

**STATE HISTORIC PRESERVATION OFFICE
SURVEY REPORT SUMMARY FORM**

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1. REPORT TITLE

1a. Report Title: Cultural Resources Archival Review of Approximately 8.2 Acres for the Proposed Vistoso Golf Course Club House Development in Oro Valley, Pima County, Arizona

1b. Report Author: Ethan Ayers

1c. Date: 3/14/2023 **1d. Report No.:** 23-167

2. PROJECT REGISTRATION/PERMITS

2a. ASM Accession Number: N/A

2b. AAA Permit Number: N/A

2c. ASLD Right-of-Way Number(s): N/A

2d. Other Permit Number(s): Not Applicable

3. ORGANIZATION/CONSULTING FIRM

3a. Name: SWCA Environmental Consultants

3b. Internal Project Number: 79816

3c. Internal Project Name: Vistoso Golf Course Club House CR

3d. Contact Name: David Barr

3e. Contact Address: 343 West Franklin Street, Tucson, Arizona 85701

3f. Contact Phone: 520-325-9194

3g. Contact Email: dbarr@swca.com

4. SPONSOR/LEAD AGENCY

4a. Sponsor: OV 132, LLC

4b. Lead Agency: Town of Oro Valley

4c. Agency/Sponsor Project Number(s): N/A

4d. Agency Project Name: N/A

4e. Funding Source(s): Private

4f. Other Involved Agencies: N/A

4g. Applicable Regulations: Town of Oro Valley Historic Preservation Regulations

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5. DESCRIPTION OF PROJECT: OV 132, LLC, is proposing to develop an 8.2-acre portion of the Vistoso Golf Course into a multi-family housing development in Oro Valley, Pima County, Arizona. OV 132, LLC contracted SWCA Environmental Consultants (SWCA) to conduct an archival review of the proposed development area to assess the project's potential to adversely affect cultural resources.

6. PROJECT AREA: The archival review of the proposed development is approximately 8.2 acres and includes Pima County Assessor's parcels 219-19-1840, 219-19-1910, and 219-19-1950.

7. PROJECT LOCATION

7a. Address: Not Applicable

7b. Route: Not Applicable

7c. Mileposts Limits: Not Applicable

7d. Nearest City/Town: Town of Oro Valley **7e. County:** Pinal County

7f. Project Locator UTM: 501544 Easting, 3591024 Northing **7g. NAD 83** **7h. Zone:** 12S

7i. Baseline & Meridian: Gila and Salt River

7j. USGS Quadrangle(s): Oro Valley, Arizona

7k. Legal Description(s): The project area is located in Section 23, Township 11 South, Range 13 East, Gila and Salt River Meridian, U.S. Geological Survey (USGS) Oro Valley, Arizona, 7.5-minute quadrangle.

8. SURVEY AREA

8a. Total Acres: 8.2 acres

8b. Survey Area.

1. Land Jurisdiction	2. Total Acres Surveyed	3. Total Acres Not Surveyed	4. Justification for Areas Not Surveyed
Private	0	8.2	Previously surveyed in 2020 (Barr 2020)

9. ENVIRONMENTAL CONTEXTS

9a. Landform: The project area is on the southwestern piedmont of the Tortolita Mountains. Honey Bee Canyon is approximately 1.1 miles northeast.

9b. Elevation: Elevation is approximately 2,960 feet above mean sea level (amsl).

9c. Surrounding Topographic Features: The project area is approximately 12 miles west of the Santa Catalina Mountains (elevation 9,157 feet amsl) and 3.2 miles east of the Tortolita Mountains Wash (elevation 4,696 feet amsl).

9d. Nearest Drainage: Honey Bee Canyon, 1.1 miles northeast of project area.

9e. Local Geology: The main geologic unit that encompasses the project area is Pleistocene-age or older piedmont alluvium (Arizona Geological Survey 2013).

