

**A CLASS III ADDENDUM CULTURAL RESOURCES SURVEY
FOR THE UNION PACIFIC RAILROAD COMPANY
PECOS INDUSTRIAL RAIL ACCESS AND TRAIN EXTENSION
(PIRATE) PROJECT, MESA AND QUEEN CREEK,
MARICOPA COUNTY, ARIZONA**

**Docket No. FD 36501 - Union Pacific Railroad Company
Construction and Operation Exemption - In Maricopa County, AZ**

Arizona State Museum Accession No. 2023-0244



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Acronyms and Abbreviations

AD	anno Domini
APE	Area of Potential Effects
ASM	Arizona State Museum
Board	Surface Transportation Board
HPTP	Historic Properties Treatment Plan
Jacobs	Jacobs Engineering Group Inc.
MOA	Memorandum of Agreement
NAD83	North American Datum of 1983
NRHP	National Register of Historic Places
OEA	Office of Environmental Analysis
Phoenix Subdivision	Phoenix Subdivision main line
PIRATE	Pecos Industrial Rail Access and Train Extension
ROW	right-of-way
SHPO	State Historic Preservation Office
UP	Union Pacific Railroad Company
USGS	U.S. Geological Survey

State Historic Preservation Office Survey Report Abstract

Report Title: A Class III Addendum Cultural Resources Survey for the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extension (PIRATE) Project, Mesa and Queen Creek, Maricopa County, Arizona

Project Name: Pecos Industrial Rail Access and Train Extension (PIRATE)

Project Location: Mesa and Queen Creek, Maricopa County, Arizona

Project Locator Universal Transverse Mercator: 3683528mN 440880mE Zone 12, North American Datum of 1983 (NAD83)

Project Sponsor: Union Pacific Railroad Company (UP)

Sponsor Project Number: Docket No. FD 36501

Lead Agency: Surface Transportation Board (Board)

Other Involved Agencies: Arizona Department of Environmental Quality, Arizona State Land Department, Arizona State Museum (ASM), City of Mesa, Town of Queen Creek, Maricopa County, State Historic Preservation Office (SHPO), U.S. Army Corps of Engineers, Federal Aviation Administration.

Applicable Project Regulations for the Class III Addendum Survey: Section 106 of the National Historic Preservation Act (United States Code Title 54, Section 306108, implementing regulations at Code of Federal Regulations Title 36, Part 800).

Funding Source: Private

Description of the Project/Undertaking: UP is seeking authority from the Board to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (Docket No. FD 36501). The proposed rail line would connect UP's Phoenix Subdivision main line track to industrial properties southeast of the Phoenix-Mesa Gateway Airport via a single-track rail line accompanied by segments of support track. UP also proposes to construct and operate approximately 4.0 miles of new support track along the main line between Power Road and Ellsworth Road. This project is referred to as the PIRATE project.

On behalf of the Board's Office of Environmental Analysis (OEA), Jacobs Engineering Group Inc. (Jacobs), OEA's third-party contractor, conducted a Class III cultural resources survey of the project's Area of Potential Effects (APE) (Rainey and Stubing 2022). The Class III survey identified 4 previously recorded cultural resources sites (AZ U:10:2[ASM], AZ U:10:69[ASM], AZ U:10:152[ASM], and AZ U:10:275[ASM]), 2 in-use historic structures, and 53 isolated occurrences and isolated features within the APE.

At the time of the 2022 Class III survey, two discontinuous areas totaling 15.34 acres in the project APE could not be surveyed because of access issues and poor ground visibility. A total of 12.99 acres of the two unsurveyed areas (described herein as Class III Addendum Survey Area 1 and Class III Addendum Survey Area 2) were investigated by Class III addendum survey and are referred to collectively as "Class III Addendum Survey Areas" in this report. The remaining 2.35

acres of the two previously unsurveyed areas will not be acquired by UP or be subject to project ground disturbance; these areas were therefore not included in the Class III addendum survey.

The limits of the Class III Addendum Survey Area 1 and Class III Addendum Survey Area 2 are defined by UP-acquired right-of-way and are the subject of this report. The Class III Addendum Survey Areas are contained completely within the APE. Class III Addendum Survey Area 1 is completely within the previously recorded boundary of AZ U:10:2(ASM) (Rainey and Stubing 2022). Class III Addendum Survey Area 2 is directly adjacent to the previously recorded boundary of AZ U:10:275(ASM) (Rainey and Stubing 2022). The Class III Addendum Survey Areas were investigated in April and May 2023. No changes were made to site boundaries originally recorded by Rainey and Stubing (2022) as a result of the April and May 2023 addendum survey.

In July 2023, [REDACTED] resulted in damage to AZ U:10:2(ASM) in the western portion of the APE and OEA directed UP to implement site protection measures throughout the PIRATE APE. As part of the implementation of these site protection measures, Jacobs revisited Class III Addendum Survey Area 2 following heavy monsoon rain. Additional artifacts outside of the site boundary of AZ U:10:275(ASM) were exposed by the storm activity, and additional survey was conducted in the Class III Addendum Survey Area 2 on September 5, 2023, to redefine the site boundary in the APE. Given the length of time between the site resurvey and the distribution of this revised report, the Class III Addendum Survey Area 2 was revisited on August 21, 2025, to photodocument the existing conditions in the APE. While grading and other development site preparation has occurred, it is outside of the fenced UP right-of-way.

