Calif. (7.5', 1:24,000); aerial photographs taken in 1953.
1969 Map: Salton Sea, Calif.-Ariz. (120'x60', 1:250,000); 1959 edition revised.
1998 Map: Frink NW, Calif. (7.5', 1:24,000); 1956 edition photorevised in 1989.

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1978 *Late Prehistoric Human Ecology at Lake Cahuilla, Coachella Valley, California*. Contributions of the University of California Archaeological Research Facility 38. University of California, Berkeley.

APPENDIX 1
PERSONNEL QUALIFICATIONS

PRINCIPAL INVESTIGATOR/HISTORIAN
Bai "Tom" Tang, M.A.

Education

1988-1993	Graduate Program in Public History/Historic Preservation, University of California, Riverside.
1987	M.A., American History, Yale University, New Haven, Connecticut.
1982	B.A., History, Northwestern University, Xi'an, China.
2000	"Introduction to Section 106 Review," presented by the Advisory Council on Historic Preservation and the University of Nevada, Reno.
1994	"Assessing the Significance of Historic Archaeological Sites," presented by the Historic Preservation Program, University of Nevada, Reno.

Professional Experience

2002-	Principal Investigator, CRM TECH, Riverside/Colton, California.
1993-2002	Project Historian/Architectural Historian, CRM TECH, Riverside, California.
1993-1997	Project Historian, Greenwood and Associates, Pacific Palisades, California.
1991-1993	Project Historian, Archaeological Research Unit, University of California, Riverside.
1990	Intern Researcher, California State Office of Historic Preservation, Sacramento.
1990-1992	Teaching Assistant, History of Modern World, University of California, Riverside.
1988-1993	Research Assistant, American Social History, University of California, Riverside.
1985-1988	Research Assistant, Modern Chinese History, Yale University.
1985-1986	Teaching Assistant, Modern Chinese History, Yale University.
1982-1985	Lecturer, History, Xi'an Foreign Languages Institute, Xi'an, China.

Cultural Resources Management Reports

Preliminary Analyses and Recommendations Regarding California's Cultural Resources Inventory System (with Special Reference to Condition 14 of NPS 1990 Program Review Report). California State Office of Historic Preservation working paper, Sacramento, September 1990.

Numerous cultural resources management reports with the Archaeological Research Unit, Greenwood and Associates, and CRM TECH, since October 1991.

PRINCIPAL INVESTIGATOR/ARCHAEOLOGIST
Michael Hogan, Ph.D., RPA (Registered Professional Archaeologist)

Education

1991	Ph.D., Anthropology, University of California, Riverside.
1981	B.S., Anthropology, University of California, Riverside; with honors.
1980-1981	Education Abroad Program, Lima, Peru.

2002	"Section 106—National Historic Preservation Act: Federal Law at the Local Level," UCLA Extension Course #888.
2002	"Recognizing Historic Artifacts," workshop presented by Richard Norwood, Historical Archaeologist.
2002	"Wending Your Way through the Regulatory Maze," symposium presented by the Association of Environmental Professionals.
1992	"Southern California Ceramics Workshop," presented by Jerry Schaefer.
1992	"Historic Artifact Workshop," presented by Anne Duffield-Stoll.

Professional Experience

2002-	Principal Investigator, CRM TECH, Riverside/Colton, California.
1999-2002	Project Archaeologist/Field Director, CRM TECH, Riverside, California.
1996-1998	Project Director and Ethnographer, Statistical Research, Inc., Redlands, California.
1992-1998	Assistant Research Anthropologist, University of California, Riverside.
1992-1995	Project Director, Archaeological Research Unit, U.C. Riverside.
1993-1994	Adjunct Professor, Riverside Community College, Mt. San Jacinto College, U.C. Riverside, Chapman University, and San Bernardino Valley College.
1991-1992	Crew Chief, Archaeological Research Unit, U.C. Riverside.
1984-1998	Project Director, Field Director, Crew Chief, and Archaeological Technician for various southern California cultural resources management firms.

Research Interests

Cultural Resource Management, Southern Californian Archaeology, Settlement and Exchange Patterns, Specialization and Stratification, Culture Change, Native American Culture, Cultural Diversity.

Cultural Resources Management Reports

Principal investigator for, author or co-author of, and contributor to numerous cultural resources management study reports since 1986.

Memberships

Society for American Archaeology; Society for California Archaeology; Pacific Coast Archaeological Society; Coachella Valley Archaeological Society.

PROJECT ARCHAEOLOGIST/FIELD DIRECTOR
Daniel Ballester, M.S., RPA (Registered Professional Archaeologist)

Education

2013	M.S., Geographic Information System (GIS), University of Redlands, California.
1998	B.A., Anthropology, California State University, San Bernardino.
1997	Archaeological Field School, University of Las Vegas and University of California, Riverside.
1994	University of Puerto Rico, Rio Piedras, Puerto Rico.

Professional Experience

2002-	Field Director/GIS Specialist, CRM TECH, Riverside/Colton, California.
2011-2012	GIS Specialist for Caltrans District 8 Project, Garcia and Associates, San Anselmo, California.
2009-2010	Field Crew Chief, Garcia and Associates, San Anselmo, California.
2009-2010	Field Crew, ECorp, Redlands.
1999-2002	Project Archaeologist, CRM TECH, Riverside, California.
1998-1999	Field Crew, K.E.A. Environmental, San Diego, California.
1998	Field Crew, A.S.M. Affiliates, Encinitas, California.
1998	Field Crew, Archaeological Research Unit, University of California, Riverside.

PROJECT ARCHAEOLOGIST
Hunter C. O'Donnell, B.A.

Education

2016-	M.A. Program, Applied Archaeology, California State University, San Bernardino.
2015	B.A. (*cum laude*), Anthropology, California State University, San Bernardino.
2012	A.A., Social and Behavioral Sciences, Mt. San Antonio College, Walnut, California.
2011	A.A., Natural Sciences and Mathematics, Mt. San Antonio College, Walnut, California.

Professional Experience

2017-	Project Archaeologist, CRM TECH, Colton, California.
2016-2018	Graduate Research Assistant, Applied Archaeology, California State University, San Bernardino.
2016-2017	Cultural Intern, Cultural Department, Pechanga Band of Luiseño Indians, Temecula, California.
2015	Archaeological Intern, U.S. Bureau of Land Management, Barstow, California.
2015	Peer Research Consultant: African Archaeology, California State University, San Bernardino.

APPENDIX 2

CORRESPONDENCE WITH NATIVE AMERICAN REPRESENTATIVES*

* Twelve local Native American representatives were contacted during this study; a sample letter is included in this appendix.

SACRED LANDS FILE & NATIVE AMERICAN CONTACTS LIST REQUEST

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Boulevard, Suite 100
West Sacramento, CA 95691
(916)373-3710
(916)373-5471 (Fax)
nahc@nahc.ca.gov

Project: Global Water Farms Pilot Project; a Portion of Assessor's Parcel Number 731-170-001 (CRM TECH No. 3836A)

County: Riverside

USGS Quadrangle Name: Frink NW, Calif.

Township 8 South **Range** 12 East SB **BM; Section(s)**: 35

Company/Firm/Agency: CRM TECH

Contact Person: Nina Gallardo

Street Address: 1016 E. Cooley Drive, Suite A/B

City: Colton, CA **Zip:** 92324

Phone: (909) 824-6400 **Fax:** (909) 824-6405

Email: ngallardo@crmtech.us

Project Description: The primary component of the project is to develop a water farm on an approximately 9.5-acre portion of APN 731-170-001 located approximately one mile northwest of the Glamis North Hot Springs Resort and approximately eight miles east of the Salton Sea, in Riverside County, California.

February 8, 2022

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

March 28, 2022

Nina Gallardo
CRM TECH

Via Email to: ngallardo@crmtech.us

Re: Proposed Global Water Farms Pilot Project, Riverside County

Dear Ms. Gallardo:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Riverside County
3/28/2022

Agua Caliente Band of Cahuilla Indians
Patricia Garcia-Plotkin, Director
5401 Dinah Shore Drive — Cahuilla
Palm Springs, CA, 92264
Phone: (760) 699 - 6907
Fax: (760) 699-6924
ACBCI-THPO@aguacaliente.net

Agua Caliente Band of Cahuilla Indians
Jeff Grubbe, Chairperson
5401 Dinah Shore Drive — Cahuilla
Palm Springs, CA, 92264
Phone: (760) 699 - 6800
Fax: (760) 699-6919

Augustine Band of Cahuilla Mission Indians
Amanda Vance, Chairperson
P.O. Box 846 — Cahuilla
Coachella, CA, 92236
Phone: (760) 398 - 4722
Fax: (760) 369-7161
hhaines@augustinetribe.com

Cabazon Band of Mission Indians
Doug Welmas, Chairperson
84-245 Indio Springs Parkway — Cahuilla
Indio, CA, 92203
Phone: (760) 342 - 2593
Fax: (760) 347-7880
jstapp@cabazonindians-nsn.gov

Cahuilla Band of Indians
Daniel Salgado, Chairperson
52701 U.S. Highway 371 — Cahuilla
Anza, CA, 92539
Phone: (951) 763 - 5549
Fax: (951) 763-2808
Chairman@cahuilla.net

Los Coyotes Band of Cahuilla and Cupeño Indians
Ray Chapparosa, Chairperson
P.O. Box 189 — Cahuilla
Warner Springs, CA, 92086-0189
Phone: (760) 782 - 0711
Fax: (760) 782-0712

Morongo Band of Mission Indians
Robert Martin, Chairperson
12700 Pumarra Road — Cahuilla, Serrano
Banning, CA, 92220
Phone: (951) 755 - 5110
Fax: (951) 755-5177
abrierty@morongo-nsn.gov

Morongo Band of Mission Indians
Ann Brierty, THPO
12700 Pumarra Road — Cahuilla, Serrano
Banning, CA, 92220
Phone: (951) 755 - 5259
Fax: (951) 572-6004
abrierty@morongo-nsn.gov

Quechan Tribe of the Fort Yuma Reservation
Jill McCormick, Historic Preservation Officer
P.O. Box 1899 — Quechan
Yuma, AZ, 85366
Phone: (760) 572 - 2423
historicpreservation@quechantribe.com

Quechan Tribe of the Fort Yuma Reservation
Manfred Scott, Acting Chairman
Kw'ts'an Cultural Committee
P.O. Box 1899 — Quechan
Yuma, AZ, 85366
Phone: (928) 750 - 2516
scottmanfred@yahoo.com

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Proposed Global Water Farms Pilot Project, Riverside County.

Ramona Band of Cahuilla
Joseph Hamilton, Chairperson
P.O. Box 391670 Cahuilla
Anza, CA, 92539
Phone: (951) 763 - 4105
Fax: (951) 763-4325
admin@ramona-nsn.gov

Ramona Band of Cahuilla
John Gomez, Environmental Coordinator
P. O. Box 391670 Cahuilla
Anza, CA, 92539
Phone: (951) 763 - 4105
Fax: (951) 763-4325
jgomez@ramona-nsn.gov

Santa Rosa Band of Cahuilla Indians
Lovina Redner, Tribal Chair
P.O. Box 391820 Cahuilla
Anza, CA, 92539
Phone: (951) 659 - 2700
Fax: (951) 659-2228
lsaul@santarosa-nsn.gov

Soboba Band of Luiseno Indians
Isaiah Vivanco, Chairperson
P. O. Box 487 Cahuilla
San Jacinto, CA, 92581 Luiseno
Phone: (951) 654 - 5544
Fax: (951) 654-4198
ivivanco@soboba-nsn.gov

Soboba Band of Luiseno Indians
Joseph Ontiveros, Cultural Resource Department
P.O. BOX 487 Cahuilla
San Jacinto, CA, 92581 Luiseno
Phone: (951) 663 - 5279
Fax: (951) 654-4198
jontiveros@soboba-nsn.gov

Torres-Martinez Desert Cahuilla Indians
Michael Mirelez, Cultural Resource Coordinator
P.O. Box 1160 Cahuilla
Thermal, CA, 92274
Phone: (760) 399 - 0022
Fax: (760) 397-8146
mmirelez@tmdci.org

Twenty-Nine Palms Band of Mission Indians
Darrell Mike, Chairperson
46-200 Harrison Place Chemehuevi
Coachella, CA, 92236
Phone: (760) 863 - 2444
Fax: (760) 863-2449
29chairman@29palmsbomi-nsn.gov

Twenty-Nine Palms Band of Mission Indians
Anthony Madrigal, Tribal Historic Preservation Officer
46-200 Harrison Place Chemehuevi
Coachella, CA, 92236
Phone: (760) 775 - 3259
amadrigal@29palmsbomi-nsn.gov

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Proposed Global Water Farms Pilot Project, Riverside County.

March 31, 2022

RE: Proposed Global Water Farms Pilot Project Site
Approximately Five Acres near the Salton Sea
Riverside County, California
CRM TECH Contract #3836A

Dear Tribal Representative:

I am writing to bring your attention to an ongoing CEQA-compliance study for the proposed project referenced above. The project entails the construction of a water desalination facility on approximately five acres of undeveloped land located approximately eight miles east of the Salton Sea and one mile northwest of the Glamis North Hot Springs Resort, in Riverside County, California. The accompanying map, based on the USGS Frink NW, Calif., 7.5' quadrangle, depicts the project area in Section 35, T8S R12E, SBBM.

A recent Sacred Lands File search by the Native American Heritage Commission (NAHC) produced negative results, but the commission recommended contacting local Native American groups for further information (see attached). Therefore, as part of the cultural resources study for this project, I am writing to inquire about any specific knowledge you may have of sacred/religious or other sites of Native American traditional cultural value in or near the project area, or any other information to consider during our cultural resources investigations. Any information or concerns may be forwarded to CRM TECH by telephone, e-mail, facsimile, or standard mail. Requests for documentation or information we cannot provide will be forwarded to our client and/or the lead agency, namely the County of Riverside.

We would also like to clarify that, as the cultural resources consultant for the project, CRM TECH is not involved in the AB 52-compliance process or in government-to-government consultations. The purpose of this letter is to seek any information that you may have to help us determine if there are cultural resources in or near the project area that we should be aware of and to help us assess the sensitivity of the project area. Thank you for your time and effort in addressing this important matter.

Respectfully,

Nina Gallardo
Project Archaeologist/Native American liaison
CRM TECH
Email: ngallardo@crmtech.us

Encl.: NAHC response letter and project location map

From: Vanessa Minott <vminott@santarosa-nsn.gov>
Sent: Thursday, March 31, 2022 11:51 AM
To: ngallardo@crmtech.us
Subject: NA Scoping Letter for the Proposed Global Water Farms Pilot Project Site, Five Acres near the Salton Sea, Riverside County (CRM TECH No. 3836A)

Acha'i Tamit,

Please note that Santa Rosa does not have any comment and defer any comments to Torres Martinez Band of Cahuilla Indians.

Respectfully,
Vanessa Minott

Tribal Administrator
Santa Rosa Band of Cahuilla Indians
W - 951-659-2700 ext. 102
C – 760-668-0460
F – 951-659-2228
65199 State Hwy. 74
Mountain Center, CA 92561
P.O. Box 391820
Anza, CA 92539

From: GW Res <grestmtm@gmail.com>
Sent: Friday, April 1, 2022 8:53 AM
To: ngallardo@crmtech.us
Cc: Cultural Committee; Mary Belardo; TM Rlopez; TM TTortez; Michael Hogan; Daniel Ballester; Beverlyann Cedeno; Joseph Lavergne; Alesia Reed
Subject: RE: NA Scoping Letter for the Proposed Global Water Farms Pilot Project Site, Five Acres near the Salton Sea, Riverside County (CRM TECH No. 3836A)

Good morning

I am responding on behalf of the Torres Martinez Cultural Committee this project fall within our Tribe's Traditional landuse area and we are requesting proper Tribal Consultation to address any questions comments or concerns our Tribe may have on the potential impacts and proper mitigation to our Tribal Cultural Resource which may be located within this Project's Area of Potential impacts.

Our Cultural Committee is requesting a meeting for further discussion regarding this matter.

Our next scheduled Cultural Committee meeting is April 21, 2022 at our Torres Martinez Tribal Administration 12pm.

Please let us know at your earliest convenience if this works for you and your time if not we can work out the details to schedule another date and time.

We appreciate your time and effort in helping us protect our Tribes Traditional Cultural Resource

Any questions comments or concerns please feel free to contact us.

Respectfully

Gary Wayne Resvaloso Jr
Torres Martinez Desert Cahuilla Indians MLD
70-555 Pierce St
Thermal Ca, 92274
(442) 256-2964
grestmtm@gmail.com

Our lives begin to end the day we become silent about things that matter.
Martin Luther King Jr.

From: ngallardo@crmtech.us
Sent: Friday, April 1, 2022 2:26 PM
To: 'GW Res'
Cc: 'mhogan@crmtech.us'; 'dballester@crmtech.us'
Subject: RE: NA Scoping Letter for the Proposed Global Water Farms Pilot Project Site, Five Acres near the Salton Sea, Riverside County (CRM TECH No. 3836A)

Hello Gary,

Thank you for your response regarding the Global Water Farms Pilot Project Site near the Salton Sea (CRM TECH #3836A). CRM TECH can attend the meeting with the Cultural Committee at the Torres Martinez Tribal Administration on April 21st at 12 pm.

Thank you for your time and input on this project.

Nina Gallardo
(909) 824-6400 (phone)
(909) 824-6405 (fax)
CRM TECH
1016 E. Cooley Drive, Ste. A/B
Colton, CA 92324

From: GW Res <grestmtm@gmail.com>
Sent: Tuesday, April 5, 2022 1:52 PM
To: ngallardo@crmtech.us
Cc: Mary Belardo; Cultural Committee; Joseph Lavergne; Alesia Reed
Subject: RE: NA Scoping Letter for the Proposed Global Water Farms Pilot Project Site, Five Acres near the Salton Sea, Riverside County (CRM TECH No. 3836A)

This area is out the boundaries of our Prehistoric settlement pattern so it would be part our landuse area.

The closest site currently know of would be located around the Dos Palmas Preserve area which would include the old Indian trail later becoming the wagon trail.

This would be the reason we are requesting the EIC back ground information to help guide us during consultation.

Let us review the information you send and get back to you.

We appreciate your time and effort in helping us protect our Tribes Traditional Cultural Resource

Any questions comments or concerns please feel free to contact us.

Respectfully

Gary Wayne Resvaloso Jr
Torres Martinez Desert Cahuilla Indians MLD
70-555 Pierce St
Thermal Ca, 92274
(442) 256-2964
grestmtm@gmail.com

AUGUSTINE BAND OF CAHUILLA INDIANS
PO Box 846 84-481 Avenue 54 Coachella CA 92236
Telephone: (760) 398-4722
Fax (760) 369-7161
Tribal Chairperson: Amanda Vance
Tribal Vice-Chairperson: Victoria Martin
Tribal Secretary: Geramy Martin

Date: April 7, 2022

RE: Proposed Global Water Farms Pilot Project Site
Approximately Five Acres Near the Salton Sea
Riverside County, California
CRM TECH Contract #3836A

Dear: Nina Gallardo
Project Archaeologist/Native American liaison

Thank you for the opportunity to offer input concerning the development of the above-identified project. We appreciate your sensitivity to the cultural resources that may be impacted by your project and the importance of these cultural resources to the Native American peoples that have occupied the land surrounding the area of your project for thousands of years. Unfortunately, increased development and lack of sensitivity to cultural resources have resulted in many significant cultural resources being destroyed or substantially altered and impacted. Your invitation to consult on this project is greatly appreciated.

At this time, we are unaware of specific cultural resources that may be affected by the proposed project, however, in the event, you should discover any cultural resources during the development of this project please contact our office immediately for further evaluation.

Very truly yours,

Victoria Martin

Victoria Martin, Tribal Vice-Chairperson
Augustine Band of Cahuilla Indians

TRIBAL HISTORIC PRESERVATION OFFICE

VIA ELECTRONIC MAIL

April 10, 2022

ngallardo@crmtech.us

Nina Gallardo
Native American Liaison
CRM Tech
1016 E. Cooley Drive, Suite A/B
Colton, CA 92324

MORONGO BAND OF MISSION INDIANS
A SOVEREIGN NATION

Re: Proposed Global Water Farms Pilot Project

Dear Ms. Gallardo:

The Morongo Band of Mission Indians (Tribe/MBMI) Tribal Historic Preservation Office is in receipt of the your letter regarding the above referenced project. The proposed Global Water Farms Project is not located within the boundaries of the ancestral territory and traditional use area of the Cahuilla and Serrano people of the Morongo Band of Mission Indians.

Thank you for notifying the MBMI about this project. MBMI encourages your consultation with tribes more closely associated with the lands upon which the project is located.

Respectfully,

Bernadette Ann Brierty

Bernadette Ann Brierty

Tribal Historic Preservation Officer

Morongo Band of Mission Indians

CC: Morongo THPO

AGUA CALIENTE BAND OF CAHUILLA INDIANS

TRIBAL HISTORIC PRESERVATION

03-006-2022-017

April 29, 2022

[VIA EMAIL TO:ngallardo@crmtech.us]
CRM TECH
Ms. Nina Gallardo
1016 E. Cooley Drive, Suite A/B
Colton, CA 92324

Re: Global Water Farms Pilot Project

Dear Ms. Nina Gallardo,

The Agua Caliente Band of Cahuilla Indians (ACBCI) appreciates your efforts to include the Tribal Historic Preservation Office (THPO) in the Global Water Farms project. The project area is not located within the boundaries of the ACBCI Reservation. However, it is within the Tribe's Traditional Use Area. For this reason, the ACBCI THPO requests the following:

*A cultural resources inventory of the project area by a qualified archaeologist prior to any development activities in this area.

*A copy of the records search with associated survey reports and site records from the information center.

*Copies of any cultural resource documentation (report and site records) generated in connection with this project.

*The presence of an approved Cultural Resource Monitor(s) during any ground disturbing activities (including archaeological testing and surveys). Should buried cultural deposits be encountered, the Monitor may request that destructive construction halt and the Monitor shall notify a Qualified Archaeologist (Secretary of the Interior's Standards and Guidelines) to investigate and, if necessary, prepare a mitigation plan for submission to the State Historic Preservation Officer.

*Please provide our office with shapefiles of the APE. They can be emailed to acbci-thpo@aguacaliente.net

Again, the Agua Caliente appreciates your interest in our cultural heritage. If you have questions or require additional information, please call me at (760)699-6956. You may also email me at ACBCI-THPO@aguacaliente.net.

Cordially,

5401 DINAH SHORE DRIVE, PALM SPRINGS, CA 92264
T 760/699/6800 F 760/699/6924 WWW.AGUACALIENTE-NSN.GOV

AGUA CALIENTE BAND OF CAHUILLA INDIANS

TRIBAL HISTORIC PRESERVATION

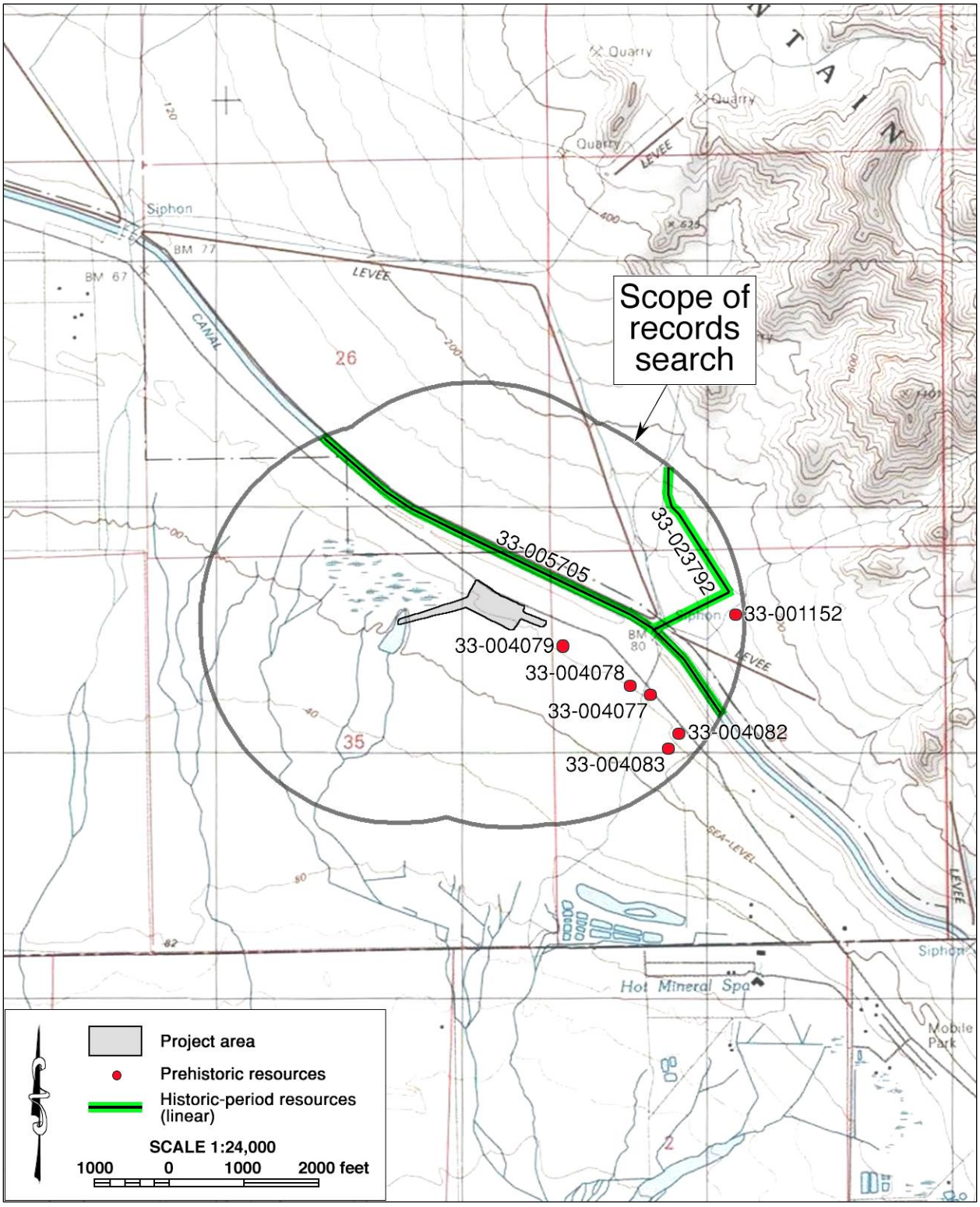
Lacy Padilla
Archaeologist
Tribal Historic Preservation Office
AGUA CALIENTE BAND
OF CAHUILLA INDIANS

5401 DINAH SHORE DRIVE, PALM SPRINGS, CA 92264
T 760/699/6800 F 760/699/6924 WWW.AGUACALIENTE-NSN.GOV

APPENDIX 3

PREVIOUSLY RECORDED CULTURAL RESOURCES WITHIN THE RECORDS SEARCH SCOPE

(Confidential)



Locations of previously recorded cultural resources within the scope of the records search

Riv-1152

UTM 622060ME 3700760MN

SAN BERNARDINO COUNTY MUSEUM
Archeological Site Survey Record

Hot Mineral Spa — Site Name
Riverside — County

1. Site # 3360 2. Quad maps: Frink-15' 15', Frink, N.W. 7½'

3. ____ of ____ of ____ of NE of NW of section 36

Twp. 8S, Rng. 12E, SanBr. Base Meridian. 4. Elevation 160 ft.

5. Location One mile north of Hot Mineral Spa, on Naval Reservation, NE - of Coachella Canal, along dirt road on east side, NE of Siphon 21 of canal.

6. Previous designation for site none

7. Owner US Navy 8. Address

9. Tenants and attitude toward excavation

10. Published references

11. Other museum reference Riv-1152 12. Sketch map yes 13. Photos

14. Date 3/28/77 15. Recorded by Smith 16. Informant

17. Description of site two pottery sherds

18. Dimension

19. Vegetation desert 20. Nearest water canal

21. Soil of site 22. Surrounding soil

23. Cultivation 24. Erosion

25. Buildings, roads, etc. dirt road to west

26. Previous excavation

27. Vandalism

28. Cultural remains two large pottery sherds, Lower Colorado Buff Ware

29. Remarks:

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Permanent Trinomial: CA-Riv- 4077 Supplement ☐

ARCHEOLOGICAL SITE RECORD

Other Designations: BP-1

Page 1 of 5 .

RECEIVED IN NOV 2 1 1990 EIC

1. County: Riverside
2. USGS Quad: Frink NW (7.5') 56 (15') Photorevised 79
3. UTM Coordinates: Zone 11 621760 m Easting 3700220 m Northing ( )
4. Township 8S Range 12E ; SE ¼ of SE ¼ of SW ¼ of NW ¼ of Section 36 Base Mer. SBM ( )
5. Map Coordinates: 292 mmS 230 mmE (from NW corner of map) 6. Elevation 40 feet AMSL ( )
7. Location: 4100 feet west of the intersection of Hot Minerial Spa Road and the Coachella Canal Road; 60 feet south of this point to to the shoreline of Lake Cahuilla. ( )
8. Prehistoric XXX Historic ____ Protohistoric ____ 9. Site Description Light lithic and one rock ring that may or may not be historic ( )
10. Area 4 m(NS)x 2 m(EW) 4.71 m^2. Method of Determination: Tape measure ( )
11. Depth: Unknown cm Method of Determination: Surface survey only. ( )
12. Features: One rock ring. See feature page for drawing. ( )
13. Artifacts: One red/brown andesite porphyry metate fragment. ( )
14. Non-Artifactual Constituents and Faunal Remains: None noted. ( )
15. Date Recorded: 4 November 1990 16. Recorded By: Ray Wilcox ( )
17. Affiliation and Address IVC Museum; 442 Main Street, El Centro, CA 92243 (619) 352-1667 ( )

See Continuation Sheet (X)

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Permanent Trinomial: CA-Riv- 4077 11 90 (Mo. Yr.)

ARCHEOLOGICAL SITE RECORD

Other Designations: BP-1

18. Human Remains: None noted or recorded. ( )

19. Site Disturbances: None at time of recordation; but large wash at west side of wash may destroy this site with the next large storm. ( )

20. Nearest Water (type, distance and direction): Ancient Lake Cahuilla at site. ( )

21. Vegetation Community (site vicinity): Lower Sonoran desert scrub Plant List ( )

22. Vegetation (on site): Same as line 21. ( )

23. Site Soil: Lake Cahuilla shoreline wave terrace. ( )

24. Surrounding Soil: Same. ( )

25. Geology: Andesite gravels and sand -- lacustrine sediments. ( )

26. Landform: Lake shoreline. ( )

27. Slope: 0 to 2% to the south ( ) 28. Exposure: Open. ( )

29. Landowner(s) (and/or tenants) and Address: Oscar Bashford; HCOI Box 26, Niland, CA 92257
(619) 354-1315 ( )

30. Remarks: Metate fragmente collected. Although this metate fratgment was collected, additional artifacts may be found with additional survey. ( )

31. References: None. ( )

32. Name of Project: Bashford Property; RV Resort ( )

33. Type of Investigation: Surface; class III ( )

34. Site Accession Number: 1990-42 Curated At: IVC Museum ( )

35. Photos: No. ( )

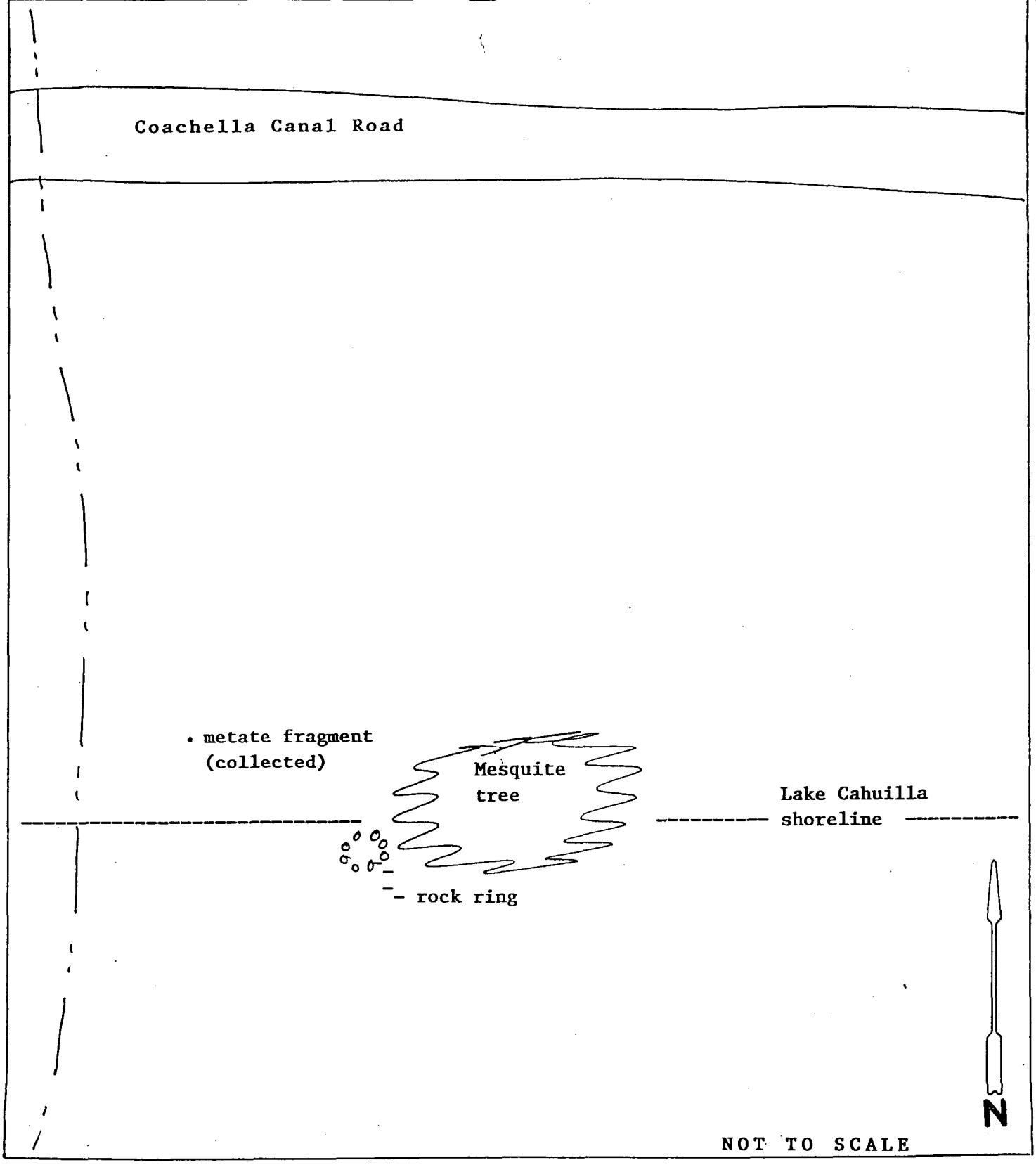
See Continuation Sheet (X)

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

ARCHEOLOGICAL SITE MAP

Permanent Trinomial: CA-Riv-4077 11 | 90 (Mo. Yr.)

Other Designations: BP-1



State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

FEATURE RECORD

Permanent Trinomial: CA-Riv-4077 11 (Mo.) 90 (Yr.)

Other Designations: BP-1

Type of Feature: Roack ring

60cm N/S X 74cm E/W
NOT TO SCALE

N

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

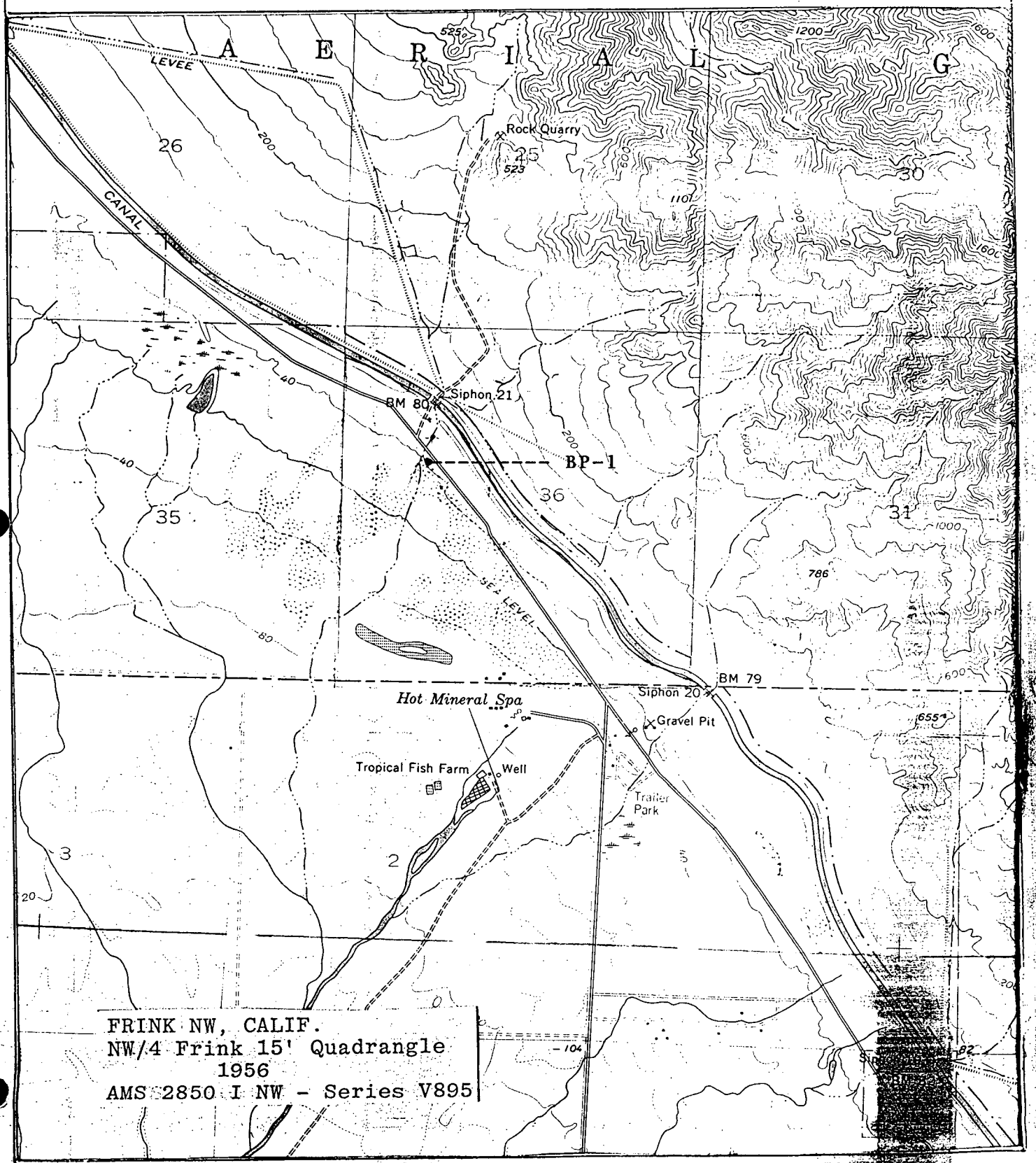
ARCHEOLOGICAL SITE LOCATION MAP

Page 5 of 5.

Permanent Trinomial: CA-Riv-4077 / 11 (mo.) 90 (yr.)

Temporary Number: BP-1

Agency Designation:



State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Permanent Trinomial: CA-Riv-4078 Supplement ☐

ARCHEOLOGICAL SITE RECORD

Other Designations: BP-3

Page 1 of 5.

RECEIVED IN NOV 2 1 1990

1. County: Riverside
2. USGS Quad: Frink NW EIC (7.5') 56 (15') Photorevised 79
3. UTM Coordinates: Zone 11 621700 m Easting 3700260 m Northing ( )
4. Township 8S Range 12E ; SE ¼ of SE ¼ of SW ¼ of NW ¼ of Section 36 Base Mer. SBM ( )
5. Map Coordinates: 292 mmS 227 mmE (from NW corner of map) 6. Elevation 40 feet AMSL ( )
7. Location: 4700 feet west of the intersection of Hot Minerial Spa Road and Coachella Canal Road; 80 feet south of this point.

( )

8. Prehistoric XX Historic ____ Protohistoric ____ 9. Site Description Light lithics and one possible cleared circle.

( )

10. Area 3 m(NS) x 6 m(EW) 7.06 m^2.
Method of Determination: Tape measure ( )
11. Depth: Unknown cm Method of Determination: Surface survey only. ( )
12. Features: One cleared circle. See feature page.

( )

13. Artifacts: Pink andesite porphyry biface chopper (11.3cm L X 6.7cm W X 1.8cm T).
Tan andesite porphyry biface chopper (14.6cm L X 12.7cm W X 6.5cm T).
1 Colorado Buff Ware sherd. All collected. ( )
14. Non-Artifactual Constituents and Faunal Remains: None noted.

( )

15. Date Recorded: 4 November 1990 16. Recorded By: Ray Wilcox ( )
17. Affiliation and Address IVC Museum; 442 Main Street, El Centro, CA 92243
(619) 352-1667 ( )

See Continuation Sheet (X)

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Permanent Trinomial: CA-Riv-4078 11 / 90 (Mo. / Yr.)

ARCHEOLOGICAL SITE RECORD

Other Designations: BP-3

18. Human Remains: None noted. ( )

19. Site Disturbances: None at time of recording.

( )

20. Nearest Water (type, distance and direction): Ancient Lake Cahuilla at site. ( )

21. Vegetation Community (site vicinity): Lower Sonoran desert scrub. Plant List ( )

22. Vegetation (on site): Same.

( )

23. Site Soil: Lake Cahuilla shoreline wave terrace. ( )

24. Surrounding Soil: Same ( )

25. Geology: Andesite gravels and sand -- lacustrine sediments. ( )

26. Landform: Lake shoreline. ( )

27. Slope: 0 to 2% to the south. ( ) 28. Exposure: Open. ( )

29. Landowner(s) (and/or tenants) and Address: Oscar Bashford; HCOI Box 26 Niland, CA 92257

(619) 354-1315 ( )

30. Remarks: Both choppers and sherd collected. However, additional survey is recommended.

( )

31. References: None.

( )

32. Name of Project: Bashford Property; RV Resort

( )

33. Type of Investigation: Surface, class III ( )

34. Site Accession Number: 1990-44 Curated At: IVC Museum ( )

35. Photos: No. ( )

See Continuation Sheet (X)

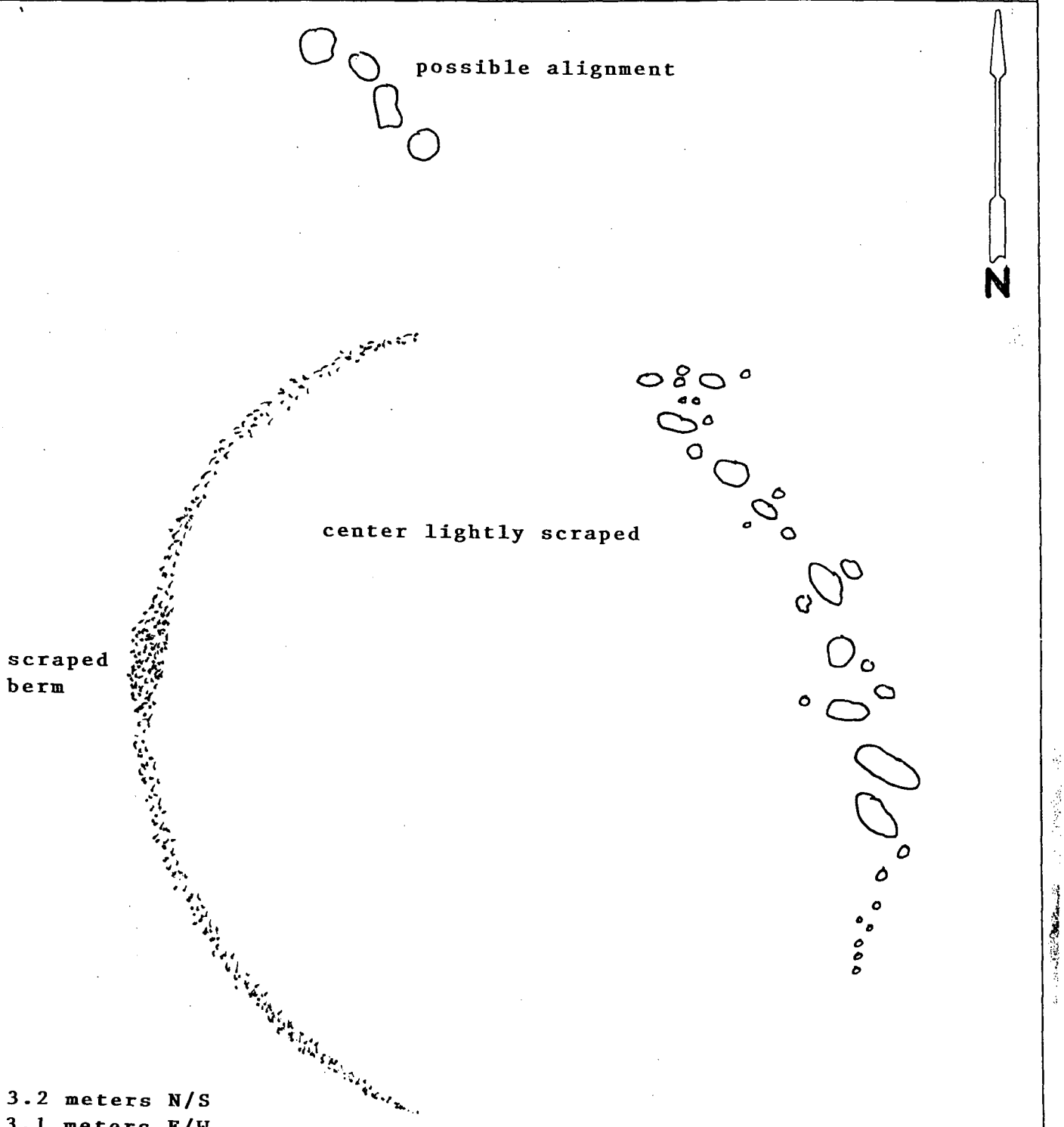
State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

FEATURE RECORD

Permanent Trinomial: CA-Riv- 4078 11 / 90 (Mo. / Yr.)

Other Designations: BP-3

Type of Feature: Cleared circle with possible rock alignment

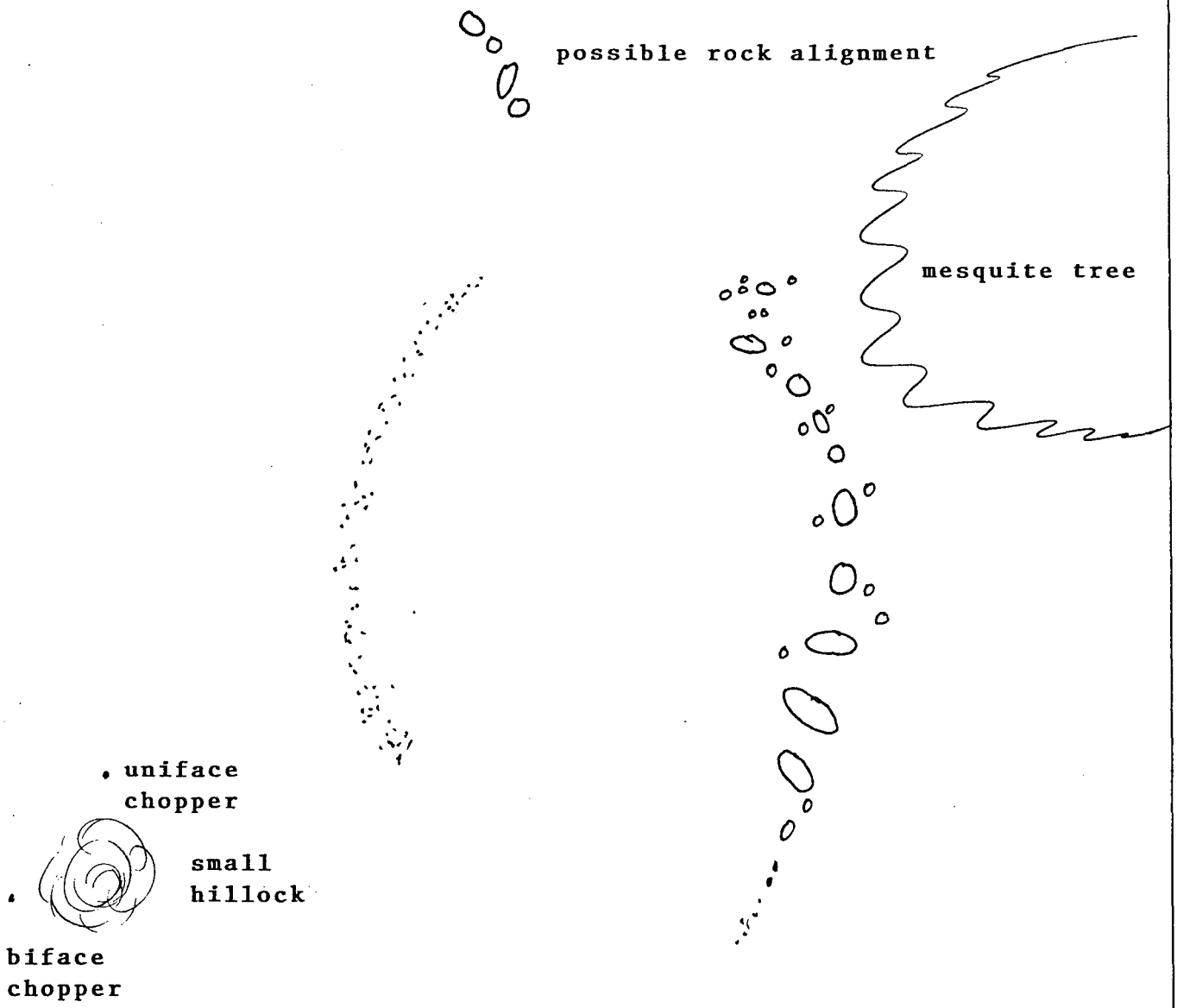


State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

ARCHEOLOGICAL SITE MAP

Permanent Trinomial: CA-Riv-4078 11 | 90 (Mo. Yr.)

Other Designations: BP-3



NOT TO SCALE

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

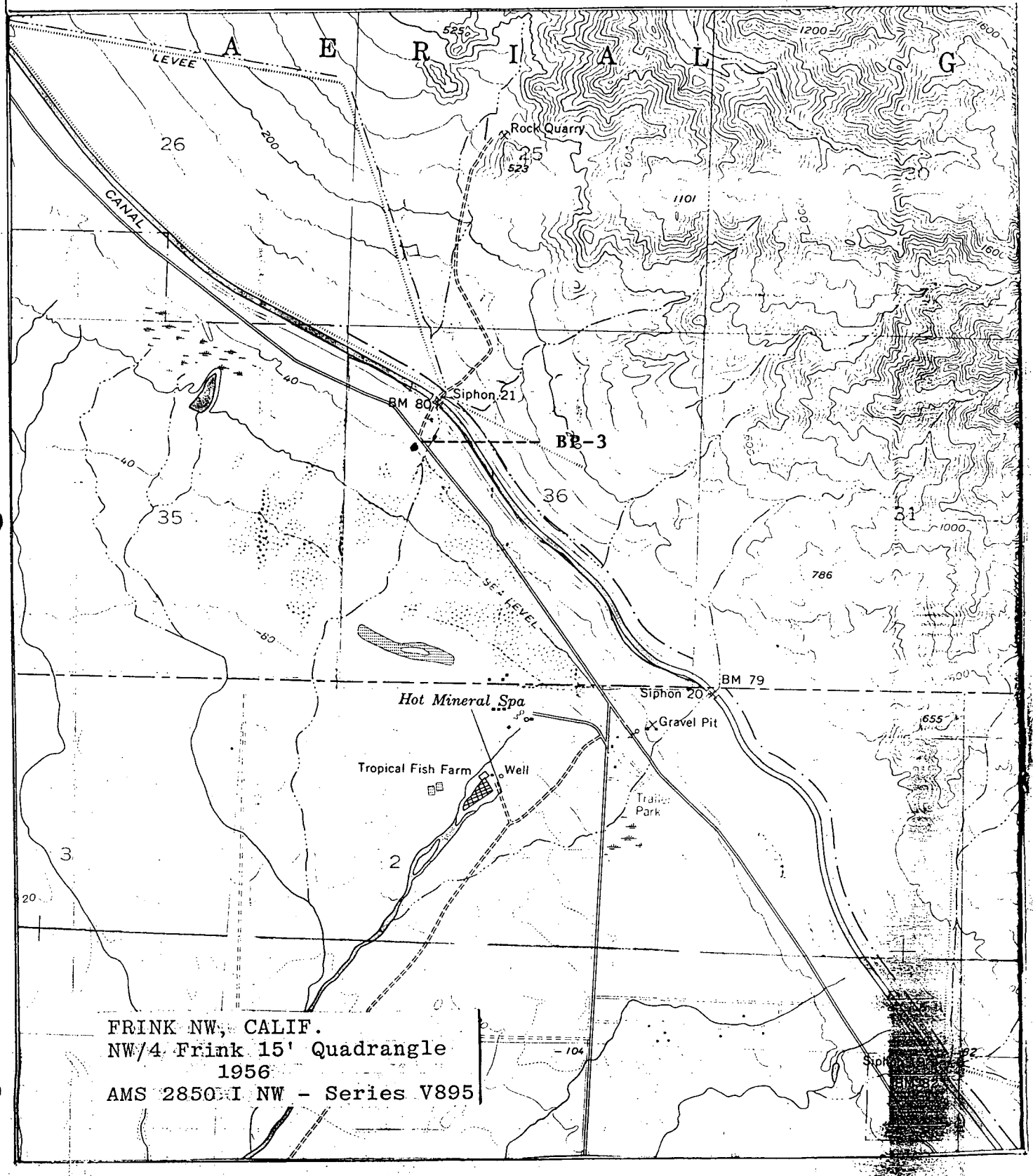
ARCHEOLOGICAL SITE LOCATION MAP

Page 5 of 5.

Permanent Trinomial: CA-Riv- 4078 / 11 (mo.) 90 (yr.)

Temporary Number: BP-3

Agency Designation:



FRINK NW, CALIF.
NW/4 Frink 15' Quadrangle
1956
AMS 2850 I NW - Series V895

DPR 422G (Rev. 8/82)

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

ARCHEOLOGICAL SITE RECORD

Permanent Trinomial: CA-Riv- 4079 Supplement ☐

Other Designations: BP-4

Page 1 of 9.

RECEIVED IN NOV 2 1 1990

1. County: Riverside

2. USGS Quad: Frink NW EIC (7.5') 56 (15') _____ Photorevised 79

3. UTM Coordinates: Zone 11 6 2 1 4 8 0 m Easting 3 7 0 0 3 8 0 m Northing ( )

4. Township 8S Range 12E ; NW ¼ of NW ¼ of SW ¼ of NW ¼ of Section 36 Base Mer. SBM ( )

5. Map Coordinates: 288 mmS 218 mmE (from NW corner of map) 6. Elevation 47 feet AMSL ( )

7. Location: 5780 feet west of teh intersection of Hot Minerial Spa Road and the Coachella Canal Road; 500 feet south of this point.