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9f. Vegetation: The project area is within a paloverde-cacti-mixed scrub association in the Arizona Upland subdivision of the Sonoran Desertscrub biotic community (Brown 1994). The dominant vegetation within the survey area consists of velvet mesquite (*Prosopis velutina*), foothill paloverde (*Parkinsonia microphylla*), cholla (*Cylindropuntia* sp.), burrobush (*Ambrosia dumosa*), and prickly pear cactus (*Opuntia* sp.). Other vegetation observed within the survey area includes brittlebush (*Encelia* sp.), broom snakeweed (*Gutierrezia sarothrae*), triangle-leaf bursage (*Ambrosia deltoidea*), Christmas cactus (*Cylindropuntia leptocaulis*), and hedgehog cactus (*Echinocereus triglochidiatus*).

9g. Soils/Deposition: Soils within the project area are mapped as the Chiricahua-Lampshire complex (Natural Resources Conservation Service 2022). This complex consists of shallow, well-drained soils that are formed in alluvium from granite and metamorphic rock on 5 to 15 percent slopes. Unless irrigated, these soils are not prime farmland.

9h. Buried Deposits: Unlikely

9i. Justification: The project area is not in an area where buried deposits are likely without some indication on the ground surface, and prior disturbances have not uncovered subsurface cultural materials.

10. BUILT ENVIRONMENT: The existing closed Vistoso Golf Course Club House facility and parking lot. The northern edge is adjacent to the paved West Vistoso Highlands Drive.

11. INVENTORY CLASS COMPLETED

11a. Class I Inventory: ☒

11b. Researcher(s):

11c. Class II Survey: ☐

11d Sampling Strategy:

11e. Class III Inventory: ☐

12. BACKGROUND RESEARCH SOURCES

12a. AZSITE: ☒ Ethan Ayers and David Barr

12b. ASM Archaeological Records Office: ☐

12c. SHPO Inventories and/or SHPO Library: ☐

12d. NRHP Database: ☒

12e. ADOT Portal: ☐

12f. Historical Maps: The 1924 General Land Office map of Township 11 South, Range 13 East, Section 23 shows no historical structures, farm fields, ranches, roads, or other facilities in the immediate vicinity of the project area.

In addition, the 1957 USGS Mt. Lemmon, Arizona, 15-minute quadrangle was examined. No historical structures, farm fields, ranches, roads, or other facilities are shown within or in the immediate vicinity of the project area.

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12g. Land-Managing Agency Files: Not Applicable

12h. Tribal Cultural Resources Files: Not Applicable

12i. Local Government Websites: Not Applicable

12j. Other: Not Applicable

13. BACKGROUND RESEARCH RESULTS

13a. Previous Projects within Study Area—1.0-mile Radius of Project Area.

According to a search of the archaeological site files and records retained at the ASM and the AZSITE on-line database, nine archaeological surveys have been conducted within the 1.0-mile search radius between 1985 and 2020. Two surveys (ASM Accession No. 1986-220.ASM and SWCA 61069) have completely covered the current project area. In 1986, the Institute for American Research (IAR; now Desert Archaeology, Inc.) conducted an extensive survey of the entire Rancho Vistoso property (Craig and Wallace 1987). Approximately 7,700 acres was surveyed, and 54 archaeological sites were recorded (Craig 1987). In 2020, SWCA Environmental Consultants conducted a survey of 96 acres for a proposed development at the Vistoso Golf Course. This survey revisited two previously recorded sites and documented 11 isolated occurrences (Barr 2020). One multi-year testing and data recovery project also occurred within the project area (Ezzo 2007). The entire 1-mile radius surrounding the analysis area has been previously surveyed for residential development and not-potable water projects.

Table 1. Previous Projects within the Project Area

1. Project Reference Number	2. Project Name	3. Author(s)	4. Year
1986-220.ASM	Rancho Vistoso Survey	Craig	1987
2006-190.ASM	Sleeping Snake Testing and Data Recovery	Ezzo	2007
SWCA 61069	Vistoso Golf Course Archaeological Survey	Barr	2020

13b. Previously Recorded Cultural Resources within Study Area—1.0-mile Radius of Project Area.