Area of Potential Effects Location: The PIRATE APE is within Sections 1 through 9 and 16 of Township 2 South, Range 7 East and Section 36 of Township 1 South, Range 7 East, as depicted on the U.S. Geological Survey Higley, Ariz., and Desert Well, Ariz., 7.5-minute topographic quadrangles (USGS 1956a, 1956b, 1973a, 1973b).

Class III Addendum Survey Area Location: The Class III addendum survey is within the [REDACTED]

Previously Unsurveyed Acres in the APE: 15.34 acres

Total Class III Addendum Survey Area Acres: 12.99 acres

Acres Surveyed: 12.99 acres

Acres Not Surveyed: 2.35 acres (will not be acquired for the PIRATE project)

Consultant Firm/Organization: Jacobs

Consultant Project Number: UPRRCP73

Permit Number(s): Not applicable

Dates of Fieldwork: April 14, 2023; May 10, 2023; September 5, 2023; and August 21, 2025.

Number of Isolated Features and Isolated Occurrences Recorded by the Class III Addendum Survey: 0

Number of Sites Revisited by the Class III Addendum Survey: 2 (Table A1)

Eligible Sites: AZ U:10:2(ASM) and AZ U:10:275(ASM)

Ineligible Sites: 0

Table A1. Summary of Sites in the Class III Addendum Survey Areas

Land Jurisdiction in Class III Addendum Survey Areas	Status	Site Number	Eligibility Status, Criterion/Criteria ^[1]	Class III Addendum Survey Results	Treatment
Private	Previously recorded	[REDACTED]	Previously determined eligible (Criterion D) (Gosselin [OEA] to Leonard [SHPO] dated November 22, 2022; concurrence December 20, 2022)	Class III Addendum Survey Area 1 is within the previously recorded boundary of [REDACTED]. Artifacts recorded by the addendum survey are ceramics and lithics consistent with previous recording.	[REDACTED] adverse project i Drafts o Agreem Properti (HPTP) address effects a treatmen
Private	Previously recorded	[REDACTED]	Previously determined eligible (Criterion D) (Gosselin [OEA] to Leonard [SHPO] dated November 22, 2022; concurrence December 20, 2022).	Based on the results of Class III Addendum Survey Area 2 the site boundary [REDACTED] has been expanded.	[REDACTED] adverse project i Drafts o are being the resol and the p treatmen

^[1] Recommendation = recorder opinion; Determination = agency determination with SHPO concurrence

Comments: On behalf of OEA, Jacobs conducted Class III addendum cultural resources surveys to verify the condition and location of previously recorded historic properties eligible for listing in the National Register of Historic Places (NRHP) in previously unsurveyed portions of the project APE.

Cultural Resources Sites – Class III Addendum Survey Results and National Register of Historic Places Eligibility Recommendations

AZ U:10:2(ASM)

AZ U:10:2(ASM) is an extensive Hohokam habitation site in the PIRATE APE. [REDACTED] is contained completely within the previously recorded site boundary. The site has been previously determined eligible for inclusion in the NRHP under Criterion D (Gosselin [OEA] to Leonard [SHPO] dated November 22, 2022; concurrence December 20, 2022). Sites, such as AZ U:10:2(ASM), have the potential to contain data that can inform research questions related to Hohokam settlement patterns, land use, trade and interaction, internal site patterning, subsistence strategies, and social organization, among other topics.

Newly recorded prehistoric ceramics and lithic artifacts were identified in [REDACTED] by the addendum survey and are consistent with those reported by Rainey and Stubing (2022). The addendum survey observations support the previous determination of the site's NRHP eligibility under Criterion D (Gosselin [OEA] to Leonard, State Historic Preservation Office [SHPO], dated November 22, 2022; concurrence December 20, 2022).

AZ U:10:275(ASM)

AZ U:10:275(ASM) is in the PIRATE APE. A small portion of the site boundary defined by Rainey and Stubing (2022) was previously recorded within [REDACTED]. Sites, such as AZ U:10:275(ASM), have the potential to contain data that can inform research questions related to Hohokam settlement patterns, land use, trade and interaction, internal site patterning, subsistence strategies, and social organization, among other topics.

Additional artifacts were observed in the PIRATE APE within [REDACTED] following a heavy monsoon rain. Based on resurvey conducted on September 5, 2023, the site boundary has been expanded to the west. The observations of the addendum survey support the previous determination of the site's NRHP eligibility under Criterion D (Gosselin [OEA] to Leonard [SHPO] dated November 22, 2022; concurrence December 20, 2022).

Summary

Jacobs conducted a Class III addendum cultural resources survey of two previously unsurveyed areas within the PIRATE APE. Two areas, known as [REDACTED], were inventoried during this survey.