( )

8. Prehistoric XX Historic _____ Protohistoric _____ 9. Site Description Light lithics with 16 cleared circles. Ceramics found on shoreline, but none in association with cleared circles. Possible hearth with associated fish bone.

( )

10. Area 60 m(NS)x 15 m(EW) 58.91 m^2.

Method of Determination: Pacing. ( )

11. Depth: Unknown cm Method of Determination: Surface survey only. ( )

12. Features: 16 cleared circles; hearth (on shoreline). See feature page.

( )

13. Artifacts: SHORELINE: 3 Colorado Buff sherds; end chopper,gray/green andesite (11.2cm L X 9.9cm W X 3.1cmT); tan/pink andesite core (12.7cm L X 12.1cm W X 7.2cm T); pumice bowl fragment (7.7cm L X 5.3cm W X 3.4cm T); 2 sherds Salton Buff Ware, with stucco; 3 sherds Tizon Brown Ware. XXX

14. Non-Artifactual Constituents and Faunal Remains: Fish bone related to hearth on shoreline.

( )

15. Date Recorded: 4 November 1990 16. Recorded By: Ray Wilcox ( )

17. Affiliation and Address IVC Museum; 442 Main Street, El Centro, CA 92243

(619) 352-1667 ( )

DPR 422 A (Rev. 4/86)

See Continuation Sheet (X)

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Permanent Trinomial: CA-Riv-4079 11 / 90 (Mo. / Yr.)

ARCHEOLOGICAL SITE RECORD

Other Designations: BP-4

18. Human Remains: None noted. ( )

19. Site Disturbances: Slight disturbance to area with cleared circles from ORV activity; none on shore line. ( )

20. Nearest Water (type, distance and direction): Ancient Lake Cahuilla at site. ( )

21. Vegetation Community (site vicinity): Lower Sonoran desert scrub. Plant List ( )

22. Vegetation (on site): Same. ( )

23. Site Soil: Light desert pavement with moderate desert varnish on (XX

24. Surrounding Soil: Heavy wash activity east and west of terrace; shoreline (XX

25. Geology: Volcanic andesite shist in area of cleared circles; andesite (XX

26. Landform: Light malpais terrace in area of cleared circles; andesite (XX

27. Slope: 3-5% to the south on (XX) 28. Exposure: Open for both areas. ( )

29. Landowner(s) (and/or tenants) and Address: Oscar Bashford; HCOI Box 26, Niland, CA 92257 (619) 354-1315 ( )

30. Remarks: Although majority of artifacts were collected, additional survey, with some excavation, should be done on shorelinepart of site. On 7 November 1990, considerable fish bone and 2 additional sherds (XX

31. References: None. ( )

32. Name of Project: Bashford Property; RV Resort ( )

33. Type of Investigation: Surface, class III ( )

34. Site Accession Number: 1990-43 Curated At: IVC Museum ( )

35. Photos: No. ( )

See Continuation Sheet (X)

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

ARCHEOLOGICAL SITE RECORD
Continuation Sheet

Page 3 of 9.

Permanent Trinomial: CA-Riv- 4079 11 | 90 (Mo. Yr.)

Other Designations: BP-4

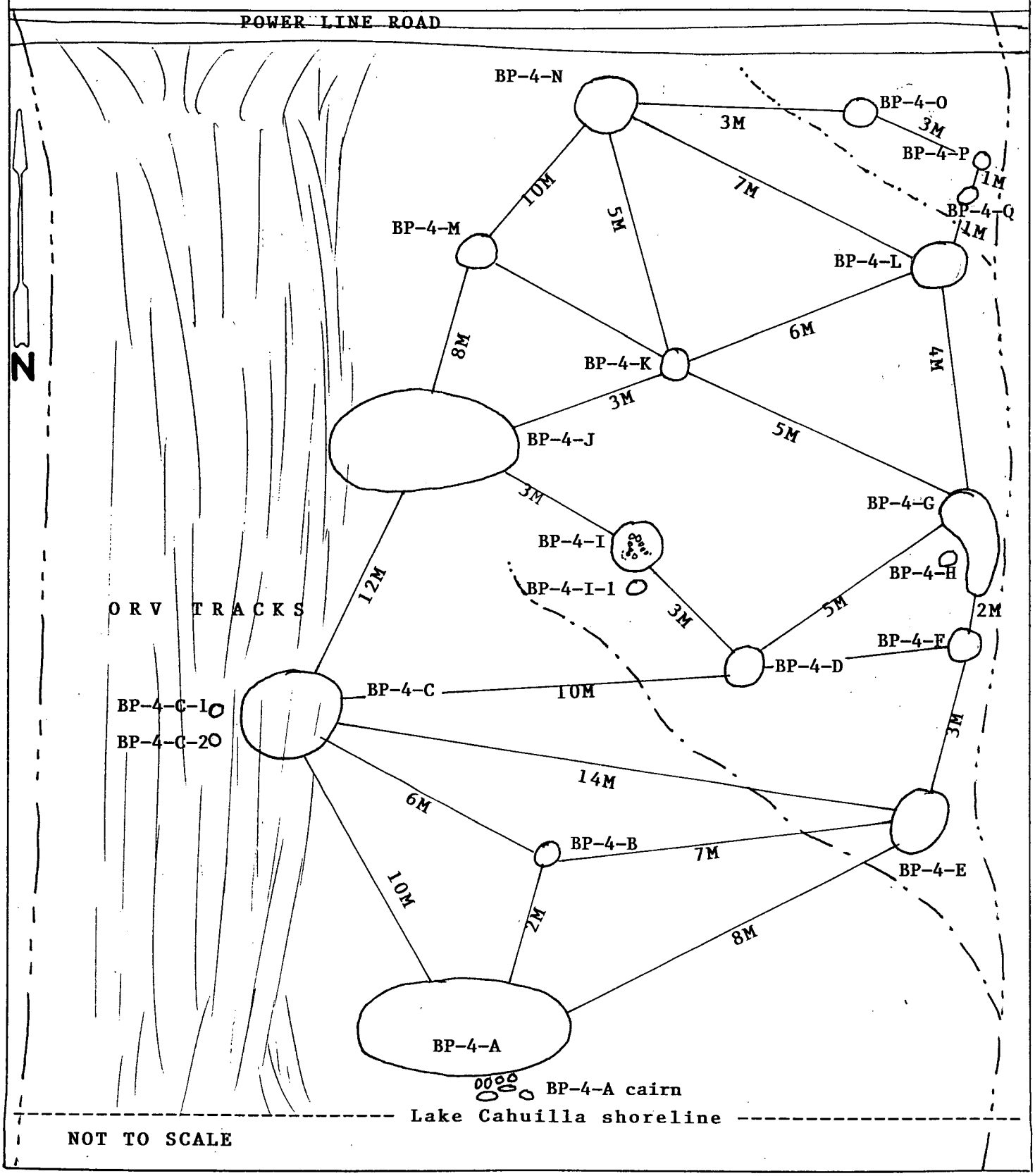
Item No.	Continuation
13	ON TERRACE: 6 flakes green andesite; green andesite flake; core and 2 flakes black andesite porpyry; 2 flakes green andesite porphyry; core and 3 flakes tan andesite porphyry; core green andesite porphyry; end scraper of green andesite porphyry (8.8cm L X 7.3cm W X 3.8cm T); core of green andesite porphyry. All collected.
23	terrace with cleared circles. Andesite gravels and sand on shoreline part of site.
24	consists of andesitic gravels and sand.
25	gravels and sand on shoreline.
26	gravels and sand on shoreline.
30	were collected from the cooking pit at the south end of BP-4. The fish bone will be sent to UCR for C-14 dating. The resulting date should not reflect on the cleared circles, but only on the part of BP-4 that is on actual shoreline, and, attached to the cooking pit and ceramics. The cleared circles are thought to be much older than those artifacts on the shoreline, and do not have associated ceramics.

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

ARCHEOLOGICAL SITE MAP

Permanent Trinomial: CA-Riv-4079 11 | 90 (Mo. Yr.)

Other Designations: BP-4



Item No.	Continuation
Page 4	Cleared circle BP-4-A: elecptial circle; good berm on all sides small rock cairn on south side. 5.3 meters N/S X 6.8 meters E/W
	Cleared circle BP-4-B: almost round circle; good berm on all sides; 2 meters^2.
	Cleared circle BP-4-C: slightly eliptical circle with flattened berm on south, north, and east sides, berm on west still in good shape. 4.0 meters N/S X 3.5 meters E/W. Circles BP-4-C-1 and 2 -- 1 meter^2 each.
	Cleared circle BP-4-D: Slightly eliptical circle with good berm on all sides; slightly elevated on east side. 2.5 meters N/S X 4.3 meters E/W.
	Cleared circle BP-4-E: Eliptical circle; good berm on all sides; well elevated on east side. 5.2 meters N/S X 3.5 meters E/W.
	Cleared circle BP-4-F: Small eliptical circle; good berm on all sides; well elevated on east side. 2.5 meters N/S X 2.1 meters E/W.
	Cleared circle BP-4-G: Highly eliptical circle, possible storage area attached; good berm on all sides; well elevated on east side. 4.1 meters N/S X 2.2 meters E/W.
	Cleared circle BP-4-H Small circle; possibly a storage area for circle BP-4-G. 1 meter^2. Slight berm.
	Cleared circle BP-4-I: Circle with rock alignment in center; possibly an alter or (?). 3.8 meters N/S X 2.8 meters E/W. Circle BP-4-I-1: 1 meter^2.
	Cleared circle BP-4-J: Highly eliptical circle; good berm on all sides and well formed. 5.0 meters N/S X 5.9 meters E/W.

Permanent Trinomial: CA-Riv- 4079 11 | 90 (Mo. / Yr.)

Other Designations: BP-4

Item No.	Continuation
Page 4 (cont.)	Cleared cirlce BP-4-K: Small circle with good berm. 3.0 meters N/S X 2.1 meters E/W.
	Cleared circle BP-4-L: Almost round cirlce; good berm on all sides; well elevated on east side. 2 meters^2.
	Cleared circle BP-4-M: Slightly eleptical circle; good berm on all sides. 4.0 meters N/S X 3.5 meters E/W
	Cleared circle BP-4-N: Slightly eleptical circle; good berm on all sides; slightly elevated on east and south sides. 4.2 meters N/S X 3.3 meters E/W.
	Cleared circle BP-4-O: Small circle; slight berm on all sides; slightly elevated on north, east, and south sides. 1 meter^2.
	Cleared circle BP-4-P: Small circle with good berm on all sides; good elevation on north, east, and south sides. 2 meters^2.
	Cleared circle BP-4-Q: This circle sits almost on the edge of the wash to the east of the site; good berm on all sides, and extremely well elevated on north, east, and south sides. 1 meter^2.

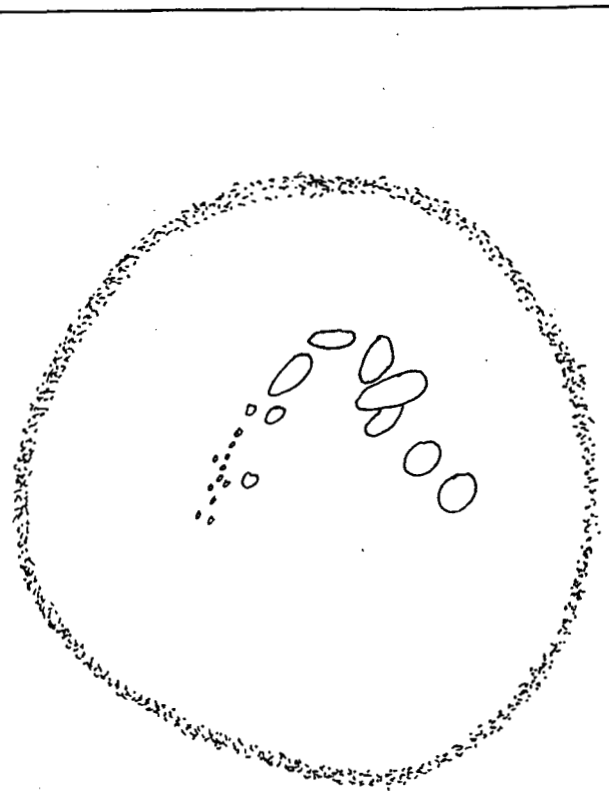
State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Permanent Trinomial: CA-Riv-4079 11 / 90 (Mo. / Yr.)

FEATURE RECORD

Other Designations: BP-4

Type of Feature: Detail of cleared circle BP-4-I



3.8 meters N/S
2.8 meters E/W

NOT TO SCALE

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Permanent Trinomial: CA-Riv-4079 11 (Mo.) 90 (Yr.)

ARCHEOLOGICAL PHOTOGRAPHIC RECORD

Other Designations: BP-4

Camera and Lens Types: Minolta 35mm w/35/80 macro

On File at: IVC Museum

Film Type and Speed: Kodak Gold color print 200 ASA

Mo.	Day	Time	Exposure/ Frame	Subject/Description	View Toward	Accession Number
11	07	am	roll 1 F1	Title on chalk board	down	
11	07	am	" F2	environmental of BP-4-J	south	
11	07	am	" F3	cleared circles in BP-4-G,H,F&E	S/E	
11	07	am	" F4	cleared circles in BP-4-I & D	S/E	
11	07	am	" F5	cleared circle BP-4-C	south	
11	07	am	" F6	cleared circle BP-4-I	west	
11	07	am	" F7	cleared circle BP-4-I	east	
11	07	am	" F8	shoreline	south	
11	07	am	" F9	shoreline	east	
11	07	am	" F10	shoreline	west	
11	07	am	" F11	shoreline hearth and fish bone	down	
11	07	am	" F12	environmental of BP-4	north	

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

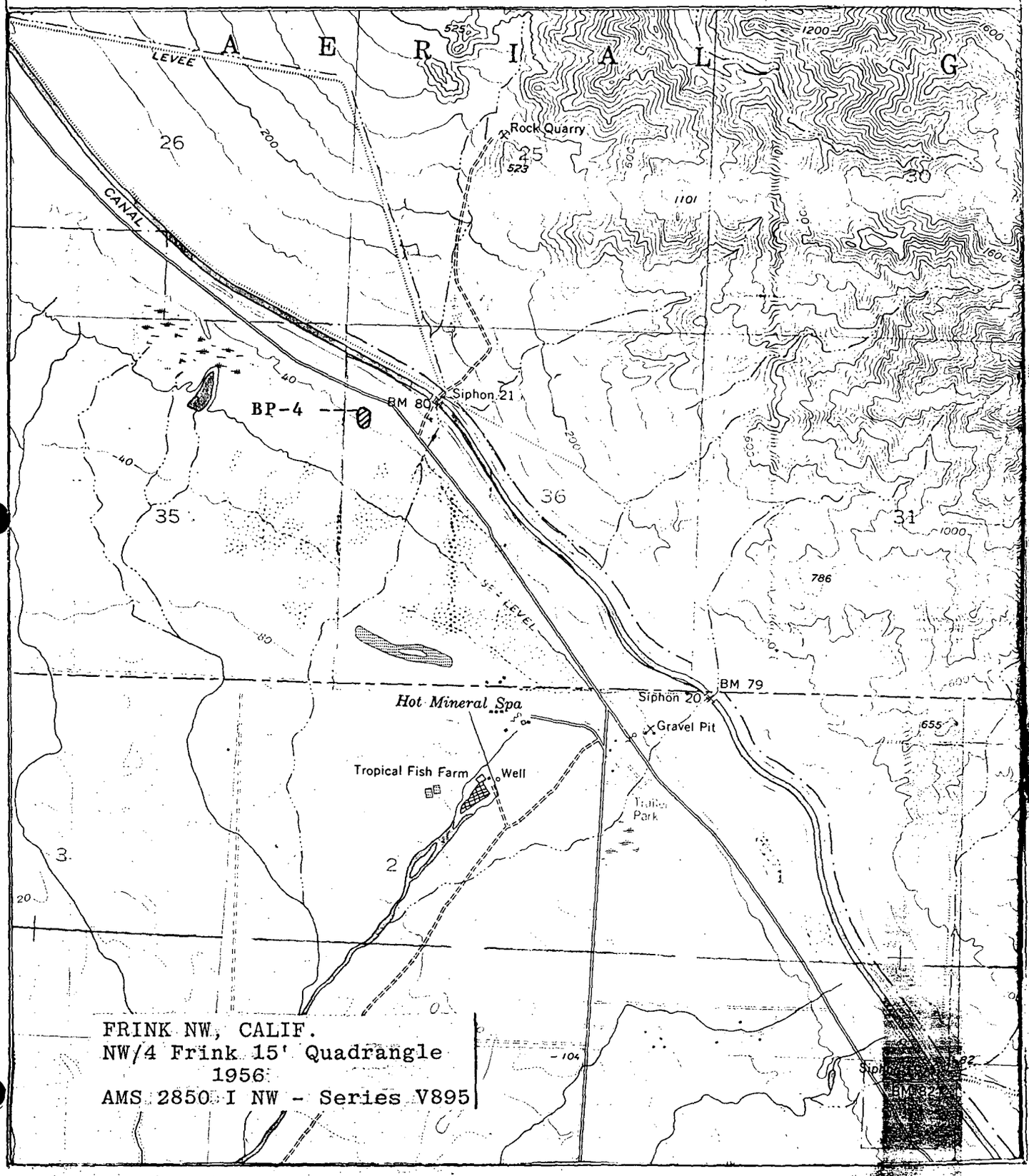
ARCHEOLOGICAL SITE LOCATION MAP

Page 9 of 9.

Permanent Trinomial: CA-Riv-4079 / 11 (mo.) 90 (Yr.)

Temporary Number: BP-4

Agency Designation:



FRINK NW, CALIF.
NW/4 Frink 15' Quadrangle
1956
AMS 2850 I NW - Series V895

DPR 422G (Rev. 8/82)

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Permanent Trinomial: CA-Riv- 4082 Supplement ☐

ARCHEOLOGICAL SITE RECORD

Other Designations: BP-8

REC.

Page 1 of 3 .

NOV 2 1 1990

1. County: Riverside

EIC

2. USGS Quad: Frink NW (7.5') 56 (15') _____ Photorevised 79

3. UTM Coordinates: Zone 11 | 6 2 1 9 0 0 | m Easting | 3 7 0 0 6 0 | m Northing ( )

4. Township 8S Range 12E ; SE ¼ of SW ¼ of SE ¼ of NW ¼ of Section 36 Base Mer. SBM ( )

5. Map Coordinates: 300 mmS 236 mmE (from NW corner of map) 6. Elevation 42 feet AMSL ( )

7. Location: 3800 feet west of the intersection of Hot Minerial Spa Road and Coachella Canal Road; 50 feet south of this point.

( )

8. Prehistoric XX Historic _____ Protohistoric _____ 9. Site Description Light lithic and ceramic site.

( )

10. Area 2 m(NS)x 12 m(EW) 11.00 m^2

Method of Determination: Pacing ( )

11. Depth: Unknown cm Method of Determination: Surface survey only. ( )

12. Features: None noted.

( )

13. Artifacts: 7 Colorado Buff Ware sherds; core/chopper of green andesite porphyry (9.8cm L X 6.4cm W X 3.2cm T); core of tan andesite porphyry (15.0cm L X 6.6cm W X 5.6cm T);chopper of green andesite porphyry (8.7cm L X 8.1cm W X 2.2cm T); Teshoa type flake knife (6.8cm L X 6.1cm W X 1.7cm T); core of red andesite porphyry (9.7cm L X 5.9cm W X 3.8cm T). All collecterd.

14. Non-Artifactual Constituents and Faunal Remains: None noted.

( )

15. Date Recorded: 4 November 1990 16. Recorded By: Ray Wilcox ( )

17. Affiliation and Address IVC Museum; 442 Main Street, El Centro, CA 92243

(619) 352-1667 ( )

See Continuation Sheet (X)

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Permanent Trinomial: CA-Riv- 4082 11 / 90 (Mo. / Yr.)

ARCHEOLOGICAL SITE RECORD

Other Designations: BP-8

18. Human Remains: None noted. ( )

19. Site Disturbances: None othere than normal shoreline erosion. Heavy ORV trafic to east of site; may have impacted part of site. ( )

20. Nearest Water (type, distance and direction): Ancient Lake Cahuilla at site. ( )

21. Vegetation Community (site vicinity): Lower Sonoran desert scrub. Plant List ( )

22. Vegetation (on site): Same. ( )

23. Site Soil: Lake Cahuilla shoreline terrace. ( )

24. Surrounding Soil: Same. ( )

25. Geology: Andesite gravels and sands -- lacustrine sediments. ( )

26. Landform: Lake shoreline. ( )

27. Slope: 0 to 2% to the south ( ) 28. Exposure: Open. ( )

29. Landowner(s) (and/or tenants) and Address: Oscar Bashford; HCOI Box 26, Niland, CA 92257

(619) 354-1315 ( )

30. Remarks: May need further survey with possible excavation. ( )

31. References: None. ( )

32. Name of Project: Bashford Property; RV Resort ( )

33. Type of Investigation: Surface, class III ( )

34. Site Accession Number: 1990-48 Curated At: IVC Museum ( )

35. Photos: No. ( )

See Continuation Sheet (X)

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

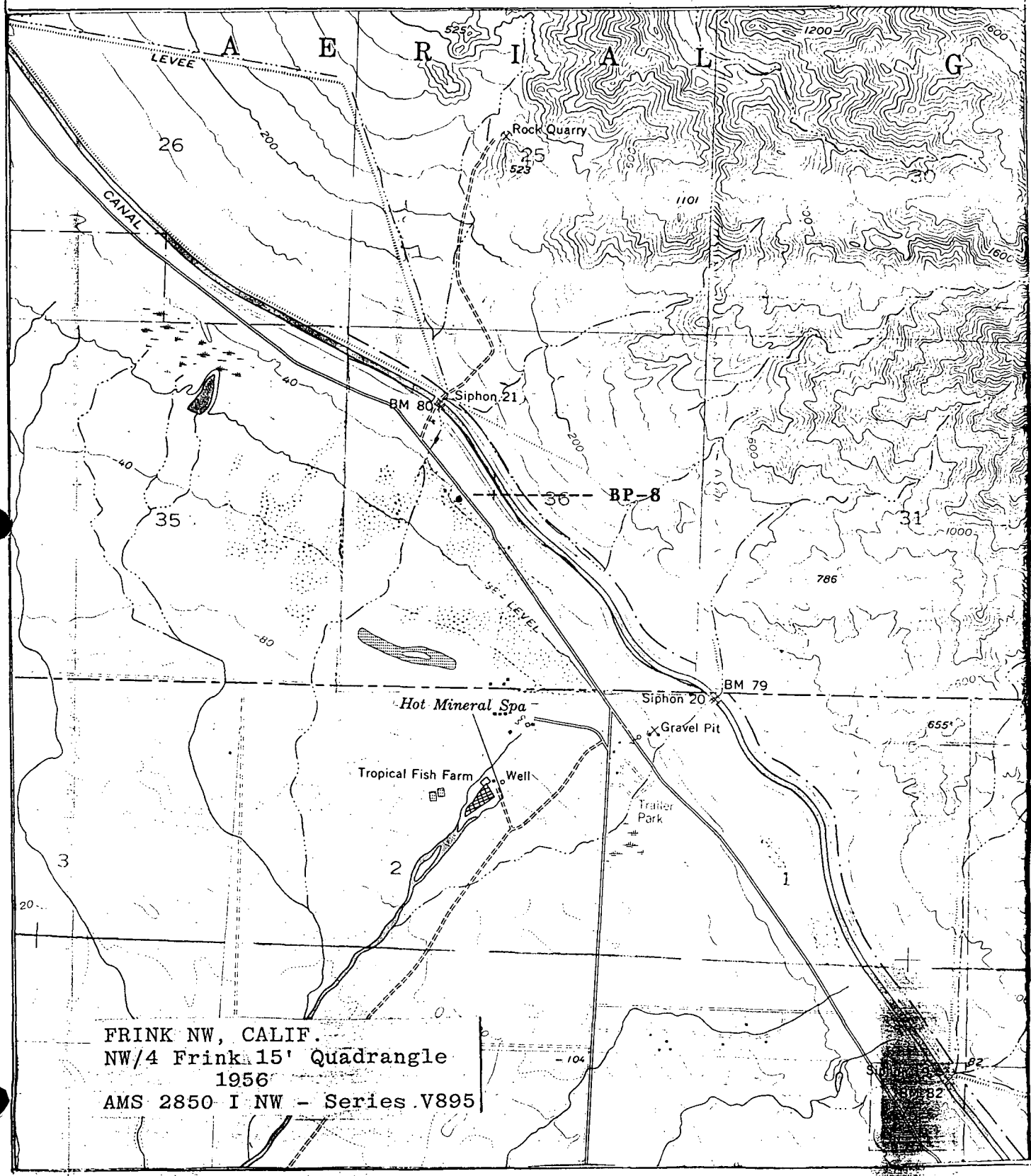
ARCHEOLOGICAL SITE LOCATION MAP

Page 3 of 3.

Permanent Trinomial: CA-Riv-4082 / 11 (mo.) 90 (yr.)

Temporary Number: BP-8

Agency Designation:



FRINK NW, CALIF.
NW/4 Frink 15' Quadrangle
1956
AMS 2850 I NW - Series V895

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Permanent Trinomial: CA-Riv-4083 Supplement ☐

ARCHEOLOGICAL SITE RECORD

Other Designations: BP-9

Page 1 of 4.

RECEIVED IN
NOV 2 1 1990

1. County: Riverside

2. USGS Quad: Frink NW EIC (7.5') 56 (15') Photorevised 79

3. UTM Coordinates: Zone 11 6 2 1 8 2 0 m Easting 3 9 0 0 1 0 0 m Northing ( )

4. Township 8S Range 12E ; SW ¼ of SW ¼ of SE ¼ of SW ¼ of Section 36 Base Mer. SBM ( )

5. Map Coordinates: 298 mmS 233 mmE (from NW corner of map) 6. Elevation 42 feet AMSL ( )

7. Location: 4100 feet west of teh intersection of Hot Minerial Spa Road and Coachella Canal Road; 100 feet south of this point.. ( )

8. Prehistoric XX Historic ____ Protohistoric ____ 9. Site Description Cleared circle. ( )

10. Area 2 m(NS)x 2 m(EW) 2 m^2.

Method of Determination: Tape measure. ( )

11. Depth: Unknown cm Method of Determination: Surface survey only. ( )

12. Features: Cleared circle. See feature page. ( )

13. Artifacts: None noted. ( )

14. Non-Artifactual Constituents and Faunal Remains: None noted ( )

15. Date Recorded: 4 November 1990 16. Recorded By: Ray Wilcox ( )

17. Affiliation and Address IVC Museum; 442 Main Street, El Centro, CA 92243

(619) 352-1667 ( )

DPR 422 A (Rev. 4/86)

See Continuation Sheet (X)

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Permanent Trinomial: CA-Riv- 4083 Mo. 11 Yr. 90

ARCHEOLOGICAL SITE RECORD

Other Designations: BP-9

18. Human Remains: None noted. ( )

19. Site Disturbances: Slight. Erosive pattern already set in at north edge of cleared circle. Next major storm may destroy circle. ( )

20. Nearest Water (type, distance and direction): Ancient Lake Cahuilla at site. ( )

21. Vegetation Community (site vicinity): Lower Sonoran desert scrub. Plant List ( )

22. Vegetation (on site): Same. ( )

23. Site Soil: Lake Cahuilla shoreline wave terrace. ( )

24. Surrounding Soil: Same. ( )

25. Geology: Andecitic gravels and sands -- lacustrine sediments. ( )

26. Landform: Lake shoreline. ( )

27. Slope: 0 to 2% to south ( ) 28. Exposure: Open ( )

29. Landowner(s) (and/or tenants) and Address: Oscar Bashford; HCOI Box 26, Niland, CA 92257

(619) 354-1315 ( )

30. Remarks: None. ( )

31. References: None. ( )

32. Name of Project: Bashford Property; RV Resort ( )

33. Type of Investigation: Surface; class III ( )

34. Site Accession Number: N/A Curated At: ( )

35. Photos: No. ( )

See Continuation Sheet (X)

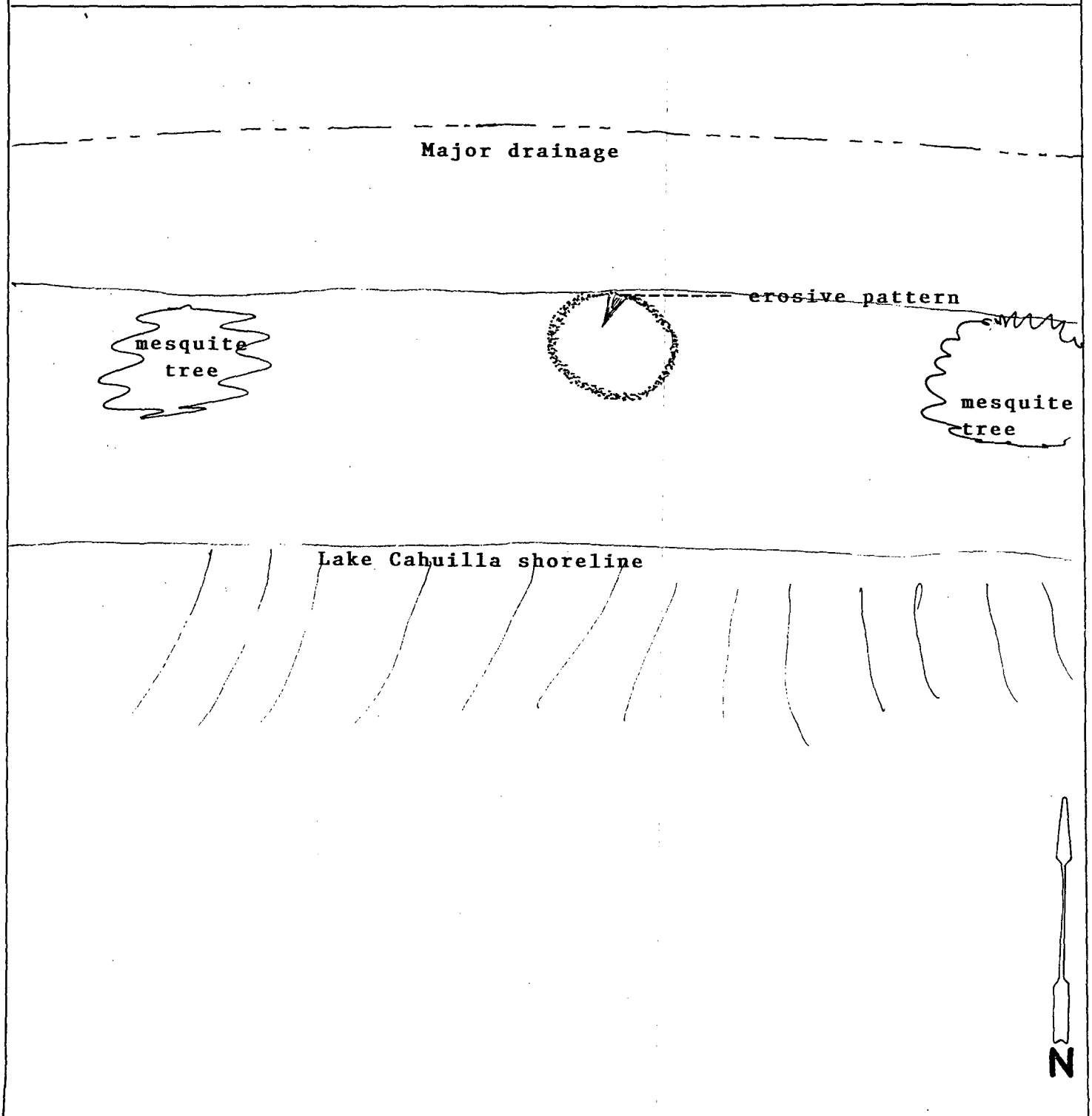
State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

FEATURE RECORD

Permanent Trinomial: CA-Riv- 4083 11 90 (Mo. Yr.)

Other Designations: BP-9

Type of Feature: Cleared circle



NOT TO SCALE

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

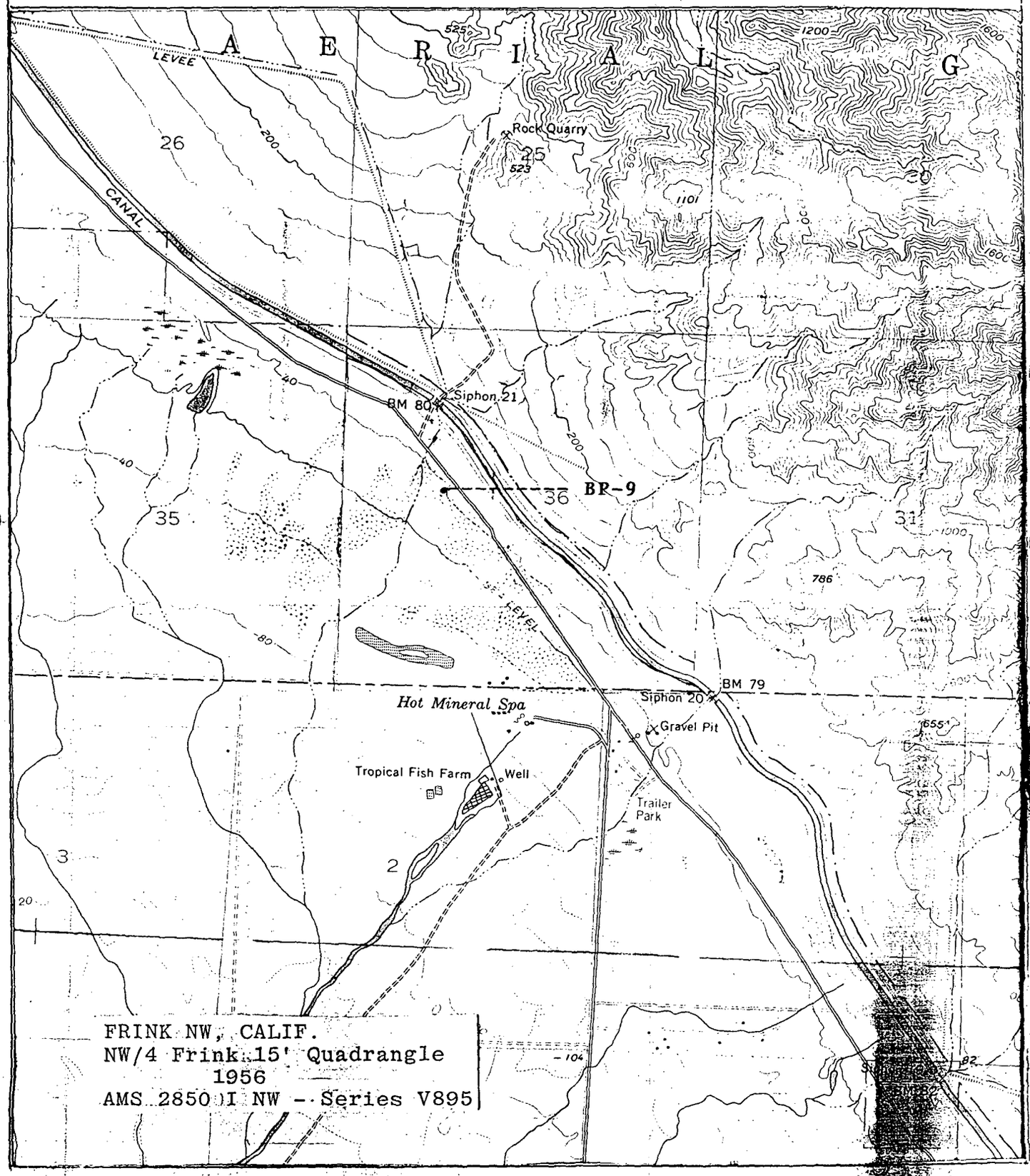
ARCHEOLOGICAL SITE LOCATION MAP

Page 4 of 4.

Permanent Trinomial: CA-Riv-4083 / 11 (mo.) 90 (yr.)

Temporary Number: BP-9

Agency Designation:



DPR 422G (Rev. 8/82)

State of California--The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary # 33-005705 (Update)
HRI #
Trinomial
NRHP Status Code
Other Listings
Review Code Reviewer Date

 Resource Name or # Coachella Canal

P1. Other Identifier:

P2. Location: a. County Riverside, CA ☐ Not for Publication ☒ Unrestricted
b. USGS 7.5′ Quad La Quinta, CA Date 1956, photorevised 1980
Section 8; T 6 S, R 7 E S.B.B.M.
c. Address: None City La Quinta Zip 92253
d. Zone 11S; NAD83 West End: 567235 mE / 3725482 mN
East End: 567364 mE / 3725483 mN
e. Other Locational Data:

P3a. Description: This approximately 421 ft long segment of the Coachella Canal is a reinforced-concrete lined flat-bottom structure with sloping sides. The concrete lining along this segment measures approximately 36 ft wide. The recorded segment features hard-earth embankments that provide additional depth to the canal, and has a top width that measures 55 ft. The sides of the canal slopes approximately 32°.

P3b. Resource Attributes: HP20. Canal/ aqueduct

P4. Resources Present: ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other:

P5a. Photograph or Drawing: See attached Continuation sheets for photographs

P5b. Description of Photo: All photographs were taken on September 18, 2017.

P6. Date Constructed/Age of Sources: ☐ Prehistoric ☒ Historic ☐ Both

P7. Owner and Address: Coachella Valley Water District, 75525 Hovley Lane East, Palm Desert, CA 92211

P8. Recorded by: Justin Castells, Applied EarthWorks, Inc., 3550 E. Florida Avenue, Suite A, Hemet, CA 92544

P9. Date Recorded: September 2017

P10. Type of Survey: ☒ Intensive ☐ Reconnaissance ☐ Other
Describe: Intensive-level survey for Section 106 and CEQA compliance purposes

P11. Report Citation: Joan George and Justin Castells (2017): *Cultural Resource Assessment for the SilverRock – Coachella Canal Bridge Crossing Project, City of La Quinta, Riverside County, California.* Prepared by Applied EarthWorks for the Michael Baker International, Inc.

Attachments: ☐ None ☒ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record Other:

B1. Historic Name: Coachella Canal
B2. Common Name: Coachella Canal
B3. Original Use: Irrigation canal **B4. Present Use:** Irrigation canal

B5. Architectural Style: Reinforced concrete-lined canal with flat bottom and sloping sides

B6. Construction History: The recorded segment of the Coachella Canal was constructed between 1947 and 1954

B7. Moved? ☒ No ☐ Yes ☐ Unknown **Date:** **Original Location:**

B8. Related Features: No above ground features were identified in the subject segment

B9a. Architect: Bureau of Reclamation/Coachella Valley County Water District **b. Builder:** Same

B10. Significance: Theme Mid-twentieth century water conveyance **Area** Riverside County
Period of Significance 1938–1954 **Property Type** Canal/ aqueduct
Applicable Criteria NRHP Criterion A/ CRHR Criterion 1
Previous documentation of this waterworks system found that the Coachella Canal and distribution system are eligible for inclusion on the National Register at local and state levels under Criterion A (for its association with important historical events) (Stringer-Bowsher et al. 2009). The recommended period of significance for the entire Coachella Canal and distribution system is 1938 to 1954. The State Historic Preservation Office (SHPO) concurred that the Coachella Canal and distribution system is eligible under NRHP Criterion A. This particular segment is a portion of the fifth and final reach constructed between 1947 and 1954. While agricultural lands in the surrounding area have largely been replaced by commercial and residential development, the design and construction of this segment of the Coachella Canal has retained sufficient integrity to convey its significance and period of construction. As such, this segment contributes to the historical significance of the Coachella Canal under National Register Criterion A.

B11. Additional Resource Attributes: None

B12. References: Stringer-Bowsher, Sarah, Sinéad Ní Ghabhláin, and Jerry Schaefer (2009) *Preserving a Record of the Coachella Canal, Documents Data Recovery for the Concrete-Lined Reach Between Siphon 32 and Lake Cahuilla.* ASM Affiliates, Inc. Prepared for the Bureau of Reclamation, Yuma Area Office, Yuma, Arizona.

B13. Remarks: The project proposes to modify this segment of the Canal and construct a bridge over it.

B14. Evaluator: Justin Castells **Date of Evaluation:** September 2017

(This space reserved for official comments.

(Sketch Map with north arrow required.)

Overview of Coachella Canal within the Project Area of Potential Effects (view to the east).

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

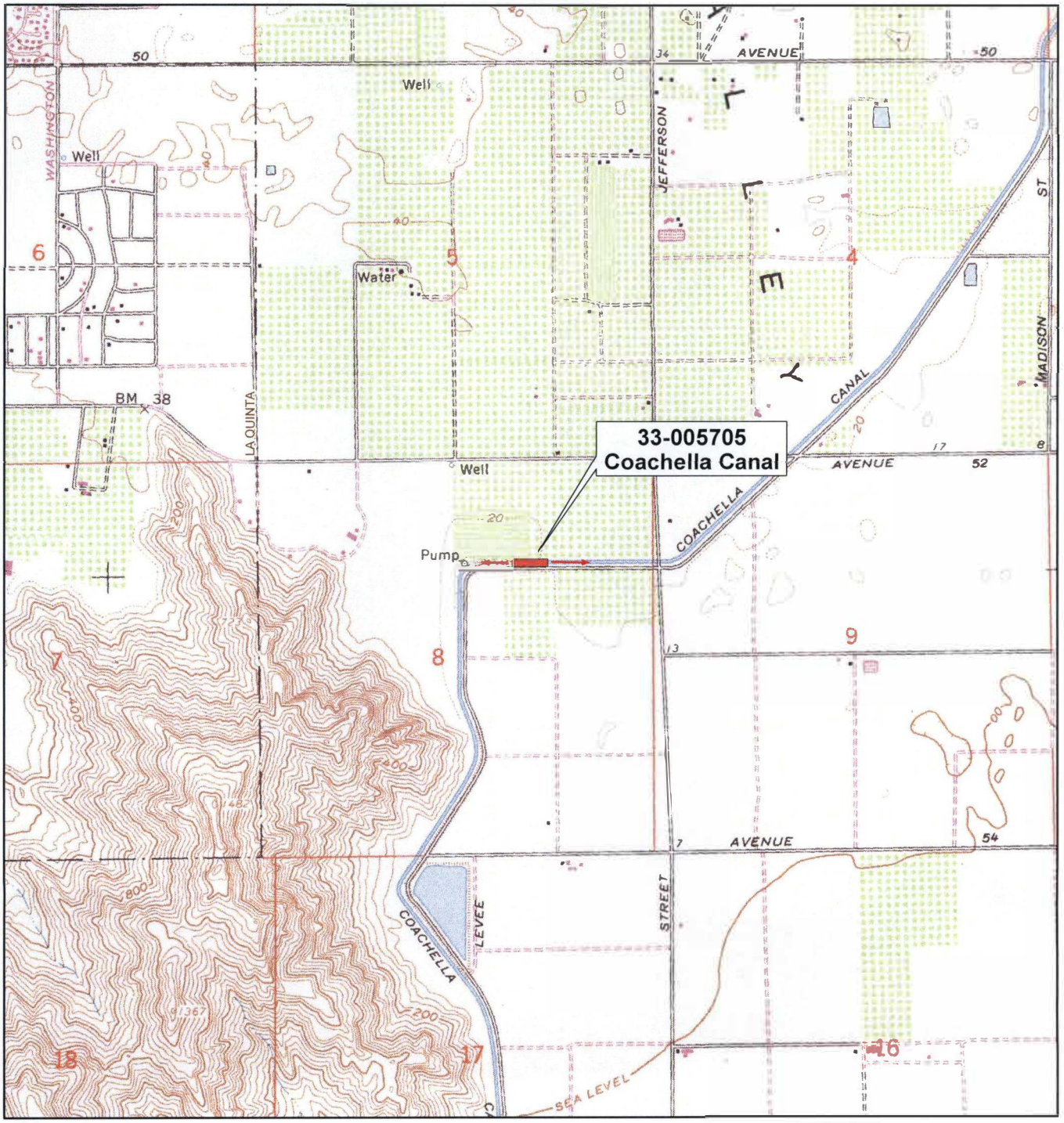
Primary # 33-005705; Update
HRI#
Trinomial

Resource Name or #: Coachella Canal

Scale: 1:24,000

Map Name: La Quinta (1959, photorevised 1980), CA, USGS 7.5' quadrangle

Date: 2017



State of California--The Resources Agency DEPARTMENT OF PARKS AND RECREATION **CONTINUATION SHEET**	Primary # 33-005705; Update HRI # Trinomial
Page 1 of 2	Resource Name or # Irrigation lateral 99.8-0.51

Recorded by: Joan George **Date** October 31, 2016 □ **Continuation** ☒ **Update**

As recommended in the initial site record for this resource, the Coachella Valley Water District (CVWD) took digital photographs of the exposed pipeline during Project construction to ensure that the below-ground portions of the resource are properly documented and the information is made available to future researchers who are interested in the construction of the Coachella Canal's irrigation distribution system.

Looking north at removal of existing 27-inch reinforced concrete pipe Irrigation Lateral #99.8-0.51 on Fillmore Street at Station 186+00. Photo taken 8/24/16 by Jim Kreizinger.

Looking north at existing 27-inch and 30-inch RCP Irrigation removed during both tie-ins for Lateral 99.8-0.51 on Fillmore Street. Photo taken 8/22/16 by Jim Kreizinger.

State of California--The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary # 33-005705
HRI #
Trinomial
NRHP Status Code 3D
Other Listings
Review Code **Reviewer** **Date**

 Resource Name or # Irrigation lateral 99.8-0.51

P1. **Other Identifier:** Æ-1376-T50-JS-1H

P2. **Location:** **a. County** Riverside ☐ **Not for Publication** ☒ **Unrestricted**

b. USGS 7.5' Quadrangles Indio, Calif. **Date** 1956, photorevised 1972;
Valerie, Calif. **Date** 1956, photorevised 1972
Crossing portions of Sections 26, 27, 34, and 35 of **T**6S, **R**8E; and
Sections 2, 3, 10, and 11 of **T**7S, **R**8E, San Bernardino **B.M.**

c. Address none

d. UTM: NAD 83, Zone 11; **15 ft tall box stand at 99.8-0.51-3.0 Sta 0+00:** 579,940 **mE** / 3,721,190 **mN**
14 ft tall box stand at 99.8-0.51-6.5 Sta 0+00: 580,766 **mE** / 3,716,344 **mN**

e. Other Locational Data: This recorded segment of Irrigation lateral 99.8-0.51 is situated along Avenue 58 and Fillmore Street between Avenue 58 and Avenue 64. Elevation ranges from -138 ft below mean sea level at Avenue 58 to -168 feet below mean sea level at Avenue 64.

P3a. **Description:** Irrigation lateral 99.8-0.51 is a part of the Coachella Canal's vast distribution network which in total measures 485 miles long. Irrigation lateral 99.8-0.51 was constructed between January 10, 1952 and March 8, 1953, during the period of significance of the Coachella Canal, and thus, is a contributor to the significance of the Coachella Canal (33-005705). A map of the entirety of the Coachella Canal's irrigation distribution system is provided in this record (see page 14). The subject segment of Irrigation Lateral 99.8-0.51 constitutes only a portion of Lateral 99.8-0.51. A map of the entirety of Lateral 99.8-0.51 is provided in this record (see page 14 [Drawing No. 2845, dated March 3, 1953]). The subject segment of Irrigation Lateral 99.8-0.51 is situated along Avenue 58 and Fillmore Street between Avenue 58 and Avenue 64. It spans a distance of approximately 18,240 ft (3.45 miles) beginning on the south side of Avenue 58, traversing east to Fillmore Street, then south along the east side of Fillmore Street to Avenue 64. Coachella Valley Water District (CVWD) proposes to replace this portion of Irrigation Lateral 99.8-0.51 with PVC pipe to mitigate conveyance and water loss issues caused by damaged pipe. The new pipe will be placed immediately adjacent to the existing pipe. The project will replace 3.46 miles of the approximately 485-mile-long irrigation pipeline distribution system, which amounts to 0.7% of the entire pipeline distribution system.

An as-built drawing dated March 3, 1953 reveals two box stands and a number of meter stands, vent stands, and pipe stands along the Fillmore Street/Avenue 58 segment of Irrigation Lateral 99.8-0.51 (see page 14 [CVCWD 1953; Drawing No. 2845, dated March 3, 1953]). The underground pipe measures as much as 36-in diameter along Avenue 58 and Fillmore Street, then tapers down to 33-in, 30-in, and 27-in diameter as it makes its way south along Fillmore Street to Avenue 64. Among the inventory of above-ground structures are 38 36-in diameter concrete stand pipes and meter stands of various height, 10 14-ft tall by 6-ft-diameter concrete 3-cfs meter stands, and 16 16-in diameter concrete pipe vents. Sixteen of these 64 above-ground concrete standpipes do not appear on the as-built plans dated March 1953, revised June 1, 1967 and August 10, 1976 (CVCWD 1953 [Drawing No. 2845]). Thus, their age is unknown and they are presumed to be later additions or privately-owned structures that feed off the irrigation system.

P3b. **Resource Attributes:** HP20. Canal/ aqueduct

P4. **Resources Present:** ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other:

P5a. **Photograph or Drawing:** See attached Continuation sheets for photographs

P5b. **Description of Photo:** All photographs were taken on August 5, 2015.

P6. **Date Constructed/Age of Sources:** ☐ Prehistoric ☒ Historic ☐ Both

P7. **Owner and Address:** Coachella Valley Water District, 75525 Hovley Lane East, Palm Desert, CA 92211

P8. Recorded by: Josh Smallwood, Applied EarthWorks, Inc., 3550 E. Florida Avenue, Suite A, Hemet, CA 92544

P9. Date Recorded: August 5, 2015

P10. Survey Type: Intensive level built-environment survey

P11. Report Citation: Dennis McDougall, Joan George, and Josh Smallwood (2015): Phase I Cultural Resources Assessment for the Coachella Valley Water District's Irrigation Lateral 99.8-0.51 Replacement Project near Thermal, Riverside County, California.

Attachments: □ None ☒ Location Map ☒ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record □ Archaeological Record □ District Record □ Linear Feature Record □ Milling Station Record □ Rock Art Record □ Artifact Record □ Photograph Record Other:

B1. **Historic Name:** Irrigation lateral 99.8-0.51
B2. **Common Name:** Same
B3. **Original Use:** Irrigation lateral B4. Present Use: Same

B5. **Architectural Style:** Reinforced concrete pipe irrigation structure

B6. **Construction History:** As-built plans reveal that Irrigation lateral 99.8-0.51 was constructed between January 10, 1952 and March 8, 1953, revised June 1, 1967 and August 10, 1976 (Coachella Valley County Water District 1953 [Drawing No. 2845, dated March 3, 1953]).

B7. **Moved?** ☒ No ☐ Yes ☐ Unknown **Date:** **Original Location:**

B8. **Related Features:** There are 64 above-ground structures present along this segment of Irrigation lateral 99.8-0.51, 48 of which appear to date to the historic period. These include 38 36-in diameter concrete stand pipes and meter stands of various height, 10 14-ft tall by 6-ft-diameter concrete 3-cfs meter stands, and 16 16-in diameter concrete pipe vents.

B9a. **Architect:** Coachella Valley County Water District **b. Builder:** same

B10. **Significance:**
Theme Mid-twentieth century gravity irrigation
Area Riverside County, Coachella Valley region
Period of Significance 1938–1954
Property Type Irrigation lateral
Applicable Criteria None

Coachella Canal

Construction of the Coachella Canal followed the passage of the Boulder Canyon Project Act of 1928, which also authorized the construction of Boulder Dam (now Hoover Dam), Imperial Dam, and the All-American Canal. The Coachella Canal was constructed within a natural desert wash through inland Imperial and Riverside counties, California, between 1935 and 1948. Its purpose was to deliver a reliable source of irrigation water to the Coachella Valley from the All-American Canal (Nordland 1978). While farming had been an occupation of settlers in the Coachella Valley since the mid-nineteenth century, the economic market for agriculture boomed following the completion of the Coachella Canal. Total acreage devoted to crops more than tripled from 1939 to 1955 (Stringer-Bowsher et al. 2009:12).

> Growth of the Coachella Valley north of the Salton Sea, which began receiving irrigation water through the All-American Canal from the Colorado River in the latter part of 1947, has been equally impressive [to the Imperial Valley]. Irrigated acreage which increased slowly from 16,350 in 1940 to 19,725 in 1947 had by 1954 expanded to 50,446 acres, with the 30,000-acre increase during the seven years following 1947 directly attributable to the availability of an adequate supply of gravity irrigation water. Per acre crop income between 1940 and 1954 increased from $154 to $480 per acre. During the same period total gross crop income increased from $2,500,000 to about $24,600,000 [Bureau of Reclamation 1955].

A segment of the Coachella Canal between Siphon 7 and Siphon 32 was evaluated by ASM Affiliates, Inc. (ASM) in 2003 on behalf of Reclamation for the CVWD's Coachella Canal Lining Project. Within the 2003 evaluated segment, there are 25 siphons, three check structures, two automatic spillways, five drainage inlet structures, and one railroad bridge (Ghabhláin 2003). In 2003, Reclamation formally determined the portions of the Canal between Siphons 7 and 14 and Siphons 15 and 32 to be eligible for the NRHP under Criteria A and C. The SHPO subsequently concurred that the portions of the Canal were eligible, but only under Criterion A. In ASM's 2009 evaluation of the Coachella Canal between Siphon 32 and the canal terminus at Lake Cahuilla, ASM reconsidered its eligibility under Criterion C and recommended the Canal and distribution system as eligible for the NRHP under Criteria A and C. ASM found both the Canal and distribution system eligible for the NRHP under Criterion A…

B10. Significance (continued):

> …as the foundation for conveying Colorado River water from the All-American Canal to the extensive grid of lateral and sublaterals that then distributes the water to the Coachella Valley, which allowed for agricultural and residential growth. The historical significance of the pivotal contributions of the Coachella Canal and its distribution system for the development in the Coachella Valley is evident in its current population growth and its agricultural history. Although agricultural growth existed prior to the Reclamation project, the Reclamation irrigation infrastructure provided a consistent supply of water and an alternative to complete reliance on artesian or pumped wells. A dependable water supply from the Colorado River through the All-American Canal laid the foundation for economic growth in the desert terrain of the Coachella Valley [Stringer-Bowsher et al. 2009:97].

The gravity-fed distribution system, completed in 1954, "was the culminating project that distributed a consistent water source from the Colorado River to the Coachella Valley and founded the transition of the valley's small-scale agricultural enterprises into a burgeoning and industrialized agricultural economy" (Stringer-Bowsher et al. 2009:97). Stringer-Bowsher et al. (2009:97) claimed that the distribution system is eligible for the NRHP under Criterion C…

> "as the first underground irrigation distribution system in the United States. While the use of concrete pipes was not new, the implementation of concrete pipes for an underground irrigation distribution system was the first of its kind" [Stringer-Bowsher et al. 2009:97.]