The [REDACTED] survey resulted in the identification of artifacts within the previously recorded boundary of AZ U:10:2(ASM). If PIRATE is constructed, data recovery is recommended for the portion of AZ U:10:2(ASM) within the PIRATE APE.

The [REDACTED] surveys expanded the site boundary to the west. If PIRATE is constructed, data recovery in the expanded boundary within the PIRATE APE is recommended. Additionally, boundary testing of AZ U:10:275(ASM) is recommended within 50 feet of the expanded boundary within the PIRATE APE.

Both of these NRHP-eligible sites would be impacted by PIRATE if it is constructed. Drafts of the MOA and HPTP are being prepared to address the resolution of adverse effects and the potential future treatment of historic properties.

Introduction

Union Pacific Railroad Company (UP) is seeking authority from the Surface Transportation Board (Board) to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (Docket No. FD 36501) (Figure 1). The proposed rail line would connect UP's Phoenix Subdivision main line (Phoenix Subdivision) to industrial properties southeast of the Phoenix-Mesa Gateway Airport via a single-track rail line accompanied by segments of support track. UP also proposes to construct and operate approximately 4.0 miles of new support track along the main line between Power Road and Ellsworth Road. The proposed rail line includes two new wye^[1] connection tracks branching from the existing Phoenix Subdivision to connect to the new industrial lead track. A run-around track would also be constructed west of Signal Butte Road. UP would operate this run-around track on a support track west of Signal Butte Road, allowing UP to change directions by shifting a train off the PIRATE track and moving the locomotive from one end of the train to the other. This project is referred to as the Pecos Industrial Rail Access and Train Extension (PIRATE).

The Board's Office of Environmental Analysis (OEA) identified two reasonable alternatives for the PIRATE rail line. Alternative 1 would extend the PIRATE track approximately 5.7 miles east from the new wye connection tracks at the Phoenix Subdivision. The proposed alignment initially would proceed northeast toward the boundary between the Pecos Advanced Manufacturing Zone and the Phoenix-Mesa Gateway Airport, where UP would operate a 3,500-foot-long support yard with two yard tracks in addition to the industrial lead track. The support yard would house rail cars, locomotives, and/or trains waiting to go back on the PIRATE track or on the main line track. Within the proposed right-of-way (ROW), UP would grade short segments of two extensions where they begin to depart from the proposed rail line, as a tie-in to prepare for track to be laid in the future: approximately 650 feet of the future extension to Fujifilm and approximately 300 feet of the future extension to Commercial Metals Company.

Alternative 2, with a length of approximately 6.0 miles, would be identical to Alternative 1 between the wye and Ellsworth Road, including the support yard. Between Ellsworth Road and Signal Butte Road, Alternative 2 would follow an east-west alignment approximately 0.25 mile south of Alternative 1. Alternative 2 would turn northeast near Signal Butte Road to head toward Fujifilm and Pecos Road and then continue east until its terminus near Commercial Metals Company. Within the proposed ROW, UP would grade short segments of two extensions where they begin to depart from the proposed rail line, as a tie-in to prepare for track to be laid in the future: approximately 400 feet of the future extension to Fujifilm and approximately 300 feet of the future extension to Commercial Metals Company. Identical to Alternative 1, Alternative 2 includes two new support tracks along the Phoenix Subdivision, yard tracks at the support yard, and a future run-around track west of Signal Butte Road.

All described project elements are contained within the project's APE.

^[1] The term "wye" refers to the Y-like formation created where train tracks branch off a main line to continue in different directions.

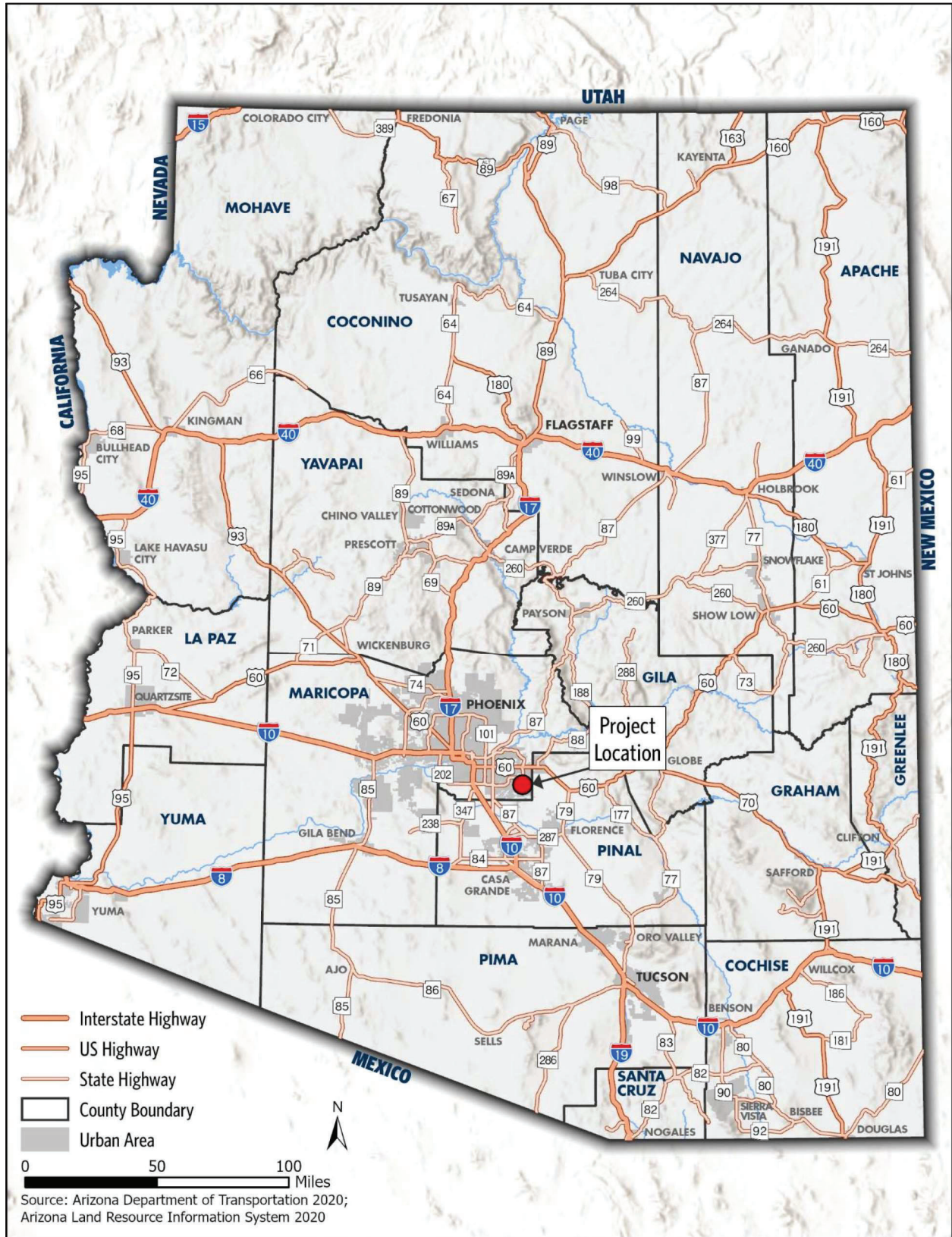


Figure 1. General location of the APE

On behalf of the OEA, Jacobs Engineering Group Inc. (Jacobs), OEA's third-party contractor, conducted a Class III cultural resources survey of the project's APE (Rainey and Stubing 2022). The Class III survey identified 4 previously recorded cultural resources sites (AZ U:10:2[ASM], AZ U:10:69[ASM], AZ U:10:152[ASM] and AZ U:10:275[ASM]), 2 in-use historic structures, and 53 isolated occurrences and isolated features within the APE.

At the time of the 2022 Class III survey, two discontinuous areas totaling 15.34 acres in the project APE could not be surveyed because of access issues and poor ground visibility. A total of 12.99 acres of the two unsurveyed areas (described herein as [REDACTED]) were investigated by Class III addendum survey and are referred to collectively as "Class III Addendum Survey Areas" in this report. The remaining 2.35 acres of the two previously unsurveyed areas will not be acquired by UP or be subject to project ground disturbance; these areas were therefore not included in the Class III addendum survey.

The limits of the [REDACTED] are defined by UP-acquired ROW and are the subject of this report. The Class III Addendum Survey Areas are contained completely within the APE. [REDACTED] is completely within the previously recorded boundary of AZ U:10:2(ASM) (Rainey and Stubing 2022). [REDACTED] is directly adjacent to the previously recorded boundary of AZ U:10:275(ASM) (Rainey and Stubing 2022). The Class III Addendum Survey Areas were investigated in April and May 2023. No changes were made to site boundaries originally recorded by Rainey and Stubing (2022) as a result of the April and May 2023 addendum survey.

In July 2023, [REDACTED] resulted in damage to AZ U:10:2(ASM) in the western portion of the APE and OEA directed UP to implement site protection measures throughout the PIRATE APE. As part of the implementation of these site protection measures, Jacobs revisited [REDACTED] following heavy monsoon rain. Additional artifacts outside of the site boundary of AZ U:10:275(ASM) were exposed by the storm activity, and additional survey was conducted in the [REDACTED] on September 5, 2023, to redefine the site boundary in the APE. Given the length of time between the site resurvey and the distribution of this revised report, the [REDACTED] was revisited on August 21, 2025, to photodocument the existing conditions in the APE. While grading and other development site preparation has occurred, it is outside of the fenced UP ROW.

This report has been prepared as an addendum to Rainey and Stubing (2022). Rainey and Stubing (2022) provide a detailed discussion of the project, environmental conditions, cultural history, and Class I background research, which is not repeated in this addendum report.