Furthermore, ASM assessed the historical integrity of the distribution system and concluded,

> The relatively unchanged canal and laterals reflect CVCWD's adherence to a supplemental 1947 contract with the United States that mandated that the CVCWD could not substantially change the system without the written consent of the Secretary of the Interior while the system was in its repayment period (United States 1947:253:254). While several single laterals were added and a number of laterals have been abandoned, the system is still a functional water conveyance system with minimal changes. Modifications such as additions of moss screens and other methods to facilitate a cleaner canal do not impinge upon the significance of the system. Despite later additions, the location, design, materials, and workmanship of the canal remain mostly intact. Although the setting of the Coachella Valley retains a highly agricultural feeling, the growth of the valley is increasingly apparent with new tract housing sprouting across the communities and golf courses bordering the canal at different segments [Stringer-Bowsher et al. 2009:98].

The established period of significance for the entire Coachella Canal and its distribution system is 1938–1954. As of the date of this report, there has been no SHPO concurrence with ASM's assessment on behalf of Reclamation that the distribution system is eligible under NRHP Criterion A and C.

Significance Evaluation: Irrigation lateral 99.8-0.51

NRHP Criterion A/CRHR Criterion 1: The Coachella Canal (33-005705) has been determined eligible for NRHP inclusion under Criterion A by the Bureau of Reclamation, with SHPO concurrence. Its significance under NRHP Criterion A is based on its role in the transformation of Coachella Valley from a region of small-scale agricultural enterprises into a burgeoning and industrialized agricultural economy. The period of significance for the Coachella Canal is 1938–1954. Naturally, the Coachella Canal could not have delivered irrigation water to the Coachella Valley without first building the vast network of irrigation laterals necessary to distribute that water. Irrigation lateral 99.8-0.51 is a part of the Coachella Canal's vast distribution network which in total measures 485 miles long. Irrigation lateral 99.8-0.51 was constructed between January 10, 1952 and March 8, 1953, during the period of significance of the Coachella Canal, and thus, it is a contributor to the significance of the Coachella Canal under NRHP Criterion A/CRHR Criterion 1.

B10. Significance (continued):

NRHP Criterion B/CRHR Criterion 2: Irrigation lateral 99.8-0.51 does not appear to meet NRHP Criterion B or CRHR Criterion 2 for any direct associations with the productive lives of persons important in local, state, or national history. The irrigation lateral was constructed by contractors of the Bureau of Reclamation and Coachella Valley Water District—not individuals. Thus, Irrigation lateral 99.8-0.51 does not have any known direct association with the productive lives of important individuals in local, regional, state, or national history, and it does not appear eligible for the NRHP under Criterion B or the CRHR under Criterion 2.

NRHP Criterion C/CRHR Criterion 3: As mentioned above, there has been no SHPO concurrence with ASM's assessment on behalf of Reclamation that the distribution system is eligible under NRHP Criterion A and C. Applied EarthWorks does not agree with Stringer-Bowsher et al. (2009:97–98) that the Coachella Canal's distribution system is eligible for the NRHP under Criterion C/CRHR Criterion 3. Their claim that the use of underground concrete irrigation pipes was first employed in the Coachella Canal's distribution system is incorrect and unfounded. The Coachella Valley began receiving irrigation water through the Coachella Canal in 1947. In contrast, the first delivery of water through Reclamation's Central Valley Project (CVP) in the San Joaquin Valley occurred on August 16, 1940 through the Contra Costa Canal (Bureau of Reclamation 2015). The canal stretched 46 miles providing water to farms, towns, and industry through a water distribution system that was all underground concrete pipe (Contra Costa Water District 2015). In fact, it was commonplace to employ underground concrete pipe for irrigation by the 1910s, and certainly by the 1940s when the Bureau of Reclamation began construction of the distribution systems for the CVP and Coachella Canal.

Concrete irrigation pipe has been in use in California since the late 1880s and was a necessity in the agricultural development of California (Sims 1917:71). By the 1910s, California was recognized as a national industry leader in the manufacture and use of concrete pipe for irrigation purposes, with approximately 150 independent manufacturers providing their product throughout the state (State of California Department of Engineering 1918:64). It was estimated that in southern California alone, more than 5,000 miles of concrete irrigation pipe was in use by 1917, in support of over 800,000 acres that was planted in citrus, alfalfa, and other crops at that time (Sims 1917:71). The use of below-ground, sealed concrete pipe was preferred over the earlier methods of open-top, above-ground flumes and earthen ditches, eliminating evaporation, seepage, and better controlling distribution. With several concrete pipe manufacturers established throughout the southern California region by the 1910s, concrete pipe was readily available for irrigation, and was the most favorable method for conveying water across farmlands in the fertile valleys of California. Thus, the Coachella Canal does not mark the first use of underground concrete pipe for the distribution of irrigation water, and the Coachella Canal's distribution system does not appear to meet NRHP Criterion C/CRHR Criterion 3 for its engineering merits in regard to the use of underground concrete irrigation pipe.

Irrigation lateral 99.8-0.51 does not appear to meet NRHP Criterion C or CRHR Criterion 3 for "distinctive characteristics of a type, period, and method of construction," and does not stand out from other similar underground concrete irrigation pipelines as having any architectural or engineering merits. Irrigation lateral 99.8-0.51 is of standard design and construction, and not unlike any other gravity-flow underground concrete irrigation system. Irrigation delivery systems built throughout California during the 1940s and post-World War Two (WWII) era were constructed with concrete pipe. Irrigation lateral 99.8-0.51 does not appear to employ any ingenious or technologically innovative and scientifically significant engineering in its design and construction that stands apart from other concrete irrigation distribution systems found throughout Riverside County and the rest of California. Irrigation lateral 99.8-0.51 exhibits characteristics of mid-to-late twentieth century engineering design and construction techniques commonly employed for concrete pipe irrigation systems.

NRHP Criterion D/CRHR Criterion 4: Irrigation lateral 99.8-0.51 does not appear to meet NRHP Criterion D or CRHR Criterion 4 for any potential to provide information important to the study of mid-to-late twentieth century irrigation systems. NRHP Criterion D/CRHR Criterion 4 is typically reserved for archaeological resources, ruins, or rare built-environments of which little is already known, and that are considered the sole source of historical data. Irrigation lateral 99.8-0.51 is unable to yield any information important to the study of irrigation systems of this particular type or vintage in local, state, or national history. Irrigation lateral 99.8-0.51 itself is not the primary

B10. Significance (continued):

source of this information, but rather, the physical manifestation of the knowledge and practice of this technology, which was widely applied throughout the Coachella Valley, Riverside County, and other parts of California. Irrigation lateral 99.8-0.51 does not provide any additional information beyond what is documented in maps, aerials, as-builds, photographs, and written description, and therefore, its limited data potential has been exhausted once its location, physical characteristics, and pertinent history has been recorded on DPR forms.

Project Effects Assessment

The current undertaking proposes to replace this portion of Irrigation Lateral 99.8-0.51 with PVC pipe to mitigate conveyance and water loss issues caused by damaged pipe. The new pipe will be placed immediately adjacent to the existing pipe. The project will replace 3.46 miles of the approximately 485-mile-long irrigation pipeline distribution system, which amounts to 0.7 percent of the entire pipeline distribution system.

The 3.46-mile-long segment of Irrigation lateral 99.8-0.51 of the Coachella Canal's distribution system that will be abandoned and replaced currently retains aspects of historical integrity such as *location, design, setting, materials, workmanship, feeling*, and *association* to convey its significance under NRHP Criterion A and CRHR Criterion 1. This segment of the Canal's distribution system contributes to the historic character of the system as a whole. Therefore, because this segment reflects the period of significance for the Coachella Canal (1938–1954) and is a contributing element to the system as a whole, the Project will have an effect on this historic property; however, this effect is not adverse, considering it amounts to only 0.7 percent of the 485-mile-long pipeline distribution network.

No further cultural resource management is necessary for Irrigation Lateral 99.8-0.51 under Section 106 of the NHPA, or CEQA; nonetheless, in the interest of good historic preservation practices, thorough documentation of the underground portions of Irrigation Lateral 99.8-0.51 that are slated to be abandoned and replaced is recommended once the underground pipe is exposed during Project construction activities. It is recommended that CVWD take digital photographs of the exposed pipeline and connections with above-ground structures (such as box stands and pipe stands) and submit them for compilation in a DPR update form for Irrigation Lateral 99.8-0.51. This will ensure that the below-ground portions of the resource are properly documented and the information is made available to future researchers who are interested in the construction of the Coachella Canal's irrigation distribution system.

B11. Additional Resource Attributes: None

B12. References:

Bureau of Reclamation
1955 *Report on the Contribution of the All-American Canal System, Boulder Canyon Project, to the Economic Development of the Imperial and Coachella Valleys, California, and to the Nation.* United States Government Printing Office, Washington.
2015 Central Valley Project. Found at: http://www.usbr.gov/projects/Project.jsp?proj_Name=Central+Valley+Project.

Contra Costa Water District
2015 About Us Historic Video. Found at: http://www.ccwater.com/27/About-Us

CVCWD (Coachella Valley County Water District)
1953 Drawing No. 2845 dated March 3, 1953, revised June 1, 1967 and August 10, 1976. On file, Coachella Valley Water District, 75525 Hovley Lane East, Palm Desert, CA 92211.

Nordland, Ole J.
1978 *Coachella Valley's Golden Years.* Revised edition. Desert Printing Co., Inc., Indio, California.

B12. References (continued):

NPS (National Park Service)
1991 *National Register Bulletin Number 15: How to Apply the National Register Criteria for Evaluation.* U.S. Department of the Interior, National Park Service, Washington, D.C.

Schaefer, Jerry, and Sinéad Ní Ghabhláin
2003 *A History and Evaluation of the Coachella Canal, Riverside and Imperial Counties, California*. ASM Affiliates, Inc. Prepared for the Coachella Valley Water District.

Sims, Charles E.
1917 "Manufacture and Use of Concrete Irrigation Pipe." *Concrete* 10(1):71–74.

State of California Department of Engineering
1918 *Sixth Biennial Report of the Department of Engineering State of California*. California State Printing Office, Sacramento.

Stringer-Bowsher, Sarah, Sinéad Ní Ghabhláin, and Jerry Schaefer
2009 *Preserving a Record of the Coachella Canal, Documents Data Recovery for the Concrete-Lined Reach Between Siphon 32 and Lake Cahuilla*. ASM Affiliates, Inc. Prepared for the Bureau of Reclamation, Yuma Area Office, Yuma, Arizona.

B13. Remarks:

B14. Evaluator: Josh Smallwood **Date of Evaluation:** August 10, 2015

(Sketch Map with north arrow required.)

See Sketch and Location Maps on following pages.

(This space reserved for official comments.

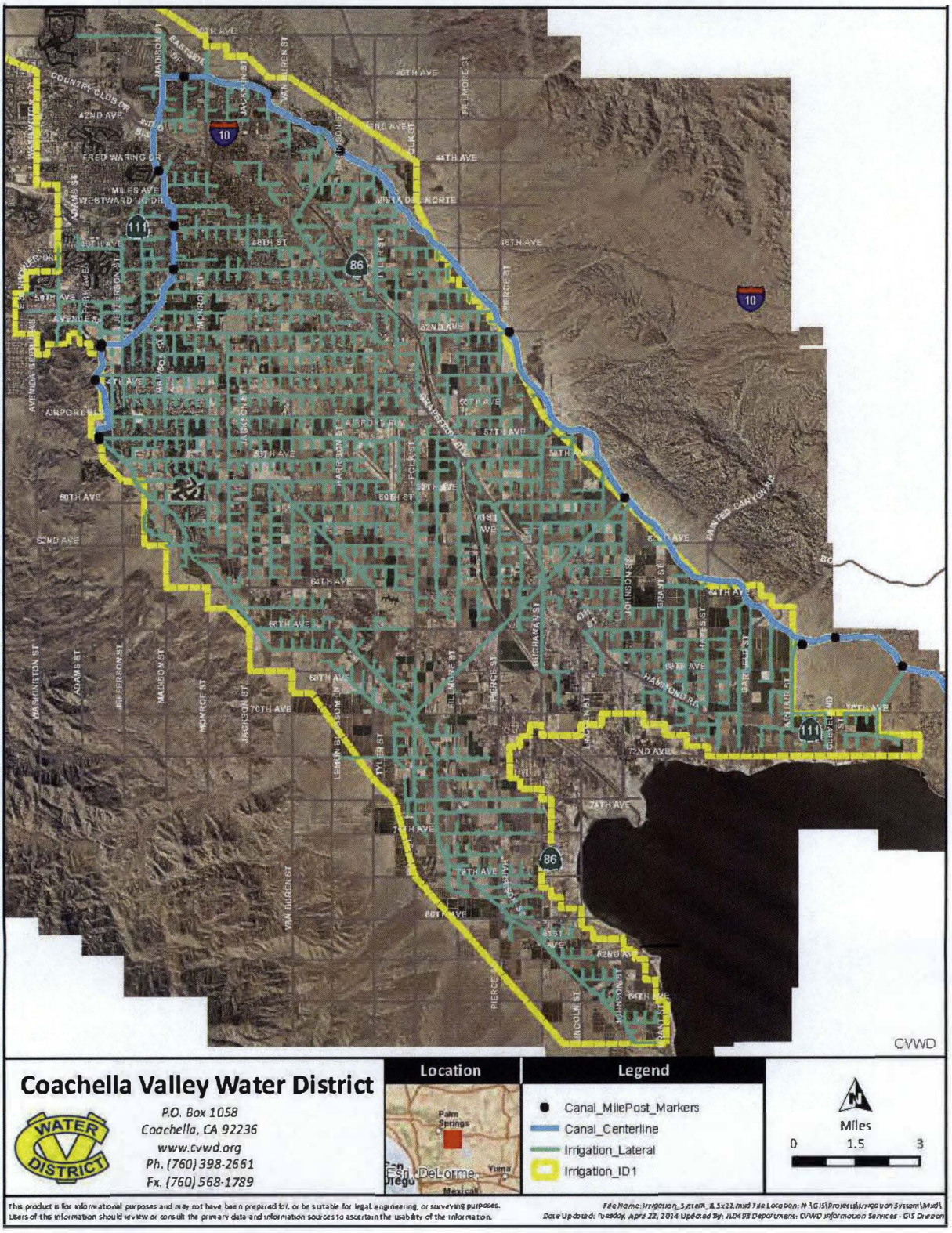
Figure 1. A 14 ft tall box stand, two 36-in diameter standpipes, and meter at 99.8-0.51-6.5 Sta 0+00, intersection of Avenue 64 and Fillmore Street (view to the southwest).

Figure 2. Concrete-lined evacuation channel (right side of photograph), in relation to the box stand and standpipes at 99.8-0.51-6.5 Sta 0+00, intersection of Avenue 64 and Fillmore Street (view to the west).

Figure 3. Representative historic-period delivery structures found along east and west sides of Fillmore Street between Avenue 63 and Avenue 64 (view to the south). *West side of Fillmore Street*: a 36-in diameter standpipe; *east side of Fillmore Street*: a 14-ft tall by 6-ft-diameter 3-cfs meter stand, a 6-ft tall by 36-in diameter standpipe, and a 16-in diameter pipe vent. Note: there are additional standpipes at each location that do not appear on the as-built plans dated March 1953; their age is unknown and they are presumed to be either later additions or privately-owned structures.

Figure 4. Representative historic-period delivery structures found along east and west sides of Fillmore Street at Avenue 61 (view to the south). *West side of Fillmore Street*: a 36-in diameter standpipe; *east side of Fillmore Street*: a 14-ft tall by 6-ft-diameter 3-cfs meter stand, a 6-ft tall by 36-in diameter standpipe, and a 16-in diameter pipe vent. Note: there are additional standpipes at each location that do not appear on the as-built plans dated March 1953; their age is unknown and they are presumed to be either later additions or privately-owned structures.

Figure 5. A 15 ft tall box stand, and two 36-in diameter standpipes at 99.8-0.51-3.0 Sta 0+00, along Avenue 58, 0.38-mile west of Fillmore Street (view to the southeast).

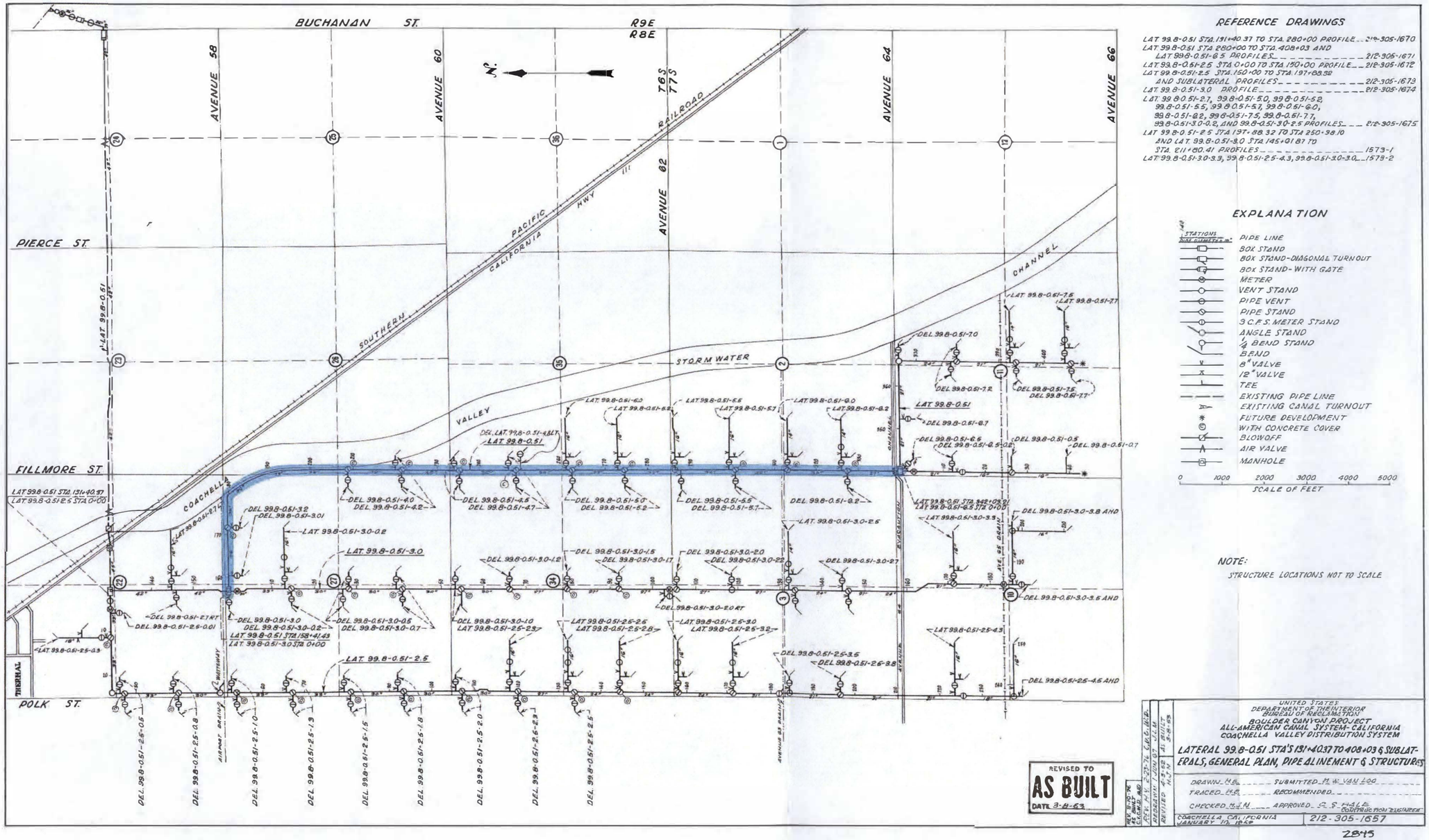


The Coachella Canal's vast irrigation distribution network

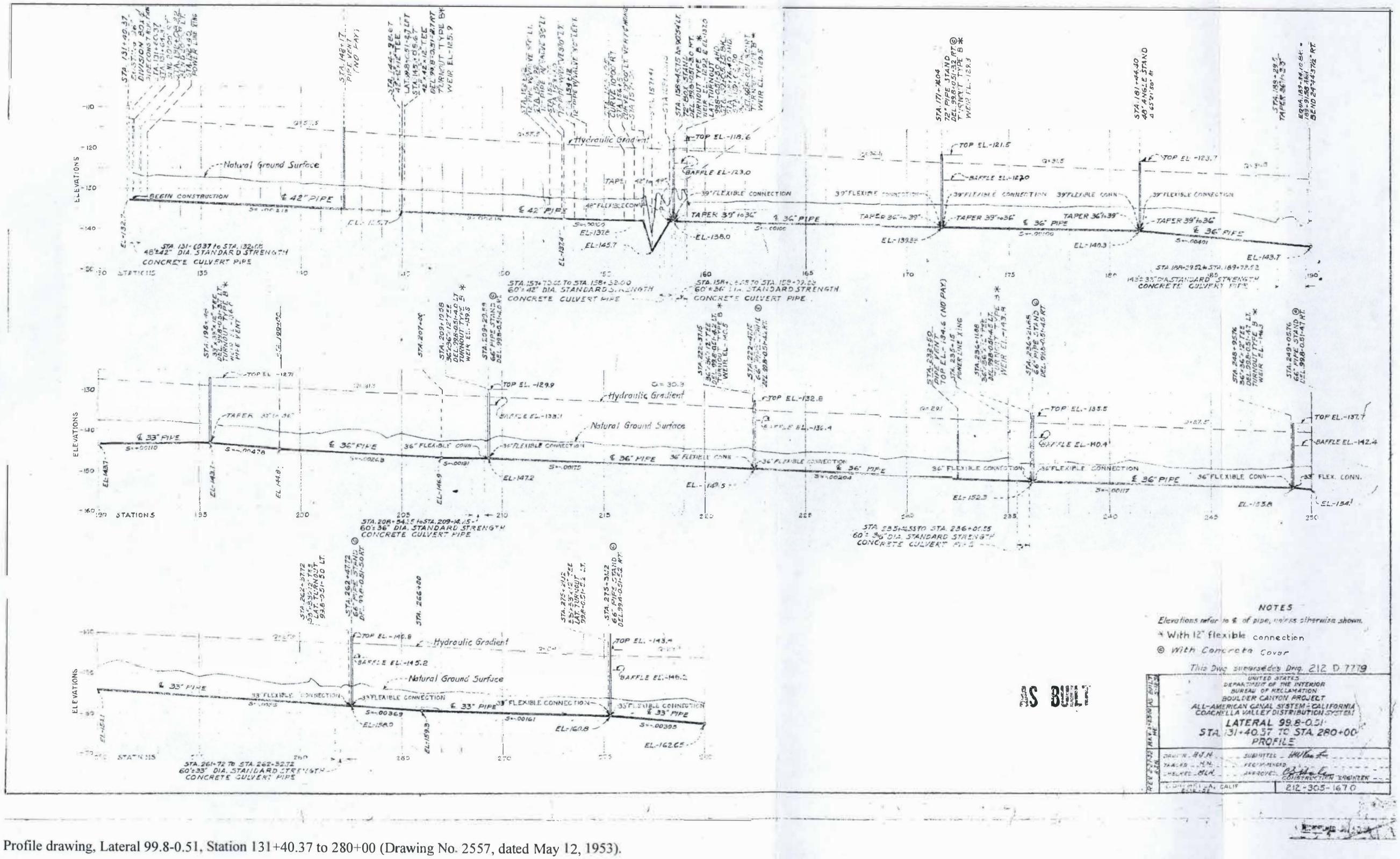
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary # 33-005705
HRI #
Trinomial

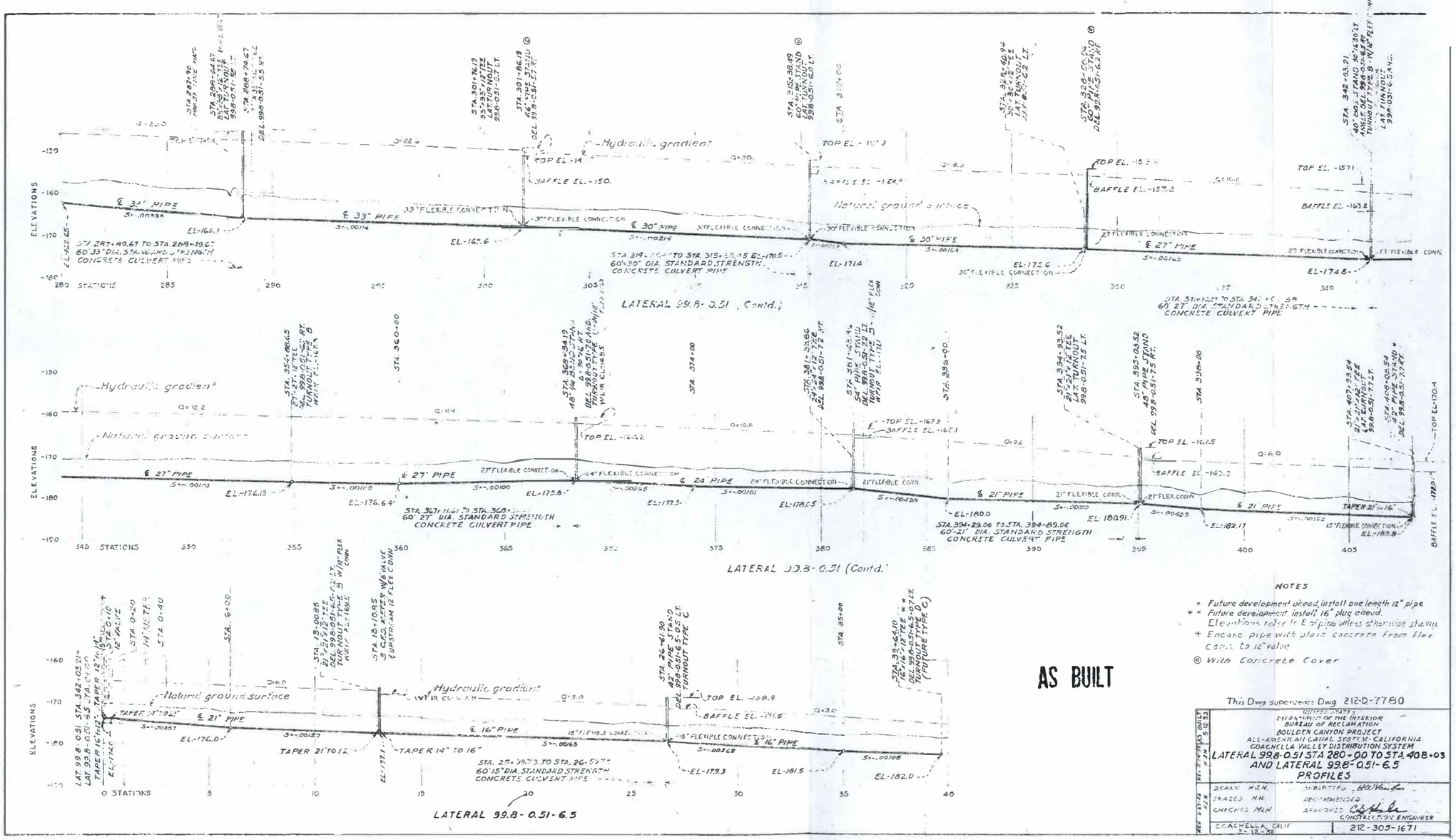
 Resource Name or #: Irrigation lateral 99.8-0.51 ☒ Continuation ☐ Update



Plan drawing of Lateral 99.8-0.51, sub-laterals, and structures as constructed between January 1952 and March 1953 (Drawing No. 2845, dated March 3, 1953).



Profile drawing, Lateral 99.8-0.51, Station 131+40.37 to 280+00 (Drawing No. 2557, dated May 12, 1953).



Profile drawing, Lateral 99.8-0.51, Station 280+00 to 408+03 (Drawing No. 2420, dated May 12, 1953).

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
SKETCH MAP

Primary # 33-005705; Update
HRI#
Trinomial

***Resource Name or #:** Irrigation lateral 99.8-0.51

***Drawn by:** J. Smallwood

***Scale:** 1 inch = 1,200 feet

***Date:** August 2015

*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

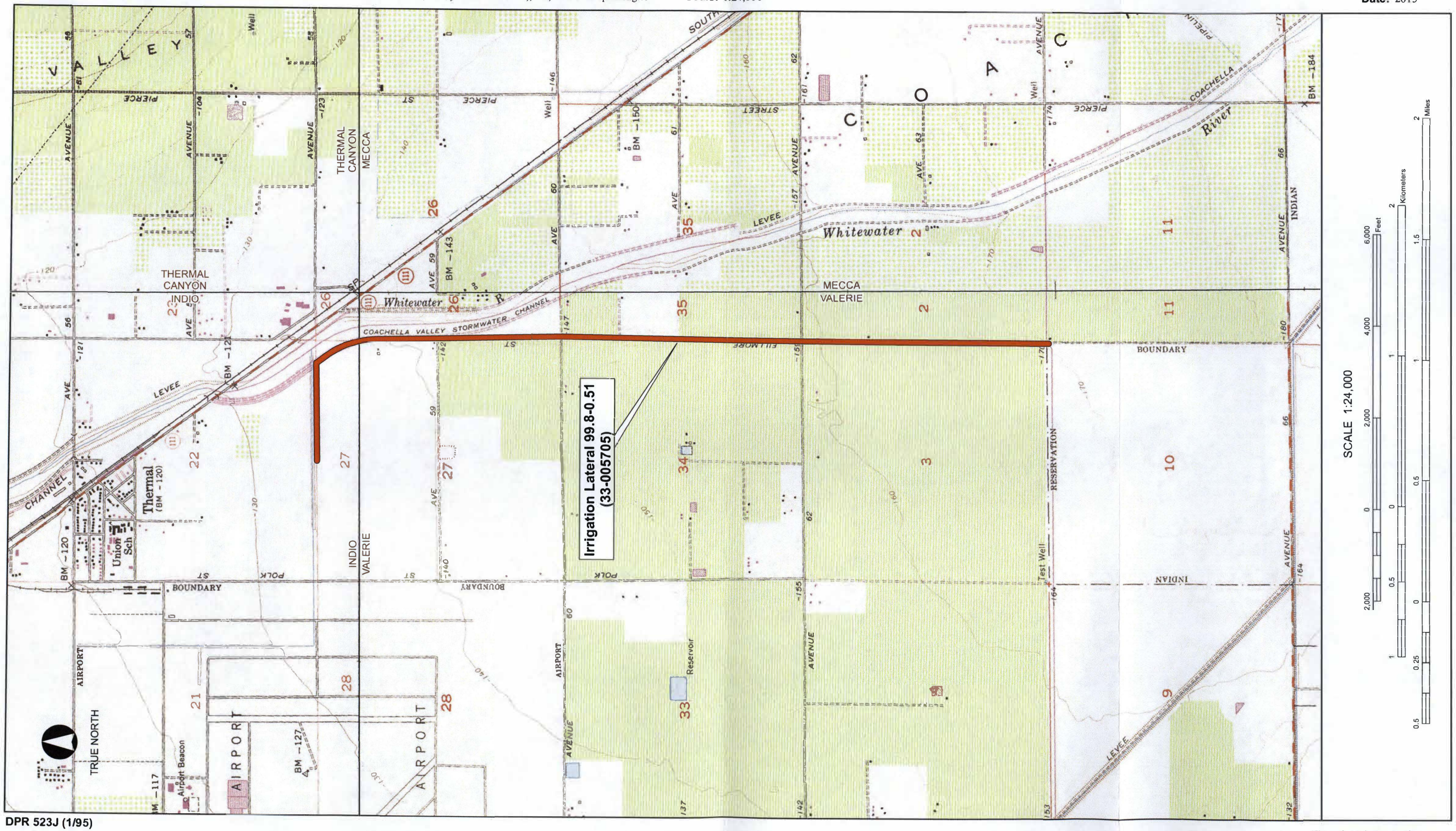
Primary # 33-005705; Update
HRI#
Trinomial

*Resource Name or #: Irrigation lateral 99.8-0.51

*Map Name: Indio, Thermal Canyon, and Valerie (all 1956, photorevised 1972), and Mecca (1955, photorevised 1972), CA, USGS 7.5' quadrangles

*Scale: 1:24,000

*Date: 2015



DPR 523J (1/95)

*Required information

State of California--The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary # P-33-005705
HRI #
Trinomial
NRHP Status Code 6Z
Other Listings
Review Code | Reviewer | Date

Resource Name or # Wasteway No. 3

P1. **Other Identifier:** Æ-1376T54-1H

P2. **Location:** **a. County** Riverside ☐ **Not for Publication** ☒ **Unrestricted**

b. USGS 7.5' Quadrangle Indio, Calif. **Date** 1956, photorevised 1973
Crossing portions of Sections 17, 19, and 20 of T5S, R8E, San Bernardino **B.M.**

c. Address none

d. UTM: NAD 83, Zone 11; **Intake on north side of levee:** 576,495 **mE** / 3,733,381 **mN**
Outlet in Whitewater River Channel: 574,846 **mE** / 3,730,879 **mN**

e. Other Locational Data: Wasteway No. 3 spans a distance of approximately 9,860 ft beginning on the north side of a large earthen levee (known as Detention Dike No. 2) near the base of the Indio Hills and traversing southwest to empty into the Whitewater River Channel located south of Interstate 10. Elevation ranges from 55 ft above mean sea level at the northeast end to 50 feet below mean sea level within the Whitewater River Channel, a drop in elevation of almost 100 ft over a distance of 9,700 ft.

P3a. **Description:** Wasteway No. 3 and Detention Dike No. 2 were constructed in 1948 as part of the Boulder Canyon Project, being a part of the Coachella division of the All American Canal system. Wasteway No. 3 is a reinforced-concrete flat-bottom canal structure with sloping sides. The canal prism along this segment measures approximately 30 ft wide across the top and 10 feet wide across the flat bottom. A short parapet wall tops one or both sides of the canal along its length. It spans a distance of approximately 9,860 ft beginning on the northeast side of a large earthen flood control levee, Detention Dike No. 2, located near the base of the Indio Hills and it traverses southwest to empty into the Whitewater River Channel located south of Interstate 10. The flood control levee and sloped terrain south of Indio Hills are designed to funnel floodwater toward the wasteway intake. The wasteway intake is a large, concrete box culvert measuring 45 ft wide and 12 ft thick with 20 ft long angled wingwalls at each end. The interior of the wasteway intake is separated into three 6x6-ft culvert chambers which span a distance of 150 ft southwest before emerging on the opposite side of the levee. The wasteway transforms into an open canal at the south side of the levee and continues southwest for 1,300 ft where it is crossed by Terra Lago Parkway. The canal travels another 515 ft to a point where it crosses beneath the Coachella Canal. This culvert is also separated into three 6x6-ft chambers. The culvert spans a distance of 125 ft southwest before emerging on the opposite side of the Coachella Canal. The wasteway continues a distance of 1,400 ft to where it is crossed by Avenue 44. Traveling southwest from Avenue 44, the wasteway crosses into Cabazon Indian Reservation for a distance of 3,925 ft before reaching Vista Del Norte. It crosses beneath Vista Del Norte, Interstate 10, and State Route 86 through a concrete box culvert before emptying into the Whitewater River Channel. The Wasteway No. 3 right-of-way ranges in width from about 60 ft on Cabazon Indian Reservation to 80 ft north of the reservation and as much as 100 ft north of Avenue 44. Service roads abut one or both sides of the wasteway its entire length; the road width is approximately 20 ft. Damages to the structure observed during the field survey included cracked and disintegrated prism walls and broken and collapsed parapet walls.

P3b. **Resource Attributes:** HP20. Canal/ aqueduct

P4. **Resources Present:** ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other:

P5a. **Photograph or Drawing:** See attached Continuation sheets for photographs

P5b. **Description of Photo:** All photographs were taken on June 30, 2015.

P6. **Date Constructed/Age of Sources:** ☐ Prehistoric ☒ Historic ☐ Both

P7. **Owner and Address:** Coachella Valley Water District, 75525 Hovley Lane East, Palm Desert, CA 92211

P8. **Recorded by:** Josh Smallwood, Applied EarthWorks, Inc., 3550 E. Florida Avenue, Suite A, Hemet, CA 92544

P9. Date Recorded: June 30, 2015

P10. Survey Type: Intensive level built environment survey

P11. Report Citation: Joan George and Josh Smallwood (2015): Phase I Cultural Resource Assessment for the Coachella Valley Water District's Wasteway No. 3 Improvements Project, City of Indio, Riverside County, California.

Attachments: ☐ None ☒ Location Map ☒ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record Other:

B1. **Historic Name:** Wasteway No. 3
B2. **Common Name:** Same
B3. **Original Use:** Flood control system of the Coachella Canal B4. Present Use: Same

B5. **Architectural Style:** Reinforced concrete canal with sloping sides

B6. **Construction History:** (Construction date, alterations, and date of alterations) Wasteway No. 3 and Detention Dike No. 2 were constructed in 1948. The wasteway was built by the U.S. Department of Interior, Bureau of Reclamation as part of the Boulder Canyon Project, being a part of the Coachella division of the All American Canal system. The detention dike and sloped terrain south of Indio Hills are designed to funnel floodwater toward the wasteway intake. Floodwater then flows through Wasteway No. 3 in a southwesterly direction before emptying into the Whitewater River Channel.

B7. **Moved?** ☒ No ☐ Yes ☐ Unknown **Date:** **Original Location:**

B8. **Related Features:**

B9a. **Architect:** U.S. Bureau of Reclamation **b. Builder:** Reclamation contractors

B10. **Significance:**
Theme Mid-twentieth century irrigation and flood control
Area Riverside County, Coachella Valley region
Period of Significance None
Property Type Wasteway canal
Applicable Criteria None

Wasteway No. 3 is an ancillary structure related to the construction of the Coachella Canal, and along with Detention Dike No. 2, it serves to protect the Coachella Canal from floodwaters emanating from the Indio Hills to the north. For the purposes of this evaluation, the significance of Wasteway No. 3 is assessed within the context of the construction and historical significance of the Coachella Canal, as provided below.

Coachella Canal

Construction of the Coachella Canal followed the passage of the Boulder Canyon Project Act of 1928, which also authorized the construction of Boulder Dam (now Hoover Dam), Imperial Dam, and the All-American Canal. The Coachella Canal was constructed within a natural desert wash through inland Imperial and Riverside counties, California, between 1935 and 1948. Its purpose was to deliver a reliable source of irrigation water to the Coachella Valley from the All-American Canal (Nordland 1978). While farming had been an occupation of settlers in the Coachella Valley since the mid-nineteenth century, the economic market for agriculture boomed following the completion of the Coachella Canal. Total acreage devoted to crops more than tripled from 1939 to 1955 (Stringer-Bowsher et al. 2009:12).

> Growth of the Coachella Valley north of the Salton Sea, which began receiving irrigation water through the All-American Canal from the Colorado River in the latter part of 1947, has been equally impressive [to the Imperial Valley]. Irrigated acreage which increased slowly from 16,350 in 1940 to 19,725 in 1947 had by 1954 expanded to 50,446 acres, with the 30,000-acre increase during the seven years following 1947 directly attributable to the availability of an adequate supply of gravity irrigation water. Per acre crop income between 1940 and 1954 increased from $154 to $480 per acre. During the same period total gross crop income increased from $2,500,000 to about $24,600,000 [Bureau of Reclamation 1955].

A segment of the Coachella Canal between Siphon 7 and Siphon 32 was evaluated by ASM Affiliates, Inc. (ASM) in 2003 on behalf of Reclamation for the CVWD's Coachella Canal Lining Project. Within the 2003 evaluated segment, there are 25 siphons, three check structures, two automatic spillways, five drainage inlet structures, and one railroad bridge (Ghabhláin 2003). Wasteway No. 3 was identified in ASM's 2009 study as a flood-protective structure

B10. Significance (continued):

associated with the Coachella Canal, but it was not evaluated for significance or identified as a contributor to the significance of the Coachella Canal (Stringer-Bowsher et al. 2009:82–83).

In 2003, Reclamation formally determined the portions of the Canal between Siphons 7 and 14 and Siphons 15 and 32 to be eligible for the NRHP under Criteria A and C. The SHPO subsequently concurred that the portions of the Canal were eligible, but only under Criterion A. In ASM's 2009 evaluation of the Coachella Canal between Siphon 32 and the canal terminus at Lake Cahuilla, ASM reconsidered its eligibility under Criterion C and recommended the Canal and distribution system as eligible for the NRHP under Criteria A and C. Both the Canal and distribution system are considered eligible for the NRHP under Criterion A...

> ...as the foundation for conveying Colorado River water from the All-American Canal to the extensive grid of lateral and sublaterals that then distributes the water to the Coachella Valley, which allowed for agricultural and residential growth. The historical significance of the pivotal contributions of the Coachella Canal and its distribution system for the development in the Coachella Valley is evident in its current population growth and its agricultural history. Although agricultural growth existed prior to the Reclamation project, the Reclamation irrigation infrastructure provided a consistent supply of water and an alternative to complete reliance on artesian or pumped wells. A dependable water supply from the Colorado River through the All-American Canal laid the foundation for economic growth in the desert terrain of the Coachella Valley [Stringer-Bowsher et al. 2009:97].

The gravity-fed distribution system, completed in 1954, "was the culminating project that distributed a consistent water source from the Colorado River to the Coachella Valley and founded the transition of the valley's small-scale agricultural enterprises into a burgeoning and industrialized agricultural economy" (Stringer-Bowsher et al. 2009:97). The period of significance for the entire Coachella Canal and its distribution system is 1938–1954. As of the date of this report, there has been no SHPO concurrence with ASM's assessment on behalf of Reclamation.

Significance Evaluation: Wasteway No. 3

The Coachella Canal (P-33-005705), which crosses the Project APE, has been determined eligible for NRHP inclusion under Criterion A by the Bureau of Reclamation, with SHPO concurrence. Its significance under NRHP Criterion A is based on its role in the transformation of Coachella Valley from a region of small-scale agricultural enterprises into a burgeoning and industrialized agricultural economy. The period of significance for the entire Coachella Canal and its distribution system is 1938–1954. Wasteway No. 3 was previously identified as a flood-protective structure associated with the Coachella Canal, but it was not evaluated for significance or identified as a contributor to the significance of the Coachella Canal (Stringer-Bowsher et al. 2009:82–83). Wasteway No. 3 is indeed a flood-protective structure that is ancillary to the function of the Coachella Canal, which is to bring irrigation water to the Coachella Valley. Operationally it is needed during flood episodes, but it is not instrumental to channeling water to agricultural fields. Despite its association with the Coachella Canal as an ancillary engineered flood control structure, Wasteway No. 3 does not appear eligible for listing in the NRHP or CRHR, and it is not a contributing element to the historical significance of the Coachella Canal. Wasteway No. 3 is one of several flood-control structures that help to protect the Coachella Canal; it does not provide Canal irrigation water to the Coachella Valley. Therefore, as an ancillary structure within a much larger system and being of standard design and construction with no other important historical associations, Wasteway No. 3 does not appear to meet any of the criteria of the NRHP or CRHR, as explained further below.

NRHP Criterion A/CRHR Criterion 1: Wasteway No. 3 does not appear to meet NRHP Criterion A or CRHR Criterion 1, despite its association with the Coachella Canal, which fostered the successful agricultural growth and development of the Coachella Valley. As the National Park Service explains, "mere association with historic events is not enough, in and of itself, to qualify under NRHP Criterion A: the property's specific association must be considered important as well" (NPS 1991:12). Wasteway No. 3 is a flood-protective structure which is ancillary to the function of the Coachella Canal, which is to bring irrigation water to the Coachella Valley. Wasteway No. 3 is

B10. Significance (continued):

one of three wasteways along the Coachella Canal which were constructed to drain floodwater from behind the large earthen dikes to the north of the Canal, thereby protecting the Canal from sheetwash erosion. The wasteway does not provide or distribute water for irrigation; rather, it redirects floodwater from above the Canal to the Whitewater River Channel. Thus, it does not share the important association that the Coachella Canal is significant. Furthermore, it does not appear to be directly associated with any other significant historical events.

NRHP Criterion B/CRHR Criterion 2: Wasteway No. 3 does not appear to meet NRHP Criterion B or CRHR Criterion 2 for any direct associations with the productive lives of persons important in local, state, or national history. The wasteway was constructed by contractors of the Bureau of Reclamation and Coachella Valley Water District not individuals. Thus, Wasteway No. 3 does not have any known direct association with the productive lives of important individuals in local, regional, state, or national history, and it does not appear eligible for the NRHP under Criterion B or the CRHR under Criterion 2.

NRHP Criterion C/CRHR Criterion 3: Wasteway No. 3 does not appear to meet NRHP Criterion C or CRHR Criterion 3 for "distinctive characteristics of a type, period, and method of construction," and does not stand out from other similar floodwater canals as having any architectural or engineering merits. Wasteway No. 3 is of standard design and construction, and not unlike any other floodwater canal. Canal delivery systems built throughout southern California during the post-World War Two (WWII) era were constructed with a concrete lining, or a combination of hard earth and concrete in their lining, and often employed a series of structures within the bottom to slow the flow of water travelling its course. Wasteway No. 3 does not appear to employ any ingenious or technologically innovative and scientifically significant engineering in its design and construction that stands apart from other flood control channels found throughout the Coachella Valley and the rest of Riverside County. The wasteway canal exhibits characteristics of mid-to-late twentieth century engineering design and construction techniques commonly employed for canals.

NRHP Criterion D/CRHR Criterion 4: Wasteway No. 3 does not appear to meet NRHP Criterion D or CRHR Criterion 4 for any potential to provide information important to the study of mid-to-late twentieth century floodwater canals. NRHP Criterion D/CRHR Criterion 4 is typically reserved for archaeological resources, ruins, or rare built-environments of which little is already known, and that are considered the sole source of historical data. Wasteway No. 3 is unable to yield any information important to the study of floodwater canals of this particular type or vintage in local, state, or national history. Wasteway No. 3 itself is not the primary source of this information, but rather, the physical manifestation of the knowledge and practice of this technology, which was widely applied throughout the Coachella Valley, Riverside County, and other parts of southern California. Wasteway No. 3 does not provide any additional information beyond what is documented in maps, aerials, as-builds, photographs, and written description, and therefore, its limited data potential has been exhausted once its location, physical characteristics, and pertinent history has been recorded on DPR forms.

B11. Additional Resource Attributes: (List attributes and codes) None

B12. References:

Bureau of Reclamation
1955 *Report on the Contribution of the All American Canal System, Boulder Canyon Project, to the Economic Development of the Imperial and Coachella Valleys, California, and to the Nation.* United States Government Printing Office, Washington.

Nordland, Ole J.
1978 *Coachella Valley's Golden Years.* Revised edition. Desert Printing Co., Inc., Indio, California.

NPS (National Park Service)
1991 *National Register Bulletin Number 15: How to Apply the National Register Criteria for Evaluation.* U.S. Department of the Interior, National Park Service, Washington, D.C.

Primary # P-33-005705
HRI #
NRHP Status Code
Resource Name or # Wasteway No. 3

B12. References (continued):

Schaefer, Jerry, and Sinéad Ní Ghabhláin
2003 *A History and Evaluation of the Coachella Canal, Riverside and Imperial Counties, California.* ASM Affiliates, Inc. Prepared for the Coachella Valley Water District.

Stringer-Bowsher, Sarah, Sinéad Ní Ghabhláin, and Jerry Schaefer
2009 *Preserving a Record of the Coachella Canal, Documents Data Recovery for the Concrete Lined Reach Between Siphon 32 and Lake Cahuilla.* ASM Affiliates, Inc. Prepared for the Bureau of Reclamation, Yuma Area Office, Yuma, Arizona.

B13. Remarks: CVWD and Reclamation plan to repair the Wasteway No. 3 canal prism

B14. Evaluator: Josh Smallwood **Date of Evaluation:** July 14, 2015

(Sketch Map with north arrow required.)

See Sketch and Location Maps on following pages.

(This space reserved for official comments.

-33-00570

State of California--The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary #
HRI #
Trinomial

Reso... name or # Wasteway 3

Recorded by: Josh Smallwood **Date** June 30, 2015

☒ Continuation ☐ Update

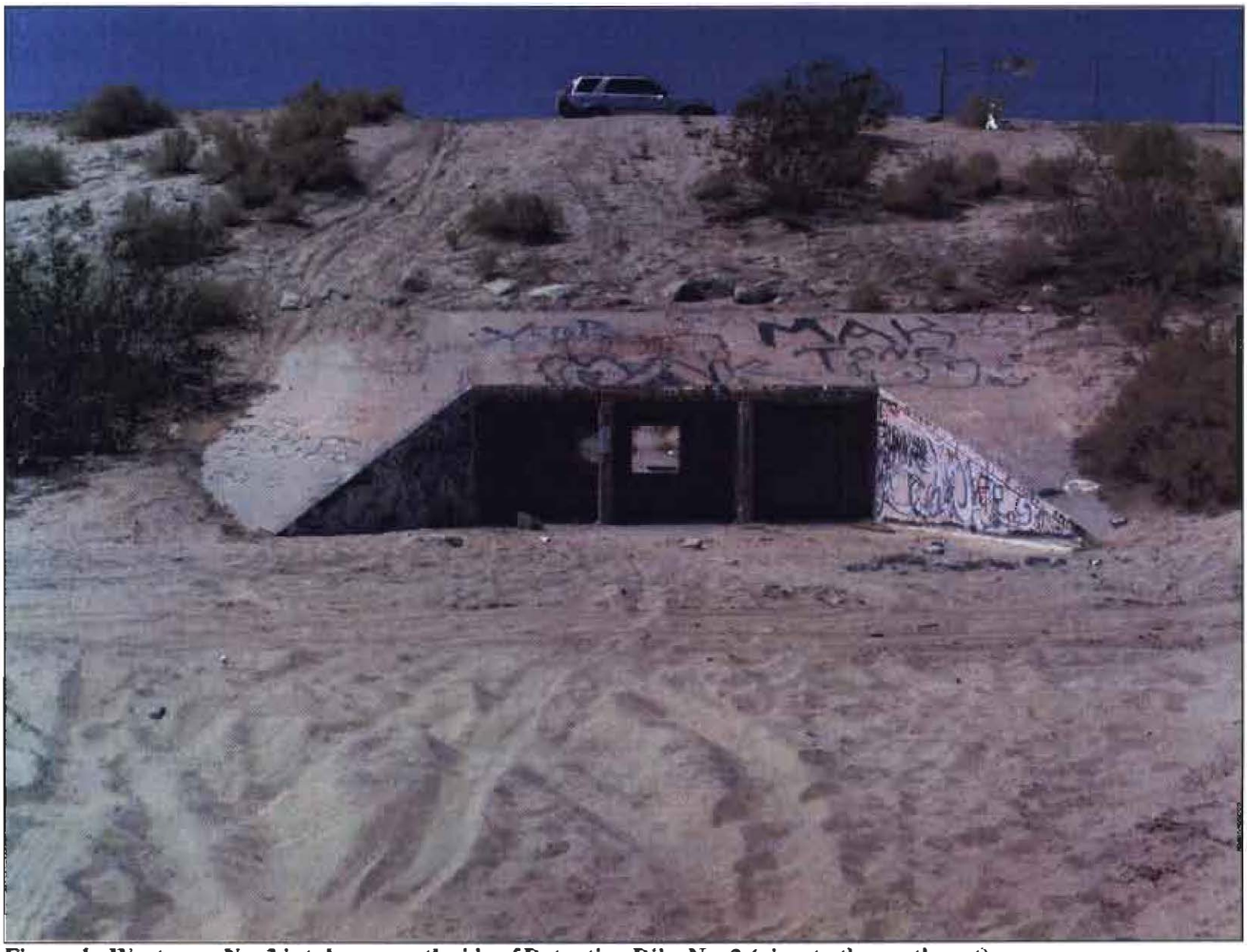


Figure 1. Wasteway No. 3 intake on north side of Detention Dike No. 2 (view to the southwest).

Figure 2. Wasteway No. 3 as it heads southwest from Detention Dike No. 2 (view to the southwest).

P-33-005705

State of California--The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary #
HRI #

Resource Name or # Wasteway No. 3

Recorded by: Josh Smallwood **Date** June 30, 2015

☒ Continuation ☐ Update

Figure 3. Wasteway No. 3 where it crosses beneath the Coachella Canal (view to the southwest).

Figure 4. Wasteway No. 3 as it enters Cabazon Indian Reservation (view to the southwest).

Figure 5. Segment of Wasteway No. 3 on Cabazon Indian Reservation (view to the southwest). Note the collapsed wall laying in the bottom of the wasteway.

P-33-005705

State of California--The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary #
HRI #
Trinomial

Resource Name or # Wasteway No. 3

Recorded by: Josh Smallwood Date June 30, 2015

☒ Continuation ☐ Update

Figure 6. Wasteway No. 3 where it crosses beneath Vista Del Norte and Interstate 10 (view to the southwest).

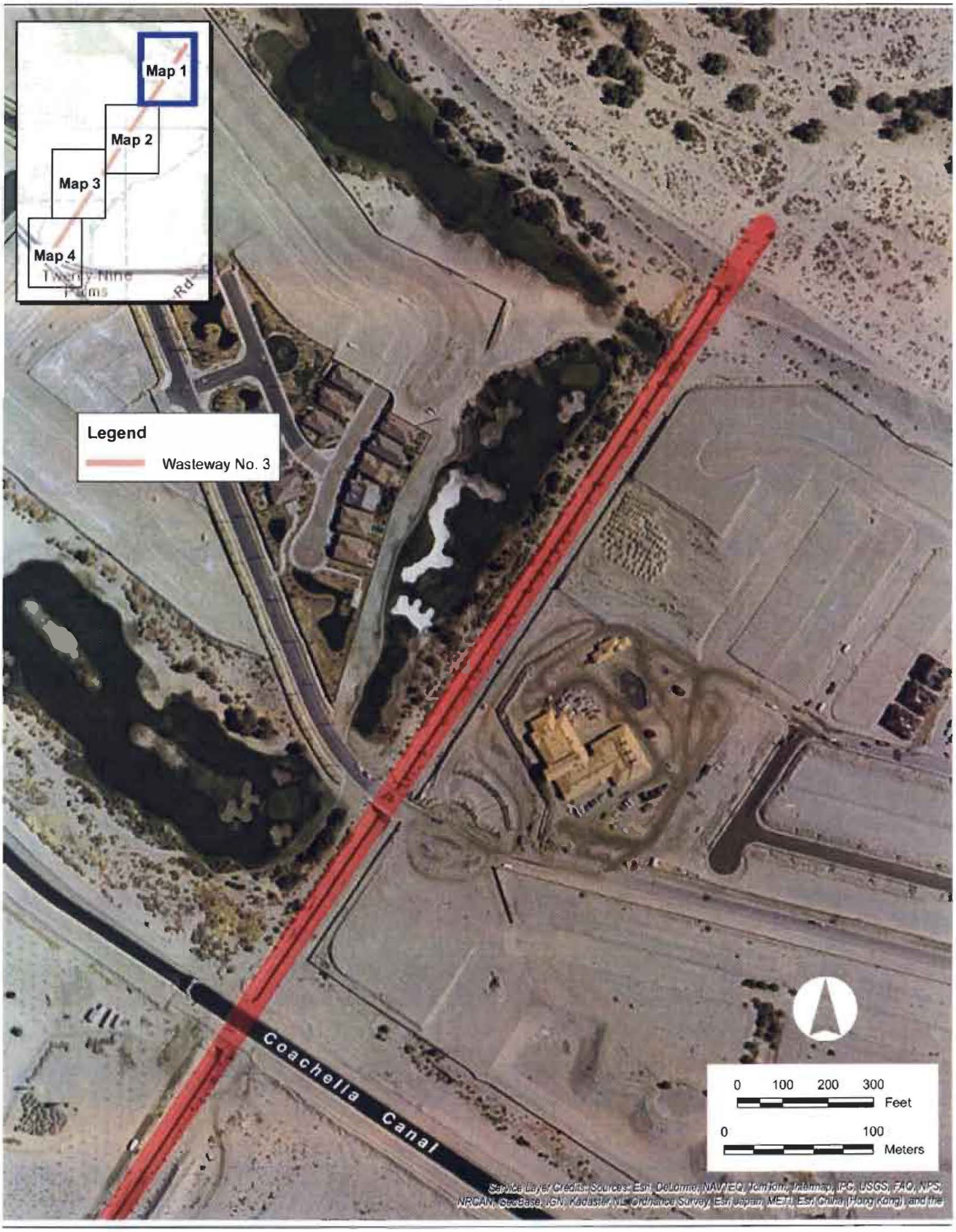
P-33-005705

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
SKETCH MAP 1 of 4

Primary #
HRI#
Trinomial

Page 13 **of** 17 **Resource Name or #:** (Assigned by recorder) Was

Drawn by: J. Smallwood **Scale:** 1 inch equals 300 feet **Date of map:** June 2015



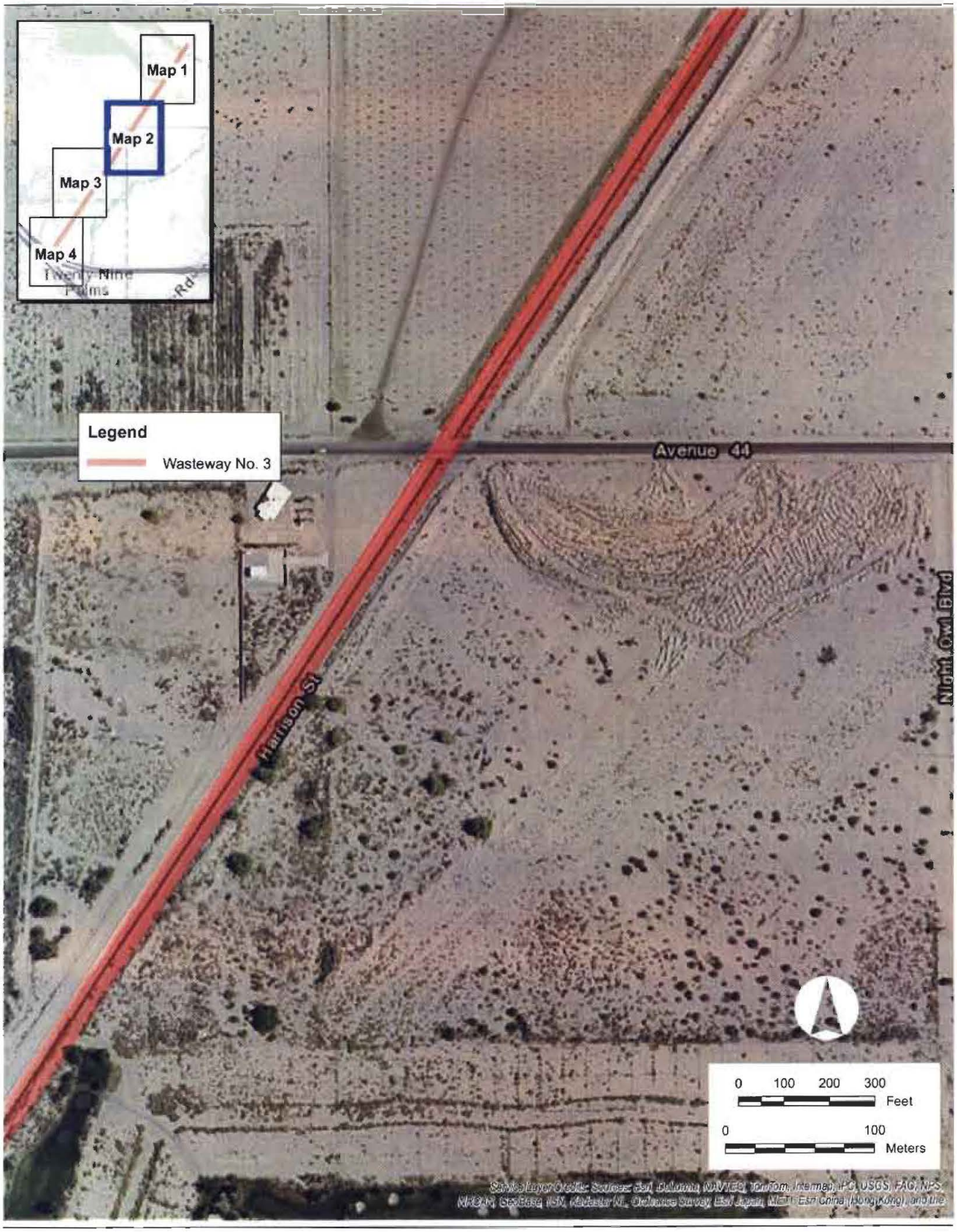
P-33-005705

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
SKETCH MAP 2 of 4

Primary #
HRI#
Trinomial

Page 14 **of** 17 **Resource Name or #:** (Assigned by recorder) Wasteway No. 3 (Æ-137677)

Drawn by: J. Smallwood **Scale:** 1 inch equals 300 feet **Date of map:** June 2015



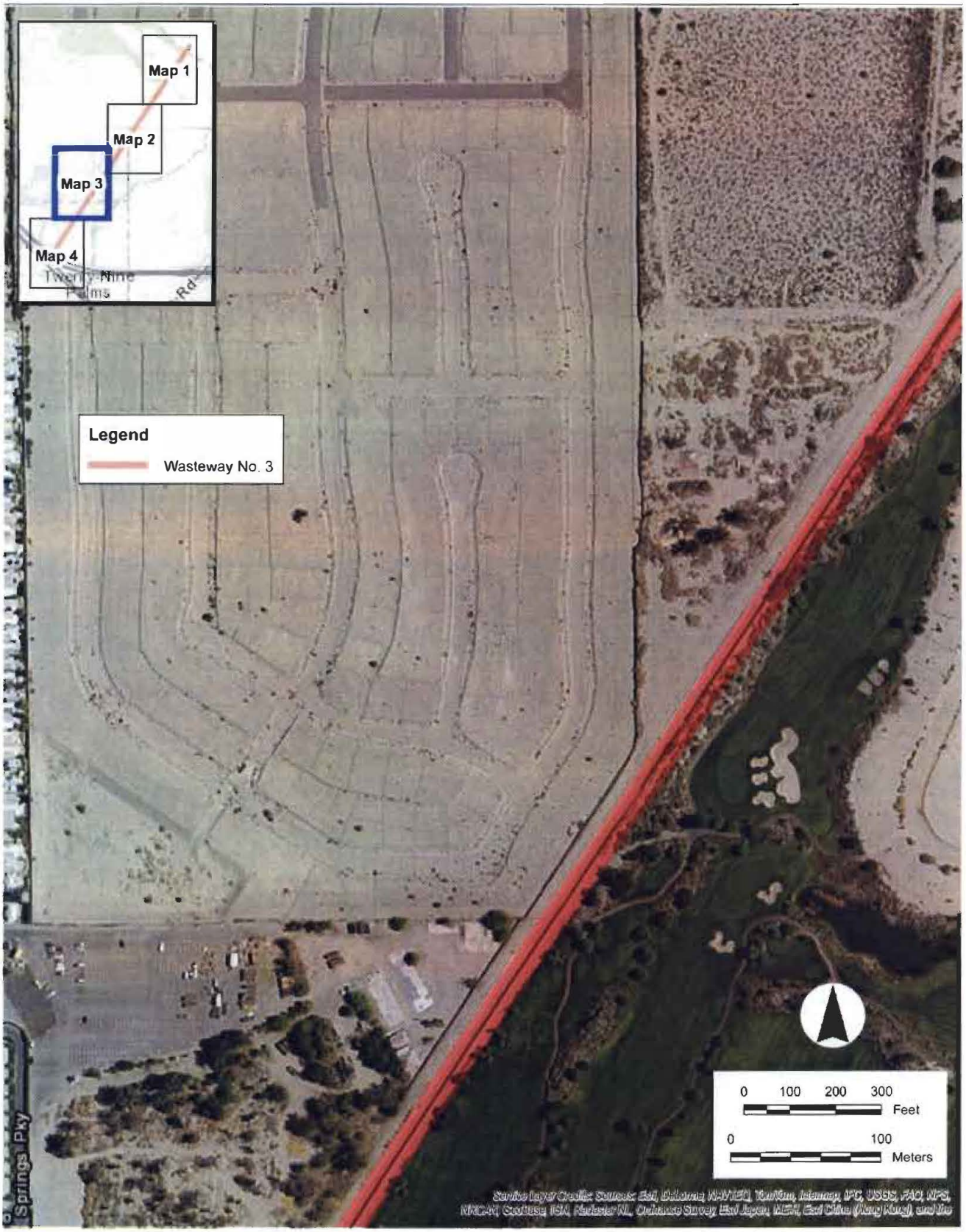
P-33-005705

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
SKETCH MAP 3 of 4

Primary #
HRI#
Trinomial

Page 15 **of** 17 **Resource Name or #:** (Assigned by recorder) Wasteway No. 3 (Æ-1376T54-1H)

Drawn by: J. Smallwood **Scale:** 1 inch equals 300 feet **Date of map:** June 2015



P-33-005705

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
SKETCH MAP 4 of 4

Primary #
HRI#
Trinomial

Page 16 **of** 17 **Resource Name or #:** (Assigned by recorder) Wasteway No. 3 (Æ-1376TS4-1H)

Drawn by: J. Smallwood **Scale:** 1 inch equals 300 feet **Date of map:** June 2015

P-33-005705

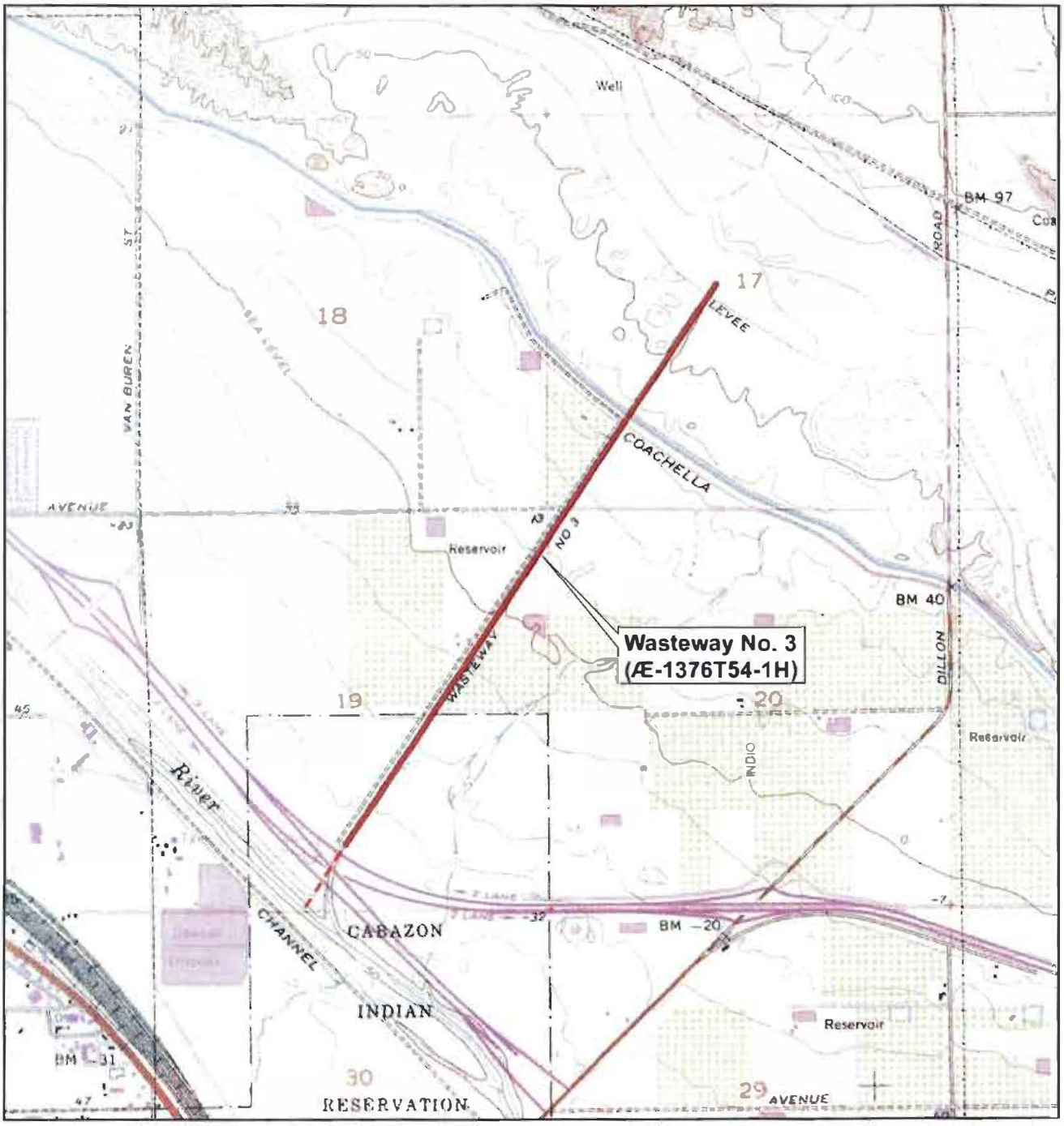
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

Primary #
HRI#

Page 17 **of** 17 **Resource Name or #:** Wasteway No. 3 (Æ-1376T54-1H) **Scale:** 1:24,000

Map Name: Indio (1956, photorevised 1972), CA, USGS 7.5' quadrangle **Date:** 2015



SCALE 1:24,000

1 0.5 0 1 Miles

1,000 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

1 0.5 0 1 Kilometers

TRUE NORTH

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary # 33-5705 UPDATE
HRI #
Trinomial
NRHP Status Code

Other Listings | Review Code | Reviewer | Date

Page 1 of 3 *Resource Name or #: 33-5705 UPDATE

P1. Other Identifier: Coachella Canal (Segment)

*P2. Location: ☐ Not for Publication ☑ Unrestricted

*a. County Riverside and (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad Indio Date 1972, photorevised 1999 T 5S; R 7E; SW ¼ of SW ¼ of Sec 22 and NW ¼ of NW ¼ of Sec 27; S.B. B. M.

c. Address Avenue 46 City Indio Zip 92201

d. UTM: (Give more than one for large and/or linear resources) Zone 11S , 569547 mE/ 3730775 mN (NAD 83)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
Elevation: 27 feet above mean sea level. Directions to Resource: Traveling on eastbound Interstate 10, exit Monroe Street (Exit 142). Turn right and merge onto Monroe Street and proceed south for approximately 1.40 miles. Turn right onto Shadow Palm Avenue and continue west for about 0.25 mile. Turn left onto Aladdin Street and continue south for 0.20 mile. Turn right onto Avenue 46 and proceed west 0.65 mile. The resource trends north-south at this location, beneath Avenue 46.

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
33-5705 was originally recorded in 1983 by the Riverside County Historical Commission. A segment update was completed by ASM Affiliates in 2003, which addressed the canal and associated structures and features between Siphons 7 and 32. This update addresses an 80 foot segment of the resource that was visited during a pedestrian survey completed in support of the Requa Avenue Sewer Interceptor Project (see Report Citation).

*P3b. Resource Attributes: (List attributes and codes) AH6: Water Conveyance System

*P4. Resources Present: ☐ Building ☐Structure ☐Object ☑Site ☐District ☑Element of District ☐Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)

P5b. Description of Photo: (view, date, accession #)
View of 33-5705, Avenue 46, and the Avenue 46 footbridge, facing east.

*P6. Date Constructed/Age and Source:
☑ Historic ☐ Prehistoric ☐ Both

*P7. Owner and Address: _____

*P8. Recorded by: (Name, affiliation, and address)
T. Baurley and J.M. Sanka
L&L Environmental, Inc.
721 Nevada Street, Suite 307
Redlands, CA 92373

RECEIVED IN
JUL 27 2015
EIC

*P9. Date Recorded: May 25, 2015

*P10. Survey Type: (Describe) Intensive

*P11. Report Citation: (Cite survey report and other sources, or enter "none.") L&L Environmental, Inc. (J.M. Sanka). 2015. Cultural Resources Assessment for the Requa Avenue Sewer Interceptor Project, ±107.50 Acres in the City of Indio, Riverside County, California.

*Attachments: ☐ NONE ☑ Location Map ☐Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☐ District Record ☑ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record ☐ Other (List): _____

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LINEAR FEATURE RECORD

Primary # 33-5705 UPDATE
HRI #
Trinomial

 Resource Name or #: (Assigned by recorder) 33-5705 UPDATE

L1. Historic and/or Common Name: Coachella Canal (Segment)

L2a. Portion Described: ☐ Entire Resource ☑ Segment ☐ Point Observation **Designation:**

b. Location of point or segment: (Provide UTM coordinates, decimal degrees, legal description, and any other useful locational data. Show the area that has been field inspected on a Location Map.) UTM for approximate centerpoint of segment within the Study Area is: Zone 11S, 569547 mE/ 3730775 mN (NAD 83). See Location Map.

L3. Description: (Describe construction details, materials, and artifacts found at this segment/point. Provide plans/sections as appropriate.) The 80-foot segment located within the current Study Area is concrete lined and passes under Avenue 46. A footbridge is located to the north of Avenue 46 and parallels the road to provide pedestrian passage over the canal. Utility crossings are observable on the north and south sides of Avenue 46 and they parallel the roadway.

L4. Dimensions: (In feet for historic features and meters for prehistoric features)

a. Top Width 30 feet
b. Bottom Width Not Measured (contains water)
c. Height or Depth Not Measured (contains water)
d. Length of Segment 80 feet

L5. Associated Resources:
Pedestrian footbridge along Avenue 46 that crosses over the resource (modern).

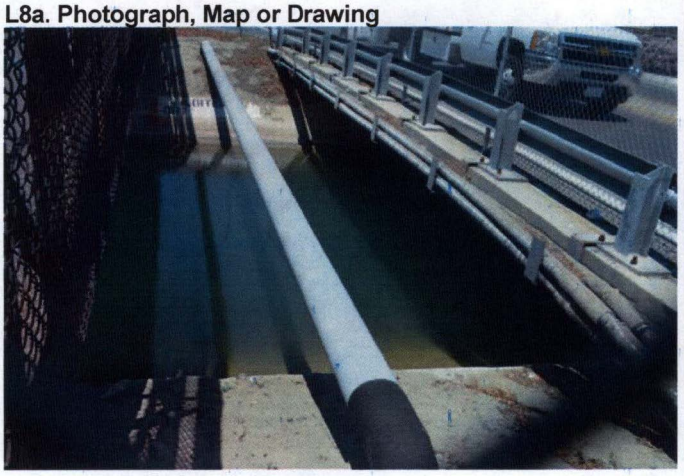
L4e. Sketch of Cross-Section (include scale) Facing:

N/A – Resource currently contains water.

L6. Setting: (Describe natural features, landscape characteristics, slope, etc., as appropriate.): This resource segment is located in a relatively flat area and is surrounded by modern development on all sides, including roads, sidewalks, and residences.

L7. Integrity Considerations: This segment includes a modern overpass and footbridge that were likely installed between 1972 and 1996. Aerial photographs show that Avenue 46 was paved between these dates (www.historicaerials.com).

L8a. Photograph, Map or Drawing



L8b. Description of Photo, Map, or Drawing (View, scale, etc.): 33-5705, including a utility crossing. View to the west.

L9. Remarks: The entirety of the Coachella Canal has been previously evaluated for inclusion in the NRHP by ASM Affiliates in 2003 (RI-6061). 33-5705 was recommended eligible for the NRHP under Criterion A (Event) and Criterion C (Construction). In addition, the canal was found to be eligible for the NRHP as part of a District that includes the Imperial Dam and Desilting Works, the All-American Canal, and the Coachella Canal. Overall, the canal was found to be significant on the local and regional levels.

L10. Form Prepared by: (Name, affiliation, and address)
T. Baurley and J.M. Sanka
L&L Environmental, Inc.
721 Nevada Street, Suite 307
Redlands, CA 92373

L11. Date: July 8, 2015

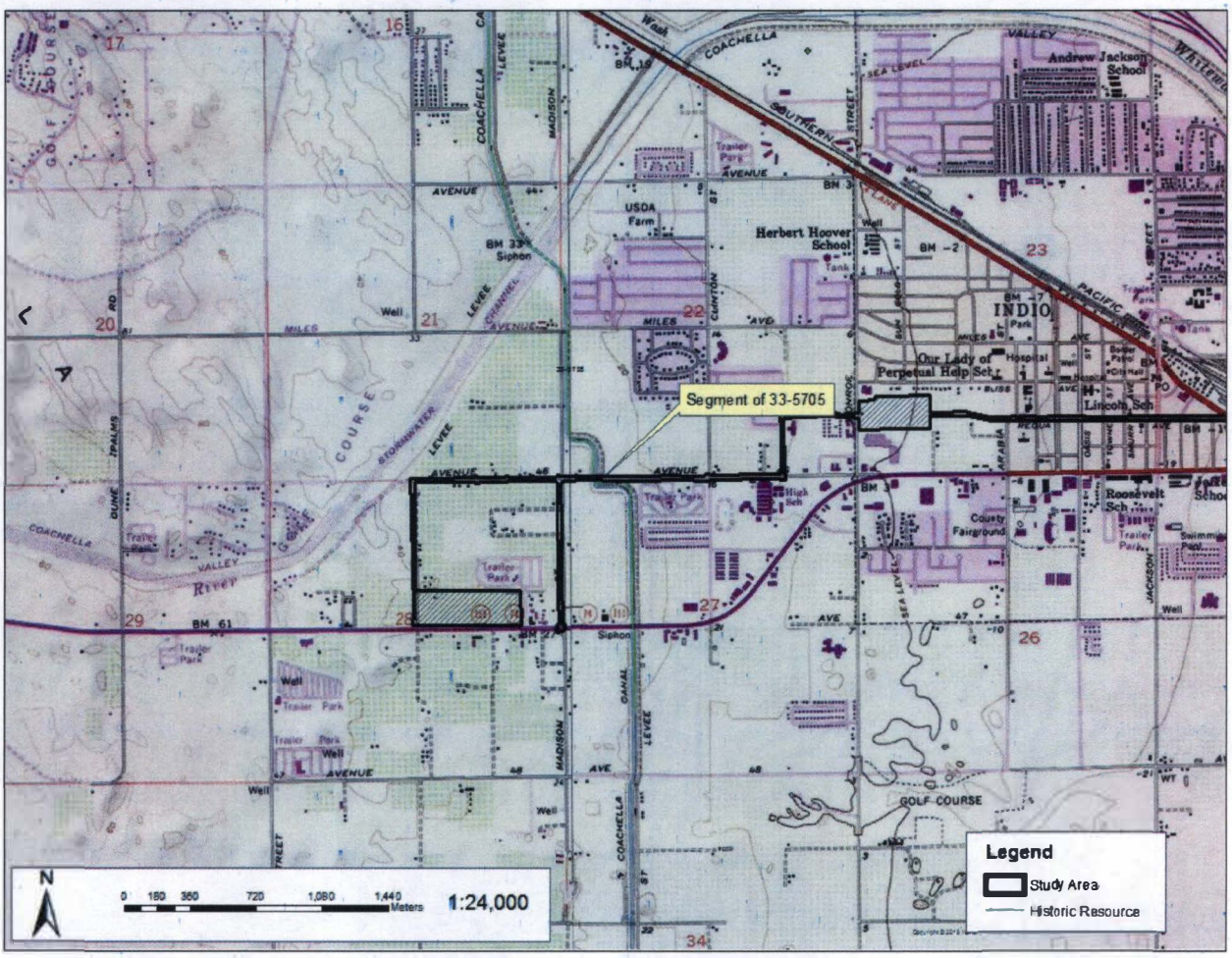
State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

Primary # 33-5705 UPDATE
HRI #
Trinomial

*Resource Name or # (Assigned by recorder) 33-5705 UPDATE

*Map Name: Indio, CA *Scale: 1:24,000 *Date of map: 1972, photorevised 1999



* Required information

State of California--The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # 33-005705 (update)
HRI #
Trinomial
NRHP Status Code 3S
Other Listings
Review Code **Reviewer** **Date**

Resource Name or # Coachella Canal (Sta. 6382 + 96 to Sta. 6431 + 36)

P1. **Other Identifier:**

P2. **Location:** **a. County** Riverside ☐ **Not for Publication** ☒ **Unrestricted**

b. USGS 7.5' Quadrangles La Quinta, Calif. **Date** 1980
T6S; **R**7E; crossing **Sections** 8 and 17; **S.B.B.M.**
Elevation: Ranging from approx. 22 feet (north end) to 16 feet (south end) above mean sea level

c. Address N/A **City** La Quinta **Zip** 92253

d. UTM: **Zone: 11; NAD 1983** **North end (Station 6382+96):** 567,009 **mE /** 3,725,360 **mN;**
South end (Station 6431+36): 566,853 **mE /** 3,724,031 **mN**

e. Other Locational Data: (e.g., parcel #, directions to resource, etc., as appropriate) This segment of the Coachella Canal is located west of Jefferson Street and south of Avenue 52. Portions of the canal segment cross the Silver Rock Golf Course and skirt the eastern edge of an unnamed rocky hillside west of Avenue 54.

P3a. **Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries) This approximately 4,840 ft long segment of the Coachella Canal is a reinforced-concrete lined flat-bottom structure with sloping sides. The concrete lining along this segment measures approximately 36 ft wide. Some portions of this segment feature hard-earth, sloped embankments that provide additional depth to the canal, and have a top width that measures 55 ft. The sides of the canal slopes approximately 32˚. This segment is situated immediately downstream from a check dam structure at Sta. 6381 + 94.6, and includes a large check dam/ drop structure at Sta. 6426 + 40.1. These two check dam/ drop structures differ in design and construction, primarily in the amount of drop they produce and a road crossing that exists at Sta. 6426 + 40.1. The drop structure at these two locations consists of a V-shaped dam-wall with an automatic mechanically controlled gate at the center of the V that releases water into a 9 ft-wide spillway. A narrow walkway provides access across the dam-wall to the control-gate and the other side of the canal. The drop structure at Sta. 6426 + 40.1 features a vehicle crossing bridge over the top of the spillway, supported at each end with concrete buttresses and with a deck of wood planks. A small concrete-block power supply and control room building sits on the west side of the canal at this location. A service road abuts the west side of the canal along a portion of this segment. It ranges from approximately 15 ft to 20 ft wide in areas. Where the canal crosses a golf course, there is no permanent service road. There are two laterals along this recorded segment of the Coachella Canal: one at Sta. 6420 + 05.7 (Lateral 121.6), and another at Sta. 6403 + 85.1; both of which vary in their design and construction. The lateral at Sta. 6420 + 115 (Lateral 121.6) is a double-barrel turnout located on the east side of the canal. It is equipped with two wheel-type manual gate controls. The lateral at Sta. 6403 + 85.1 is a single-barrel turnout located on the east side of the canal, equipped with a single wheel-type manual gate control.

P3b. **Resource Attributes:** (List attributes and codes) HP20. Canal/ aqueduct

P4. **Resources Present:** ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other:

P5a. **Photograph or Drawing** (Photograph required for buildings, structures, and objects.) See attached Continuation sheets for both digital photographs and copies of large-format black-and-white negatives.

P5b. **Description of Photo:** (view, date, accession #) Photographs taken on August 23, and September 10–11, 2013.

P6. **Date Constructed/Age of Sources:** ☐ Prehistoric ☒ Historic ☐ Both 1947–1948

P7. Owner and Address: Coachella Valley Water District, P.O. Box 1058, Coachella, CA 92236

P8. Recorded by: (Name, affiliation, and address): Josh Smallwood, Applied EarthWorks, Inc., 3550 E. Florida Avenue, Suite H, Hemet, CA 92544

P9. Date Recorded: August 23, and September 10–11, 2013

P10. Survey Type: Intensive and reconnaissance level

P11. Report Citation: (Cite survey report and other sources, or enter "none.") Josh Smallwood and Stephen Schafer (2013): *HAER-level Photographic Documentation of the Coachella Canal (Sta. 6382 + 96 to Sta. 6431 + 36) for the Coachella Valley Water District's Canal Water Conveyance System Relocation Project, Riverside County, California.* Prepared by Applied EarthWorks, Inc., Hemet, CA.

Attachments: □ None ☒ Location Map ☒ Site Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record □ Archaeological Record □ District Record □ Linear Feature Record □ Milling Station Record □ Rock Art Record □ Artifact Record □ Photograph Record Other:

BUILDING, STRUCTURE, OBJECT RECORD

NRHP Status Code 3S
Resource Name or # Coachella Canal (Sta. 6382 + 96 to Sta. 6431 + 36)

B1. Historic Name: Coachella Canal
B2. Common Name: Coachella Canal
B3. Original Use: Irrigation canal B4. Present Use: Irrigation canal

B5. Architectural Style: Reinforced concrete-lined canal with flat bottom and sloping sides.

B6. Construction History: (Construction date, alterations, and date of alterations) A final report of surveys for the alignment of the All-American and Coachella Canals occurred in 1931, based on surveys conducted through Reclamation in 1929 and 1930 (ASM Affiliates 2009:40). Surveys directed toward the construction of laterals commenced in 1938 and continued through 1948, with some minor setbacks during WWII. Bids for construction on the canal were conducted in phases; Reach 1 to Reach 5. The subject recorded segment (Sta. 6382 + 96 to Sta. 6431 + 36) was a part of the fifth and final reach, extending from Sta. 6106 + 06 to 6517 + 00. This segment of the Coachella Canal was constructed with a concrete lining to reduce ground seepage. Otto B. Ashbach and Sons won the bid on the contract for earthwork, canal lining, and structures on the fifth reach on January 10, 1947, and were given Notice to Proceed on May 28 (2009:51). Otto B. Ashbach and Sons subcontracted all of the work except laying the concrete for the reinforced canal lining (2009:51). The A-1 Construction Company did the rough excavation, the Elledge Brothers relocated existing pipes, Queen and Queen completed the structure work, and the Triangle Concrete Company operated the concrete batching plant (2009:51-52). The final reach of the Coachella Canal was completed on June 26, 1948 (2009:56). Construction on the distribution system, i.e. underground laterals, began in February, 1948, and was completed June 14, 1954 (2009:58). The lateral at Sta. 6420 + 115 (Lateral 121.6) was completed by American Pipe and Construction Company on July 29, 1950. The lateral at Sta. 6403 + 85.1 does not appear on the Field Survey Alignment plans dated March 28, 1947, and thus, may have been added later.

B7. Moved? ☒ No ☐ Yes ☐ Unknown **Date:** **Original Location:**

B8. Related Features: Drop structures at Sta. 6381 + 94.6 and Sta. 6426 + 40.1. No irrigated agricultural fields are presently located along this stretch of the Coachella Canal.

B9a. Architect: Bureau of Reclamation/ Coachella Valley County Water District
b. Builder: same

B10. Significance:
Theme Agricultural development of the Coachella Valley during the mid twentieth century
Area Coachella Valley, Riverside County
Period of Significance 1938–1954
Property Type Canal/aqueduct
Applicable Criteria NRHP Criteria A, C/CRHR Criteria 1, 3
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.) Construction of the Coachella Canal followed the passage of the Boulder Canyon Project Act of 1928, which also authorized the construction of Boulder Dam (now Hoover Dam), Imperial Dam, and the All-American Canal. The Coachella Canal was constructed within a natural desert wash through inland Imperial and Riverside counties, California, between 1935 and 1948. Its purpose was to deliver a reliable source of irrigation water to the Coachella Valley from the All-American Canal (Norland 1978).

The first water reached the Coachella Valley via the canal in 1949 (Norland 1978). Soil from the original excavations was deposited on both sides of the canal and compacted to form embankments. The base and sides of the original canal were clay-lined to prevent seepage except for the last 38 miles between North Shore and Lake Cahuilla (in Coachella Valley), which was a concrete-lined aqueduct (Schaefer and Ghabhláin 2003:1, 32). High rates of water loss due to seepage culminated in the replacement of the first 49 miles of the original clay-lined canal (between 1980 and 1982) with a 42-ft-wide concrete-lined aqueduct directly east of and parallel to the Old Coachella

B10. Significance: Canal from its branching point with the All-American Canal to Niland. This left the portion between Niland and North Shore clay-lined. In 1988, Public Law 100-675 authorized the clay-lined portions of the old canal to be lined with cement or an alternative means of recovering water lost due to seepage. The portion of the Coachella Canal that is within the Project area is part of the original 38-mile-long concrete-lined aqueduct section of the Old Coachella Canal.

While farming had been an occupation of settlers in the Coachella Valley since the mid-nineteenth century, the economic market for agriculture boomed following the completion of the Coachella Canal. Total acreage devoted to crops more than tripled from 1939 to 1955 (Stringer-Bowsher et al. 2009:12).

> Growth of the Coachella Valley north of the Salton Sea, which began receiving irrigation water through the All-American Canal from the Colorado River in the latter part of 1947, has been equally impressive [to the Imperial Valley]. Irrigated acreage which increased slowly from 16,350 in 1940 to 19,725 in 1947 had by 1954 expanded to 50,446 acres, with the 30,000-acre increase during the seven years following 1947 directly attributable to the availability of an adequate supply of gravity irrigation water. Per acre crop income between 1940 and 1954 increased from $154 to $480 per acre. During the same period total gross crop income increased from $2,500,000 to about $24,600,000 [Bureau of Reclamation 1955].

The Coachella Canal, which has also been recorded as CA-IMP-7658 (13-007858) in Imperial County, was first recorded in 1983 by the Riverside County Historical Commission; portions of the Canal, between Siphon 7 and Siphon 32, were evaluated by Sinéad Ghabhláin of ASM Affiliates, Inc. (ASM) in 2003 on behalf of Reclamation for the CVWD's Coachella Canal Lining Project. Within the 2003 evaluated segment, there are 25 siphons, three check structures, two automatic spillways, five drainage inlet structures, and one railroad bridge (Ghabhláin 2003). ASM recommended the Coachella Canal as eligible for the NRHP under Criterion A because the Canal "was an integral part of the monumental effort to harness the waters of the Colorado River for the Development of Agriculture in Imperial and Coachella Valleys" (Schaefer and Ghabhláin 2003:53). ASM also recommended the Canal as eligible for the NRHP under Criterion C "as a good example of a moderate-sized Bureau of Reclamation irrigation canal constructed in the 1930s and 1940s, with distinctive characteristics of canal construction during the period" (Schaefer and Ghabhláin 2003:53). After the 2003 update and evaluation of the Canal by ASM, Reclamation determined that the Canal was eligible for the NRHP under Criteria A and C. The SHPO subsequently concurred that the Canal was eligible, but only under Criterion A.

In ASM's 2009 evaluation of the Coachella Canal between Siphon 32 and the canal terminus at Lake Cahuilla, ASM reconsidered its eligibility under Criterion C and recommended the Canal and distribution system as eligible for the NRHP under Criteria A and C. Both the Canal and distribution system are considered eligible for the NRHP under Criterion A…

> …as the foundation for conveying Colorado River water from the All-American Canal to the extensive grid of lateral and sublaterals that then distributes the water to the Coachella Valley, which allowed for agricultural and residential growth. The historical significance of the pivotal contributions of the Coachella Canal and its distribution system for the development in the Coachella Valley is evident in its current population growth and its agricultural history. Although agricultural growth existed prior to the Reclamation project, the Reclamation irrigation infrastructure provided a consistent supply of water and an alternative to complete reliance on artesian or pumped wells. A dependable water supply from the Colorado River through the All-American Canal laid the foundation for economic growth in the desert terrain of the Coachella Valley [Stringer-Bowsher et al. 2009:97].

The gravity-fed distribution system, completed in 1954, "was the culminating project that distributed a consistent water source from the Colorado River to the Coachella Valley and founded the transition of the valley's small-scale agricultural enterprises into a burgeoning and industrialized agricultural economy" (Stringer-Bowsher et al. 2009:97). The distribution system is eligible for the NRHP under Criterion C "as the first underground irrigation

B10. Significance: distribution system in the United States. While the use of concrete pipes was not new, the implementation of concrete pipes for an underground irrigation distribution system was the first of its kind" (Stringer-Bowsher et al. 2009:97).

> The relatively unchanged canal and laterals reflect CVCWD's adherence to a supplemental 1947 contract with the United States that mandated that the CVCWD could not substantially change the system without the written consent of the Secretary of the Interior while the system was in its repayment period (United States 1947:253:254). While several single laterals were added and a number of laterals have been abandoned, the system is still a functional water conveyance system with minimal changes. Modifications such as additions of moss screens and other methods to facilitate a cleaner canal do not impinge upon the significance of the system.
>
> Despite later additions, the location, design, materials, and workmanship of the canal remain mostly intact. Although the setting of the Coachella Valley retains a highly agricultural feeling, the growth of the valley is increasingly apparent with new tract housing sprouting across the communities and golf courses bordering the canal at different segments [Stringer-Bowsher et al. 2009:98].

In 2009, ASM evaluated a 37-mile-long segment of the Coachella Canal from Siphon 32 to the Canal's termination at Lake Cahuilla (Stringer-Bowsher et al. 2009), which includes the portion of the Canal in the Project area. After this evaluation, ASM recommended this portion of the Coachella Canal and distribution system as eligible for the NRHP under Criteria A and C: under Criterion A for the reason stated above, and under Criterion C "as the first underground irrigation distribution system in the United States" (Stringer-Bowsher et al. 2009:97). The period of significance for the entire Coachella Canal and its distribution system is 1938–1954.

As provided above, previous documentation of this waterworks system suggests that the Coachella Canal and distribution system are eligible for inclusion on the National Register at local and state levels under Criterion A (for its association with important historical events) and Criterion C (for its workmanship and engineering merits). The recommended period of significance for the entire Coachella Canal and distribution system is 1938 to 1954. This particular segment, Sta. 6354 + 51.0 to Sta. 6426 + 40.1, is a portion of the fifth and final reach constructed between 1947 and 1954. While agricultural lands in the surrounding area have largely been replaced by commercial and residential development, the design and construction of this segment of the Coachella Canal has retained sufficient integrity to convey its significance and period of construction. As such, this segment appears to contribute to the historical significance of the Coachella Canal under National Register Criteria A and C, and retains sufficient levels of historical integrity to be able to relate its period of significance.

B11. Additional Resource Attributes: (List attributes and codes)

B12. References:

Stringer-Bowsher, Sarah, Sinéad Ní Ghabhláin, and Jerry Schaefer
2009 Preserving a Record of the Coachella Canal Documents Data Recovery for the Concrete-lined Reach Between Siphon 32 and Lake Cahuilla. ASM Affiliates, Inc. Prepared for U.S. Department of the Interior, Bureau of Reclamation, Yuma Area Office, Yuma, AZ.

B13. Remarks: The project proposes to abandon and demolish this segment for an alternative alignment.

B14. Evaluator: Josh Smallwood, M.A., RPA
Applied Earthworks, Inc.
3550 E. Florida Ave., Suite H
Hemet, CA 92544
Date of Evaluation: August 27, 2013

State of California--The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LINEAR FEATURE RECORD

Primary # 33-005705 (update)
HRI #
Trinomial
NRHP Status Code 3S

 Resource Name or # Coachella Canal (Sta. 6382 + 96 to Sta. 6431 + 36)

L1. Historic and/or Common Name: Coachella Canal (Sta. 6382 + 96 to Sta. 6431 + 36)

L2a. Portion Described: ☐ Entire Resource ☒ Segment ☐ Point Observation **Designation:**

b. Location of point or segment (Provide UTM coordinates, legal description, and any other useful location data. Show the area that has been field inspected on a Location Map): This segment of the Coachella Canal crosses Sections 8 and 17 of T6S, R7E, SBBM. It is situated to the west of Jefferson Street and south of Avenue 52.

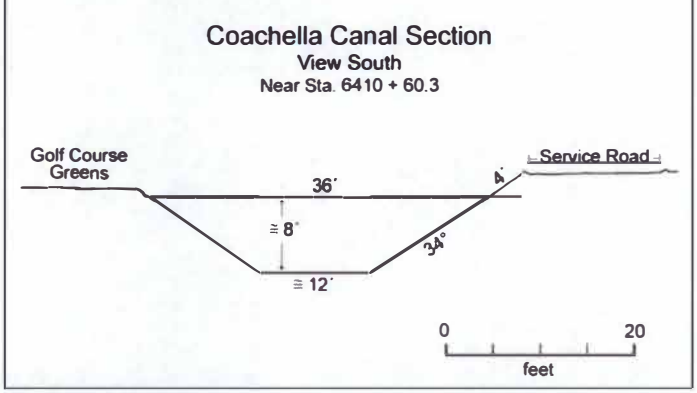
L3. Description (Describe construction details, materials, and artifacts found at this segment/point. Provide plans/sections as appropriate): This segment of the Coachella Canal is a reinforced-concrete lined, flat-bottom structure with sloping sides.

L4. Dimensions (In feet for historic features and meters for prehistoric features):

- **a. Top width** Approx. 36 ft, with side slope of approx. 34°
- **b. Bottom width** Approx. 12 ft
- **c. Height or Depth** Approx. 8 ft deep
- **d. Length of Segment** Approx. 4,840 ft long

L5. Associated Resources: A single drop structure and two laterals exist along this segment. Their locations and a description are provided on the attached BSO record.

L4e. Sketch of Cross-Section (include scale) **Facing:**



L6. Setting (Describe natural features, landscape characteristics, slope, etc., as appropriate): The setting near this location was historically agricultural land. Today, agricultural lands in the surrounding area have largely been replaced by commercial and residential development. This segment of the Coachella Canal is located west of Jefferson Street and south of Avenue 52. Portions of the canal segment cross the Silver Rock Golf Course and skirt the eastern edge of an unnamed rocky hillside west of Avenue 54. Residential development adjoins the segment south and west of Avenue 54.

L7. Integrity Considerations: While agricultural lands in the surrounding area have largely been replaced by commercial and residential development, the design and construction of this segment of the Coachella Canal has retained adequate levels of integrity with regard to the aspects of location, design, materials, workmanship, feeling, and association to convey its period of significance.

L8a. Photograph, Map, or Drawing:
L8b. Description of Photo, Map, or Drawing (View, scale, etc.):

See photographs on pages 7 through 10, and satellite image on page 11.

L9. Remarks: The project proposes to abandon and demolish this segment and replace it with new construction along an alignment parallel to the west side.

L10. Form Prepared by (Name, affiliation, and address): Josh Smallwood, Applied EarthWorks, Inc., 3550 E. Florida Ave., Suite H, Hemet, CA 92544.

L11. Date: August 23, 2013

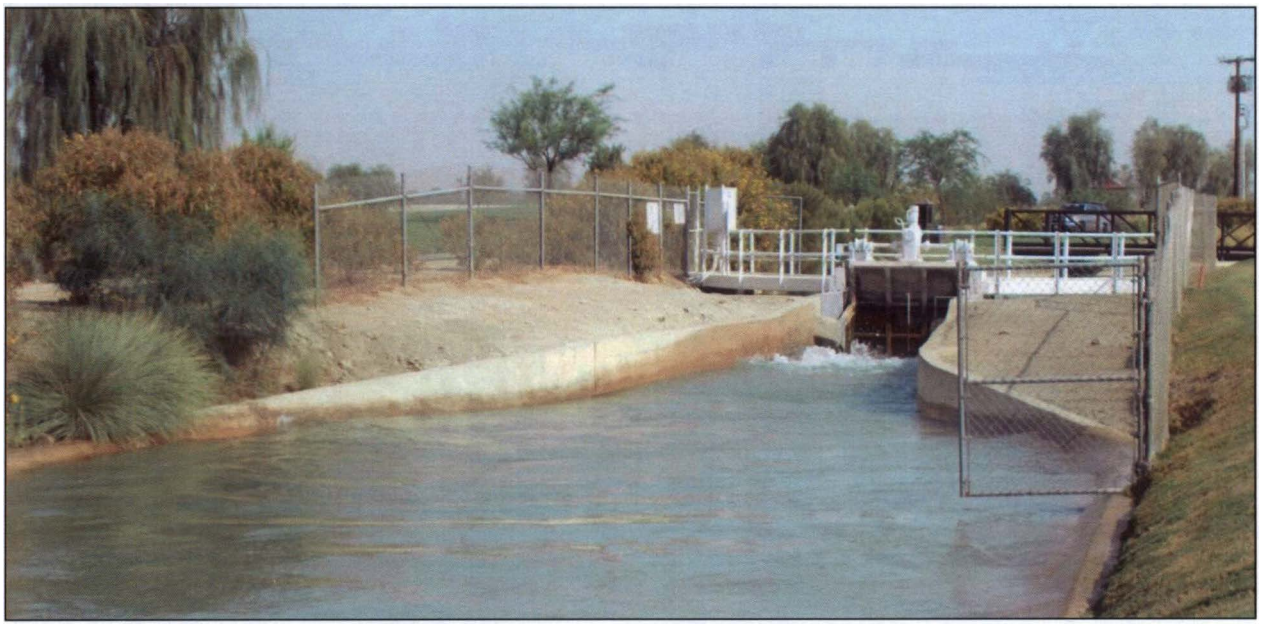


Figure 1. The subject recorded segment of the Coachella Canal is situated immediately downstream from a check dam/drop structure at Sta. 6381 + 94.6 (photograph taken August 23, 2013, view to the north-northwest).

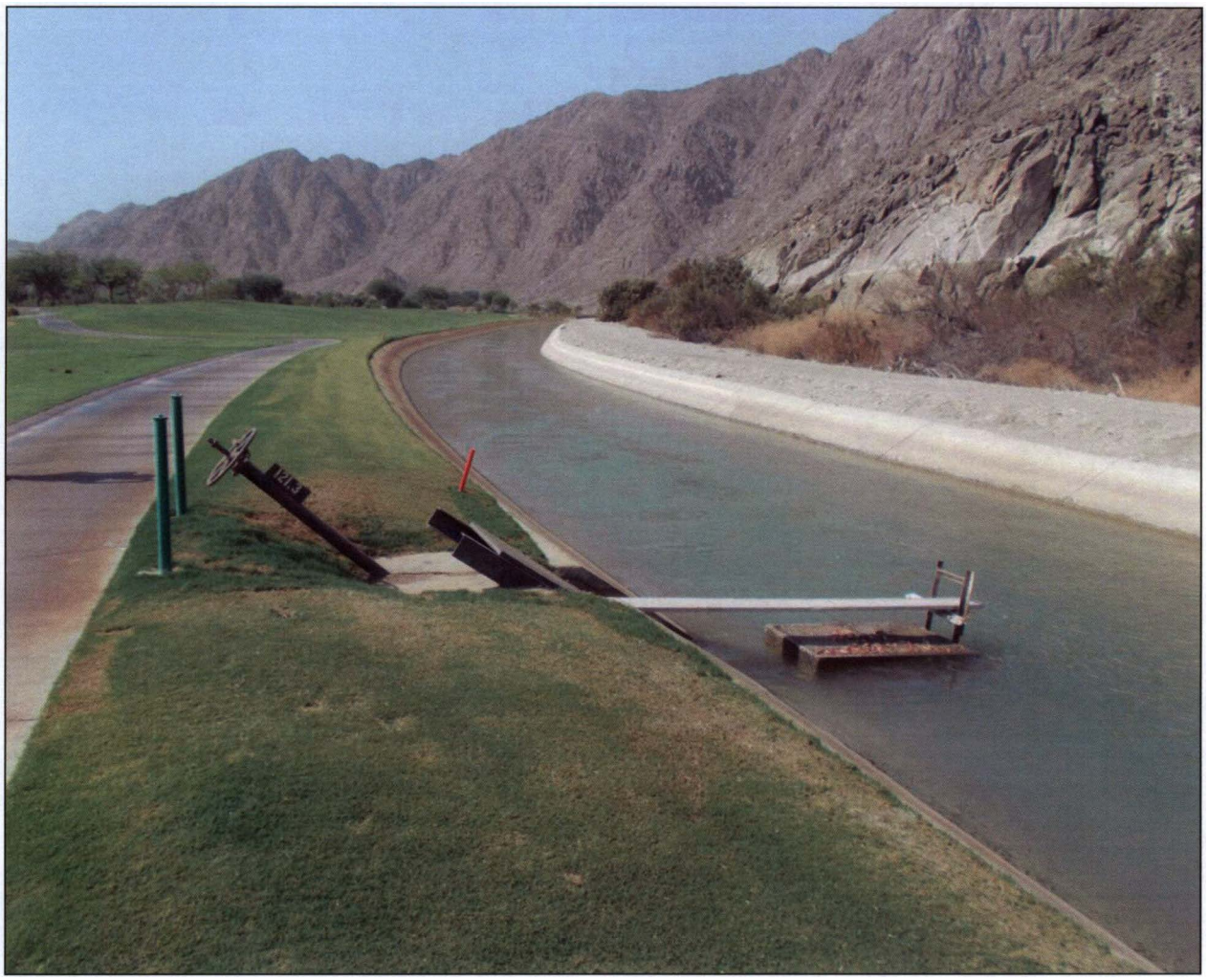


Figure 2. The lateral at Sta. 6403 + 85.1 is a single-barrel turnout located on the east side of the canal, equipped with a single wheel-type manual gate control (photograph taken August 23, 2013, view to the south).

Figure 3. The lateral at Sta. 6420 + 115 (Lateral 121.6) is a double-barrel turnout located on the east side of the canal. It is equipped with two wheel-type manual gate controls. An irrigation standpipe is visible in the distance (photograph taken August 23, 2013, view to the east toward the alignment of Avenue 54).

Figure 4. A large check dam/drop structure at Sta. 6426 + 40.1 (photograph taken August 23, 2013, view to the northwest). The drop structure at Sta. 6426 + 40.1 features a vehicle crossing bridge over the top of the spillway, supported at each end with concrete buttresses and with a deck of wood planks. A small concrete-block power supply and control room building sits on the west side of the canal at this location.

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
SKETCH MAP

Primary # 33-005705 (update)
HRI#
Trinomial

Resource Name or #: (Assigned by recorder) Coachella Canal (Sta. 6382 + 96 to Sta. 6431 + 36)

Drawn by: J. Smallwood, C. Inoway

Scale: 1:4,800 (1" = 400 ')

Date of map: September 2013

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

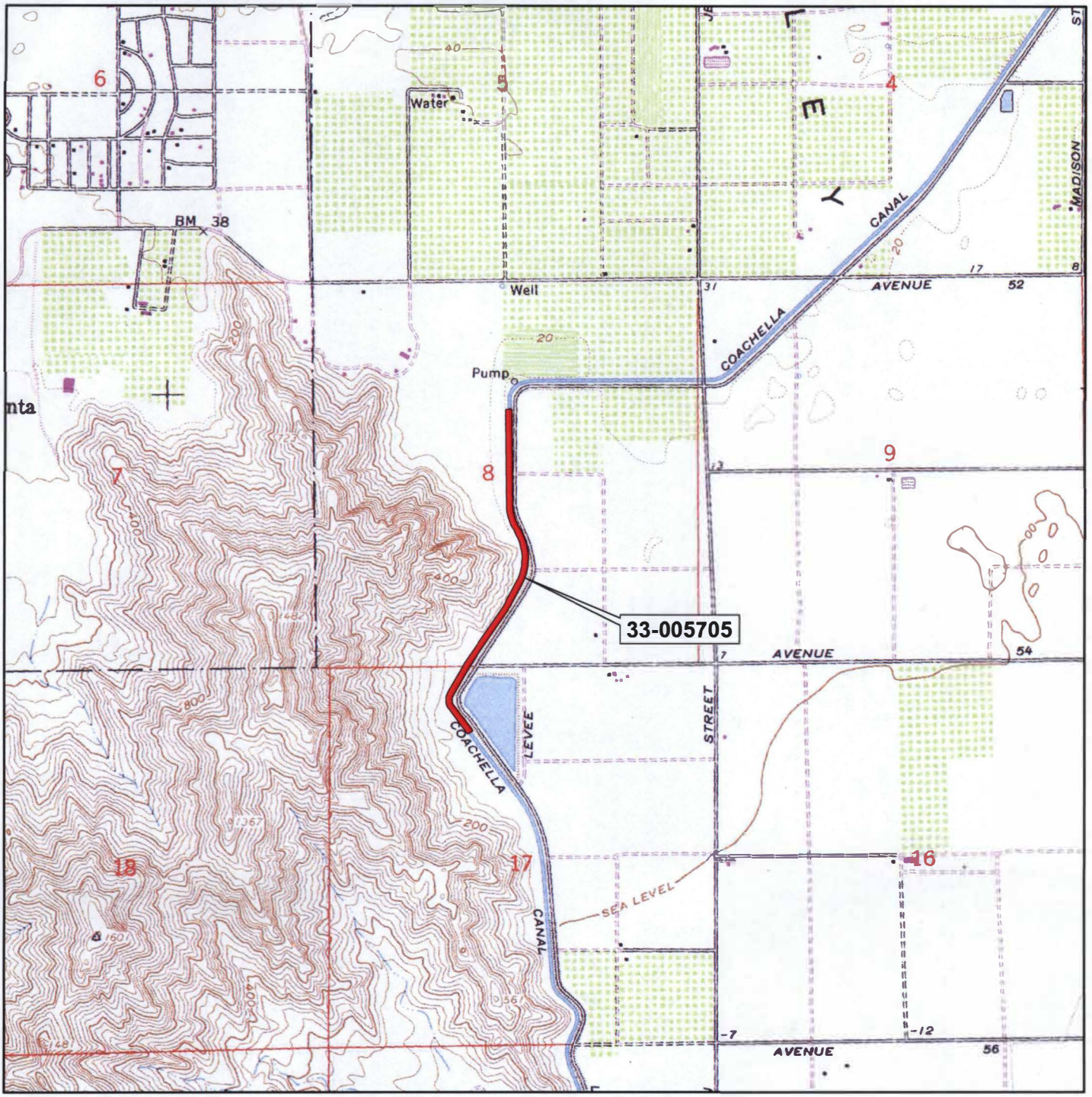
Primary # 33-005705 (update)
HRI#
Trinomial

Resource Name or #: Coachella Canal (Sta. 6382 + 96 to Sta. 6431 + 36)

Scale: 1:24,000

Map Name: La Quinta 1959 (1980), CA USGS 7.5' Quadrangle

Date: 2013



SCALE 1:24,000

1 0.5 0 1 Miles

1,000 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

1 0.5 0 1 Kilometers

TRUE NORTH

DPR FORM AND HAER LEVEL II PHOTO-DOCUMENTATION

A 4,840-FT-LONG SEGMENT OF THE COACHELLA CANAL, PRIMARY NO. 33-005705

LOCATION:
West of Jefferson Street, South of Avenue 52
City of La Quinta
Riverside County, California

USGS La Quinta, California, 7.5' Quadrangle
Crossing Sections 8 & 17, T6S R7E, San Bernardino Base Meridian
UTM Coordinates:
North end (Station 6382+96): 567,009 mE / 3,725,360 mN;
South end (Station 6431+36): 566,853 mE / 3,724,031 mN

DATE OF CONSTRUCTION:
1947–1948

PRESENT OWNER:
Coachella Valley Water District
P.O. Box 1058
Coachella, CA 92236

PRESENT USE:
Canal for water conveyance

SIGNIFICANCE:
The Coachella Canal and distribution system are considered eligible for the National Register of Historic Places (NRHP) under Criterion A as the foundation for conveying Colorado River water from the All-American Canal to the Coachella Valley, which allowed for the growth and expansion of agricultural and residential development in the region during the mid-twentieth century. The Coachella Canal and distribution system are eligible for inclusion on the NRHP at local and state levels under Criterion A (for its association with important historical events) and Criterion C (for its workmanship and engineering merits). The recommended period of significance for the entire Coachella Canal and distribution system is 1938 to 1954. This particular segment, Sta. 6354 + 51.0 to Sta. 6426 + 40.1, is a portion of the fifth and final reach constructed between 1947 and 1954. While agricultural lands in the surrounding area have largely been replaced by commercial and residential development, the design and construction of this segment of the Coachella Canal has retained sufficient integrity to convey its significance and period of construction. As such, this segment appears to contribute to the historical significance of the Coachella Canal under National Register Criteria A and C, and retains sufficient levels of historical integrity to be able to relate its period of significance.