APE and Class III Addendum Survey Areas Definition

APE Definition

The PIRATE APE is within Sections 1 through 9 and 16 of Township 2 South, Range 7 East and Section 36 of Township 1 South, Range 7 East, as depicted on the U.S. Geological Survey (USGS) Higley, Ariz., and Desert Well, Ariz., 7.5-minute topographic quadrangles (USGS 1956a, 1956b, 1973a, 1973b). The APE averages between 200 and 300 feet wide but is variable depending upon the proposed construction footprint and any construction-related activities (such as staging, drainage structures, and crossings).

Class III Addendum Survey Areas Definition

The two unsurveyed areas discussed in Rainey and Stubing (2022) encompass 15.34 acres ([REDACTED]). A total of 2.35 acres of these areas are within the APE but will not be acquired by UP or be subject to project ground disturbance. These areas were therefore not surveyed as part of the Class III addendum survey.

The limits of the [REDACTED] are defined by UP-acquired ROW and are the subject of this report ([REDACTED]).

These areas are defined as follows:

- [REDACTED] is a triangular-shaped area encompassing 0.54 acre of private land acquired by UP. It is within [REDACTED]. This location is within a [REDACTED] [REDACTED] was originally unsurveyed because the previous landowner did not grant access permission. [REDACTED] shows existing conditions in [REDACTED] at the time of the fieldwork (April 2023).
- [REDACTED] is a rectangular-shaped area originally encompassing 12.45 acres of private land acquired by [REDACTED]. It is within [REDACTED]. This location is within a portion of [REDACTED]. Class III [REDACTED] was originally unsurveyed because of dense agricultural stubble that obscured surface visibility. This area was cleared by light agricultural plowing. [REDACTED] show the original conditions in the [REDACTED] [REDACTED] in May 2023, the conditions at the time of the September 5, 2023, boundary definition fieldwork, and the current conditions based on photodocumentation conducted on August 21, 2025, respectively.

Figure 2a. Location of the APE, Class III Addendum Survey Areas, and Land Jurisdiction – MAP REDA

Figure 2b. Location of the APE, Class III Addendum Survey Areas, and Land Jurisdiction – MAP REDA

Figure 3. Aerial overview of the Addendum Survey Areas – MAP REDACTED

Figure 4. Class III Addendum Survey Area 1, within the boundary of AZ U:10:2(ASM), viewing south (April 2023) – Photo Redacted.

Figure 5. Class III Addendum Survey Area 2, after removal of agricultural vegetation, within the boundary of AZ U:10:275(ASM), viewing north (May 2023) – Photo Redacted.

Figure 6. Class III Addendum Survey Area 2, within the boundary of AZ U:10:275(ASM), during site boundary definition fieldwork, viewing east (September 5, 2023) – Photo Redacted.

Figure 7. Class III Addendum Survey Area 2, showing conditions of parcel adjacent to the northern boundary of the UP ROW, facing east (August 21, 2025)- Photo Redacted.

Field Methods

[REDACTED] was cleared by light agricultural plowing prior to the addendum survey. Jacobs' archaeologists Pamela Rainey and Walter Punzmann were present during the plowing to ensure that the activity did not inadvertently disturb previously undocumented cultural resources features and did not extend below the upper 6 inches of the previous plow zone. No ground clearing was necessary at [REDACTED].

Following the plowing, the Class III addendum survey was conducted by Jacobs' archaeologists Pamela Rainey and Kris Powell on April 14, 2023, Walter Punzmann on May 10, 2023, and Kris Powell and Jenna Kent on September 5, 2023. [REDACTED] are on private land; therefore, no Arizona State Museum (ASM) permit was not required. Ground visibility varied between 80 percent within [REDACTED] and 60 to 80 percent within [REDACTED].

The Class III Addendum Survey Areas were surveyed systematically using pedestrian transects aligned in various directions depending on the configuration of each land parcel. The transect spacing varied from 5 meters (16 feet) to a maximum of 20 meters (66 feet). This method provided complete (100 percent) coverage of the Class III Addendum Survey Areas. The field crew employed tablets (Samsung Galaxy TAB A or iPad minis) paired with Trimble R1 Global Navigation Survey System receivers via Bluetooth, allowing for submeter accuracy to collect and record spatial data. Software used the Environmental Systems Research Institute Field Maps application for geospatial data collection. The field crew uploaded the Class III Addendum Survey Areas and previously recorded cultural resources site boundaries onto the Field Maps application to facilitate accurate identification of the project limits and previous sites in the field. The field crew then uploaded the collected spatial data to secure Cloud facilities and used the data to generate project and site maps.

Notes were taken using a combination of digital collection and standard paper forms. Photographic documentation of the fieldwork was done with an iPhone camera. Universal Transverse Mercator coordinates in this report are in Zone 12 North, and based on the North American Datum of 1983 (NAD83), Continental United States (CONUS).

Field methods and documentation for this project conform to the applicable professional standards and policies, including those specified in *Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines* (National Park Service 1983) and ASM's *Archaeological Site Recording Manual* (1993), as amended (Fish 1995).

ASM Site Definition Criteria

ASM has developed a standard definition to ensure consistency in recording archaeological sites. While the policy provides for professional judgment, the following guidelines are used to define archaeological sites in the state of Arizona (ASM 1993; Fish 1995).

The policy considers the fact that most archaeologists define sites based on chronological associations, as well as artifact and feature diversity and spatial arrangement. Based on that consideration, ASM guidelines state that all archaeological sites should contain:

1. Physical remains of past human activity that are at least 50 years old.

Additionally, sites should consist of at least one of the following:

1. Thirty-plus artifacts of a single class (e.g., 30 sherds, 30 lithics, 30 tin cans) within an area 15 meters (50 feet) in diameter, except when all pieces appear to originate from a single source (e.g., 1 ceramic pot, 1 core, 1 glass bottle).
2. Twenty-plus artifacts that include at least two classes of artifact types (e.g., sherds, ground stone, nails, glass) within an area 15 meters (50 feet) in diameter.
3. One or more archaeological features in temporal association with any number of artifacts.
4. Two or more temporally associated archaeological features without artifacts.

An “isolated feature” is defined as a feature that does not have any other features within a 100-meter (325-foot) diameter. This might include isolated rock piles, mine shafts, prospecting pits, or unidentified depressions without artifact association. Nonlinear isolated features without associated artifacts may be recorded at the discretion of the archaeologist.

Survey Results

The Class III addendum survey identified prehistoric artifacts within the previously recorded site boundary of AZ U:10:2(ASM) in [REDACTED]. These are consistent with those identified by Rainey and Stubing (2022).

The Class III addendum surveys identified prehistoric artifacts outside of the previously delineated site boundary of AZ U:10:275(ASM) in [REDACTED]. These artifacts are consistent with those identified within AZ U:10:275(ASM). As a result, the boundary was expanded to the west to accommodate the additional artifacts.

[REDACTED] depicts the Class III Addendum Survey results.

Cultural Resources Sites Revisited by the Class III Addendum Survey

AZ U:10:2(ASM)/Germann Site (Class III Addendum Survey Area 1)

Land Jurisdiction: Private, City of Mesa, Maricopa County, Arizona

Legal Description: [REDACTED]

Legal Description of [REDACTED]

Site Type: Habitation

Cultural Age/Affiliation: Colonial through Classic period (AD 775 through AD 1350)/Hohokam²

Elevation: 1,350 to 1,380 feet above mean sea level

Maximum Dimensions: 3.7 kilometers by 2.5 kilometers (6.1 square kilometers/1,513 acres)

Recording Status: Previously recorded

NRHP Status: Determined eligible, Criterion D

Site Description: AZ U:10:2(ASM)/Germann Site is a large, well-known, Hohokam habitation site that is part of a large complex of sites [REDACTED]. The site has been subject to many cultural resources studies since the 1940s, resulting in a number of small sites and loci recorded within the current boundary. These have since been consolidated under the present site number. A wide range of features have been recorded, including pit and adobe habitation structures, trash mounds, thermal and non-thermal pits, ancestral remains, and thousands of artifacts.

The greater site boundary encompasses a large portion of the PIRATE APE, [REDACTED]. [REDACTED] As described by Rainey and Stubing (2022), AZ U:10:2(ASM), appears to consist of two relatively intensively used areas within the [REDACTED], with an overall artifact scatter that varies in density throughout.

² AD = anno Domini

Based on the observed ceramics, the portion of the site within [REDACTED] appears to have a predominant Classic period Hohokam component and a possible Preclassic period Hohokam component.

Class III Addendum Survey Observations: [REDACTED] is within the [REDACTED] site AZ U:10:2(ASM). It is contained completely within the previously recorded boundary of the site (Appendix A, Figure A3). Ground visibility within [REDACTED] at the time of the fieldwork was approximately 80 percent, with bare areas of ground interspersed with clusters of grasses and shrubs. The area is open and includes intact natural ground surface. Urban development is adjacent, and construction is ongoing.

Artifacts observed at AZ U:10:2(ASM) in [REDACTED] include prehistoric ceramics and lithics (Table 1). No surface features were observed in [REDACTED].

Table 1. AZ U:10:2(ASM), [REDACTED] Artifact Summary

Ceramics				Lithics		Total
Indeterminate Buff ware	Schist Plain ware	Indeterminate Red ware	Schist Red ware	Basalt debitage	Unclassified debitage	22
6	11	1	2	1	1	

Discussion: As observed by the Class III addendum survey, the presence of both untyped Buff wares and Red wares is consistent with the Classic period component of the site described by Rainey and Stubing (2022). Artifacts observed during fieldwork were distributed sparsely throughout [REDACTED]

NRHP Eligibility: AZ U:10:2(ASM) is an extensive Hohokam habitation site that has been previously determined eligible for inclusion in the NRHP under Criterion D (information potential) (Gosselin [OEA] to Leonard, State Historic Preservation Office [SHPO], dated November 22, 2022; concurrence December 20, 2022).

Sites, such as AZ U:10:2(ASM), have the potential to contain data that can inform on research questions related to Hohokam settlement pattern, land use, trade and interaction, internal site patterning, subsistence strategies, and social organization, among other topics. The observations of the addendum survey support the previous determination of the site’s NRHP eligibility under Criterion D.