LAND-USE AUTHORITY:
U.S. Department of the Interior, Bureau of Reclamation
Yuma Area Office
Yuma, AZ

DOCUMENTATION PREPARED BY:
Josh Smallwood, M.A., Associate Architectural Historian
Applied EarthWorks, Inc.
3550 E. Florida Avenue, Suite H
Hemet, CA 92544
&
Stephen Schafer, HAER Photographer
P.O. Box 24218, Ventura, CA 93002

DATE:
October 17, 2013

HISTORIC ENGINEERING DOCUMENTATION

INDEX TO PHOTOGRAPHS

COACHELLA CANAL (STATION [STA.] 6382 + 96 TO STA. 6431 + 36)
CROSSING THE SILVER ROCK GOLF COURSE AND WEST OF AVENUE 54
CITY OF LA QUINTA,
RIVERSIDE COUNTY,
CALIFORNIA

NOTE: THE INDEX WAS ORGANIZED IN LINEAR ORDER NORTH TO SOUTH FOLLOWING THE FLOW OF WATER DOWNSTREAM BETWEEN STA. 6381 + 94.6 (DROP STRUCTURE IMMEDIATELY UPSTREAM FROM BEGINNING OF RELOCATION PROJECT) AND STA. 6431 + 36 (END OF PROJECT). THE NUMBER FOLLOWING THE CAPTION IN BRACKETS REPRESENTS THE ORDER IN WHICH THE PHOTOGRAPHS WERE EXPOSED AND THEIR CORRESPONDING VIEW-NUMBER ON THE FIELD NOTES. THE 12-FOOT SCALE ROD USED IN THE PHOTOGRAPHS IS MARKED IN TENTHS.

STEPHEN D. SCHAFER, PHOTOGRAPHER, SEPTEMBER 10–11, 2013

PHOTO #1 CONTEXT VIEW FROM PEDESTRIAN BRIDGE OVER CANAL UPSTREAM OF DROP STRUCTURE AT STA. 6381 + 94.6 WITH WATER FLOWING AWAY FROM CAMERA POSITION. 12 FOOT SCALE HELD ON GOLF COURSE TO THE EAST OF THE DROP STRUCTURE. CAMERA HEIGHT 6 FEET STANDING ON BRIDGE. VIEW FACING SOUTH. [1]

PHOTO #2 DETAIL OF DROP STRUCTURE AT STA. 6381 + 94.6 FROM INSIDE FENCE ALONG EAST SIDE OF CANAL. CAMERA HEIGHT 6 FEET. A 12 FOOT SCALE WAS PLACED HORIZONTALLY ALONG THE WALL. VIEW FACING NORTHWEST. [2]

PHOTO #3 VIEW OF BOARD-FORMED CONCRETE DAM WALL ON DROP STRUCTURE AT STA. 6381 + 94.6 FROM INSIDE FENCE ALONG WEST SIDE OF CANAL. CAMERA HEIGHT 6 FEET, 12 FOOT SCALE SUBMERGED TO BOTTOM OF CANAL. VIEW FACING NORTHEAST. [3]

PHOTO #4 VERTICAL OVERALL VIEW OF CANAL DOWNSTREAM FROM DROP STRUCTURE AT STA. 6381 + 94.6. CAMERA HEIGHT 6 FEET, VIEW FACING SOUTH. [4]

PHOTO #5 OVERALL VIEW OF CANAL LOOKING BACK TOWARD DROP STRUCTURE AT STA. 6381 + 94.6. WATER FLOWING TOWARDS CAMERA POSITION. CAMERA HEIGHT 6 FEET, STANDING ON PEDESTRIAN BRIDGE. VIEW FACING NORTH-NORTHWEST. [7]

PHOTO #6 OVERALL VIEW OF CANAL LOOKING 180º OPPOSITE PHOTO # 5. WATER FLOWING AWAY FROM CAMERA POSITION. CAMERA HEIGHT 6FEET, STANDING ON PEDESTRIANBRIDGE, VIEW FACING SOUTH-SOUTHEAST. [8]

PHOTO #7 VIEW OF CANAL CURVE AND CONCRETE EMBANKMENTS. CAMERA HEIGHT AT 6 FEET, STANDING ON PEDESTRIAN BRIDGE, VIEW FACING NORTH. [6]

PHOTO #8 CONTEXT VIEW SHOWING GOLF COURSE AND RIDGELINE WITH CANAL AT RIGHT. CAMERA HEIGHT 6 FEET ON GOLF COURSE BUNKER, VIEW FACING SOUTHEAST. [5]

PHOTO #9 OVERALL VIEW OF CANAL FROM LOW ANGLE SHOWING HIGH DIRT EMBANKMENT ON WEST SIDE OF CANAL. CAMERA HEIGHT 4 FEET ABOVE CONCRETE EDGE OF CANAL. WATER FLOWING DOWNSTREAM AWAY FROM CAMERA. VIEW FACING SOUTH. [10]

PHOTO #10 LATERAL 121.6 (STA. 6420 + 115) WITH AVENUE 54 IN BACKGROUND. CAMERA HEIGHT 6 FEET, VIEW FACING EAST. [17]

PHOTO #11 OVERALL VIEW OF CURVE IN CANAL FROM HIGH ANGLE SHOWING HIGH DIRT EMBANKMENTS ON BOTH SIDES OF CANAL. WATER FLOWING DOWNSTREAM TOWARD CAMERA POSITION. CAMERA HEIGHT 9 FEET ABOVE TOP OF EMBANKMENT. VIEW FACING NORTHEAST. [9]

PHOTO #12 OVERALL VIEW OF DROP STRUCTURE AT STA. 6426 + 40.1 FROM EAST SIDE OF CANAL. CAMERA HEIGHT 6 FEET. A 12 FOOT SCALE WAS ATTACHED TO THE POWER POLE ADJACENT TO THE BUILDING ON THE WEST SIDE OF THE DROP STRUCTURE. VIEW FACING SOUTH. [14]

PHOTO #13 DETAIL OF MECHANICAL COMPONENTS AT THE DROP STRUCTURE AT STA. 6426 + 40.1 FROM WEST SIDE OF CANAL. CAMERA HEIGHT 6 FEET. A 12 FOOT SCALE WAS PLACED VERTICALLY. VIEW FACING NORTH-NORTHEAST. [12]

PHOTO #14 ORTHOGONAL DETAIL OF DROP STRUCTURE AT STA. 6426 + 40.1 SHOWING SYMMETRICAL LAYOUT OF MECHANICAL COMPONENTS AND DESIGN OF DAM. TAKEN FROM WOOD BRIDGE SURFACE. WATER FLOWING DOWNSTREAM TOWARD CAMERA POSITION. CAMERA HEIGHT 5 FEET. VIEW FACING NORTH-NORTHWEST. [16]

PHOTO #15 OVERALL VIEW OF DROP STRUCTURE AT STA. 6426 + 40.1 WITH BOARD-FORMED CONCRETE DAM WALL. PHOTOGRAPH TAKEN FROM EAST SIDE OF CANAL. CAMERA HEIGHT 6 FEET. VIEW FACING WEST. [15]

PHOTO #16 OVERALL VIEW FROM DROP STRUCTURE AT STA. 6426 + 40.1 WITH HUMAN SCALE AT BOTTOM OF DROP. PHOTOGRAPH TAKEN FROM EAST SIDE OF CANAL. WATER FLOWING DOWNSTREAM AWAY FROM CAMERA POSITION. CAMERA HEIGHT 6 FEET ON ROAD NEXT TO DROP STRUCTURE BRIDGE. VIEW FACING SOUTH. [13]

PHOTO #17 CONTEXT VIEW DOWNSTREAM FROM DROP STRUCTURE AT STA. 6426 + 40.1 SHOWING RIDGELINE AND GOLF COURSE HOMES. WATER FLOWING TOWARDS CAMERA POSITION. CAMERA HEIGHT 6 FEET. VIEW FACING NORTH. [11]

HISTORIC ENGINEERING DOCUMENTATION PHOTOGRAPHS
SEE PHOTO INDEX FOR CAPTION PHOTO # 1

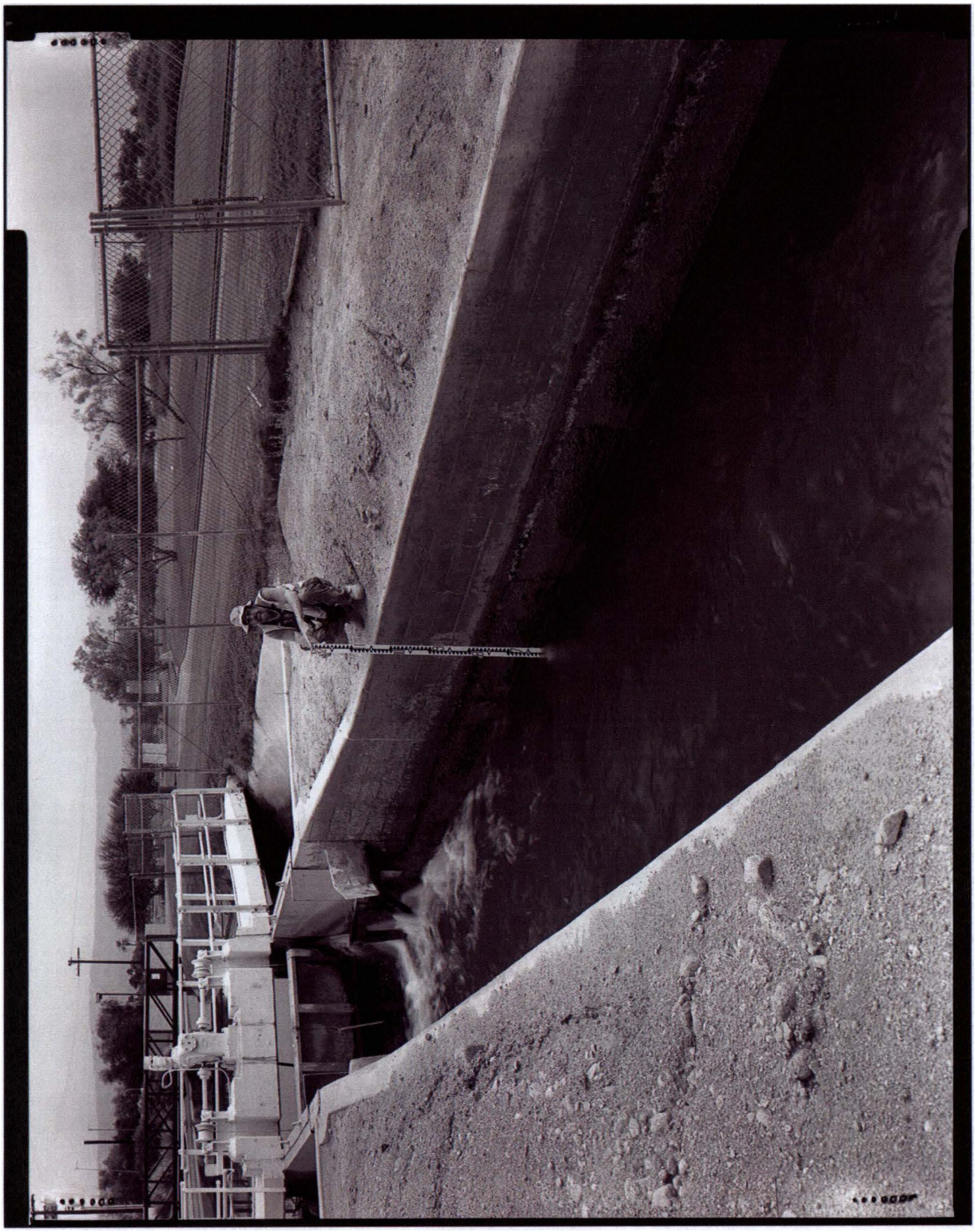
Coachella Canal (Station 6382+96 to Station 6431+36)
Crossing the Silver Rock Golf Course and West of Avenue 54
City of La Quinta, Riverside County, California

HISTORIC ENGINEERING DOCUMENTATION PHOTOGRAPHS
SEE PHOTO INDEX FOR CAPTION PHOTO # 2

Coachella Canal (Station 6382+96 to Station 6431+36)
Crossing the Silver Rock Golf Course and West of Avenue 54
City of La Quinta, Riverside County, California

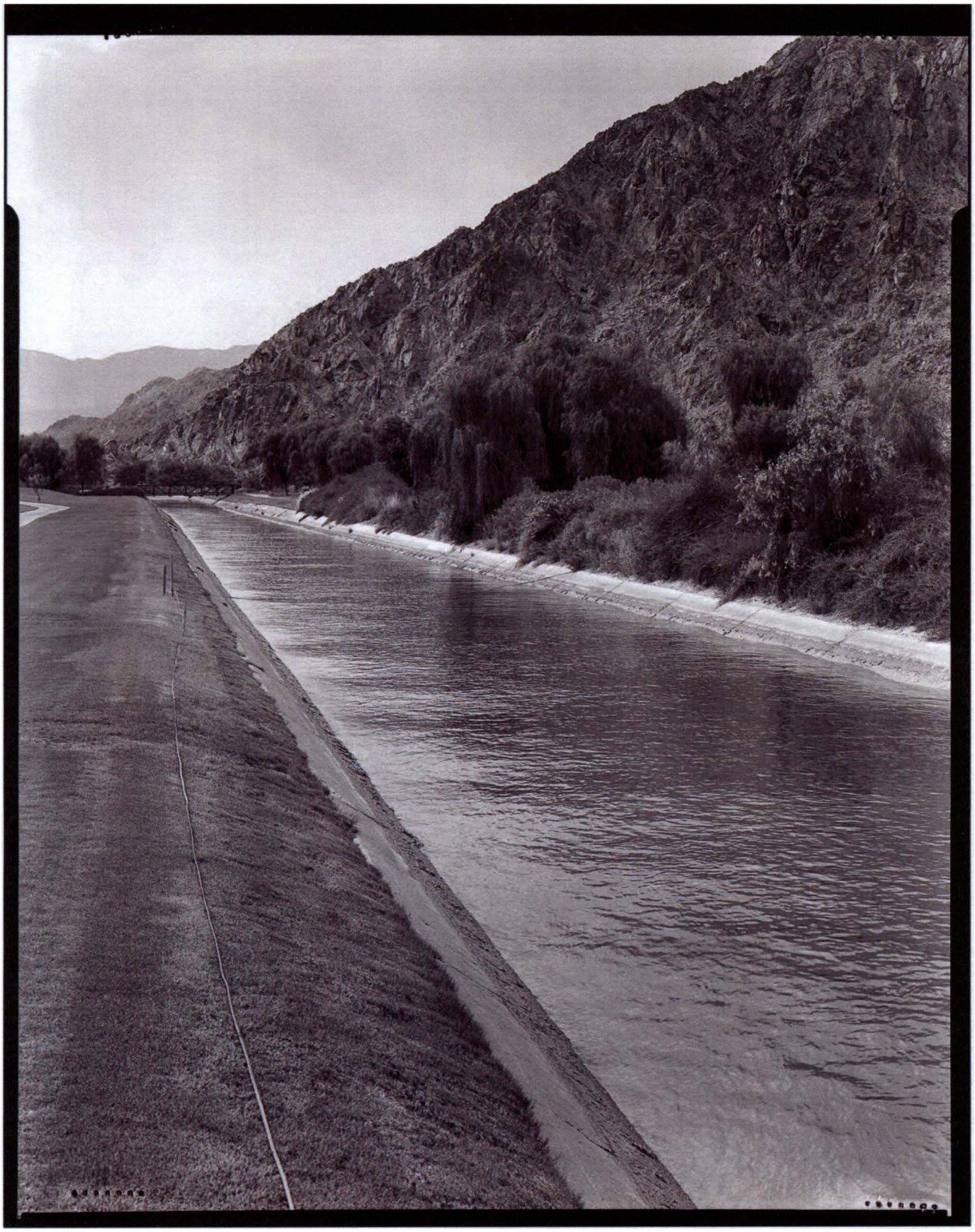
HISTORIC ENGINEERING DOCUMENTATION PHOTOGRAPHS
SEE PHOTO INDEX FOR CAPTION PHOTO # 3

Coachella Canal (Station 6382+96 to Station 6431+36)
Crossing the Silver Rock Golf Course and West of Avenue 54
City of La Quinta, Riverside County, California



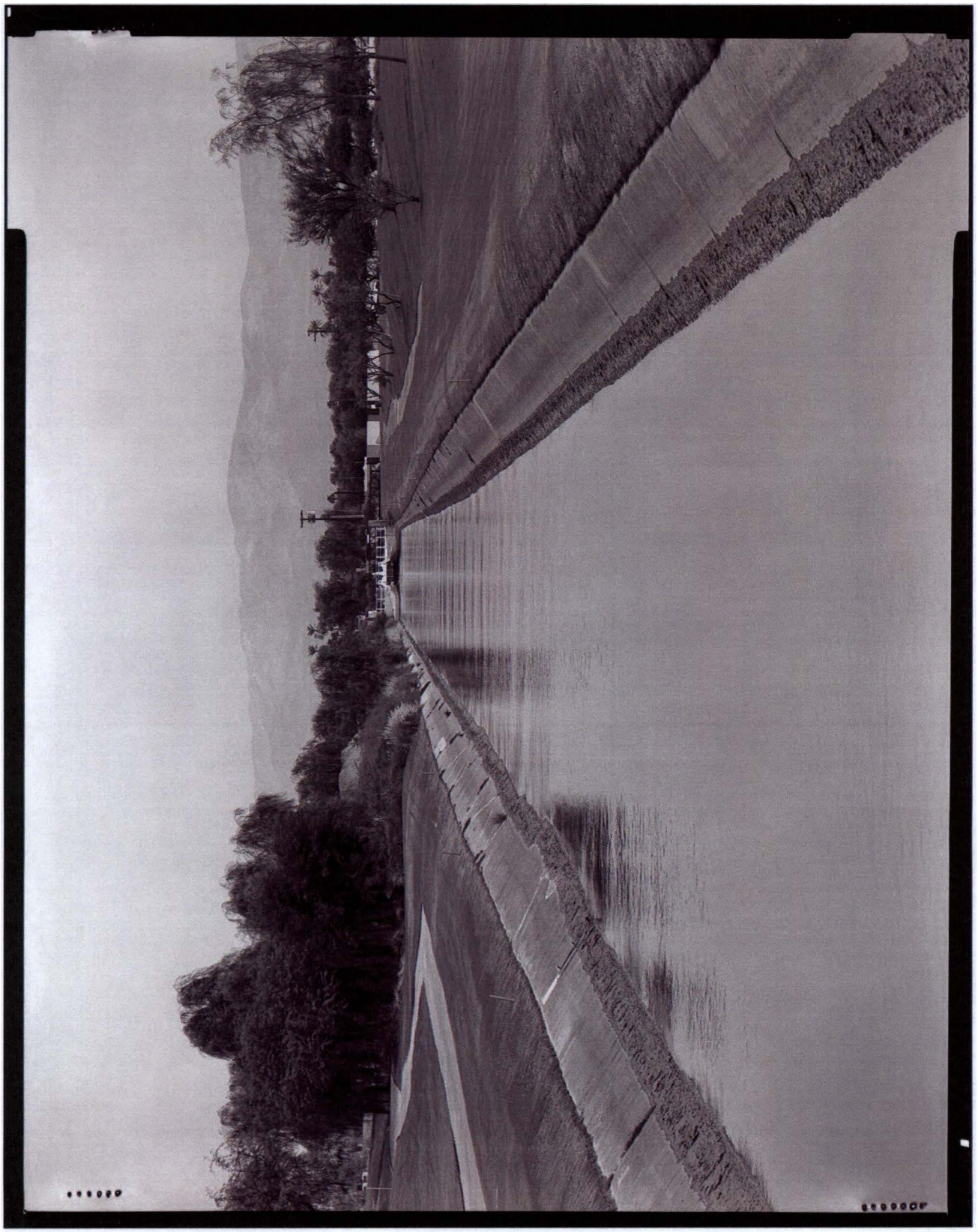
HISTORIC ENGINEERING DOCUMENTATION PHOTOGRAPHS
SEE PHOTO INDEX FOR CAPTION PHOTO # 4

Coachella Canal (Station 6382+96 to Station 6431+36)
Crossing the Silver Rock Golf Course and West of Avenue 54
City of La Quinta, Riverside County, California



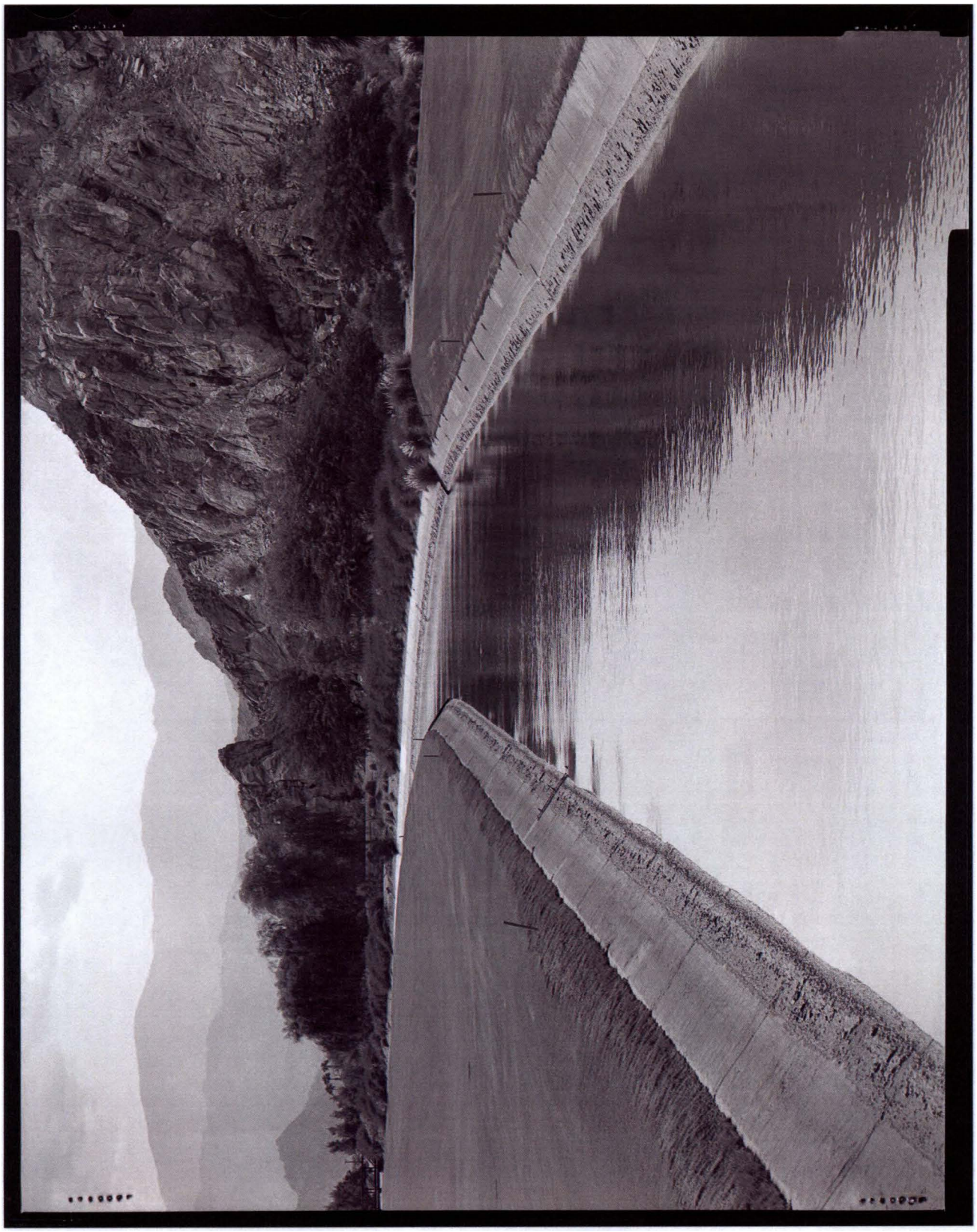
HISTORIC ENGINEERING DOCUMENTATION PHOTOGRAPHS
SEE PHOTO INDEX FOR CAPTION PHOTO # 5

Coachella Canal (Station 6382+96 to Station 6431+36)
Crossing the Silver Rock Golf Course and West of Avenue 54
City of La Quinta, Riverside County, California



HISTORIC ENGINEERING DOCUMENTATION PHOTOGRAPHS
SEE PHOTO INDEX FOR CAPTION PHOTO # 6

Coachella Canal (Station 6382+96 to Station 6431+36)
Crossing the Silver Rock Golf Course and West of Avenue 54
City of La Quinta, Riverside County, California



HISTORIC ENGINEERING DOCUMENTATION PHOTOGRAPHS
SEE PHOTO INDEX FOR CAPTION PHOTO # 7

Coachella Canal (Station 6382+96 to Station 6431+36)
Crossing the Silver Rock Golf Course and West of Avenue 54
City of La Quinta, Riverside County, California

HISTORIC ENGINEERING DOCUMENTATION PHOTOGRAPHS
SEE PHOTO INDEX FOR CAPTION PHOTO # 8

Coachella Canal (Station 6382+96 to Station 6431+36)
Crossing the Silver Rock Golf Course and West of Avenue 54
City of La Quinta, Riverside County, California

HISTORIC ENGINEERING DOCUMENTATION PHOTOGRAPHS
SEE PHOTO INDEX FOR CAPTION PHOTO # 9

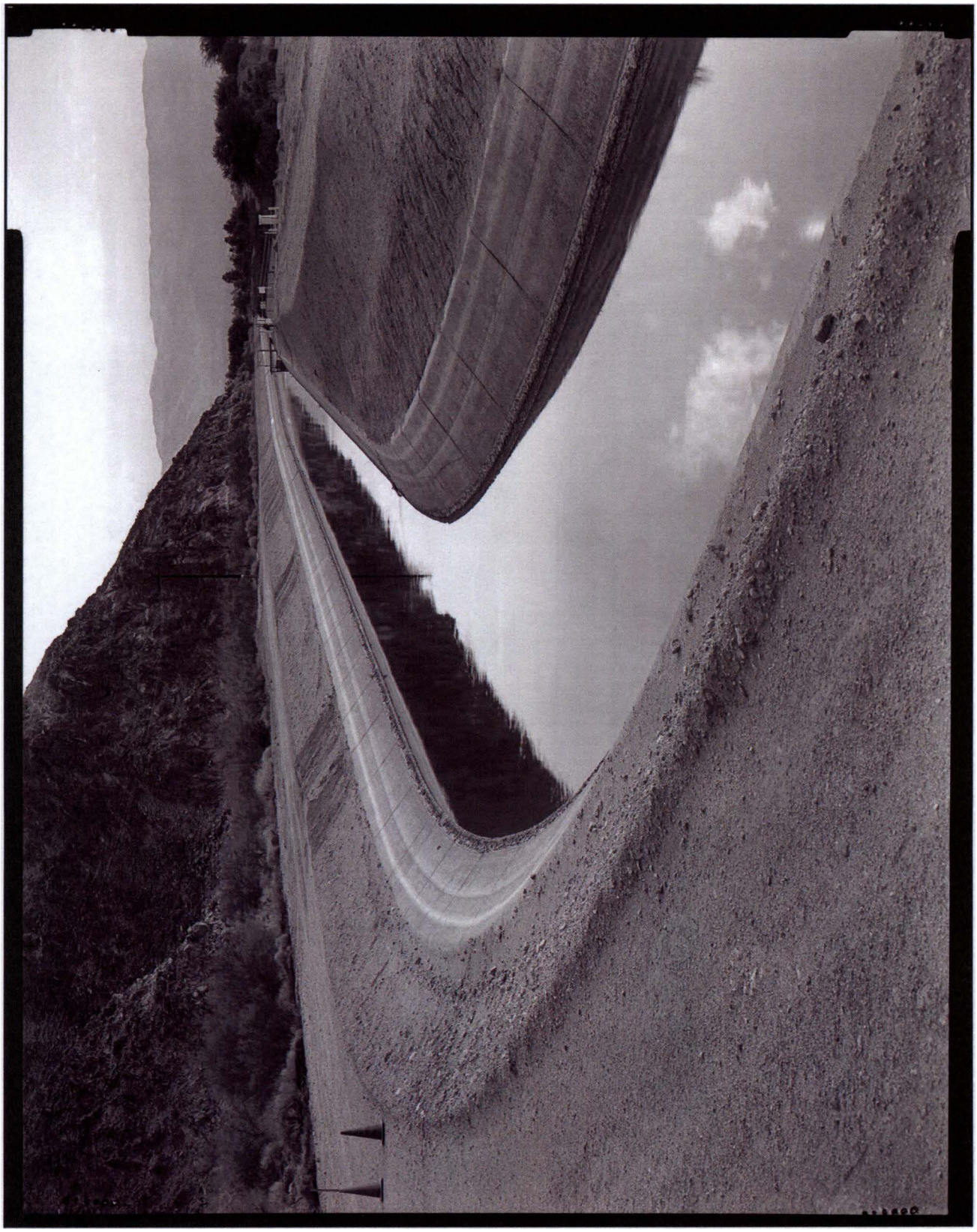
Coachella Canal (Station 6382+96 to Station 6431+36)
Crossing the Silver Rock Golf Course and West of Avenue 54
City of La Quinta, Riverside County, California

HISTORIC ENGINEERING DOCUMENTATION PHOTOGRAPHS
SEE PHOTO INDEX FOR CAPTION PHOTO # 10

Coachella Canal (Station 6382+96 to Station 6431+36)
Crossing the Silver Rock Golf Course and West of Avenue 54
City of La Quinta, Riverside County, California

HISTORIC ENGINEERING DOCUMENTATION PHOTOGRAPHS
SEE PHOTO INDEX FOR CAPTION PHOTO # 11

Coachella Canal (Station 6382+96 to Station 6431+36)
Crossing the Silver Rock Golf Course and West of Avenue 54
City of La Quinta, Riverside County, California



HISTORIC ENGINEERING DOCUMENTATION PHOTOGRAPHS
SEE PHOTO INDEX FOR CAPTION PHOTO # 12

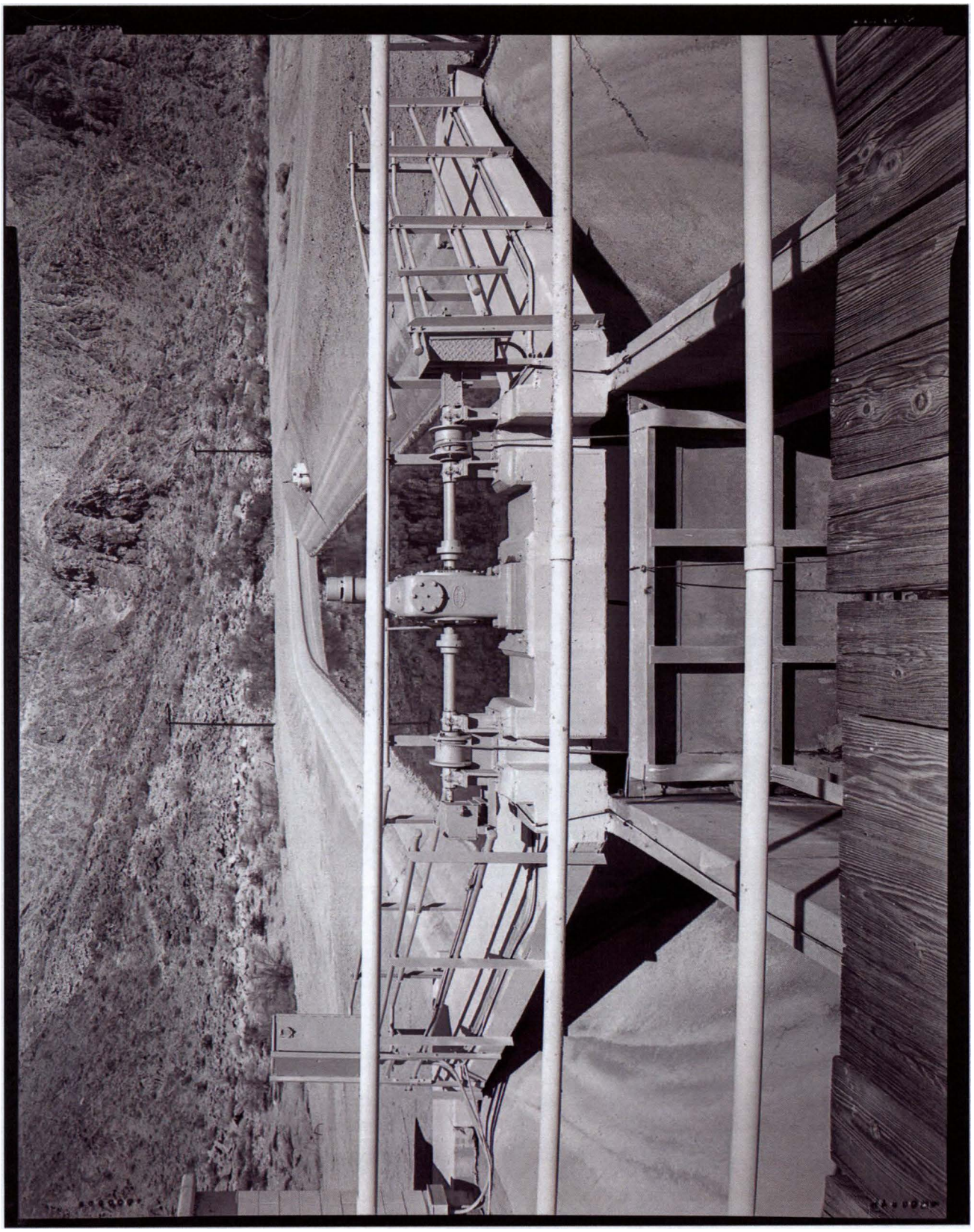
Coachella Canal (Station 6382+96 to Station 6431+36)
Crossing the Silver Rock Golf Course and West of Avenue 54
City of La Quinta, Riverside County, California

HISTORIC ENGINEERING DOCUMENTATION PHOTOGRAPHS
SEE PHOTO INDEX FOR CAPTION PHOTO # 13

Coachella Canal (Station 6382+96 to Station 6431+36)
Crossing the Silver Rock Golf Course and West of Avenue 54
City of La Quinta, Riverside County, California

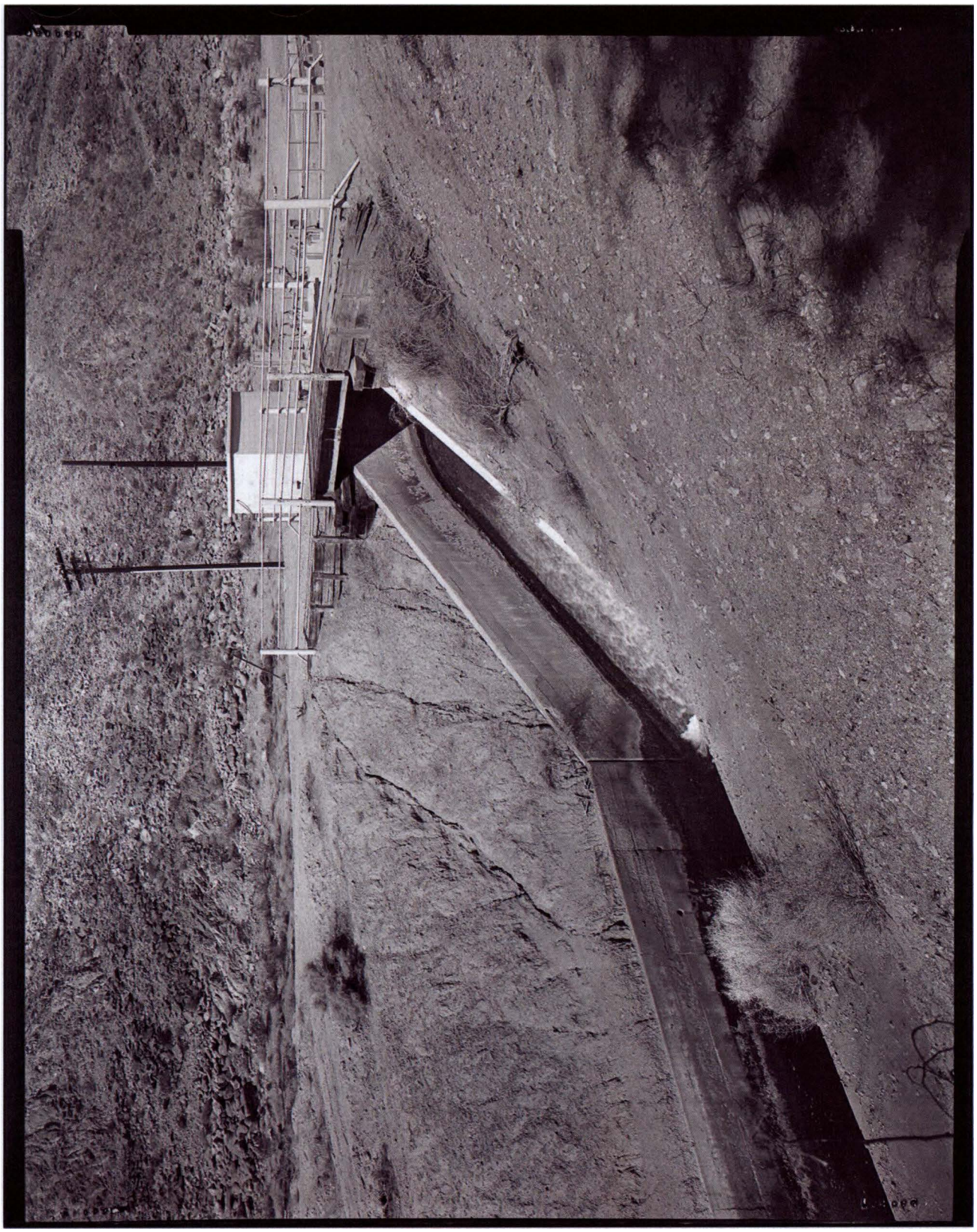
HISTORIC ENGINEERING DOCUMENTATION PHOTOGRAPHS
SEE PHOTO INDEX FOR CAPTION PHOTO # 14

Coachella Canal (Station 6382+96 to Station 6431+36)
Crossing the Silver Rock Golf Course and West of Avenue 54
City of La Quinta, Riverside County, California



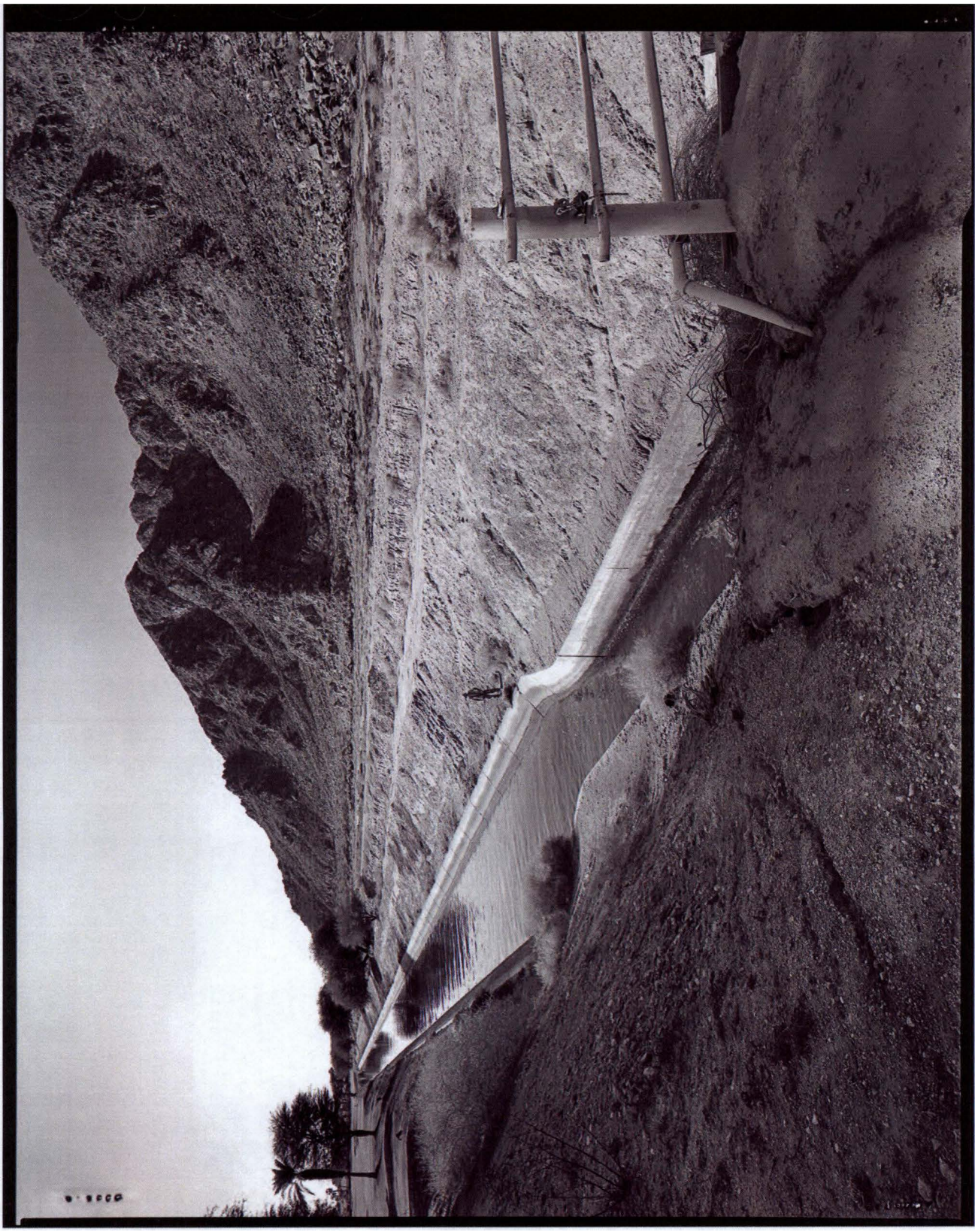
HISTORIC ENGINEERING DOCUMENTATION PHOTOGRAPHS
SEE PHOTO INDEX FOR CAPTION PHOTO # 15

Coachella Canal (Station 6382+96 to Station 6431+36)
Crossing the Silver Rock Golf Course and West of Avenue 54
City of La Quinta, Riverside County, California



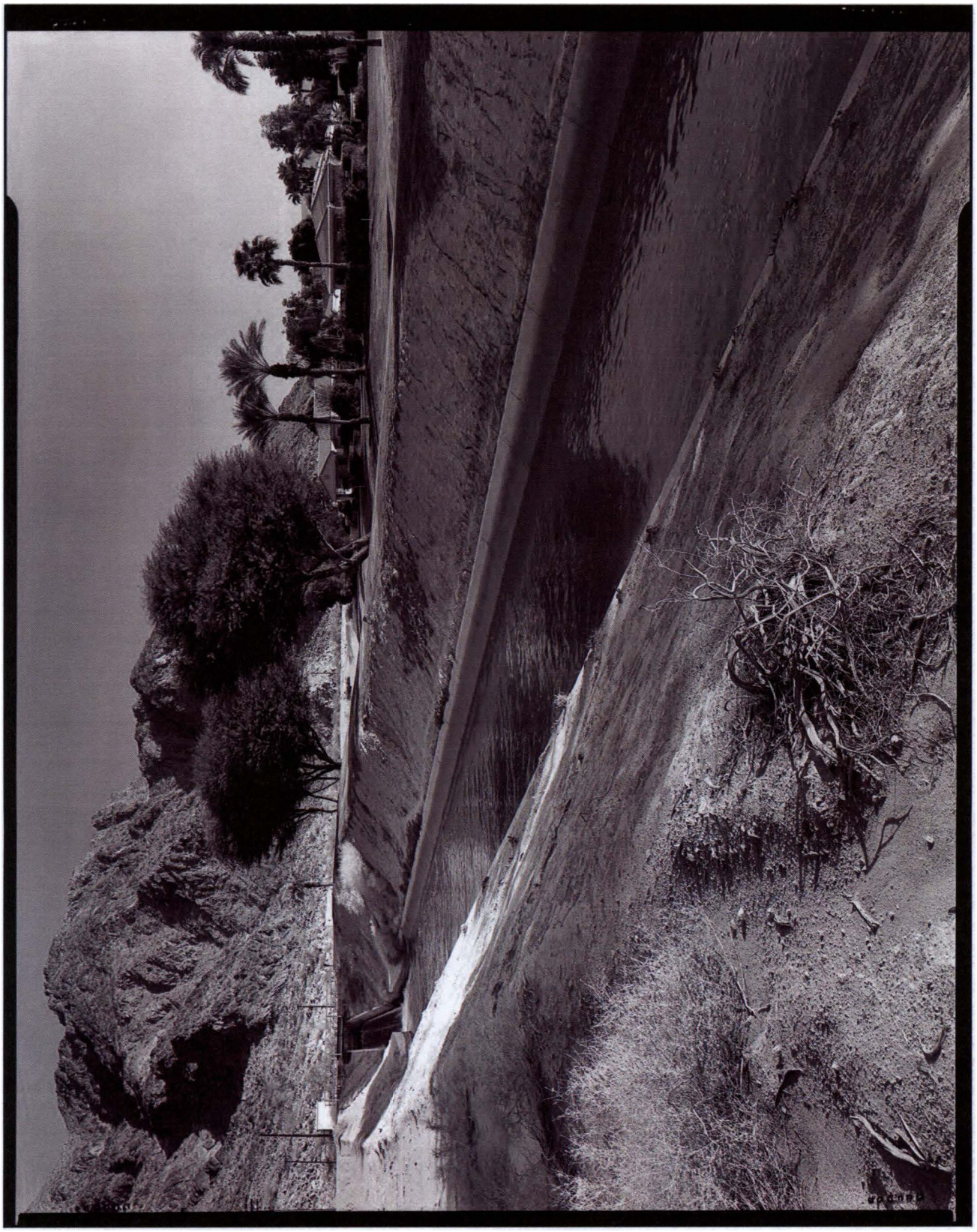
HISTORIC ENGINEERING DOCUMENTATION PHOTOGRAPHS
SEE PHOTO INDEX FOR CAPTION PHOTO # 16

Coachella Canal (Station 6382+96 to Station 6431+36)
Crossing the Silver Rock Golf Course and West of Avenue 54
City of La Quinta, Riverside County, California



HISTORIC ENGINEERING DOCUMENTATION PHOTOGRAPHS
SEE PHOTO INDEX FOR CAPTION PHOTO # 17

Coachella Canal (Station 6382+96 to Station 6431+36)
Crossing the Silver Rock Golf Course and West of Avenue 54
City of La Quinta, Riverside County, California



Photograph Index Map

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # P-33-5705 UPDATE
HRI #
Trinomial
NRHP Status Code

RECEIVED IN
MAR 27 2014
EIC

Other Listings _____
Review Code Reviewer Date

Page 1 of 18 ***Resource Name or #:** (Assigned by recorder) **Coachella Canal and distribution system from Siphon 32 to Lake Cahuilla**

P1. Other Identifier:

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted and** (P2b and P2c or P2d. Attach a Location Map as necessary.)

***a. County:** Riverside

***b. USGS 7.5' Quad (see Location Maps)**
T ; R ¼ of ¼ of Sec B.M. (see Continuation Sheet)

c. Address: n/a City: n/a Zip:n/a

d. UTM: NAD 27, Zone 11S; 600470mE /3711195mN **(Siphon 32)**
UTM: NAD 27, Zone 11S; 567066mE /3721640mN **(Lake Cahuilla outlet)**

e. Other Location Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate):

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries). The Coachella Branch of the All-American Canal (AAC), referred to as the Coachella Canal, was constructed from 1938-1948 as part of the Boulder Canyon Act of 1928 with its distribution system completed in 1954 (**see Linear Record for additional information**).

***P3b. Resource Attributes:** (List attributes and codes) HP20

***P4. Resources Present:** ☐ Building ☐ Structure ☐ Object ☒ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (View, date, accession #) Siphon 32 and Old Coachella Canal alignment.

***P6. Date Constructed/Age and Sources:**
☒ Historic ☐ Prehistoric ☐ Both

***P7. Owner and Address:**
Coachella Valley Water District
Post Office Box 1058
Coachella, California 92236

***P8. Recorded by:** (Name, affiliation, and address)
Sinéad Ní Ghabhláin and Sarah Stringer-Bowsher
ASM Affiliates, Inc.
2034 Corte del Nogal
Carlsbad, CA 92011

***P9. Date Recorded:** June 11-12, 2007

***P10. Survey Type: (Describe):**
Intensive pedestrian survey along the length of the canal from Siphon 32 to Lake Cahuilla.

***P11. Report Citation:** Sarah Stringer-Bowsher, Sinéad Ní Ghabhláin, Jerry Schaefer, *Preserving a Record of the Coachella Canal: Documents Data Recovery for the Concrete-line Reach Between Siphon 32 and Lake Cahuilla*.

***Attachments:** ☐ NONE ☒ Location Map ☐ Sketch Map ☒ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☒ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):

L1. Historic and/or Common Name: Coachella Canal and distribution system

L2a. Portion Described: ☐ Entire Resource x Segment ☐ Point Observation **Designation:**

b. Location of point or segment: (Provide UTM coordinates, legal description, and any other useful locational data. Show the area that has been field inspected on a Location Map)

See location maps that indicate the portion of the canal evaluated and the continuation sheet that delineates the Section, Township, and Range of the waterway from Siphon 32 to Lake Cahuilla.

L3. Description: (Describe construction details, materials, and artifacts found at this segment/point. Provide plans/sections as appropriate.)

The Coachella Canal branch of the All-American Canal and its distribution system helped wean farmers away from a dependence on artesian and pumped wells by offering a dependable source of water through the irrigation distribution system. As a branch of the All-American Canal, the Coachella Canal receives Colorado River water from the All-American. This main canal carries the water across the southern part of the Imperial Valley and at Drop No. 1 diverts Colorado River water to the Coachella Canal that extends through East Mesa and in a northwesterly direction above the Salton Sea to serve Mecca, Thermal, Coachella, Indio, La Quinta, Bendel's Corner, and Oasis in the Coachella Valley. Construction of the last 35 miles of the Coachella Canal incorporated concrete lining as a method to reduce seepage. Final reaches of the canal extended from Siphon 32 to the canal's termination at Station 6517, before the CVCWD constructed the Lake Cahuilla reservoir in 1968-1969 and its associated protective Dikes No. 2 and 4.

Despite later additions (including Lake Cahuilla), the location, design, materials, and workmanship of the canal remain mostly intact. As it is an underground distribution system, the laterals were not directly viewed by ASM staff. It is assumed that increased development near and possibly atop the distribution system laterals may have already impacted the condition. Although the setting of the Coachella Valley retains a highly agricultural feeling, the growth of the valley is increasingly apparent with new tract housing sprouting across the communities and golf courses bordering the canal at different segments. It is recommended that the Coachella Canal and distribution system is eligible for inclusion on the NRHP at local and state levels under Criteria A and C. The recommended period of significance for the entire Coachella Canal and distribution system is 1938 to 1954.

L4. Dimensions: (In feet for historic features and meters for prehistoric features)

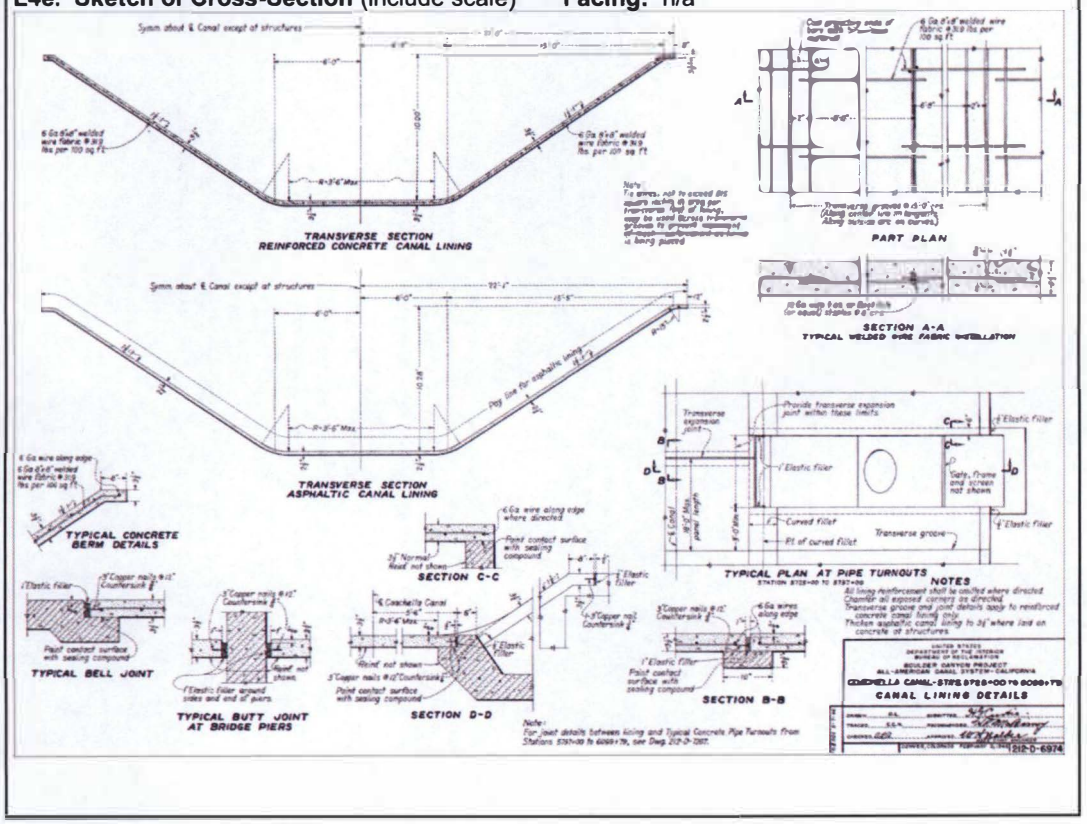
a. Top Width: varies; approx. 44 ft.

b. Bottom Width: varies; approx. 12 ft.

c. Height or Depth: approx. 10 ft.

d. Length of Segment: 35 miles; entire Coachella Canal is 123 miles.