AZ U:10:275(ASM)/Sand Dune Site ([REDACTED])

Land Jurisdiction: Private

Legal Description: [REDACTED]

Legal Description of Class III Addendum Survey Area 2: [REDACTED]

Site Type: Artifact scatter

Cultural Age/Affiliation: Preclassic to Classic period (AD 300 through AD 1350)/Hohokam

Elevation: 1,400 to 1,410 feet above mean sea level

Maximum Dimensions: 1.7 kilometers by 1.1 kilometers (1.4 square kilometers/347 acres)

Recording Status: Previously recorded

NRHP Status: Determined eligible, Criterion D

Site Description: AZ U:10:275(ASM), [REDACTED], is a large Hohokam artifact scatter. The site was originally recorded in the 1930s (Rice and Steinbach 2012a, 2012b) and has been subject to multiple cultural resources surveys since then; however, subsurface investigations have not been conducted at this site. Surveys have recorded artifacts consisting of ceramics, flaked stone, ground stone, and few historic artifacts. The original recording of the site by Midvale in the 1930s also identified pithouses and ancestral remains eroding from drainages (Rice and Steinbach 2012a, 2012b).

The site boundary was defined by Rainey and Stubing (2022) as extending [REDACTED]. A total of 36 Plain ware, Buff ware, and Red-on-buff ware ceramics were identified. Conditions were described as highly disturbed by the [REDACTED]. In the surrounding vicinity of the site boundary, ground visibility was hampered due to dense agricultural stubble at the time of the survey (Rainey and Stubing 2022).

Class III Addendum Survey Observations: [REDACTED] is within PIRATE [REDACTED]. A portion of the western boundary of AZ U:10:275(ASM), as defined by Rainey and Stubing (2022), is within [REDACTED]. Ground visibility of the agricultural field at the time of fieldwork was between 60 and 80 percent.

A total of 462 artifacts are present within the [REDACTED] and include ceramics, flaked stone, ground stone, and one piece of shell. Modern debris (that is, soda cans, plastic, and miscellaneous metal fragments) are also present.

Indigenous artifacts are confined mostly to a [REDACTED] with a low-density scatter extending through the agricultural field to the [REDACTED]. Artifacts are summarized in Table 2. Based on the results of the fieldwork, the boundary of AZ U:10:275(ASM) has been extended west within the PIRATE APE. While no survey was conducted outside of [REDACTED], based on the distribution of artifacts, it is likely that the site boundary extends to the north and south beyond the UP ROW.

Table 2. AZ U:10:275(ASM), [REDACTED] Artifact Summary

Artifact Type	Count
<i>Ceramics</i>	
Plain ware, body, schist tempered	311
Plain ware, rim, schist tempered	4
Red ware, body, schist tempered	3
Red ware, shoulder, schist tempered	1
Red ware, body, indeterminate	7
Indeterminate Red on buff, body	86
Indeterminate Red on buff, rim	2
Ceramics Total	414
<i>Flaked Stone</i>	
Non-cortical, quartzite	1
Non-cortical, utilized, rhyolite	1
Non-cortical, rhyolite core	1
Cortical, rhyolite multi-faceted core	3
Cortical, andesite core	1
Cortical, chert	1
Non-cortical, chert	1
Cortical, dacite	3
Non-cortical, dacite	4
Cortical, rhyolite	4
Non-cortical, rhyolite	7
Cortical, basalt	8
Cortical, basalt core	2
Cortical, basalt utilized flake tool	1
Non-cortical, basalt	8
Flaked Stone Total	46
<i>Ground Stone</i>	
Basalt mano	1
Ground Stone Total	1
<i>Shell</i>	
Pendant/bracelet fragment	1
Shell Total	1
Site Extension Total	462

Discussion: [REDACTED] contained hundreds of Indigenous artifacts within the expanded boundary of AZ U:10:275(ASM). The site assemblage observed suggests that this portion of the site was in use during the Hohokam Preclassic and Classic periods.

NRHP Eligibility: AZ U:10:275(ASM) has previously been determined eligible for the NRHP (Gosselin [OEA] to Leonard [SHPO] dated November 22, 2022; concurrence December 20, 2022). Sites such as AZ U:10:275(ASM) have the potential to contain data that can inform on research questions related to Hohokam settlement pattern, land use, trade and interaction, internal site patterning, subsistence strategies, and social organization, among other topics. The observations of the addendum survey support the previous determination of the site's NRHP eligibility under Criterion D.

Summary and Management Recommendations

Jacobs conducted a Class III addendum cultural resources survey of two previously unsurveyed areas within the PIRATE APE. Two areas, known as [REDACTED] were inventoried during this survey (Table 3).

The survey of [REDACTED] resulted in the identification of artifacts within the previously recorded boundary of AZ U:10:2(ASM). If PIRATE is constructed, data recovery is recommended for the portion of AZ U:10:2(ASM) within the PIRATE APE and the [REDACTED]

The surveys of the [REDACTED] expanded the site boundary to the west. If PIRATE is constructed, data recovery is recommended for the portion of the site within the PIRATE APE and [REDACTED]. Given the fieldwork results in the immediate vicinity of the [REDACTED], boundary testing of AZ U:10:275(ASM) is additionally recommended within 50 feet of the site boundary.

Both of these NRHP-eligible sites would be impacted by PIRATE if it is constructed. Drafts of the Memorandum of Agreement (MOA) and Historic Properties Treatment Plan (HPTP) are being prepared to address the resolution of adverse effects and the potential future treatment of historic properties.

Table 3. Summary of Cultural Resources Sites within the Class III Addendum Survey Areas

Land Jurisdiction in Class III Addendum Survey Areas	Status	Site Number	Eligibility Status, Criterion/Criteria ^[1]	Class III Addendum Survey Results	Treatment
Private	Previously recorded	AZ U:10:2(ASM)	Previously determined eligible (Criterion D) (Gosselin [OEA] to Leonard [SHPO] dated November 22, 2022; concurrence December 20, 2022)	[REDACTED] is within the previously recorded boundary of AZ U:10:2(ASM). Artifacts recorded by the addendum survey are ceramics and lithics consistent with previous recording.	AZ U:10:2(ASM) is not expected to be adversely impacted if it is constructed in accordance with the MOA and HIA. A mitigation plan has been prepared to avoid, minimize, and compensate for any adverse effects of future treatment of the site and its properties.
Private	Previously recorded	AZ U:10:275(ASM)	Previously determined eligible (Criterion D) (Gosselin [OEA] to Leonard [SHPO] dated November 22, 2022; concurrence December 20, 2022).	Based on the results of [REDACTED] the site boundary of AZ U:10:275(ASM) has been expanded.	AZ U:10:275(ASM) is not expected to be adversely impacted if it is constructed in accordance with the MOA and HIA. A mitigation plan has been prepared to avoid, minimize, and compensate for any adverse effects of future treatment of the site and its properties. Based on the results of the addendum survey, testing of AZ U:10:275(ASM) within 50 feet of the site would be a recommended component of the project.

^[1] Recommendation = recorder opinion; Determination = agency determination with SHPO concurrence

References

Arizona State Museum (ASM).

1993. *Archaeological Site Recording Manual*. Arizona State Museum, Tucson, Arizona.

Fish, Paul R.

1995. *Archaeological Site Recording Manual, Revised Site Definition Policy*. Arizona State Museum, Tucson, Arizona.

National Park Service.

1983. *Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines*. National Park Service, Washington, DC.

Rainey, Pamela, and Michael Stubing.

2022. *A Class III Cultural Resources Survey for the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extension (PIRATE) Project, Mesa and Queen Creek, Maricopa County, Arizona*. Project Report No. 2022-06. Jacobs Engineering Group Inc. Tempe, Arizona.

Rice, Glen E., and Erik Steinbach.

2012a. *A Treatment Plan and Cultural Resources Survey for the Proposed SunPower Corporation Solar Generating Plant at Arizona State University Polytechnic Campus, City of Mesa*. Rio Salado Archaeology Technical Report No. 12-01. Rio Salado Archaeology, Tempe, Arizona.

2012b. *Archeological Test Report for the SunPower Corporation Solar Powered Electric Generating Plant at Arizona State University Polytechnic Campus, City of Mesa*. Rio Salado Archaeology Technical Report No. 12-08. Rio Salado Archaeology, Tempe, Arizona.

U.S. Geological Survey (USGS).

1956a. *Desert Well, Arizona* (map). Prepared by U.S. Department of the Interior, U.S. Geological Survey. 1:24,000, 7.5-minute series topographic quadrangle. Electronic map, available from USGS Historic Topographic Map Explorer, <http://livingatlas.arcgis.com>. Accessed April 2023.

1956b. *Higley, Arizona* (map). Prepared by U.S. Department of the Interior, U.S. Geological Survey. 1:24,000, 7.5-minute series topographic quadrangle. Electronic map, available from USGS Historic Topographic Map Explorer, <http://livingatlas.arcgis.com>. Accessed April 2023.

1973a. *Desert Well, Arizona* (map). Prepared by U.S. Department of the Interior, U.S. Geological Survey. 1:24,000, 7.5-minute series topographic quadrangle. Electronic map, available from USGS Historic Topographic Map Explorer, <http://livingatlas.arcgis.com>. Accessed April 2023.

1973b. *Higley, Arizona* (map). Prepared by U.S. Department of the Interior, U.S. Geological Survey. 1:24,000, 7.5-minute series topographic quadrangle. Electronic map, available from USGS Historic Topographic Map Explorer, <http://livingatlas.arcgis.com>. Accessed April 2023.

Appendix A

Survey Results

Figure A1. Cultural Resources Sites Recorded Within the Class III Addendum Survey APE – MAP REDA

Figure A2. Cultural Resources Sites Recorded Within the Class III Addendum Survey APE – MAP REDA

Figure A3. Location of [REDACTED] within AZ U:10:2(ASM) – MAP REDACTED.

Figure A4. [REDACTED] **within AZ U:10:275(ASM) – MAP REDACTED.**