L4e. Sketch of Cross-Section (include scale) **Facing:** n/a



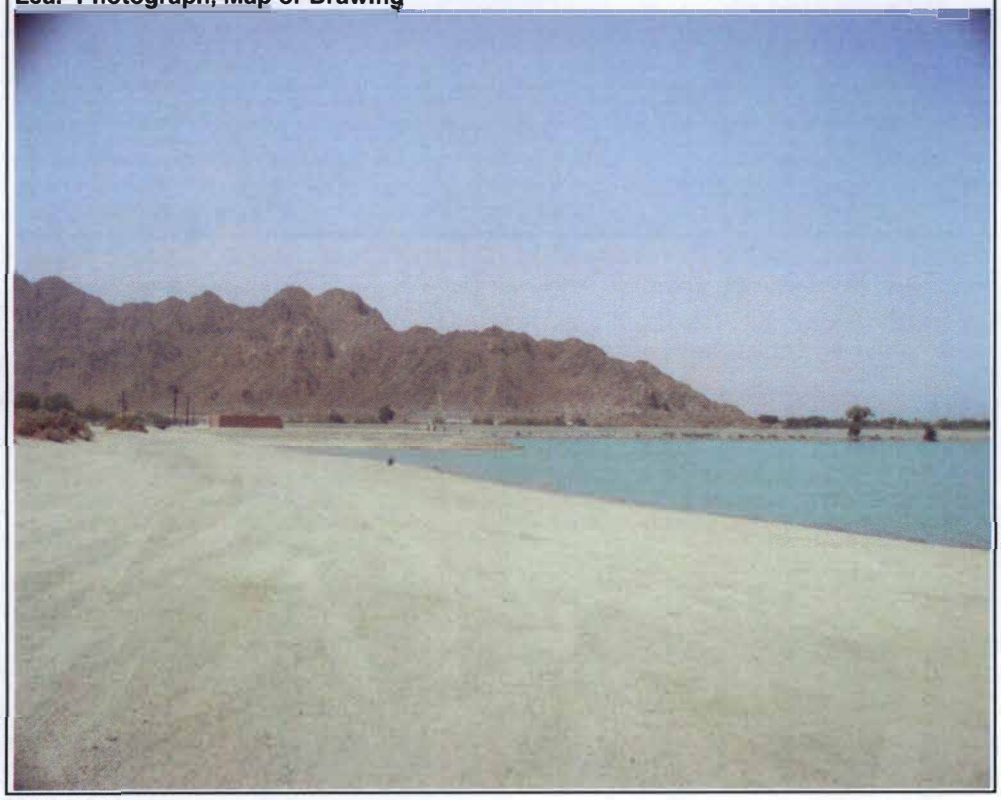
*Required information

L5. Associated Resources:

Main Structure	Constructed by	Additional Information
Wasteway No. 1 through No. 3	Reclamation contractors	
Detension Basin/Dike No. 1	Reclamation contractors	
Detension Basin/Dike No. 2	Reclamation contractors	
Three Inverted Siphons (excluding Siphon 32)	Reclamation contractors	
Pumping Plant L-1 through L-6	Reclamation contractors	
Pumping Plant E-1 through E-5	Reclamation contractors	
Pumping Plant O-1 through O-2	Reclamation contractors	
Equalizing Reservoir	Reclamation contractors/Modified by CVCWD	
Settling Basin and Regulating Reservoir	CVCWD	
Lake Cahuilla Reservoir	CVCWD	
Drainage System	CVCWD	
Bridges (concrete, steel, and wood bridges)	various	At the time of the survey, there were a minimum of 20 bridges.
Timber truss bridge	unknown	At the time of the survey, one timber truss bridge remained at Madison Street and Avenue 40.
Overchutes	Reclamation contractors	At the time of the survey, six overchutes remained.
Checks/drops/gates	Reclamation contractors	A minimum of seven were recorded.

L6. Setting: (Describe natural features, landscape characteristics, slope, etc., as appropriate.)
This segment of the Coachella Canal from Siphon 32 to Lake Cahuilla abuts washes from Mecca Hills just northwest of Siphon 32, traverserses agriculture and residential homes, and terminates near hills at Lake Cahuilla.

L8a. Photograph, Map or Drawing



L7. Integrity Considerations:
Integrity of the canal and its features is high as few changes have been made to the system. However, encroaching residential communities have impacted the viewshed of the canal and will likely continue to alter the landscape over time.

L8b. Description of Photo, Map, or Drawing (View, scale, etc.)
Lake Cahuilla

L9. Remarks:

L10. Form Prepared by: (Name, affiliation, and address)
Sinéad Ní Ghabhláin and Sarah Stringer-Bowsher
ASM Affiliates, Inc.
2034 Corte Del Nogal
Carlsbad, California 92011

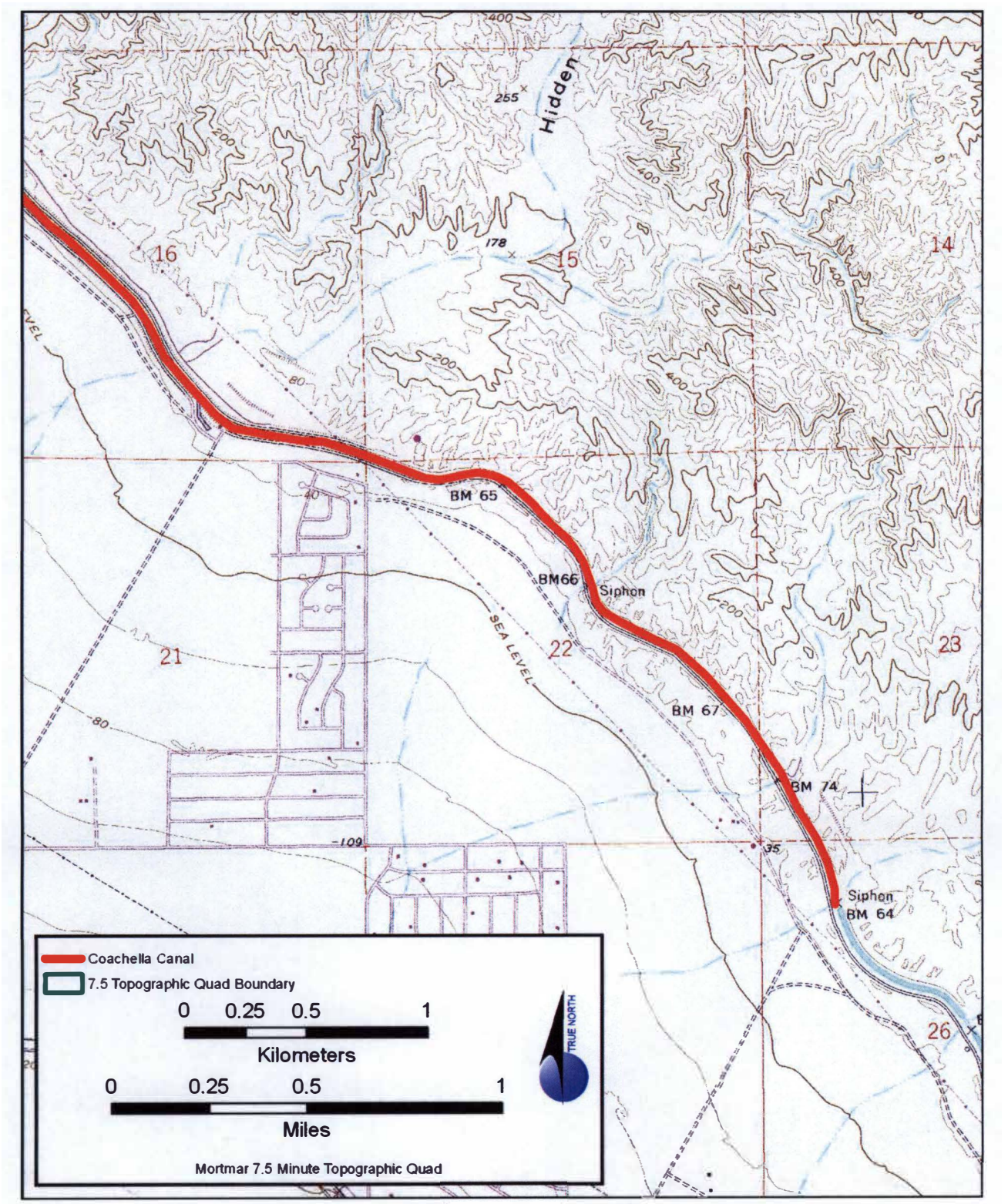
L11. Date: August 17, 2009

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#P-33-5705 UPDATE
HRI #
Trinomial _____

Page 4 of 18 ***Resource Name or #:** (Assigned by recorder) **Coachella Canal and distribution system**

Map Name: USGS Mortmar **Scale:** 1:24000 **Date of Map:** 1972



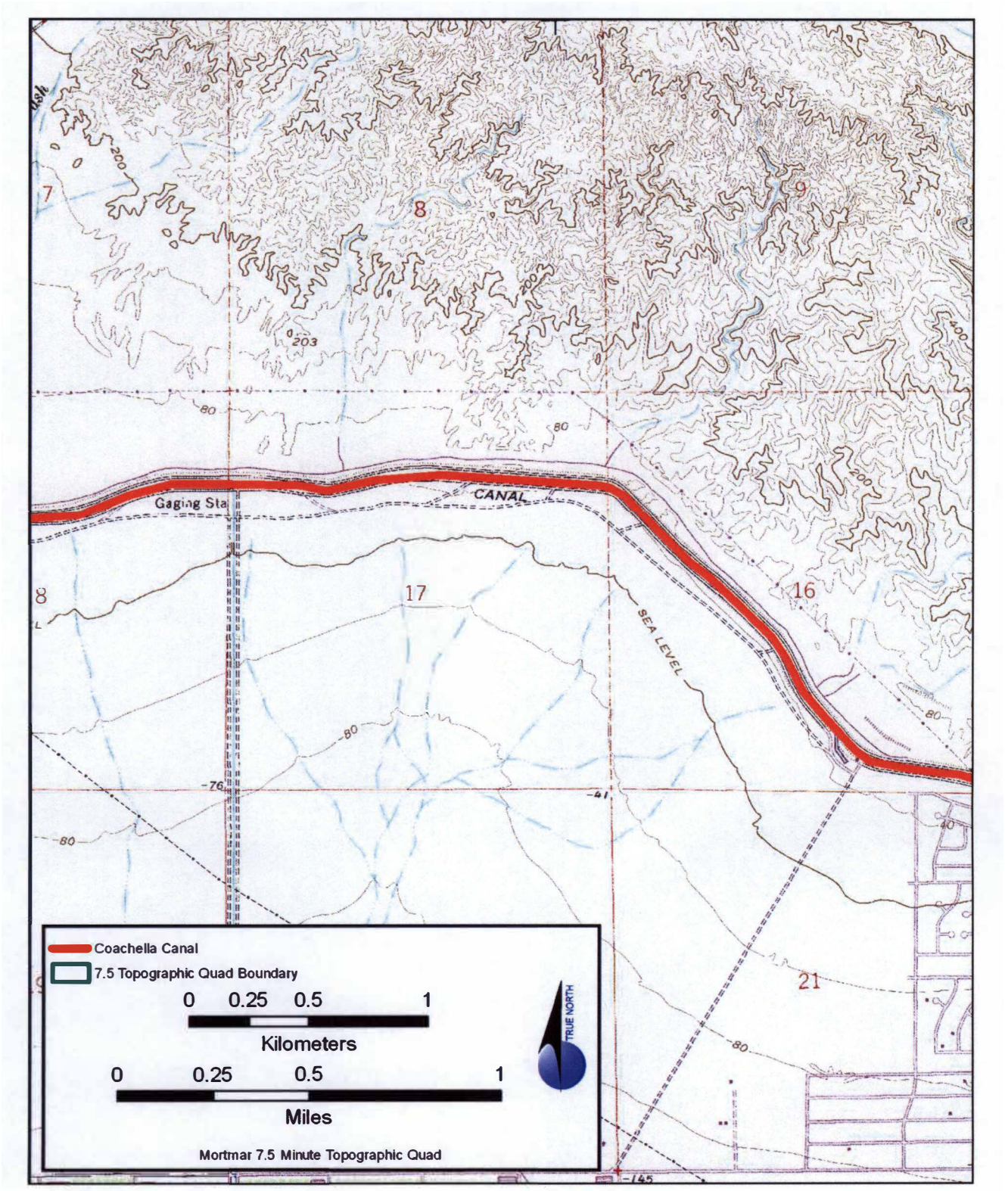
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-33-5705 UPDATE
HRI #
Trinomial

***Resource Name or #:** (Assigned by recorder) **Coachella Canal and distribution system**

Map Name: USGS Mortmar **Scale:** 1:24000 **Date of Map:** 1972



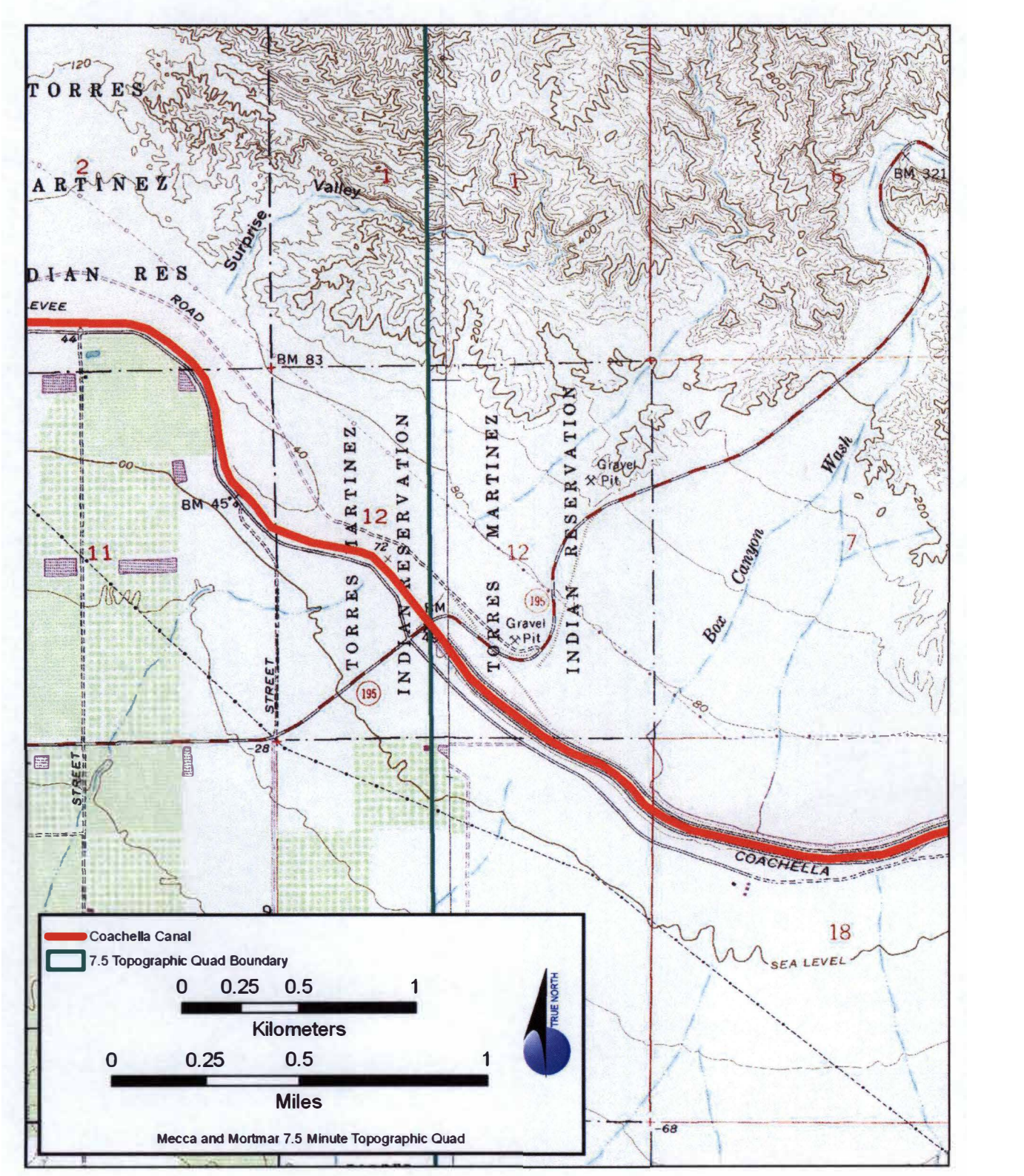
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-33-5705 UPDATE
HRI #
Trinomial _____

Page 6 of 18 ***Resource Name or #:** (Assigned by recorder) **Coachella Canal and distribution system**

Map Name: USGS Mecca and Mortmar **Scale:** 1:24000 **Date of Map:** 1972



*Required information

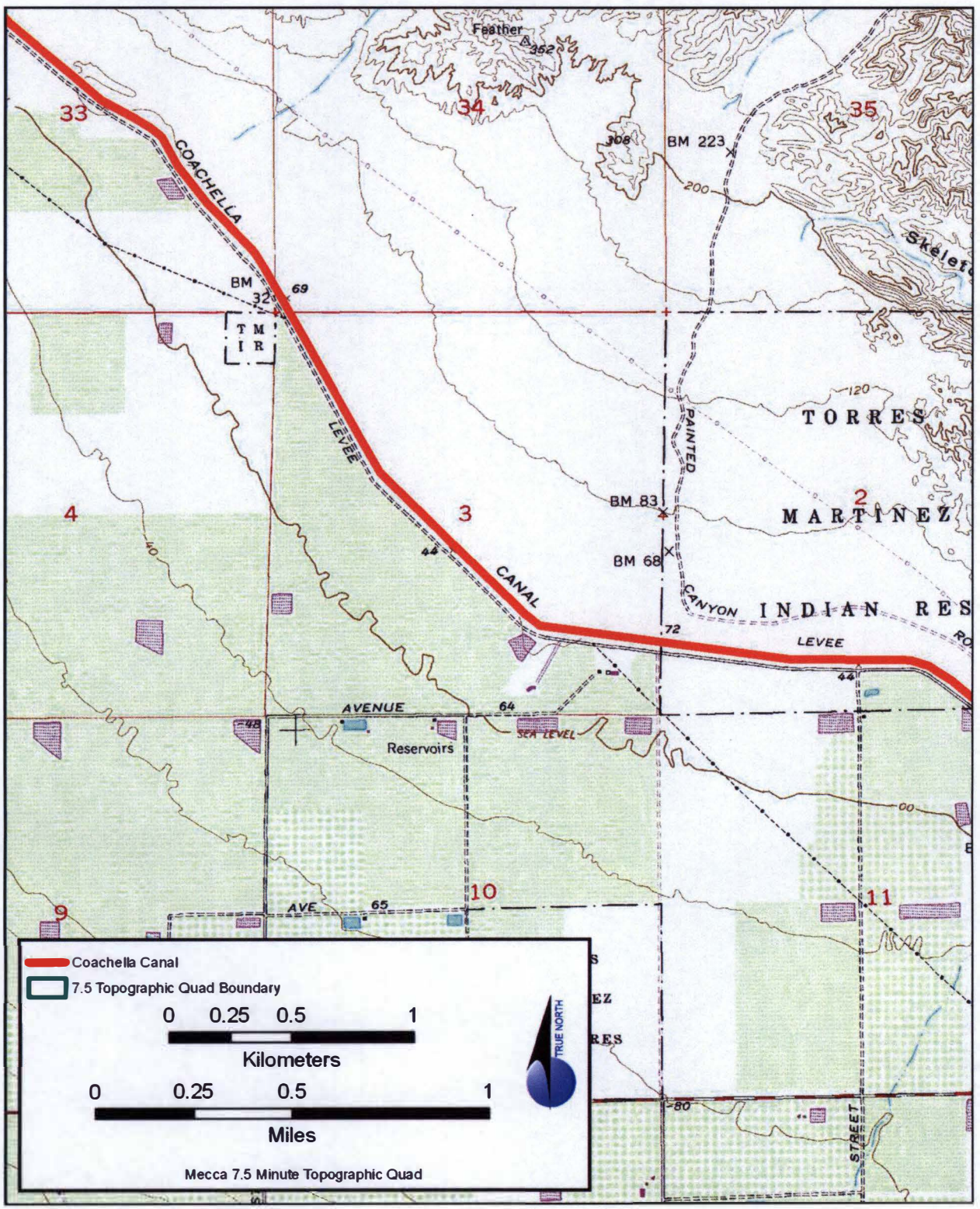
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

Primary # P-33-5705 UPDATE
HRI #
Trinomial _____

Page 7 of 18 ***Resource Name or #:** (Assigned by recorder) **Coachella Canal and distribution system**

Map Name: USGS Mecca **Scale:** 1:24000 **Date of Map:** 1972



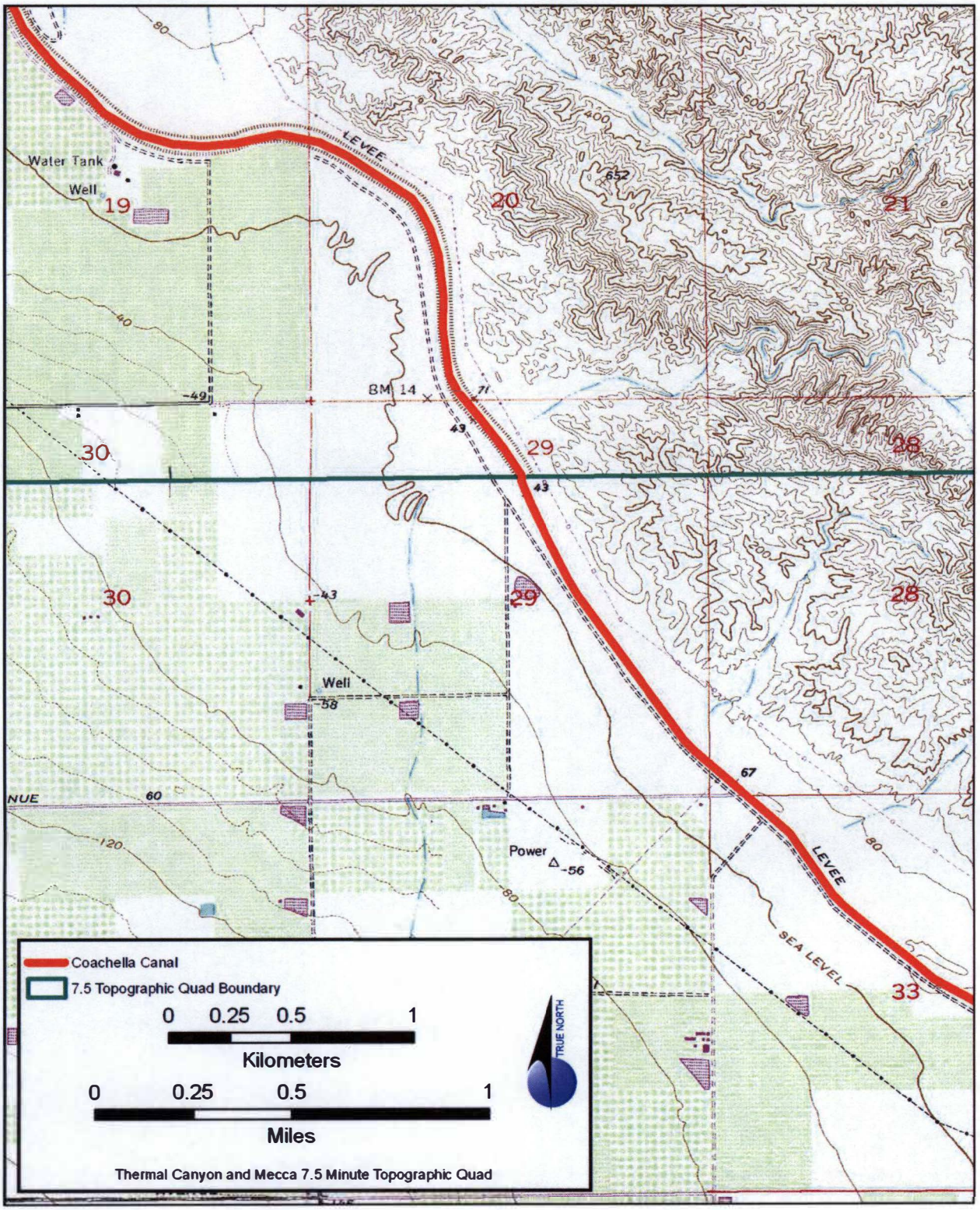
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-33-5705 UPDATE
HRI #
Trinomial

***Resource Name or #:** (Assigned by recorder) **Coachella Canal and distribution system**

Map Name: USGS Thermal Canyon and Mecca **Scale:** 1:24000 **Date of Map:** 1972



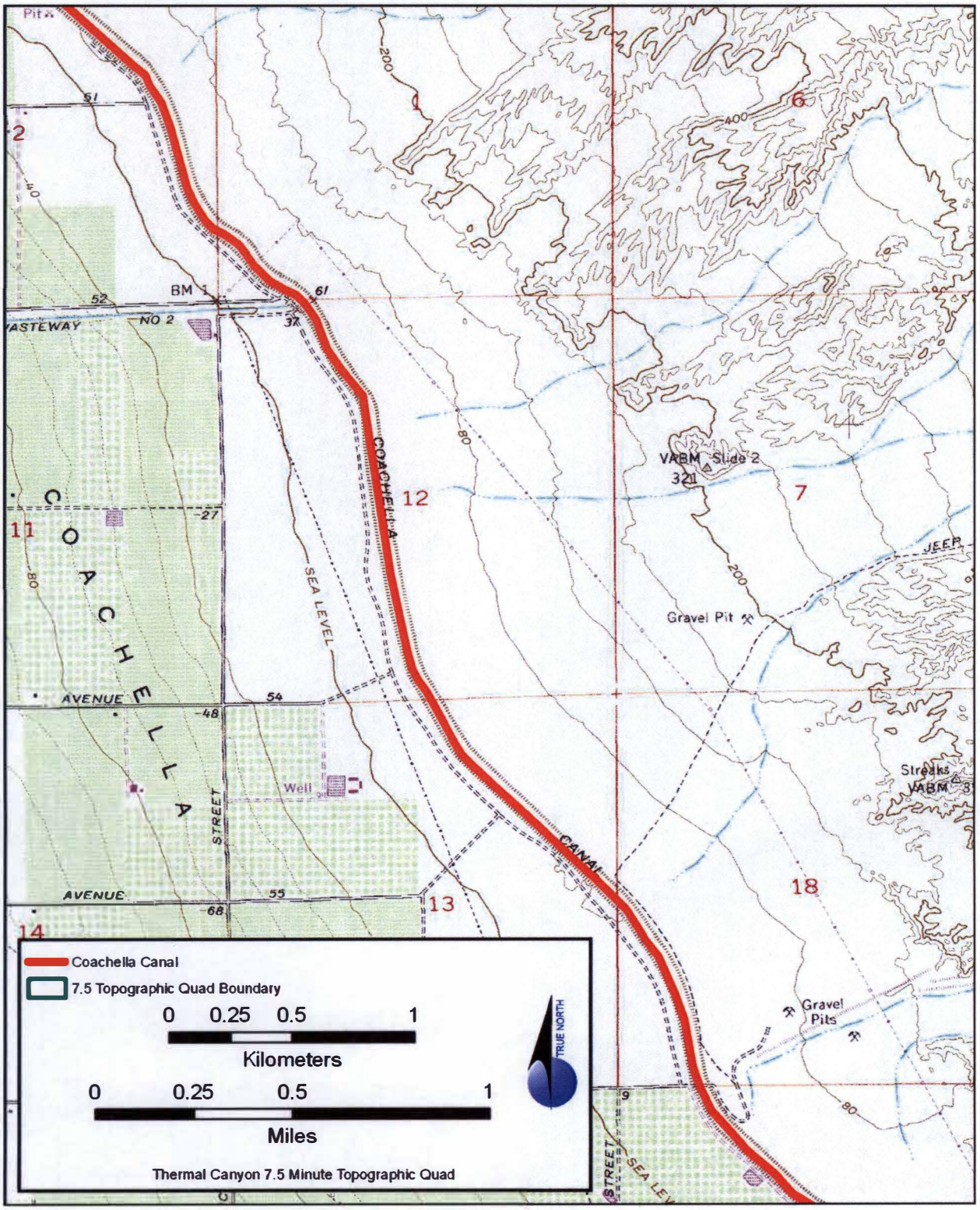
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-33-5705 UPDATE
HRI #
Trinomial

***Resource Name or #:** (Assigned by recorder) **Coachella Canal and distribution system**

Map Name: USGS Thermal Canyon **Scale:** 1:24000 **Date of Map:** 1972



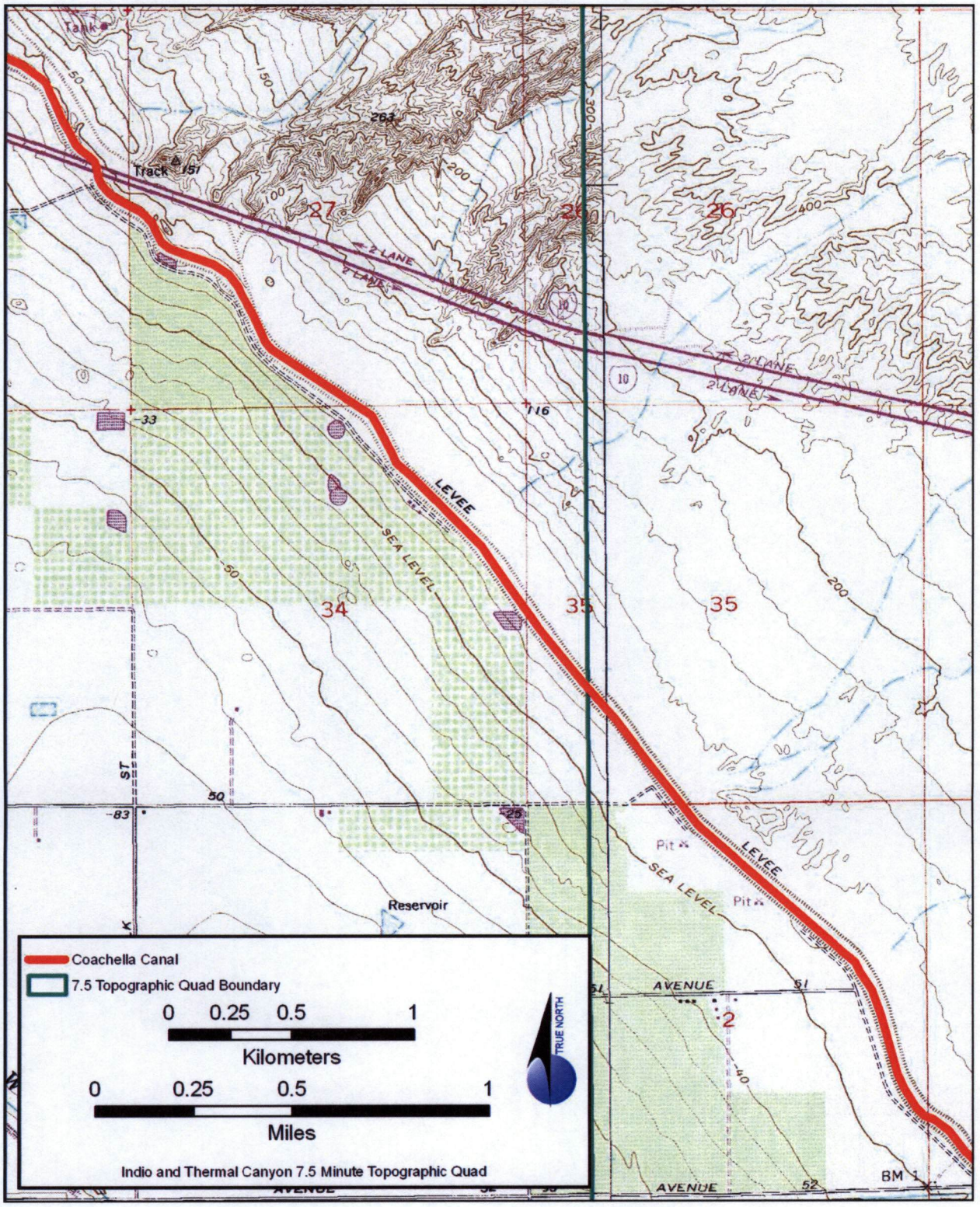
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-33-5705 UPDATE
HRI #
Trinomial

***Resource Name or #:** (Assigned by recorder) **Coachella Canal and distribution system**

Map Name: USGS Indio and Thermal Canyon **Scale:** 1:24000 **Date of Map:** 1972



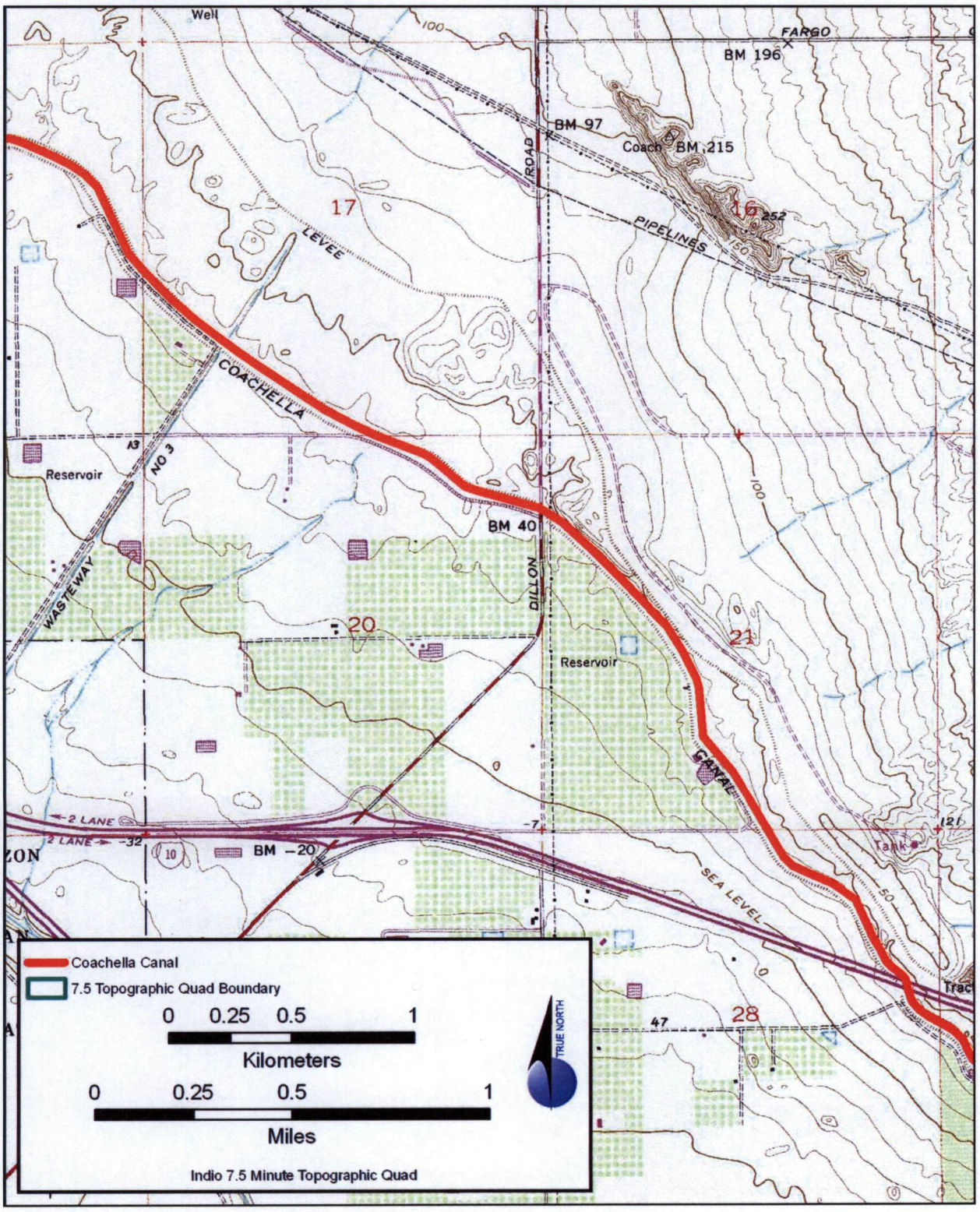
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-33-5705 UPDATE
HRI #
Trinomial

***Resource Name or #:** (Assigned by recorder) **Coachella Canal and distribution system**

Map Name: USGS Indio **Scale:** 1:24000 **Date of Map:** 1972



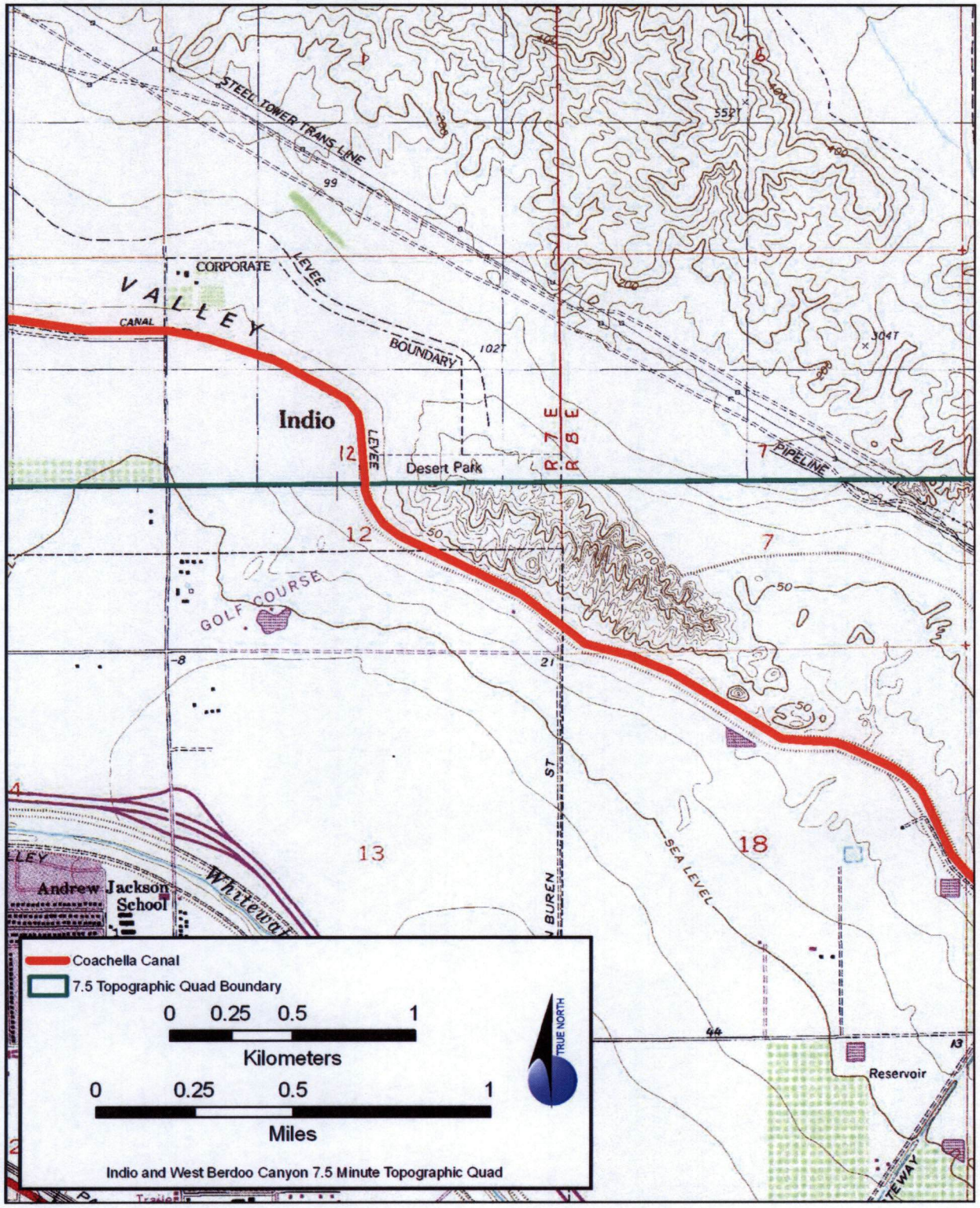
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-33-5705 UPDATE
HRI #
Trinomial

***Resource Name or #:** (Assigned by recorder) **Coachella Canal and distribution system**

Map Name: USGS Indio and West Berdoo Canyon **Scale:** 1:24000 **Date of Map:** 1972/1988



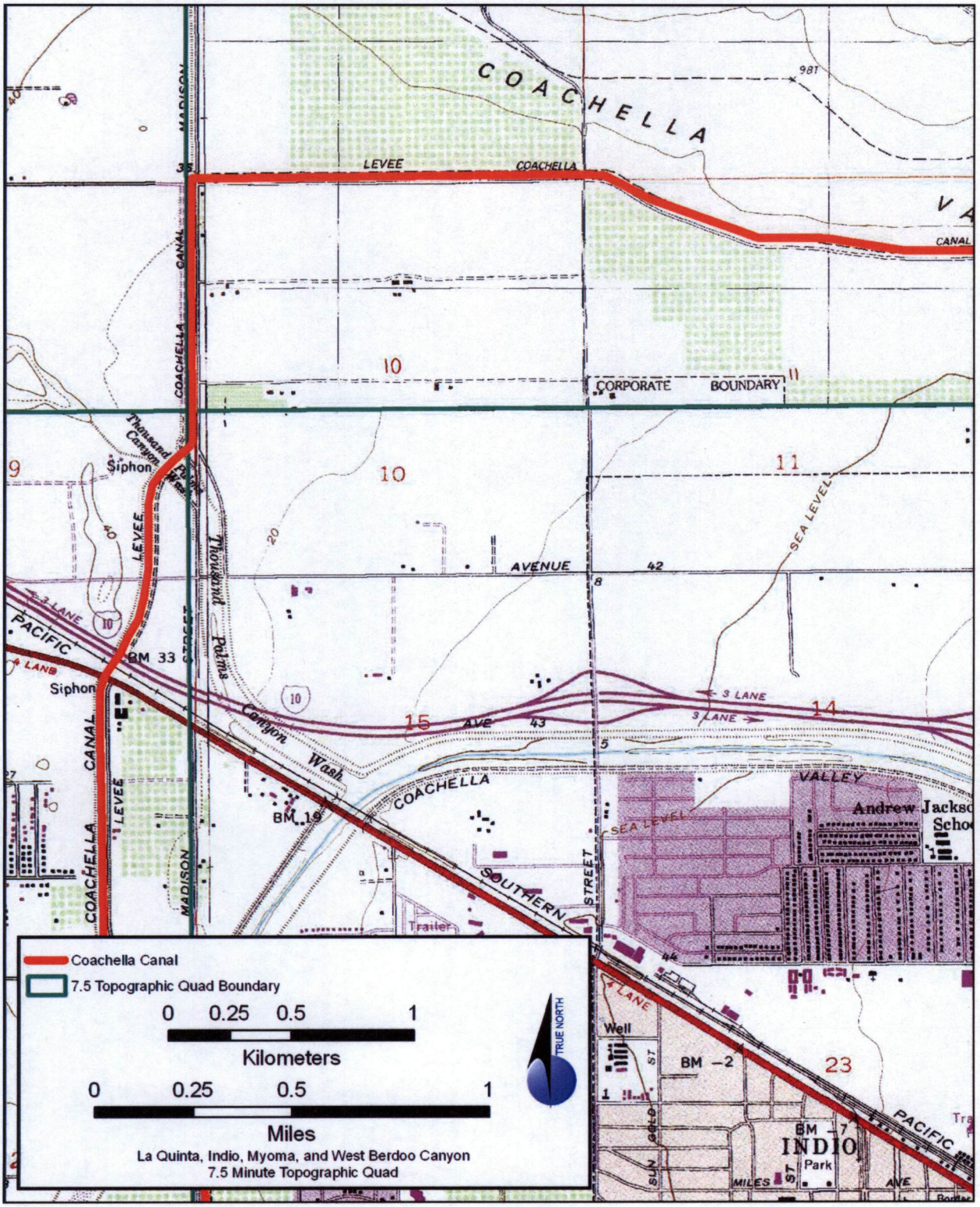
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-33-5705 UPDATE
HRI #
Trinomial

***Resource Name or #:** (Assigned by recorder) **Coachella Canal and distribution system**

Map Name: USGS La Quinta, Indio, Myoma, and West Berdoo Canyon **Scale:** 1:24000 **Date of Map:** 1980/1972/1978/1988



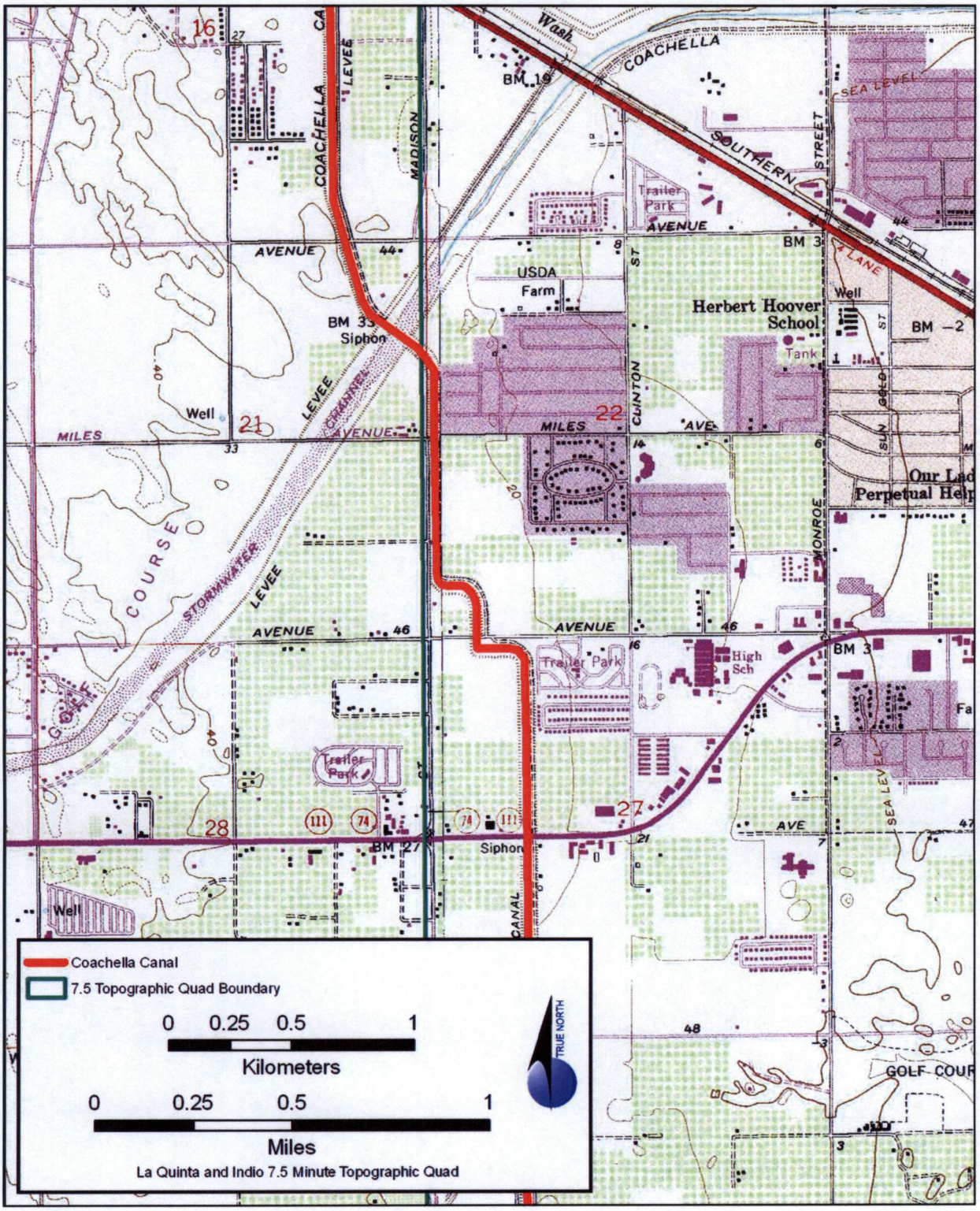
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-33-5705 UPDATE
HRI #
Trinomial

***Resource Name or #:** (Assigned by recorder) **Coachella Canal and distribution system**

Map Name: USGS La Quinta and Indio **Scale:** 1:24000 **Date of Map:** 1980/1972



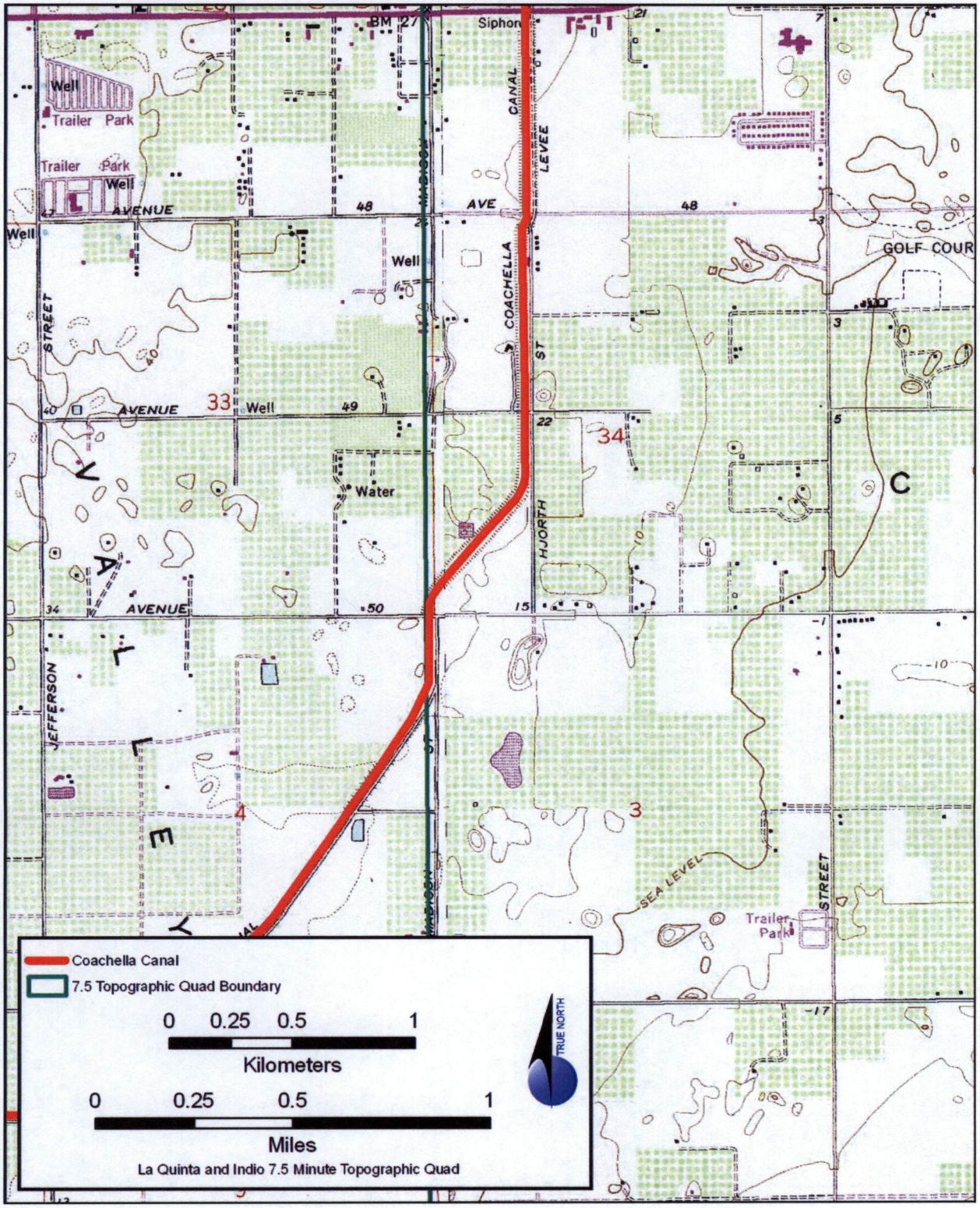
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-33-5705 UPDATE
HRI #
Trinomial

***Resource Name or #:** (Assigned by recorder) **Coachella Canal and distribution system**

Map Name: USGS La Quinta and Indio **Scale:** 1:24000 **Date of Map:** 1980/1972



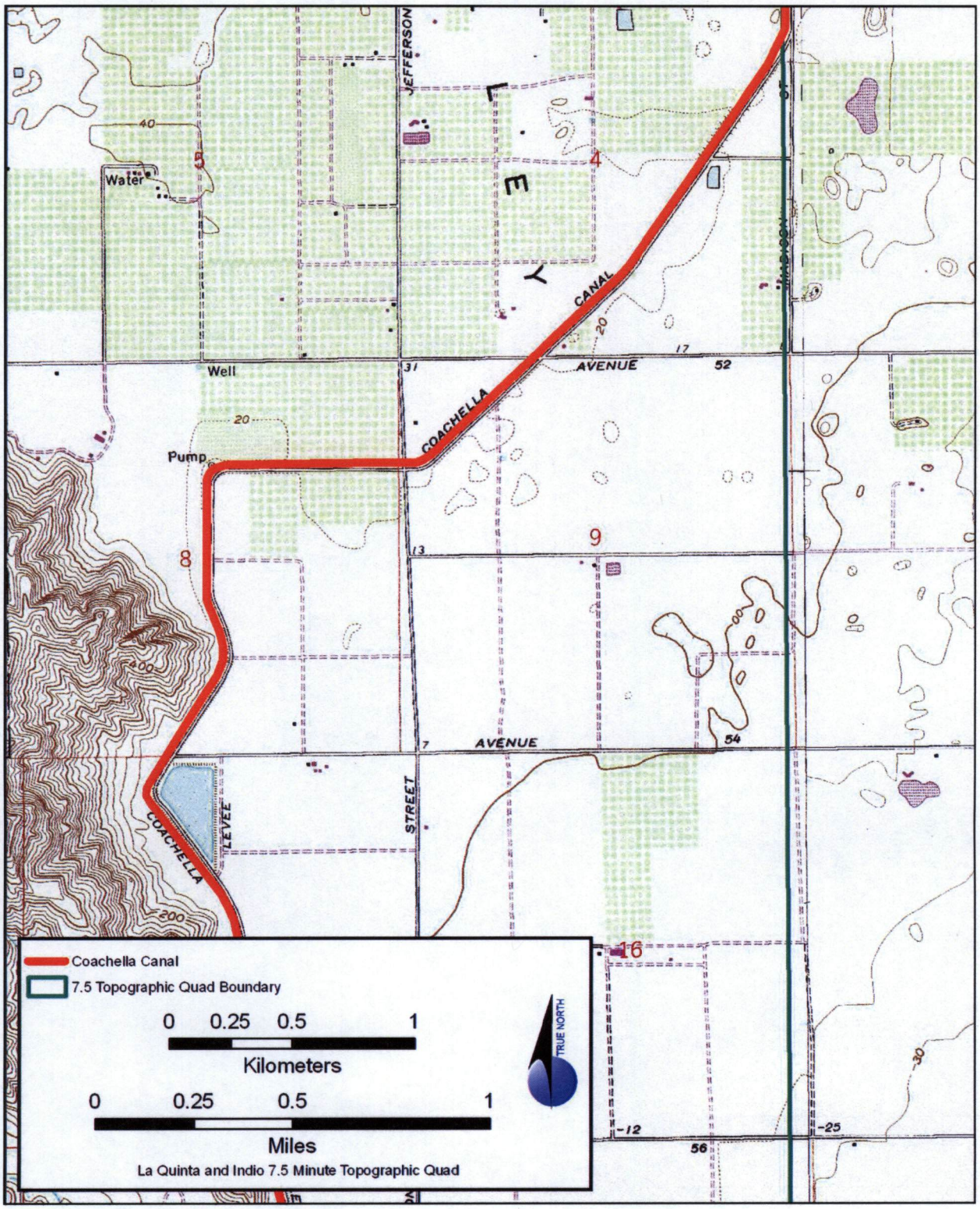
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-33-5705 UPDATE
HRI #
Trinomial

***Resource Name or #:** (Assigned by recorder) **Coachella Canal and distribution system**

Map Name: USGS La Quinta and Indio **Scale:** 1:24000 **Date of Map:** 1980/1972



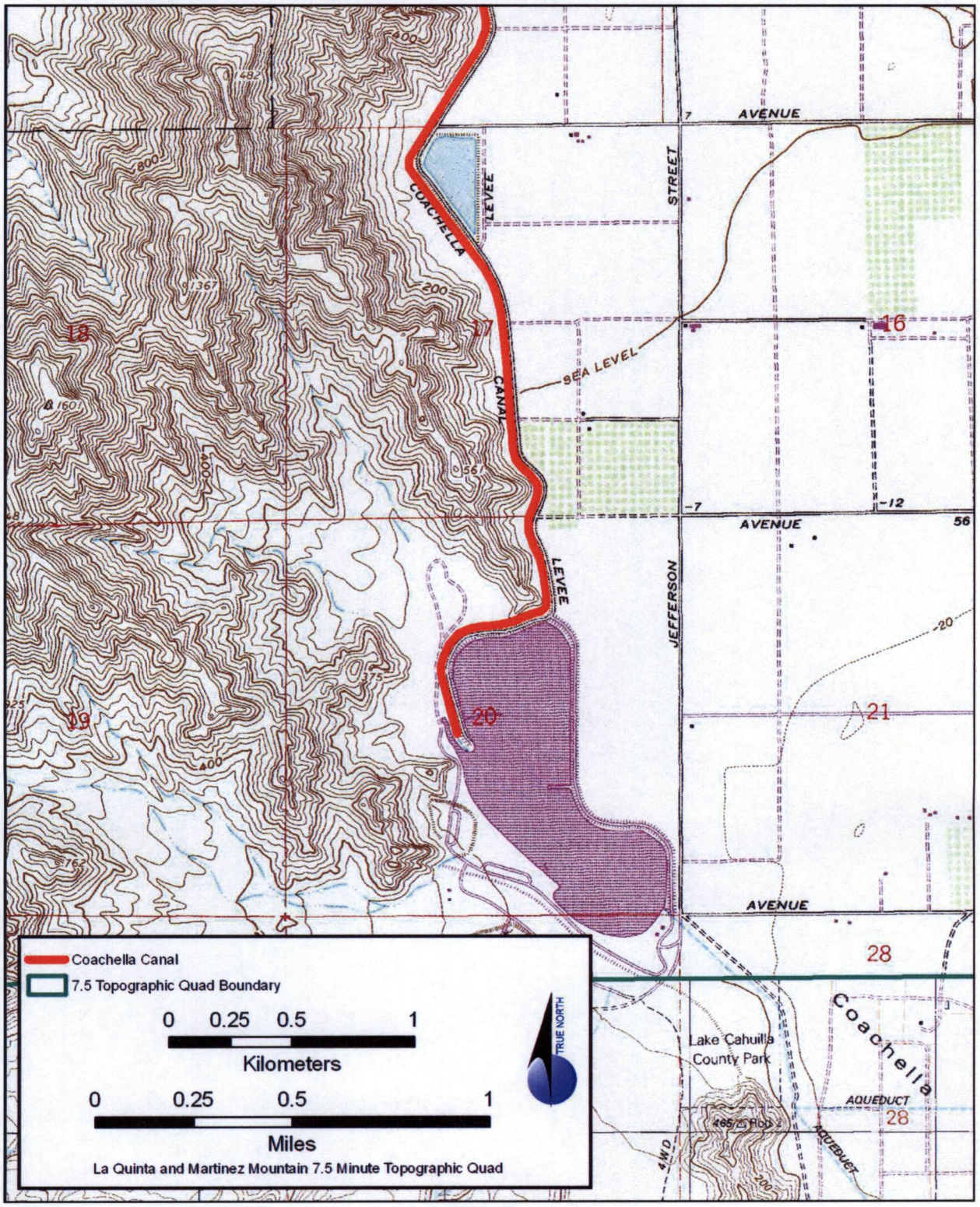
*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # P-33-5705 UPDATE
HRI #
Trinomial

***Resource Name or #:** (Assigned by recorder) **Coachella Canal and distribution system**

Map Name: USGS La Quinta and Martinez Mountain **Scale:** 1:24000 **Date of Map:** 1980/1988



*Required information

P.2.b.

From Siphon 32 to Lake Cahuilla:

NW¼ of Section 26, Township 7 South, Range 10 East
SW¼ of Section 23, Township 7 South, Range 10 East
SE¼ and N½ of Section 22, Township 7 South, Range 10 East
SW¼ of Section 15, Township 7 South, Range 10 East
S½ and NW ¼ of Section 16, Township 7 South, Range 10 East
N½ of Section 17, NW¼ of Section 26, Township 7 South, Range 10 East
N½ of Section 18, NW¼ of Section 26, Township 7 South, Range 10 East
NE¼ of Section 13, Township 7 South, Range 9 East
S½ of Section 12, Township 7 South, Range 9 East
NE¼ of Section 11, Township 7 South, Range 9 East
S½ of Section 2, Township 7 South, Range 9 East
SE¼ and W½ of Section 3, Township 7 South, Range 9 East
SW¼ of Section 34, Township 6 South, Range 9 East
E½ and NW¼ of Section 33, Township 6 South, Range 9 East
SW¼ of Section 28, Township 6 South, Range 9 East
E½ and NW¼ of Section 29, Township 6 South, Range 9 East
W½ of Section 20, Township 6 South, Range 9 East
E½ and NW¼ of Section 19, Township 6 South, Range 9 East
SW¼ of Section 18, Township 6 South, Range 9 East
NE¼ of Section 13, Township 6 South, Range 8 East
W½ of Section 12, Township 6 South, Range 8 East
SW¼ of Section 1, Township 6 South, Range 8 East
SW¼ of Section 1, Township 6 South, Range 8 East
E½ and NW¼ of Section 2, Township 6 South, Range 8 East
SW¼ of Section 35, Township 5 South, Range 8 East
NE¼ of Section 34, Township 5 South, Range 8 East
SW¼ of Section 27, Township 5 South, Range 8 East
NE¼ of Section 28, Township 5 South, Range 8 East
W½ of Section 21, Township 5 South, Range 8 East
NE¼ of Section 20, Township 5 South, Range 8 East
SW¼ of Section 17, Township 5 South, Range 8 East
E½ and NW¼ of Section 18, Township 5 South, Range 8 East
SW¼ of Section 7, Township 5 South, Range 8 East
SE¼ and NW¼ of Section 12, Township 5 South, Range 7 East
SE¼ and NW¼ of Section 11, Township 5 South, Range 7 East
N½ of Section 11, Township 5 South, Range 7 East
N½ and W½ of Section 10, Township 5 South, Range 7 East
E½ and SE¼ of Section 9, Township 5 South, Range 7 East
E½ of Section 16, Township 5 South, Range 7 East
E½ of Section 21, Township 5 South, Range 7 East
W½ of Section 22, Township 5 South, Range 7 East
W½ of Section 27, Township 5 South, Range 7 East
W½ of Section 34, Township 5 South, Range 7 East
E½ and SW¼ of Section 4, Township 6 South, Range 7 East
NW¼ of Section 9, Township 6 South, Range 7 East
E½ and SW¼ of Section 8, Township 6 South, Range 7 East
NW¼ and E½ of Section 17, Township 6 South, Range 7 East
N½ of Section 20, Township 6 South, Range 7 East

***Recorded by:** R. Jones and D. Broockmann ***Date:** 06-26-13 ☐ Continuation X Update

The Coachella Canal spans both Imperial and Riverside Counties, California. The canal has been given a different site number in each county: CA-IMP-7658 in Imperial County and CA-RIV-05705 in Riverside County. CA-IMP-7658 only refers to a small portion of the old Coachella Canal near the eastern end well outside of the project area, while CA-RIV-05705 contains a discussion of the entire canal. This document is intended to serve as an update for both site forms.

During the course of the current survey, the crew encountered a series of dirt and riprap berms adjacent to the Coachella canal in both SWAT 4 and SWAT 5. The berms are a component of the Coachella Canal, a 123-mile (198-km) water conveyance system constructed between 1938 and 1948 (Schaefer and Ghabhláin 2003). The Canal was recorded as CA-RIV-05705 in Riverside County and CA-IMP-7658 in Imperial County. The Imperial County site form covers only a 5.5-mile (8.9-km) section of the canal. Both site forms were updated to reflect the berm data collected during this survey.

This berm complex consists of a series of large linear water diversion levees or berms situated on the northeast side of the Coachella Canal. The berms are positioned to direct water runoff from the alluvial channels descending from the Chocolate Mountains through siphons in the Canal and to prevent damage to the canal structure. Generally, each berm is composed of two linear segments connected at the apex in a chevron shape, though due to rough topography, several berms do not fit the chevron shape pattern. The berms are constructed of soil and rock. The grading and level of the earth adjacent to the berms suggests that the majority of soil used in the creation of these berms was pushed from the adjacent areas. The berms vary in height from 6.5 ft to 15.6 ft (2 m to 4.7 m), and average 1 mile (1.6 km) in length. The berms average 41 ft (12.5 m) in width, and generally have a dirt track road along the berm tops. The majority of the berms have boulder riprap on the lower half of the upslope portion. This riprap was employed to assist in erosion control of floodwaters coming down the water channels. A number of quarries were noted on historic maps (outside of the project area), and these were likely the source of the rock used to create the riprap.

Preliminary surveys of the canal alignment noted that flood control measures would be required:

"Over 160 wash channels from the adjacent mountains cross this canal line. These are dry throughout the greater part of the year, but as this area is subject to storms of cloudburst proportions at times, structures must be provided to carry runoff across the canal. Wherever feasible, smaller washes will be diverted into the larger ones by means of diversion channels or dikes, however, it is probable that some 90 or more wash crossing structures will be required along this reach of this canal" (Bureau of Reclamation 1938:27).

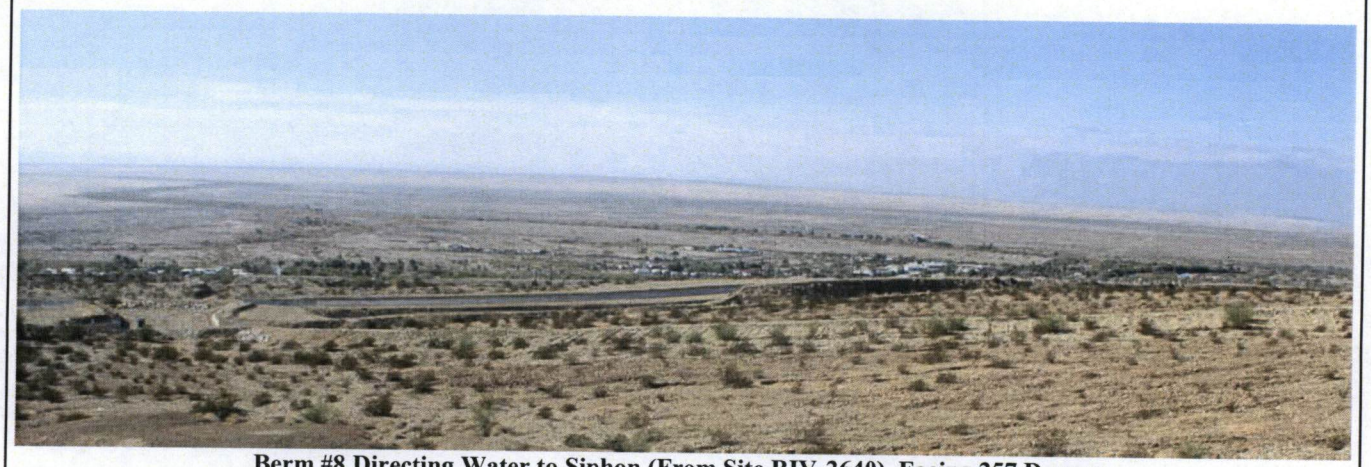
In 1948, the Bureau of Reclamation reported that "Thirty-seven miles [60 km] of diversion dykes and 36 miles [58 km] of detention dikes protect the Coachella Canal from floodwaters" (Bureau of Reclamation 1948). This suggests that the initial berm construction was completed by 1948. Since this time, it appears that the berms have been extensively modified and reinforced. While no initial plans for the diversion berms were located, documents obtained from the Coachella Valley County Water District show plans drafted in 1977for modification of the berms. These modifications involved adding fill to the side of diversion berms to decrease the slope angle and, in some cases, increase the berm height. The up-slope sections of the berms were also riprapped. These modifications probably are part of a necessary maintenance regime, which has not significantly altered the alignment or original purpose of the berms. At least one berm has been altered by military training exercises.

***Recorded by:** R. Jones and D. Broockmann ***Date:** 06-26-13 ☐ Continuation X Update

In terms of construction, generally, each berm is composed of two linear segments connected at the apex in a chevron shape, though due to rough topography, several berms do not fit the chevron shape pattern. The berms are constructed of soil and rock. The grading and level of the earth adjacent to the berms suggests that the majority of soil used in the creation of these berms was pushed from the areas adjacent. The berms vary in height from 6.5 ft to 15.6 ft (2m to 4.7m), and average one mile (1.6km) in length (see table below). The berms average 41 feet in width, and generally have a dirt track roads along the berm tops. The majority of the berms have boulder riprap on the lower half of the upslope portion. This riprap was employed to assist in erosion control of floodwaters coming down the water channels from the mountains. A number of quarries were noted on historic maps (outside of the project area), and these were likely the source of the rock utilized to create the riprap.

Berm #	Width (ft)	Height (ft)	Length (ft)
1	45	8.6	7985
2	53	9.5	7793
3	41	8.9	8304
4	43	9.2	13813
5	43	9.1	10233
7	41	11	1285
6	40	13.7	2352
8	31	12.6	1945
9	32	11.4	3359
10	50	12	6635
11	41	9.3	3525
12	41	15.7	2268
13	43	10.5	5433
14	45	10.4	10334
15	48	11.9	8602
16	45	7.3	2365
17	37	8.4	2402
18	45	8.6	2480
19	35	8	11174
20	29	6.9	6939
21	60	6.5	1088
22	34	9.1	2537
23	52	5	1327
24	35	7	3297
25	28	6.5	3147
26	33	7	8607

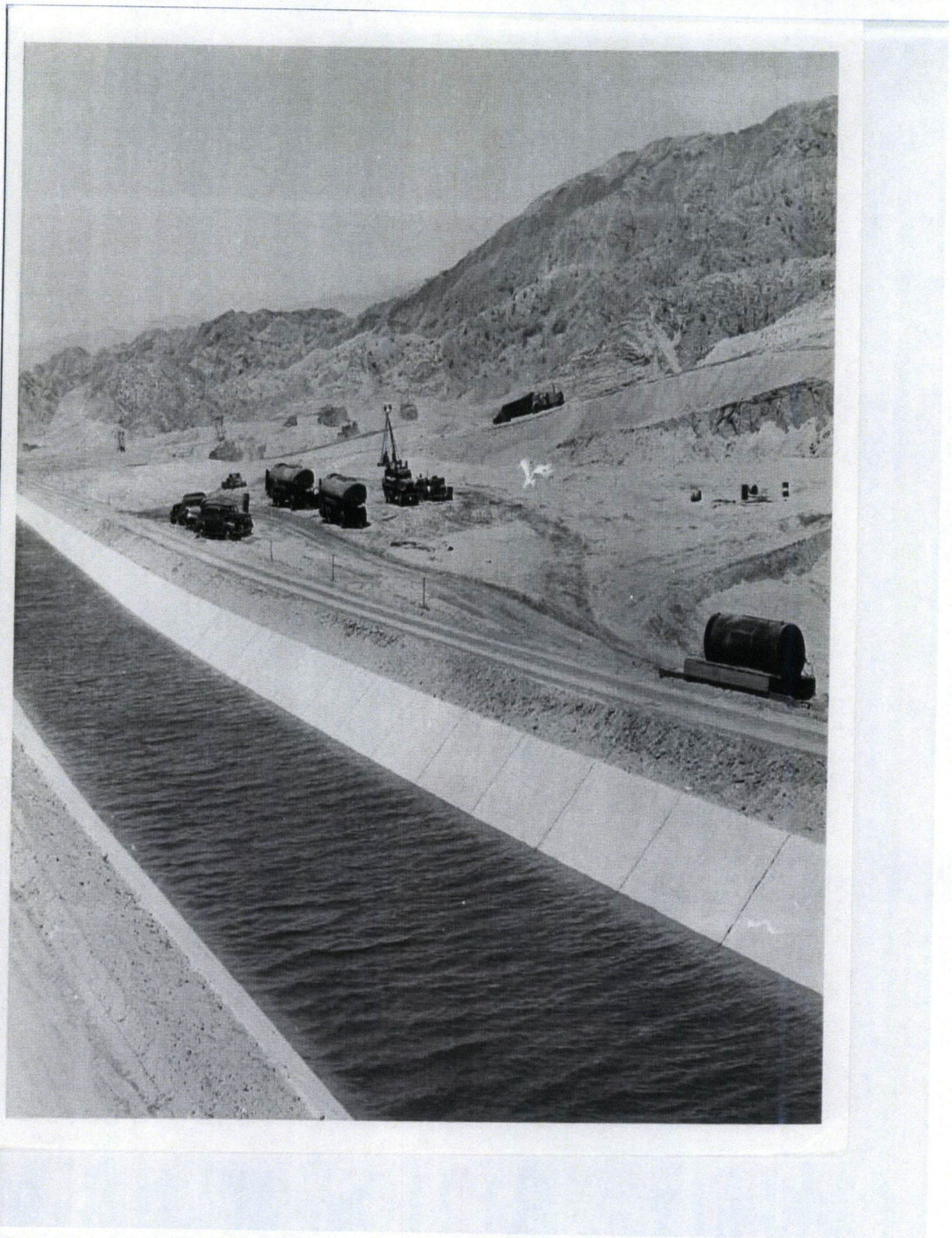
Top of Berm #24, Facing 180 Degrees

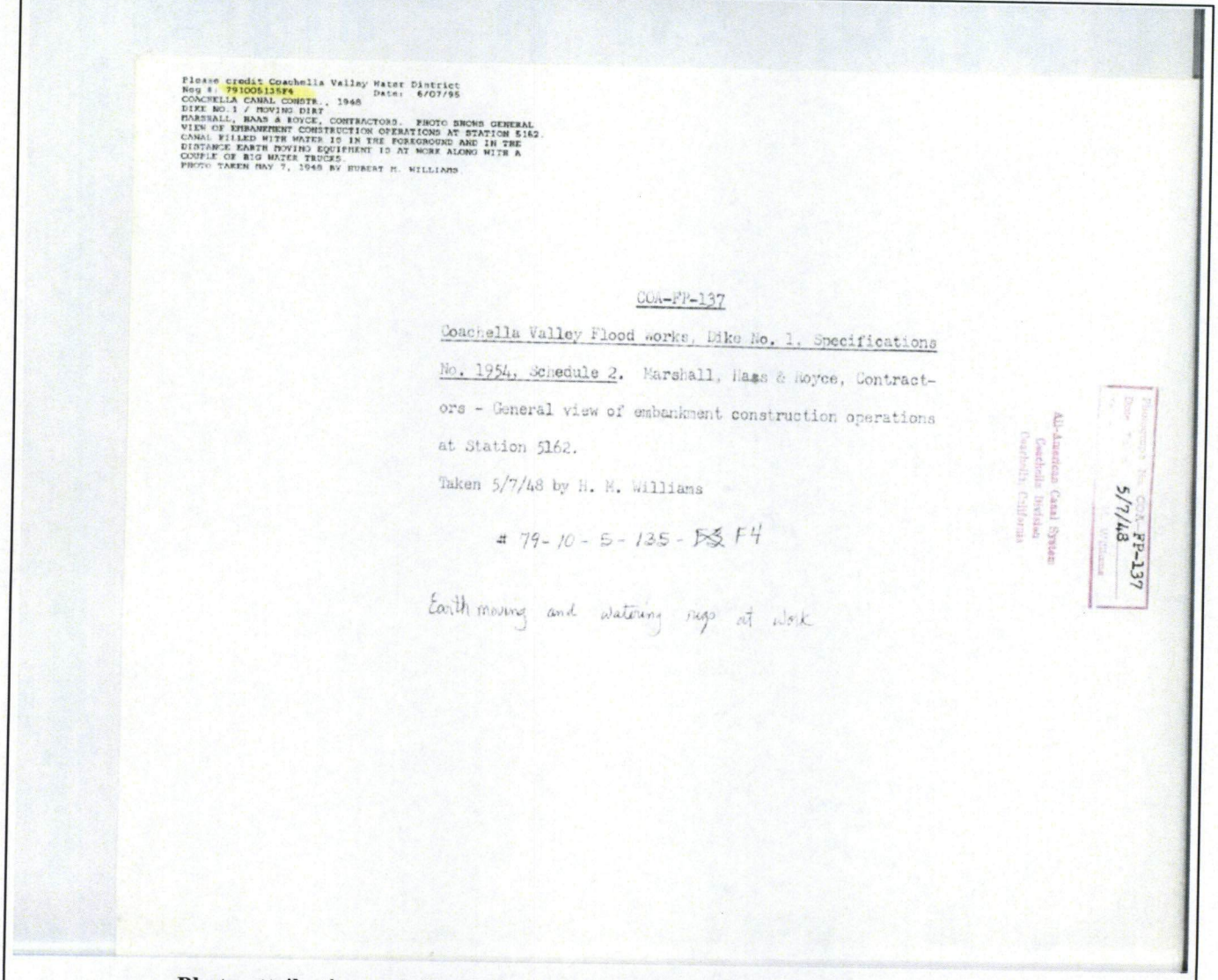


Berm #8 Directing Water to Siphon (From Site RIV-2640), Facing 257 Degrees

Berm #21 with Modern Targets on Top, Facing 0 Degrees

Side View of Berm #14, Facing 36 Degrees





Please credit Coachella Valley Water District
Neg #: 791005135F4 Date: 6/07/95
COACHELLA CANAL CONSTR., 1948
DIKE NO.1 / MOVING DIRT
MARSHALL, HAAS & ROYCE, CONTRACTORS. PHOTO SHOWS GENERAL VIEW OF EMBANKMENT CONSTRUCTION OPERATIONS AT STATION 5162. CANAL FILLED WITH WATER IS IN THE FOREGROUND AND IN THE DISTANCE EARTH MOVING EQUIPMENT IS AT WORK ALONG WITH A COUPLE OF BIG WATER TRUCKS.
PHOTO TAKEN MAY 7, 1948 BY HUBERT M. WILLIAMS

COA-FP-137

Coachella Valley Flood Works, Dike No. 1, Specifications No. 1954, Schedule 2. Marshall, Haas & Royce, Contractors - General view of embankment construction operations at Station 5162.

Taken 5/7/48 by H. M. Williams

79-10-5-135-F4

Earth moving and watering rigs at work

All-American Canal System
Coachella Division
Coachella, California

COA-FP-137
5/7/48

Photo attribution and description for the historic photo on continuation sheet 5.

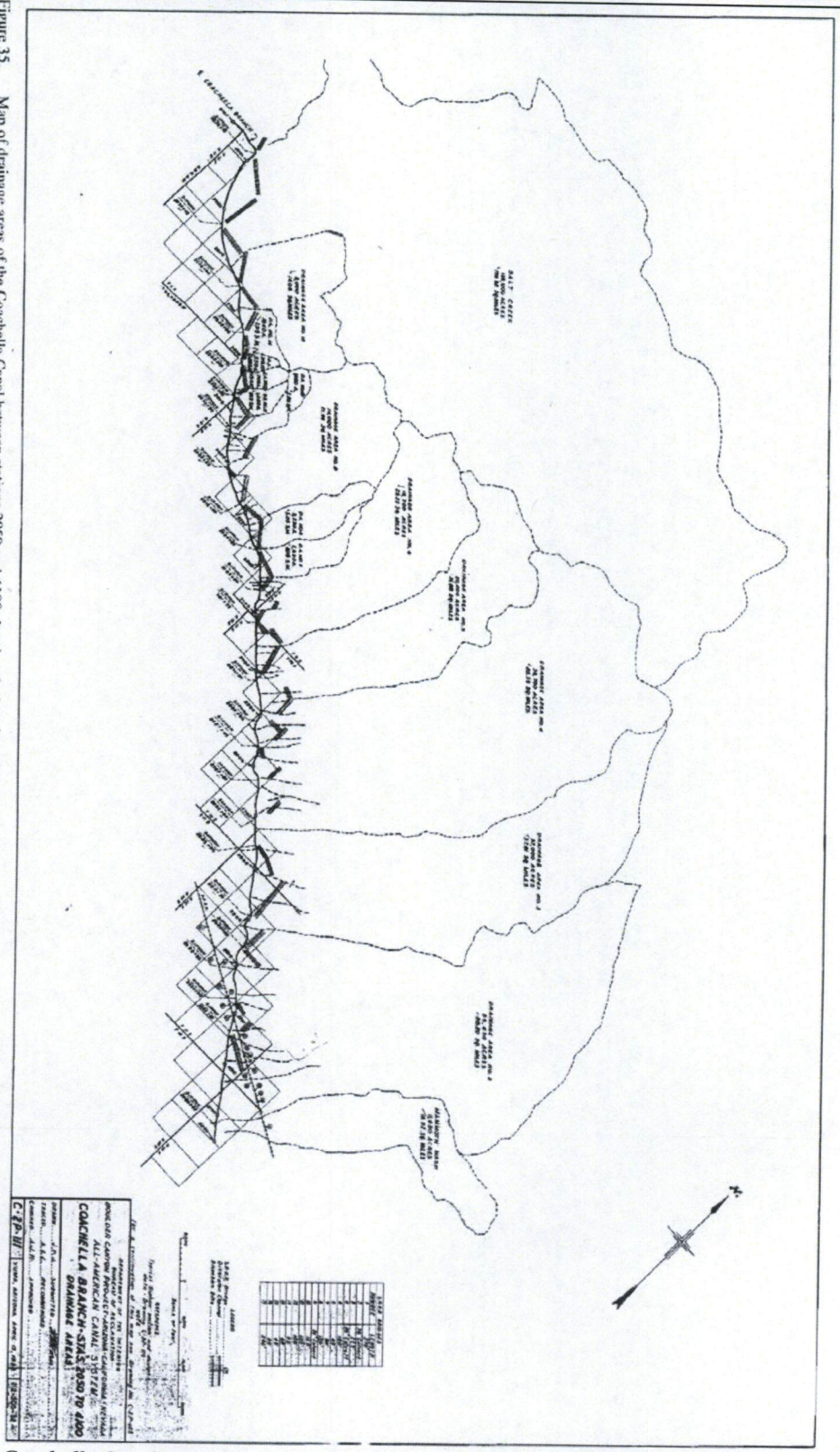
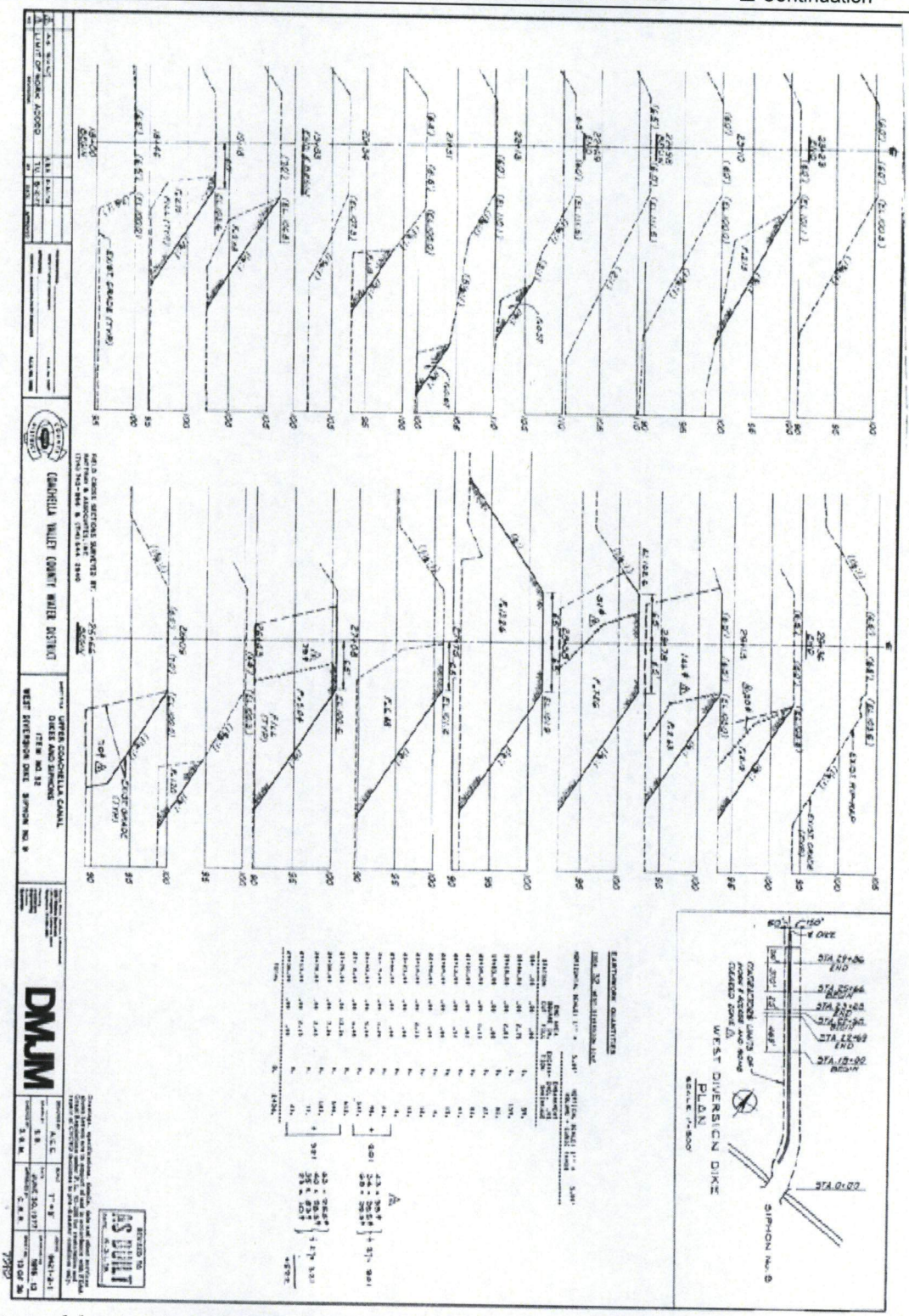


Figure 35. Map of drainage areas of the Coachella Canal between stations 2050 and 4100 showing the location of diversion channels and dikes.

1938 Map of the Coachella Canal between stations 2050 and 4100 (Schaefer, Ghabhlain and Becker 2003; RI-06999).

***Recorded by:** R. Jones and D. Broockmann ***Date:** 06-26-13 ☐ Continuation X Update



Sample architectural drawings from the 1977 modification of Coachella Canal Diversion dikes. Plans on file at the Coachella Valley County Water District.

The Coachella Canal has been previously recorded as CA-IMP-7658 in Imperial County and as P-33-005705 in Riverside County. The current update is provided for the portion of the Coachella Canal between Siphon 7 and Siphon 32 which the Coachella Valley Water District proposes to line with concrete. This portion of the canal spans both Riverside and Imperial Counties. A Phase III intensive pedestrian survey was completed by ASM Affiliates for the proposed project area. As part of this study a survey the canal between siphons 7 and 32 was completed by Sinéad Ní Ghabhláin, Ph.D on May 6, 2003. Photographs were taken of the canal, canal structures, access roads, and waste banks and UTMs were recorded for all structures. In addition to the pedestrian survey, original design drawings, specifications and annual Bureau of Reclamation project reports provided details of the design and construction of the canal and features. There are twenty five siphons, three check structures, two automatic spillways, five drainage inlet structures, and one railroad bridge located between siphons 7 and siphon 32. Table 1 provides locational data and dimensions of structures within the project area.

The contract for the construction of the portion of the Coachella Canal between Station 2078+16 (Siphon 1) and Station 4563+37 (Siphon 32), including all structures, was awarded to Morrison-Knudsen Company Inc. and M.H. Hasler on July 14, 1939 for an amount of $2,279,212.31 (Bureau of Reclamation 1939). Construction began on September 9 1939 and was due to be completed on July 27, 1942. This contract, covered by Specification No. 846, included the excavation of diversion channels and dikes, parallel drains and the building of 32 siphons, 5 drainage inlets, four automatic wasteways and one check structure. The start of World War II slowed down progress on the canal as there were shortages of labor and supplies. By the end of 1941 excavation of the canal had reached Station 3356 and all concrete had been placed for Siphons 1 to 16 inclusive and work was in progress at Siphons 17 to 23 inclusive (Bureau of Reclamation 1941). Construction work on the Coachella Canal was halted in 1942 by the War Production Board with the exception of work to complete Specification No. 846. The contract was finally completed on March 22 1943. With three cost overruns, the final cost of construction of this portion of the canal was $2,348,344.79.

Between Siphons 7 and 14 and Siphons 15 and 32, the portion of the canal which will be lined in concrete, the canal is trapezoidal in section with a flat base 40 feet and 46 feet in width, widening to approximately 110 feet at the top. The sides of the canal have a slope of 2:1. The canal narrows in width as it travels north. The width of the base between Siphons 7 and 24 is 46 feet. It narrows to 42 feet between Siphon 24 and Siphon 25 and to 40 feet from the outlet transition at Siphon 31. The depth of the canal also varies. The overall depth is 12.5' between siphons 7 and 14, increasing to 12.75' between siphon 15 and 24 and 13 feet between siphons 24 and 32. The canal drops over 37 feet in elevation between siphons 7 and 32, from 83 feet to 45 feet above mean seal level. To prevent excessive seepage, the base and sides of the canal were lined with clay. The clay lining was twelve inches in thickness. The clay used for the lining was obtained from borrow pits located along the canal right-of-way and laboratory tests were carried out to confirm that materials used in the lining consisted of 80 to 90 percent clay. This original clay lining has suffered considerable erosion, particularly at the high water line. Large areas of the lining have also eroded along the sides of the canal.

Soil from the excavation of the canal was deposited and compacted on both sides of the canal to form embankments. On the down-slope side of the canal the embankment had to be constructed to a height of at least 6 feet above the water line. In some areas the upslope canal banks are considerably higher. Twenty-four foot wide berms were graded at the top of the embankments. Graded dirt access and maintenance roads are located on both sides of the canal along the berm. These roads measure approximately 20 feet in width. Banks of excess soil from the canal excavation were piled on the side of the berm away from the canal, on both the down slope and up slope sides. These waste banks are not continuous and they vary in width, height and length.

The Coachella Canal crosses over 160 washes in its 123.5-mile length. These washes are dry through most of the year but as flash floods can occur with devastating results, flood protection was a major consideration in the design of the Coachella Canal. Thirty two siphons were constructed on the Coachella Canal to facilitate the flow of flood waters over the canal. Twenty-five of these siphons are located within the clay-lined section of the Coachella Canal. The siphons are concrete structures which channel the flow of water under the numerous washes which traverse the canal. The siphons consists of four elements: inlet transitions which funnel the water from the canal into the siphon, siphon boxes which siphon the water under the wash, outlet transitions which

The siphons are all of double box construction, consisting of two parallel concrete boxes of standard size: each box is either 10 feet in width and 11 feet in height (Siphons 7 to 23), giving a total width of the siphon of 20 feet, or 9 feet in width and 10 feet 6 inches in height, for a total width of 18 feet (Siphons 24-32). The siphon box is at a lower elevation than the base of the canal and atmospheric pressures and water pressure combined force the water through the siphon and back up to the level of the canal at the outlet. For a siphon to operate the outlet must be at a lower elevation than the inlet. The siphon box is level in the center and curves upward to meet the inlet and outlet transitions on either end.

To channel the wash flow over the siphons, wash channels were constructed over, and at right angles to the siphon boxes. The width of the wash channel depends on the estimated maximum flow of water in the wash. A floor of concrete slabs measuring approximately 25 x 30 feet was laid on either side of the siphon box and covered with soil. Concrete side walls of varying heights contain the water within the channel and wing walls on either side channel the wash into and out of the chute. Constructed banks of soil on both sides of the siphon protect the canal from floodwaters. On the downslope side of the siphon, a stepped apron with a 2:1 slope feeds the water into a stilling pool below natural ground surface.

Check structures were constructed at Siphons 15, 24 and 31 to regulate the flow of water within the canal. Water flow can be halted or slowed by the check structure to allow repair work downstream on the canal and structures. Spillways located upstream from Siphons 2 and 31 allow overflow water to be drained from the canal in the event that water levels become to high.The check structures are located between the inlet transitions and the siphon. Double radial gates that measure 10 x 12 feet are raised and lowered by hoists to control the flow of water. The gate operating and control hoists are located on a concrete structure supported by the inlet transition walls and a central concrete pier. The gates are operated remotely by radio control.

Spillways allow water to be drained from the canal as needed. Water enters the spillway through a 36-foot wide weir inlet. Radial gates measuring 10'-0" by 6'-0", operated by a hoist mechanism control the flow of water into the spillway. The double barreled concrete spillway measures 22 feet internally and 18'-6" in height at the gates. Once the gates are lifted the water passes through a double concrete box structure. Each box measures six feet in height and 10'-7" in width. From there the water falls down a concrete chute with a 2:1 slope and 13-foot high sides wall into a stilling pool thirteen feet below natural ground surface. Concrete walls and embankments contain the water within the stilling pool and rip-rap placed along the embankments protects them from erosion.

Drainage inlets allow water from small washes which could not be diverted to a wash channel to drain into the canal. There are five drainage inlets between siphons 29 and 30 on the upslope side of the canal. There are two types of drainage inlets. Inlets 4406+00 and 4439+10 are approximately 80 feet in length and 30 feet wide. The inlet channel is 24 feet in length and has 5'-0" high side walls. The chute section has a slope of 2:1 and side walls from 5'-0" to 2'-6" in height. It continues to the bottom of the canal where a stilling pool 21'-0' long with 4'-0' high side walls and 2" pipe weep holes collects debris from the inlet, preventing it from entering the canal. Rip-rap surrounds the drainage inlets on all sides. Inlets 4417+84, 4428+25 and 4448+50 are approximately the same length as the first type of inlets, but are only 5'-0" in width. Other structural elements are similar to the larger inlets.

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary #: 33-5705
HRS#:
Trinomial:

Resource Name or #: (Assigned by recorder):

Recorded by: _____ ***Date**: _____ ☐ Continuation ☐Update

Structure	Mile Post	Easting	Northing	Length	Width	Height	Inlet length	Outlet length
Siphon 7	48.5	644190	3680664	250'-0"	20'	11'	74'	88'
Siphon 8	51.0	643131	3681622	110'-6"	20'	11'	74'	88'
Siphon 9	52.4	641555	3683304	128'-6"	20'	11'	74'	88'
Siphon 10	53.7	640083	3684631	134'-6	20'	11'	74'	88'
Siphon 11	54.6	638988	3685521	127'-0"	20'	11'	74'	88'
Siphon 12	56.2	637161	3687250	277'-0"	20'	11'	74'	88'
Siphon 13	58.3	634690	3689547	133'-0"	20'	11'	74'	88'
Siphon 14	59.6	633383	3690970	150'-0"	20'	11'	74'	88'
Check structure	61.0	631533	3692491	20'-0	20'			
Siphon 15	61.0	631533	3692491	112'-0"	20'	11'	70'	88'
Siphon 16	62.8	628973	3693582	113'-0"	20'	11'	74'	88'
Siphon 17	64.2	626925	3694518	134'-0"	20'	11'	74'	88'
Siphon 18	65.7	625318	3696200	49'-0"	20'	11'	74'	88'
Siphon 19	66.8	624156	3697543	65'-0"	20'	11'	74'	88'
Siphon 20	68.1	623055	3699215	65'-0"	20'	11'	74'	88'
Siphon 21	69.2	621784	3700490	58'-0"	20'	11'	74'	88'
Siphon 22	70.9	619639	3702113	164'-0"	20'	11'	74'	88'
Siphon 23	73.2	616310	3703839	387'-0"	20'	11'	74'	88'
Railroad	n/a	614730	3706561	160'-0"				
Spillway	n/a	614665	3707767	260'-10"	30'	11'	74'	88'
Check structure	76.1	614645	3707915	20'	18'			
Siphon 24	76.1	614645	3707915	608'-0"	18'	10'-6"	72'	82'
Siphon 25	77.2	613037	3708390	67'-0"	18'	10'-6"	68'-0"	82'
Siphon 26	78.8	610580	3708582	116'-0"	18'	10'-6"	68'-0"	82'
Siphon 27	79.7	609130	3709120	116'-0"	18'	10'-6"	68'-0"	82'
Siphon 28	80.3	608404	3709510	97'-0"	18'	10'-6"	68'-0"	82'
Siphon 29	81.8	605964	3709394	157'-0"	18'	10'-6"	68'-0"	82'
Drainage inlet 4406		603858	3708775	81'-0"	30'-0"			
Drainage inlet 4417		603664	3709014	81'-0"	5			
Drainage inlet 4428		603360	3709171	81'-0"	5			
Drainage inlet 443		603101	3709293	81'-0"	30'-0"			
Drainage inlet 4448				81'-0"	5			
Siphon 30	84.6	602512	3709484	47'-0"	18'	10'-6"	68'-0"	82'
Spillway		601067	3710603	150'	40'			
Check structure	85.8	601022	3710699	20'	20'			
Siphon 31	85.8	601022	3710699	114'-0"	18'	10'-6"	66'-0"	82
Siphon 32	86.4	600495	3711185	32'-0"	18'	10'-6"	68'0"	46'

*Required information

Inlet structure, Siphon 8

Outlet structure, Siphon 8

Clay lined section of the canal, north of siphon 8

Clay lining eroding from the bank of the canal between Siphon 16 and 17

Maintenance road and waste bank between Siphon 9 and 10

Check gate at Siphon 15

Siphon 19, overview of the wash chute

Spillway adjacent to Siphon 24

Spillway gate, near Siphon 31

Drainage inlet at Station 4439+10

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Ser. No. 33-2254-10

HABS ____ HAER ____ NR 6 ____ SHL ____ Loc ____

UTM: A ____ B ____ C ____ D ____

11/592500/3715500

HISTORIC RESOURCES INVENTORY

33-5705

IDENTIFICATION

1. Common name: Coachella Canal
2. Historic name: Coachella Canal
3. Street or rural address: Avenue 66 at Canal

   City Mecca Zip 92254 County Riverside
4. Parcel number: 727-241-019-5
5. Present Owner: U.S. Dept. of the Interior Address: Washington D.C.

   City ____ Zip 21404 Ownership is: Public X Private ____
6. Present Use: canal Original use: canal

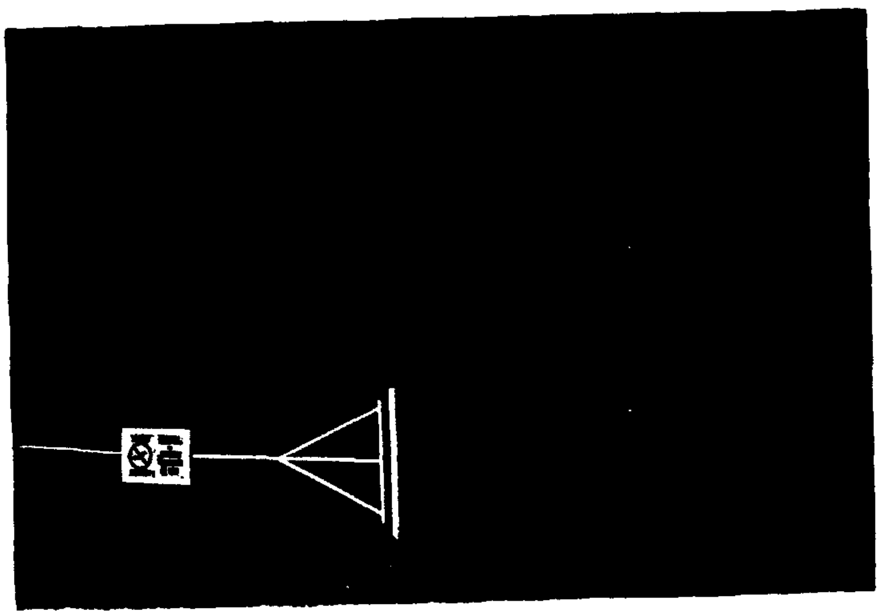
DESCRIPTION

7a. Architectural style: Canal/Aqueduct

7b. Briefly describe the present *physical description* of the site or structure and describe any major alterations from its original condition:

A concrete canal, 123.5 miles long with a bottom and sides similar to the outline of an inverted half-hipped roof. The canal runs from Drop 1 of the main canal, the All-American Canal, to Lake Cahuilla, its terminus, just east of La Quinta.

La Qu[illegible] 7.5' Quad
Indio
[illegible]
West B[illegible] Canyon
[illegible] Canyon
Mecca
[illegible]
[illegible]
[illegible] Canyon
Mortmar



8. Construction date:
   Estimated ____ Factual 1948
9. Architect unknown
10. Builder Coachella Valley Water District
11. Approx. property size (in feet)
    Frontage ____ Depth ____
    or approx. acreage 121.47 acres
12. Date(s) of enclosed photograph(s)
    December 6, 1982
    17-192-23-22

sm

13. Condition: Excellent X Good ____ Fair ____ Deteriorated ____ No longer in existence ____ 33-5705

14. Alterations: unaltered

15. Surroundings: (Check more than one if necessary) Open land X Scattered buildings ____ Densely built-up ____
Residential ____ Industrial ____ Commercial ____ Other: agricultural, open space

16. Threats to site: None known X Private development ____ Zoning ____ Vandalism ____
Public Works project ____ Other: ____

17. Is the structure: On its original site? X Moved? ____ Unknown? ____

18. Related features: water gates and bridges

SIGNIFICANCE

19. Briefly state historical and/or architectural importance (include dates, events, and persons associated with the site.)

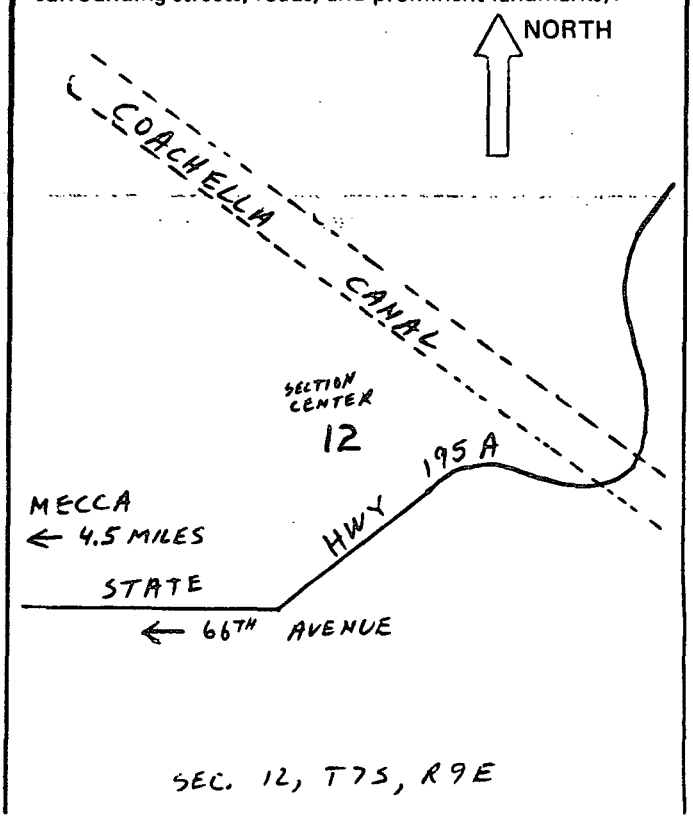
Construction on this important water link for the Coachella Valley was begun in 1938 by the Coachella Valley Water District. It was completed in 1948 and water reached the Valley by 1949.

20. Main theme of the historic resource: (If more than one is checked, number in order of importance.)
Architecture ____ Arts & Leisure ____
Economic/Industrial X Exploration/Settlement ____
Government ____ Military ____
Religion ____ Social/Education ____

21. Sources (List books, documents, surveys, personal interviews and their dates). County Records

22. Date form prepared June 3, 1983
By (name) Cecilia Foulkes
Organization Riv. Co. Historical Comm.
Address: 4600 Crestmore Rd.
City Riverside Zip 92519
Phone: (714) 787-2551

Locational sketch map (draw and label site and surrounding streets, roads, and prominent landmarks):



SEC. 12, T7S, R9E

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # 33-023792
HRI #
Trinomial CA-RIV-011686
NRHP Status Code

Other Listings
Review Code Reviewer Date

Page 1 **of** 19 ***Resource Name or #:** CTEC-SWAT4/5-1

P1. Other Identifier:
***P2. Location:** X **Not for Publication** ☐ **Unrestricted** ***a. County:** Imperial/Riverside
***b. USGS 7.5' Quad:** Frink NE **Date:**1988 **T** 9S ; **R** 13E ; SW ¼ **of** NE ¼ **of Sec** 22 ; M.D. **B.M.**
c. Address: none City: none Zip: none
d. UTM: Zone: 11 ; 630566 mE/ 3695383 mN (G.P.S.)
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate): The above is a center point. Full legals for the complex are on the attached continuation sheet, and the segments are displayed on the location map.

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
This site complex was located and recorded by Cardno TEC during the course of the two surveys conducted between May 28, 2012 to August 15, 2012 and November 13, 2012 to December 19, 2012. The site complex consists of a network of dirt roads running across SWAT 4 and SWAT 5 that were present on the Frink NW (1956), Wister (1956), and Iris Wash (1956) USGS 7.5 Minute Series Topographic Map Quadrangles. Though not all of the historic roads located within the CMAGR on these maps could be located (due to their obliteration through erosion), those recorded in this site complex were encountered and thoroughly examined. The majority of the roads in the CMAGR on the historic maps are associated with quarries that appear to be related to and associated with the construction of the system of berms on the northeast side of the Coachella canal. The roads connect to the Coachella Canal berms (CA-RIV-05705), suggesting an association with the construction of the canal between 1938 and 1948. The mapped segments of these roads total 12.4 miles (20 kilometers), and average 20 ft (6.1 m) wide (see table below). The roads appear to have been constructed via mechanical blading, leaving small berms on their margins. Some segments of the roads have been recently bladed. These roads are visible on 1956 topographic maps of the area, and some are in, and the majority of them are in modern use. The roads connect to the Coachella Canal berms (CA-RIV-05705), suggesting an association with the construction of the canal between 1938 and 1948, and may have been used to connect the berms to the quarry sites that are the source of their materials. These roads are largely straight segments of unimproved single-event bladed roads, which run across an active alluvial plain. Sheet wash from the mountainous terrain to the north and east has eroded much of the road complex, making many most sections unfit for utilization, and in several cases, difficult to detect on the ground. The most visible sections are those where active use has continued to incise and clear the original roads.

Road Number	Width (feet)	Length (feet)
1	30	4488
2	15	8067
3	22	8934
4	18	4474
5	18	20884
6	20	12797
7	22	2405
8	19	2015
9	17	11368
10	19	11510

These roads were encountered repeatedly on survey transects during the project. They were mapped using a combination of historic maps and satellite imagery. Some sections of the roads extend beyond the boundaries of the survey area, but do not appear to extend beyond the boundaries of the Chocolate Mountain Aerial Gunnery Range. They are not generally associated with artifact scatters or material remains other than mechanical ground disturbance.

NRHP evaluation
CTEC SWAT 4/5-1 is a complex of historic roads visible as graded swaths. Many of the road segments connect to berms associated with the Coachella canal, and the roads appear on topographic maps from 1956. This leads to the conclusion that the roads were associated with the building of the canal between 1938 and 1948, since they also connect to quarries associated with berm construction. The roads themselves are not associated with artifact scatters or material remains other than mechanical ground disturbance.

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____

Many sections of the road complex have been altered or destroyed by alluvial outwash from the Chocolate Mountains to the north and east of the Coachella Canal. Other sections have been altered or effaced by historic and modern use, the roads individually and the complex as a whole lack integrity. The roads are indirectly associated with the construction of the Coachella Canal, in that they were likely used to transport construction material from quarries to berms on the east side of the canal. Association with specific events or persons important to the past cannot be established for the site complex (Criteria A and B) and the site does not represent a period, type, construction method or work of a master (Criterion C). The research potential of the site complex (Criterion D) is low, based on the lack of associated materials, a lack of potential for intact subsurface deposits, modern alteration, and the ubiquity of information on road construction techniques of the period. The site complex is therefore recommended not eligible for listing in the NRHP.

***P3b. Resource Attributes:** AH7. Roads/trails/railroad grades

***P4. Resources Present:** ☐Building ☐Structure ☐Object X Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5b. Description of Photo: (View, date, accession #) Unit 11, Historic Road #3, 07/15/12, #3250

***P6. Date Constructed/Age and Sources:** **X** Historic Prehistoric ☐Both

***P7. Owner and Address:** Desert Warfare Training Facility (DWTF), Chocolate Mountain Aerial Gunnery Range (CMAGR), Imperial County, California

***P8. Recorded by:** (Name, affiliation, and address) D. Broockmann, R. Patterson, Cardno TEC, 250 Bobwhite Court, Suite 200, Boise, ID 83706

***P9. Date Recorded:** 12-19-12
***P10. Survey Type:** (Describe) Intensive pedestrian survey at 15 meter intervals.

***P11. Report Citation:** Rudolph, Teresa, et al. 2013. *Cultural Resource Survey, Special Warfare Training Areas 4 and 5, Chocolate Mountain Aerial Gunnery Range, Imperial and Riverside Counties, California*. Cardno TEC, Inc., Boise, Idaho. Prepared for Naval Facilities Engineering Command, Southwest Division.

***Attachments:** ☐NONE XLocation Map ☐ Sketch Map X Continuation Sheet ☐Building, Structure, and Object Record ☐Archaeological Record ☐District Record X Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

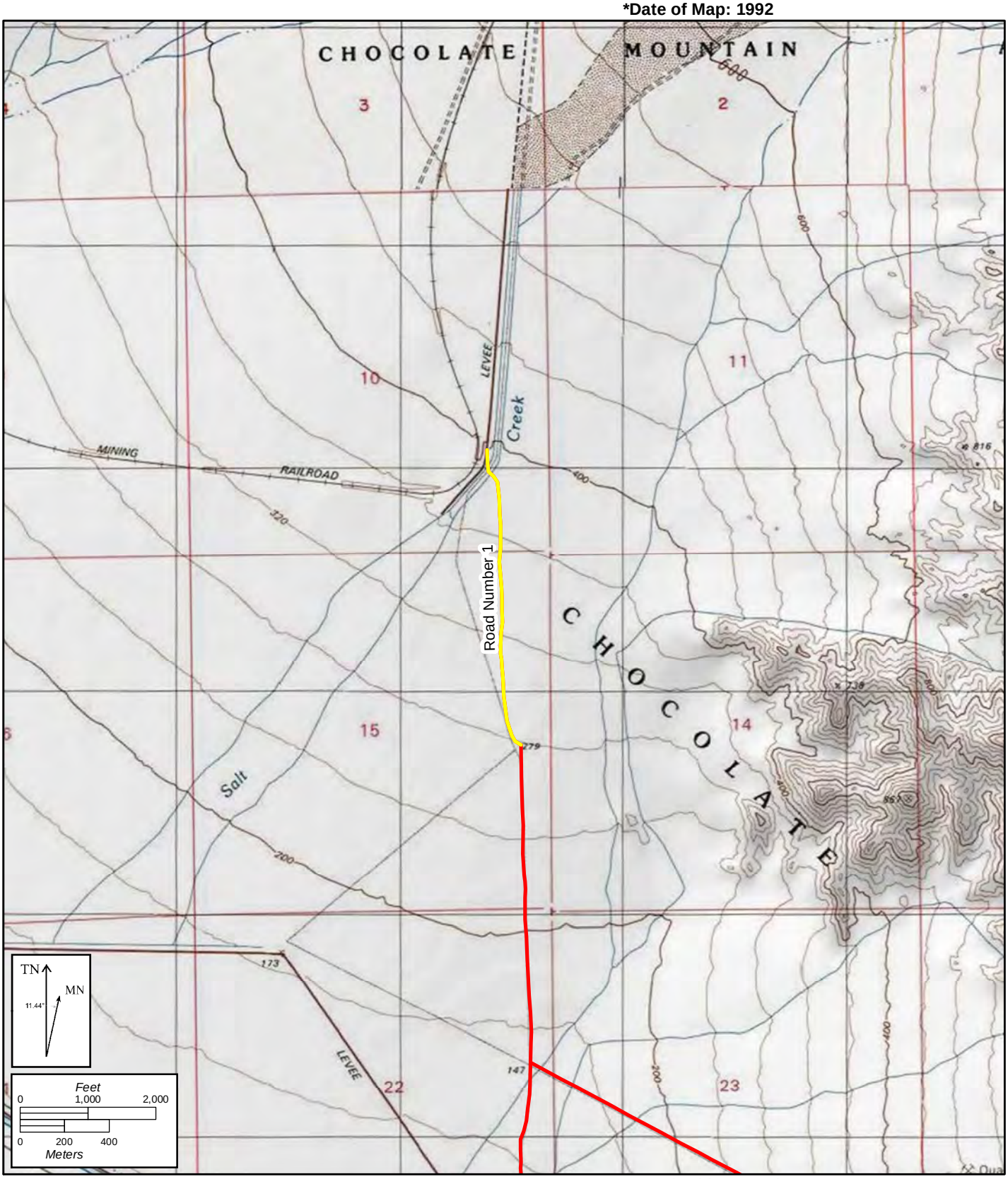
Primary # 33-023792
HRI #
Trinomial CA-RIV-011686

*Resource Name or #: CTEC-SWAT4/5-1

*Map Name: Frink NW

*Scale: 1:24,000

*Date of Map: 1992



DPR 523J (1/95)

*Required information

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

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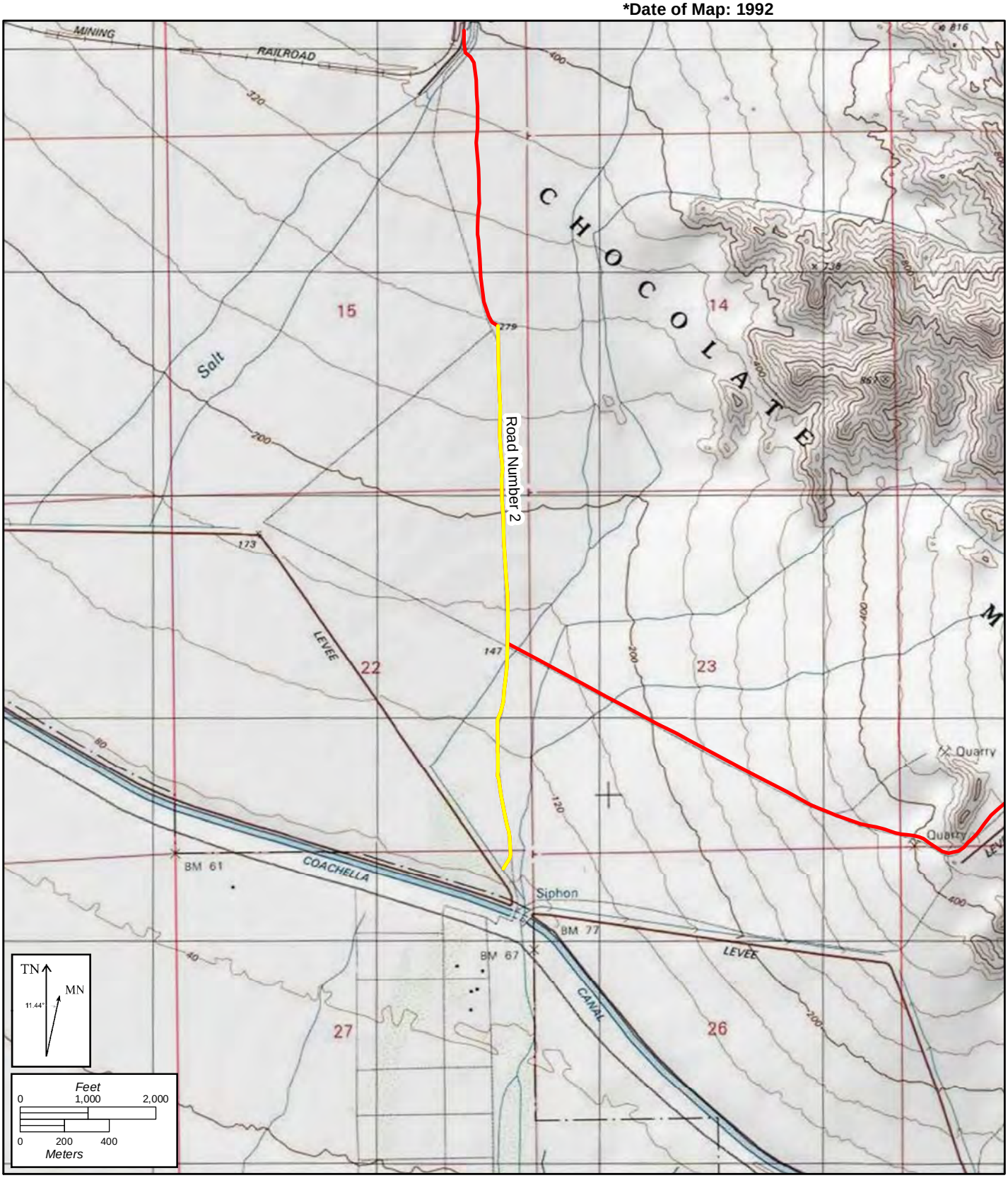

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DEPARTMENT OF PARKS AND RECREATION

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Page 5 of 19

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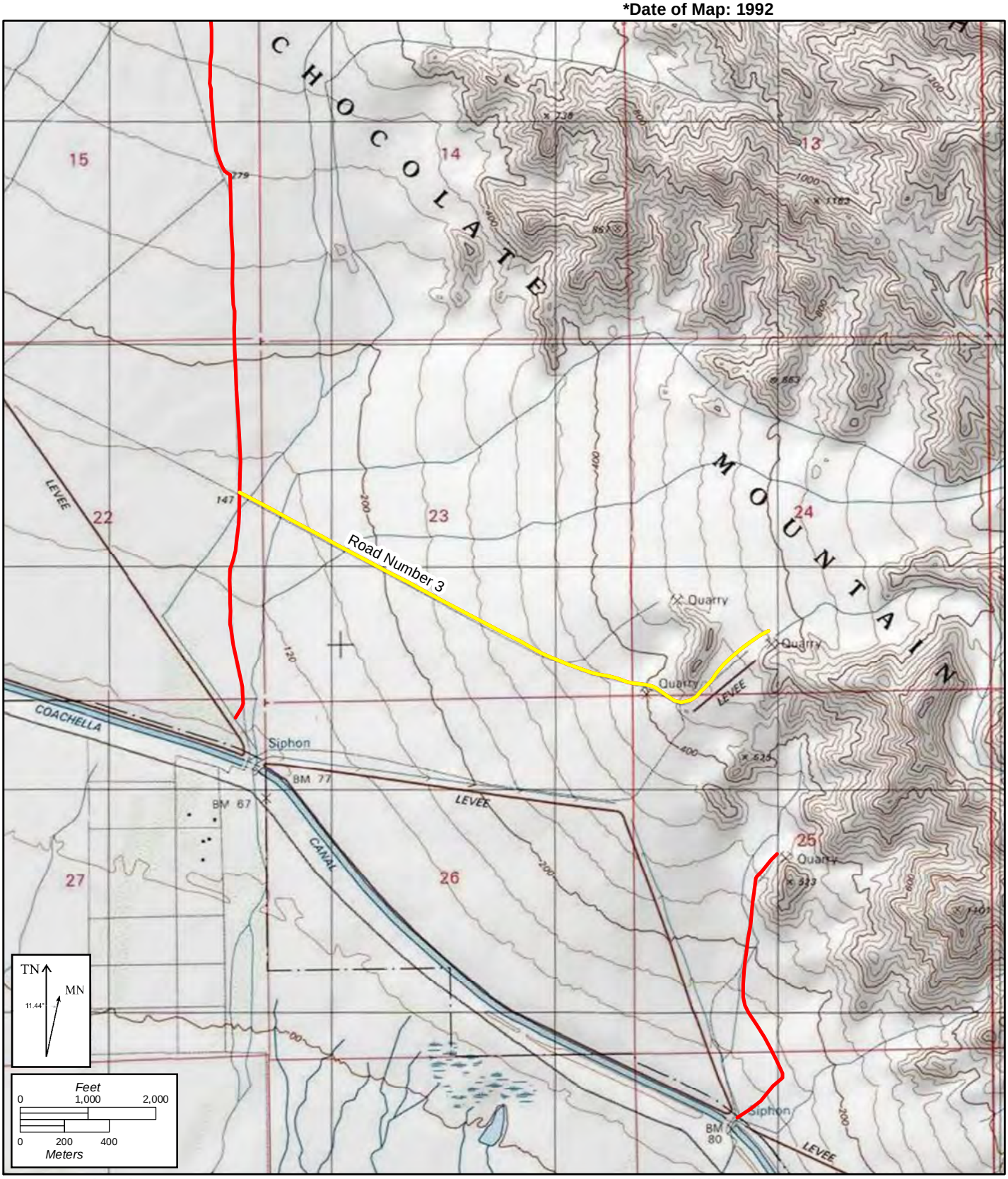

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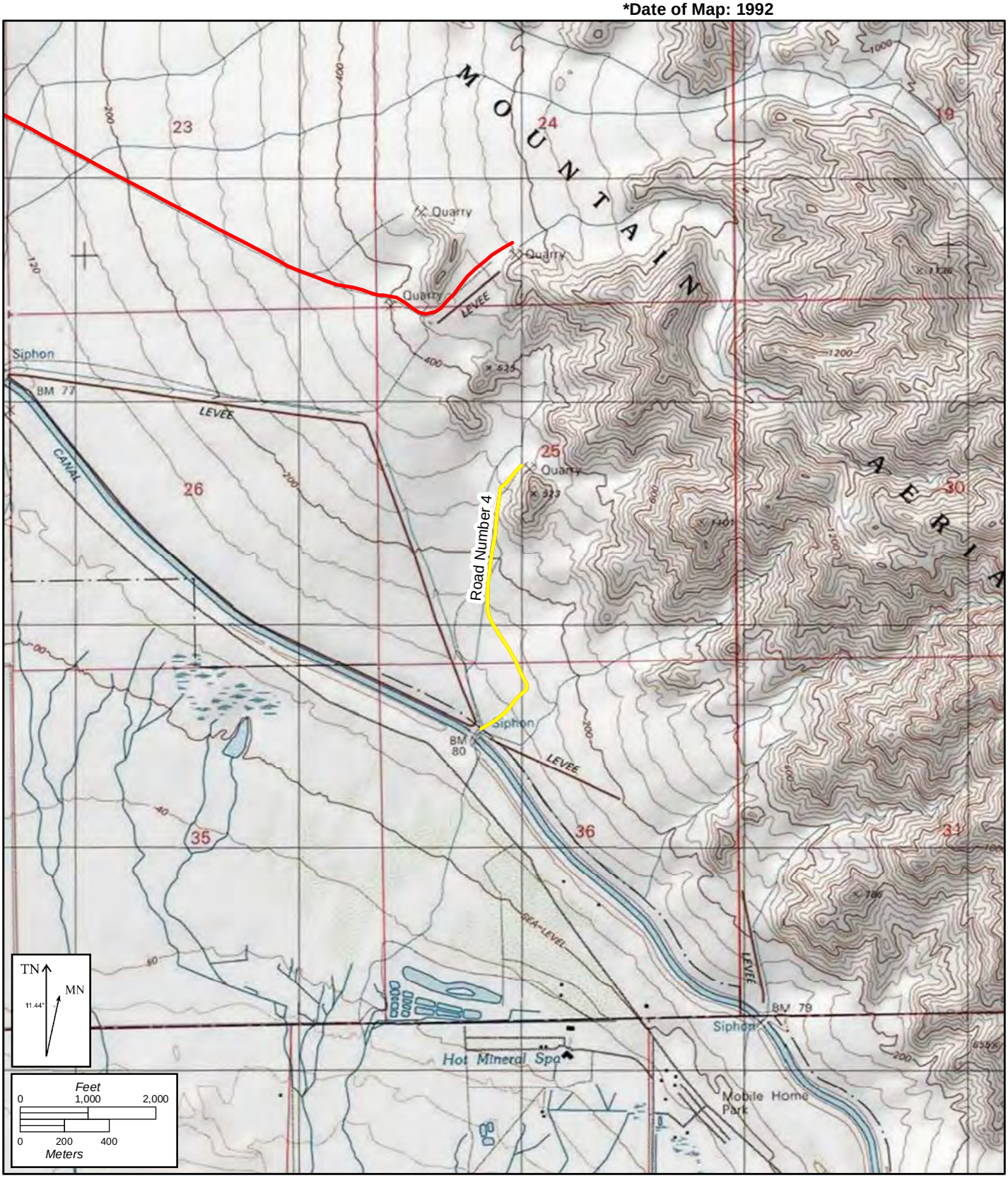

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State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

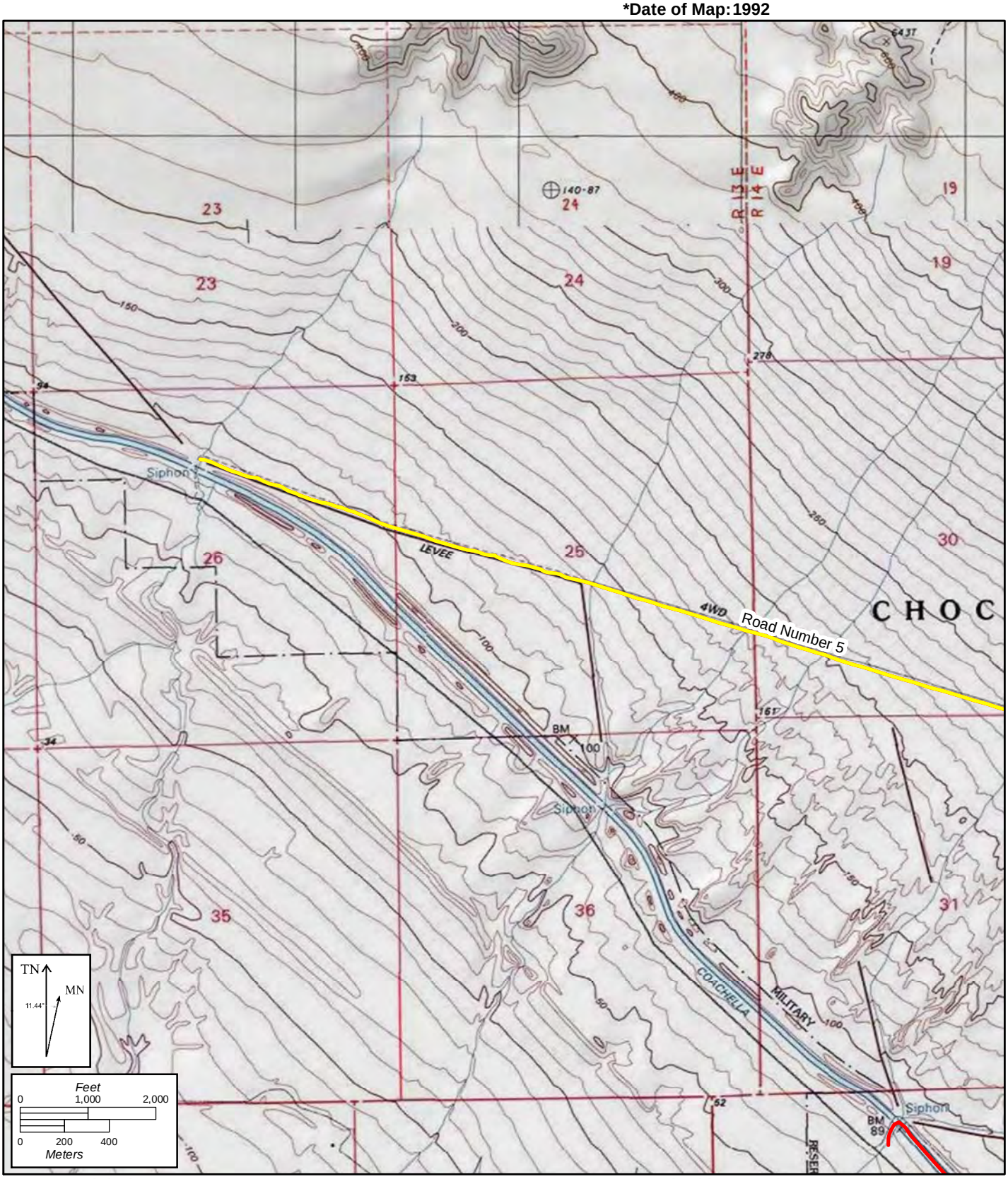
Primary # 33-023792
HRI #
Trinomial CA-RIV-011686

*Resource Name or #: CTEC-SWAT4/5-1

*Map Name: Wister

*Scale: 1:24,000

*Date of Map: 1992



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DEPARTMENT OF PARKS AND RECREATION

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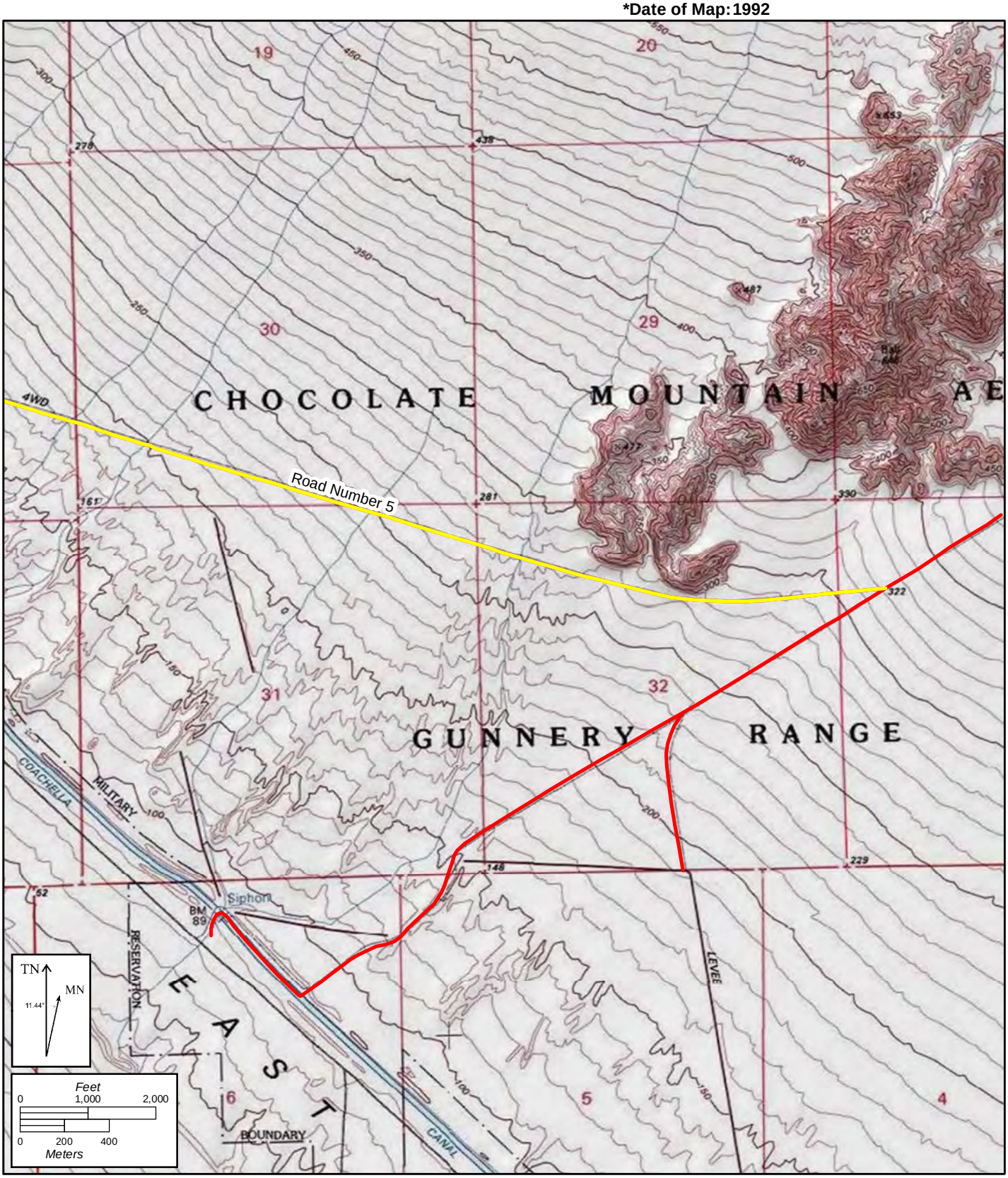
*Scale: 1:24,000

*Date of Map: 1992



DPR 523J (1/95)

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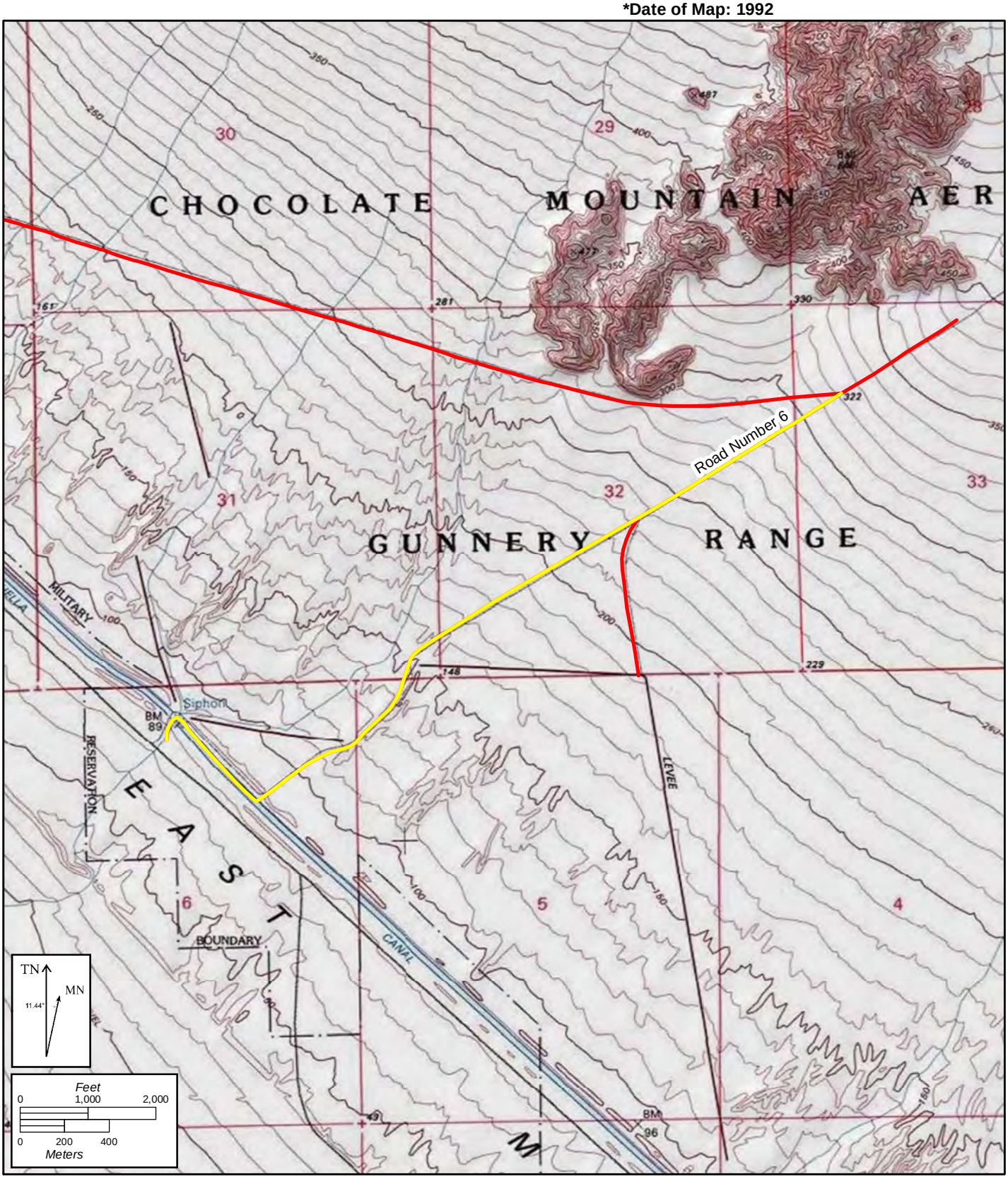

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State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

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Page 10 of 19

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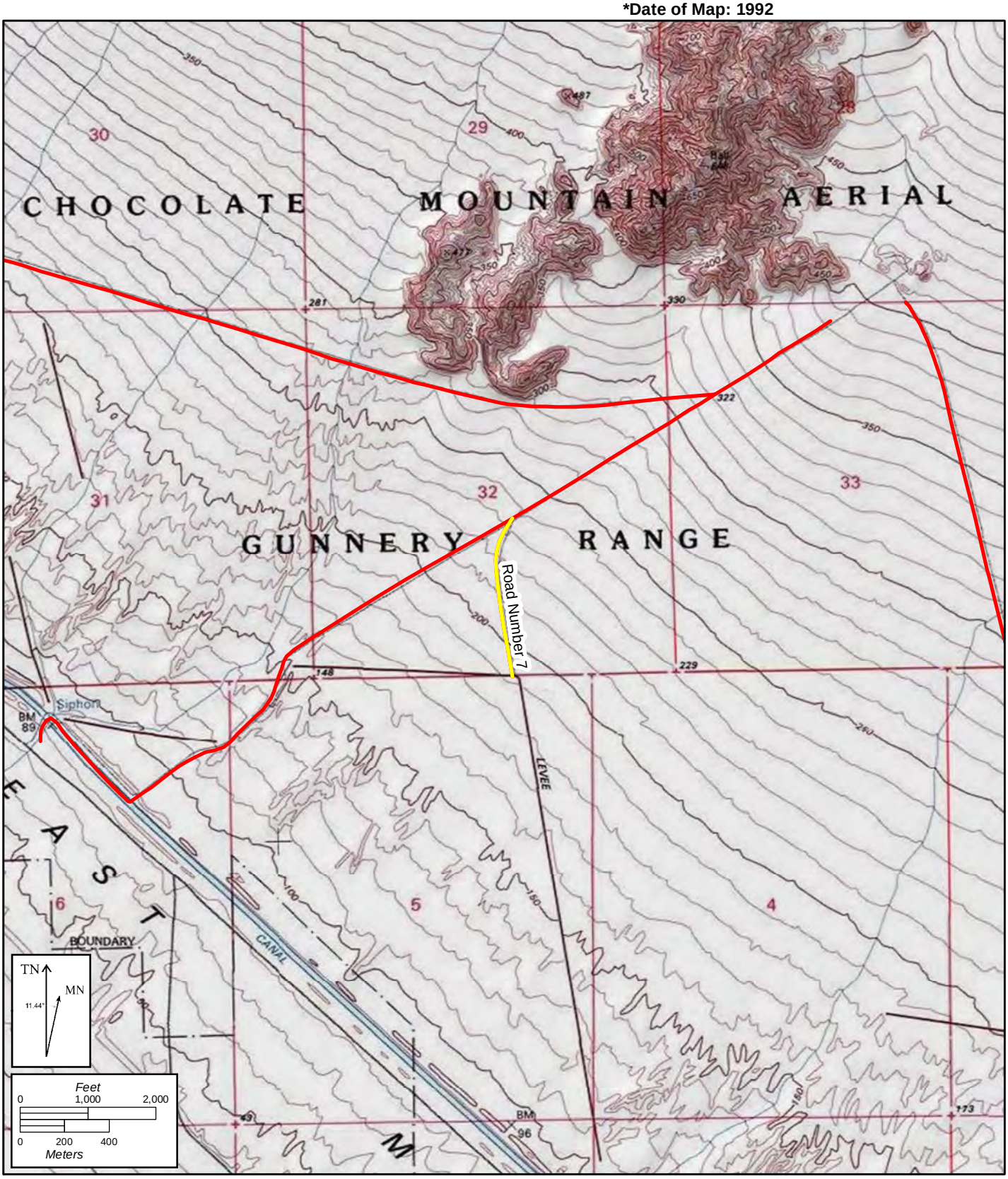
*Scale: 1:24,000

*Date of Map: 1992



DPR 523J (1/95)

*Required information

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

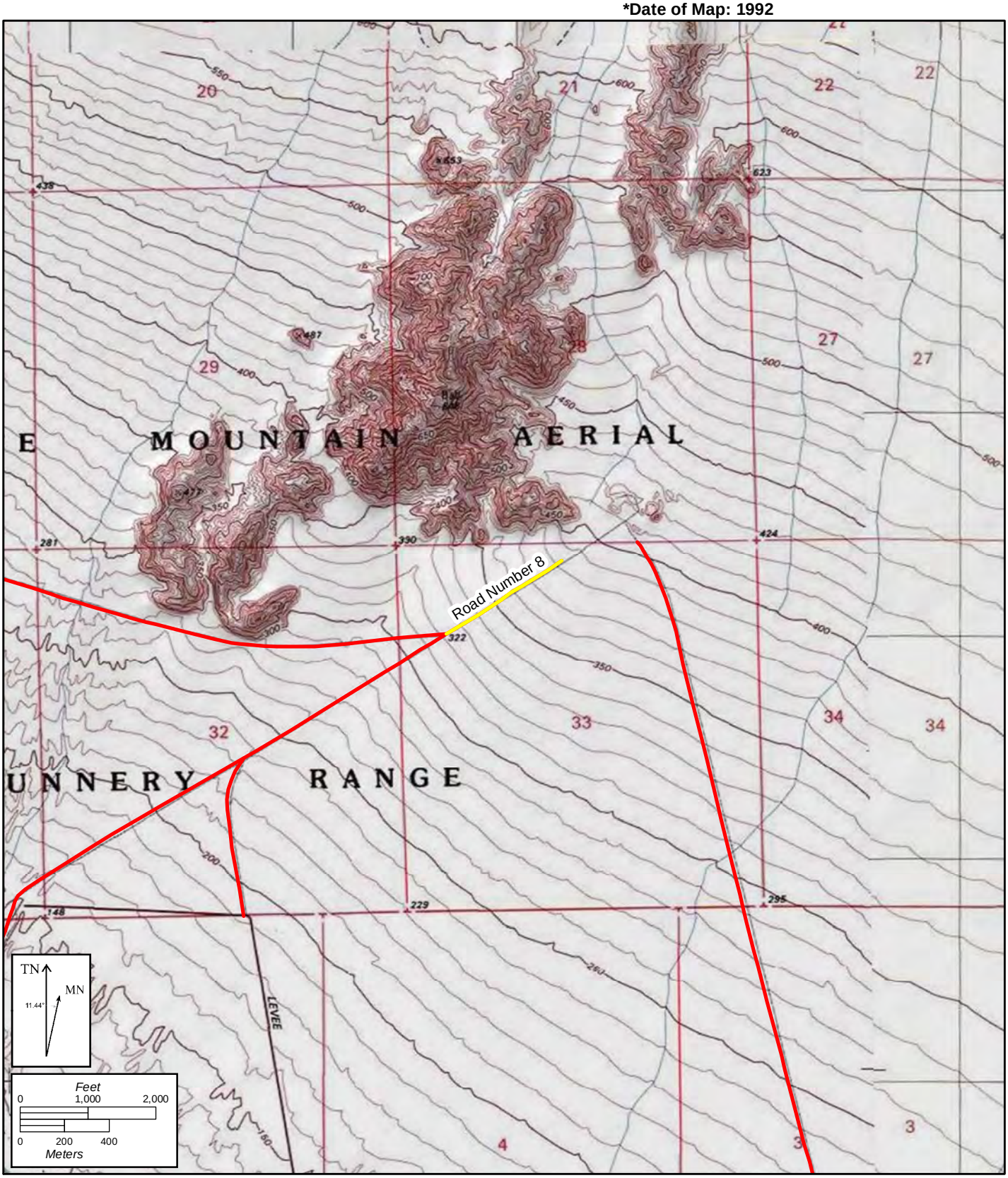
Primary # 33-023792
HRI #
Trinomial CA-RIV-011686

*Resource Name or #: CTEC-SWAT4/5-1

*Map Name: Wister

*Scale: 1:24,000

*Date of Map: 1992



*Required information

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

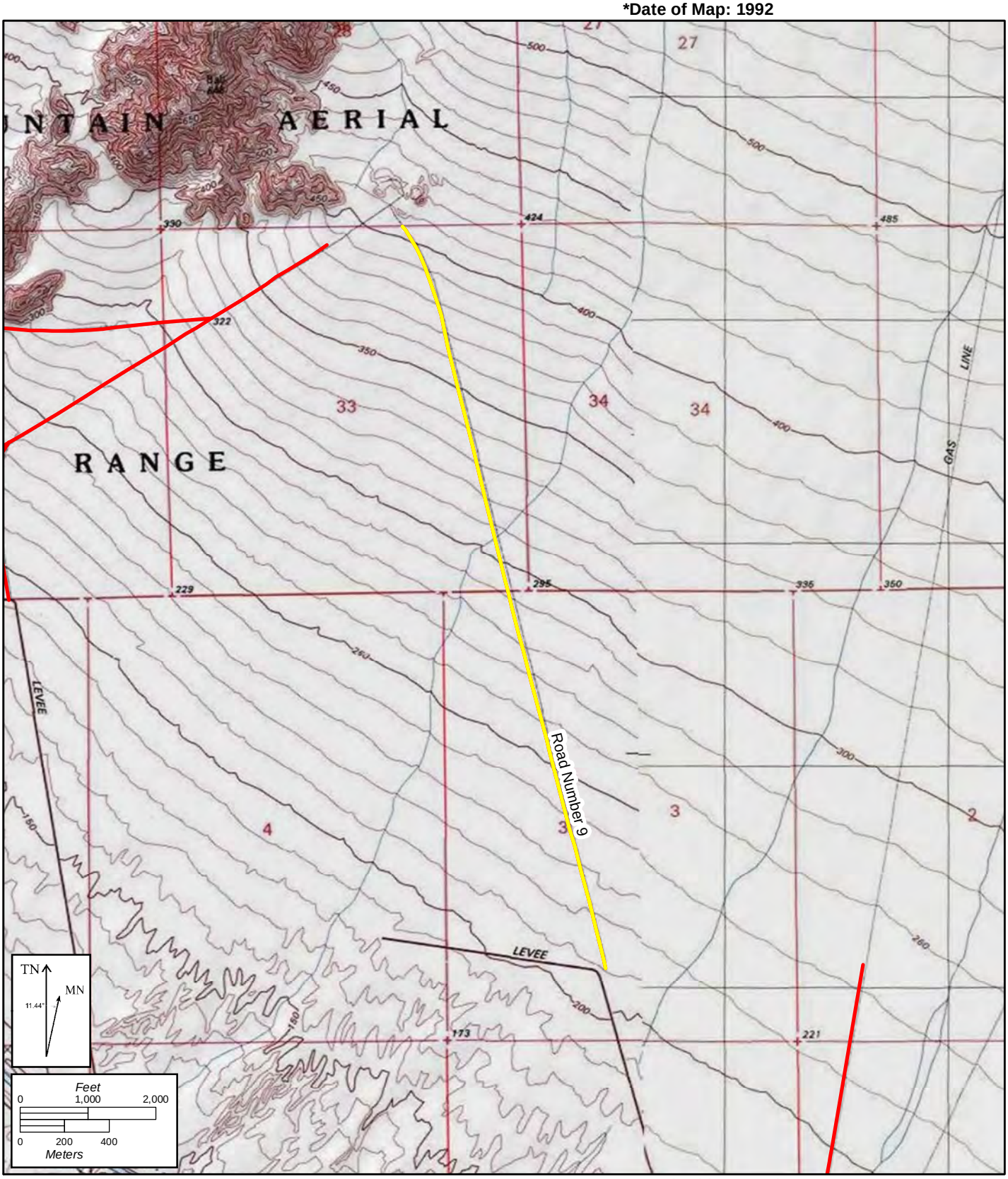
Primary # 33-023792
HRI #
Trinomial CA-RIV-011686

*Resource Name or #: CTEC-SWAT4/5-1

*Map Name: Wister

*Scale: 1:24,000

*Date of Map: 1992



*Required information

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

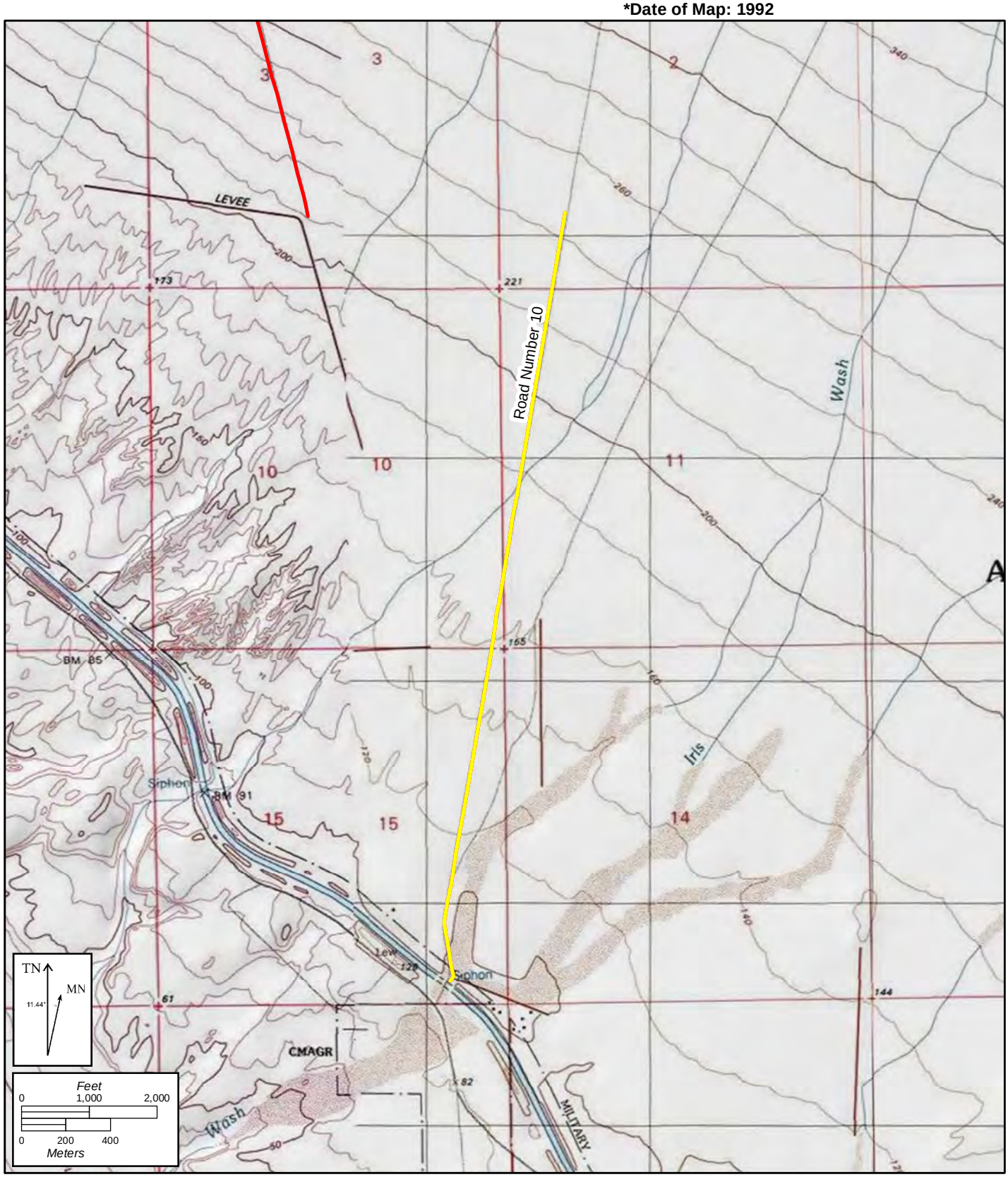
Primary # 33-023792
HRI #
Trinomial CA-RIV-011686

*Resource Name or #: CTEC-SWAT4/5-1

*Map Name: Iris Wash

*Scale: 1:24,000

*Date of Map: 1992



*Required information

P2b. Expanded Legal Decription:
The primary form for CTEC SWAT4/5-1 gives the location of a center point for the site complex. This sheet provides an expanded description of the 7.5″ quad maps and township/range locations for the site.

Quad Map	Year
Iris Wash	1992
Wister	1992
Frink NW	1992

Components of the site complex can be found on the following parcels:

Road Number	Quad	Quad Date	Township and Range	Section	Quarter Section	Quarter Quarter Section
4	Frink NW	1992	Township 8 South Range 12 East	25	NW	SENW
4	Frink NW	1992	Township 8 South Range 12 East	25	SW	NESW
4	Frink NW	1992	Township 8 South Range 12 East	25	SW	SESW
4	Frink NW	1992	Township 8 South Range 12 East	36	NW	NENW
5	Wister	1992	Township 9 South Range 14 East	30	SE	SWSE
5	Wister	1992	Township 9 South Range 14 East	32	NE	NENE
5	Wister	1992	Township 9 South Range 14 East	33	NW	NWNW
5	Wister	1992	Township 9 South Range 14 East	32	NE	NWNE
5	Wister	1992	Township 9 South Range 14 East	32	NW	NENW
5	Wister	1992	Township 9 South Range 14 East	32	NW	NWNW
5	Wister	1992	Township 9 South Range 14 East	31	NE	NENE
5	Wister	1992	Township 9 South Range 14 East	31	NE	NWNE
5	Wister	1992	Township 9 South Range 14 East	32	NE	SENE
5	Wister	1992	Township 9 South Range 14 East	32	NE	SWNE
5	Wister	1992	Township 9 South Range 14 East	30	SW	L 14
5	Wister	1992	Township 9 South Range 14 East	30	SW	L 13
5	Wister	1992	Township 9 South Range 13 East	26	NE	NWNE
5	Wister	1992	Township 9 South Range 13 East	25	NW	SWNW
5	Wister	1992	Township 9 South Range 13 East	25	NW	SENW
5	Wister	1992	Township 9 South Range 13 East	25	SW	NESW
5	Wister	1992	Township 9 South Range 13 East	25	SE	NWSE
5	Wister	1992	Township 9 South Range 13 East	25	SE	NESE
5	Wister	1992	Township 9 South Range 13 East	30	SW	L 11
5	Wister	1992	Township 9 South Range 13 East	30	SW	L 13
5	Wister	1992	Township 9 South Range 13 East	30	SW	L 12
6	Wister	1992	Township 9 South Range 14 East	33	NW	NWNW
6	Wister	1992	Township 9 South Range 14 East	33	NW	SWNW
6	Wister	1992	Township 9 South Range 14 East	32	NE	SENE
6	Wister	1992	Township 9 South Range 14 East	32	NE	SWNE
6	Wister	1992	Township 9 South Range 14 East	32	SW	NESW
6	Wister	1992	Township 9 South Range 14 East	32	SE	NWSE
6	Wister	1992	Township 9 South Range 14 East	32	SW	NWSW

Continues on next page

P2b. (cntd.)
Components of the site complex can be found on the following parcels:

Road Number	Quad	Quad Date	Township and Range	Section	Quarter Section	Quarter Quarter Section
6	Wister	1992	Township 9 South Range 14 East	32	SW	L 4
6	Wister	1992	Township 10 South Range 14 East	32	SW	L 4
6	Wister	1992	Township 10 South Range 14 East	31	SE	L 16
6	Wister	1992	Township 10 South Range 14 East	5	NW	L 6
6	Wister	1992	Township 10 South Range 14 East	6	NE	L 3
6	Wister	1992	Township 10 South Range 14 East	6	NE	L 4
6	Wister	1992	Township 10 South Range 14 East	6	NW	L 5
6	Wister	1992	Township 10 South Range 14 East	6	NE	L 10
6	Wister	1992	Township 10 South Range 14 East	6	NE	L 9
7	Wister	1992	Township 9 South Range 14 East	32	SE	NWSE
7	Wister	1992	Township 9 South Range 14 East	32	SE	L 2
7	Wister	1992	Township 10 South Range 14 East	32	SE	L 2
10	Iris Wash	1992	Township 10 South Range 14 East	2	SW	SWSW
10	Iris Wash	1992	Township 10 South Range 14 East	11	NW	NWNW
10	Iris Wash	1992	Township 10 South Range 14 East	11	NW	SWNW
10	Iris Wash	1992	Township 10 South Range 14 East	10	SE	NESE
10	Iris Wash	1992	Township 10 South Range 14 East	11	SW	NWSW
10	Iris Wash	1992	Township 10 South Range 14 East	10	SE	SESE
10	Iris Wash	1992	Township 10 South Range 14 East	15	NE	NENE
10	Iris Wash	1992	Township 10 South Range 14 East	15	NE	SENE
10	Iris Wash	1992	Township 10 South Range 14 East	15	SE	NESE
10	Iris Wash	1992	Township 10 South Range 14 East	15	SE	SESE
8	Wister	1992	Township 9 South Range 14 East	33	NW	NWNW
8	Wister	1992	Township 9 South Range 14 East	33	NW	NENW
9	Wister	1992	Township 9 South Range 14 East	28	SE	SWSE
9	Wister	1992	Township 9 South Range 14 East	33	NE	NWNE
9	Wister	1992	Township 9 South Range 14 East	33	NE	NENE
9	Wister	1992	Township 9 South Range 14 East	33	NE	SENE
9	Wister	1992	Township 9 South Range 14 East	33	SE	NESE
9	Wister	1992	Township 9 South Range 14 East	33	SE	L 1
9	Wister	1992	Township 10 South Range 14 East	33	SE	L 1
9	Wister	1992	Township 10 South Range 14 East	3	SW	NESW
9	Wister	1992	Township 10 South Range 14 East	3	SW	SESW
9	Wister	1992	Township 10 South Range 14 East	3	NW	L 5
9	Wister	1992	Township 10 South Range 14 East	3	NW	L 6
9	Wister	1992	Township 10 South Range 14 East	3	NW	L 8
9	Wister	1992	Township 10 South Range 14 East	3	NW	L 13

Continues on next page

***Recorded by:** D. Broockmann, R. Patterson ***Date:** 12-19-12 X Continuation ☐ Update

P2b. (cntd.)
Components of the site complex can be found on the following parcels:

Road Number	Quad	Quad Date	Township and Range	Section	Quarter Section	Quarter Quarter Section
3	Frink NW	1992	Township 8 South Range 12 East	22	NE	SENE
3	Frink NW	1992	Township 8 South Range 12 East	23	NW	SWNW
3	Frink NW	1992	Township 8 South Range 12 East	23	SW	NWSW
3	Frink NW	1992	Township 8 South Range 12 East	23	SW	NESW
3	Frink NW	1992	Township 8 South Range 12 East	23	SE	NWSE
3	Frink NW	1992	Township 8 South Range 12 East	24	SW	SESW
3	Frink NW	1992	Township 8 South Range 12 East	24	SW	SWSW
3	Frink NW	1992	Township 8 South Range 12 East	23	SE	SWSE
3	Frink NW	1992	Township 8 South Range 12 East	25	NW	NWNW
3	Frink NW	1992	Township 8 South Range 12 East	23	SE	L 4
2	Frink NW	1992	Township 8 South Range 12 East	15	SE	NESE
2	Frink NW	1992	Township 8 South Range 12 East	15	SE	SESE
2	Frink NW	1992	Township 8 South Range 12 East	22	NE	NENE
2	Frink NW	1992	Township 8 South Range 12 East	22	NE	SENE
2	Frink NW	1992	Township 8 South Range 12 East	22	SE	NESE
2	Frink NW	1992	Township 8 South Range 12 East	27	NE	NENE
1	Frink NW	1992	Township 8 South Range 12 East	10	SE	NESE
1	Frink NW	1992	Township 8 South Range 12 East	10	SE	SESE
1	Frink NW	1992	Township 8 South Range 12 East	15	NE	NENE
1	Frink NW	1992	Township 8 South Range 12 East	15	NE	SENE
1	Frink NW	1992	Township 8 South Range 12 East	15	SE	NESE
5	Wister	1992	Township 9 South Range 13 East	26	NW	NENW
5	Wister	1992	Township 9 South Range 13 East	26	NW	NENW
5	Wister	1992	Township 9 South Range 13 East	26	NE	SWNE
5	Wister	1992	Township 9 South Range 13 East	26	NE	SWNE
5	Wister	1992	Township 9 South Range 13 East	26	NE	SENE
5	Wister	1992	Township 9 South Range 13 East	26	NE	SENE
2	Frink NW	1992	Township 8 South Range 12 East	22	SE	SESE
2	Frink NW	1992	Township 8 South Range 12 East	22	SE	SESE

Historic Road #4 (viewed from site RIV-9402), Facing 350 Degrees

Historic Road #2 (viewed from site CTEC A-2), Facing 340 Degrees

Historic Road #1 (viewed from site CTEC A-4), Facing 320 Degrees

Historic Road #9 Section, Facing 344 Degrees

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LINEAR FEATURE RECORD

Primary # 33-023792
HRI #
Trinomial CA-RIV-011686

L1. Historic and/or Common Name:

L2a. Portion Described: X Entire Resource ☐ Segment ☐ Point Observation **Designation:**

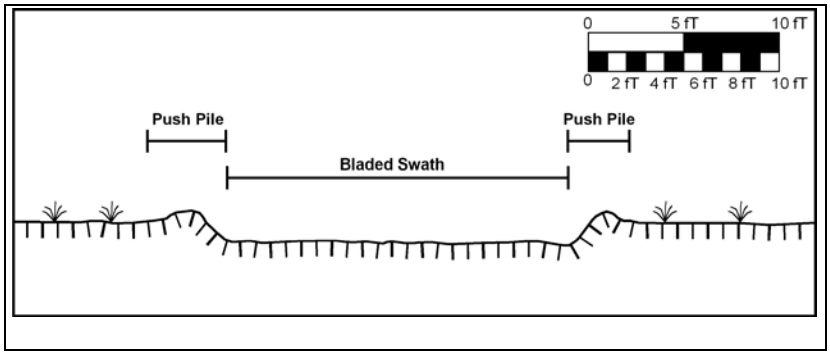
b. Location of point or segment: Full legal descriptions are found on the attached continuation sheet. All segments within the 2012 survey area were inspected during survey transects.

L3. Description:

The roads seem to have been initially constructed by grading the loose alluvial surface of the area, pushing sediment and rocks into small berms on either side of the graded swath. They have since been used by historic and modern vehicles, incising the initial grading in some cases. The road surfaces contain fewer large rocks than the surroundings, and are relatively flat and straight. Association of the road with historic materials appears to be coincidental.

L4. Dimensions: (In feet for historic features and meters for prehistoric features)

a. Top Width: average 23 ft
b. Bottom Width: average 20 ft
c. Height or Depth: average 10 inches
d. Length of Segment:



L5. Associated Resources: CTEC-SWAT4/5-1 is a complex of berms associated with the Coachella Canal that connect to many of the road segments. There are also historic quarries in the area that may have been the destination of the roads.

L6. Setting: (Describe natural features, landscape characteristics, slope, etc., as appropriate.) The area around the site is characterized by the creosote/bursage community. The soil matrix is predominately sand with granite, basaltic, and quartz rocks of varying sizes arranged in a pattern indicative of alluvial action in the area. Modern disturbances are present throughout the area, including military activities, munitions, and two-tracks.

L7. Integrity Considerations: Many segements of the road have been badly eroded by alluvial action. Other sections have been altered or effaced by modern use. The compex as a whole lacks integrity.

L8b. Description of Photo, Map, or Drawing: Historic Road #2 - 180deg

L9. Remarks:

L10. Form Prepared by: (Name, affiliation, and address) D. Broockmann, R. Patterson, Cardno TEC, 250 Bobwhite Court, Suite 200, Boise, ID 83706

L11. Date: 12/19/12