Thirty-two sites have been documented within the 1-mile radius and one archaeological site (AZ BB:9:104[ASM]) has been documented in the project area.

AZ BB:9:104(ASM), also known as Sleeping Snake Village, was first documented during the Pima Community Collage survey as a large habitation/village with 24 trash mounds and associated artifact scatters (Hewitt and Stephen 1981). It was revisited and recorded during the Vistoso Golf Course survey (Craig and Wallace 1987) and documented as a large habitation site with over 100 trash mounds, four roasting pits, five rock alignments, and a ball court. The site was divided into five loci (A–E), and 30 of the larger trash mounds were subjected to limited surface collections (Craig and Wallace 1987). Starting in the 1990s, SWCA began a series of mitigation efforts at the site that lasted over 11 years. During this time, two phases of testing and four phases of data recovery (as well as several

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episodes of monitoring) constituted the fieldwork (Ezzo 2007). These phases resulted in the identification of more than 520 previously unrecorded cultural features and the excavation of over 260 of them (Ezzo 2007). The excavated features included the following: 116 pit houses, 71 extramural pits, 18 trash mounds, the ball court, a variety of miscellaneous extramural features, 40 cremations, one cemetery area, and three inhumations (Ezzo 2007:1).

The remaining 31 sites within the 1-mile radius consist of 27 prehistoric artifact scatters, with and without rock features, one in-use historic road, one historic habitation site, and two sites that are multicomponent consisting of prehistoric and historic artifacts and features.

13c. Historic Buildings/Districts/Neighborhoods/Structures.

The National Park Service's National Register of Historic Places (NRHP) database was searched to identify properties listed in the NRHP that are located in or within 1 mile of the project area. No NRHP-listed properties were identified within the search area. The NRHP-listed property nearest to the project area is the DeGrazia Gallery in the Sun Historic District, which is approximately 10 miles southeast of the project area.

14. CULTURAL CONTEXTS

14a. Prehistoric Culture: Hohokam

14b. Protohistoric Culture: Sobaipuri; O'odham

14c. Indigenous Historic Culture: O'odham, Yaqui

14d. Euro-American Culture: Hispanic, Anglo-American

15. FIELD SURVEY PERSONNEL

15a. Principal Investigator: David Barr

15b. Field Supervisor: N/A

15c. Crew: N/A

15d. Fieldwork Date(s): N/A (previously surveyed in May 2020)

16. SURVEY METHODS

16a. Transect Intervals: <20 m apart

16b. Coverage (%): 100

16c. Site Recording Criteria: ASM

16d. Ground Surface Visibility: Excellent (85%)

16e. Observed Disturbances: The existing clubhouse buildings, a parking lot, golf cart paths, and landscaping.

17. FIELD SURVEY RESULTS

17a. No Cultural Resources Identified: ☐

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17b. Isolated Occurrences (IOs) Only: ☐

17c. Number of IOs Recorded:

18. COMMENTS: An archival review of the project area revealed that the area has been previously surveyed for cultural resources archaeological resulting from two surveys. The 1986 survey was conducted over 30 years ago and therefore would not be considered satisfactory (adequate or accurate) when evaluated under State Historic Preservation Office (SHPO) Guidance Point No. 5, *SHPO Position on Relying on Old Archaeological Survey Data* (available at <https://azstateparks.com/shpo-guidance-points>), primarily because of changes that have since occurred in survey methodology and site definitions. The survey conducted in 2020 would be considered satisfactory because it was conducted using current methodologies and site definitions. One site (AZ BB:9:104[ASM]) was identified within/overlapping the current project area.

AZ BB:9:104(ASM), Sleeping Snake Village, was a large Hohokam habitation site with a ball court and six loci (Craig and Wallace 1987; Ezzo 2007; Hewitt and Stephen 1981). The site was subjected to two phases of testing, four phases of data recovery, and several episodes of monitoring, over an 11-year period (Ezzo 2007). As a result of these investigations, more than 520 features were identified and over 260 were excavated (Ezzo 2007). Although the majority of the site was subsequently developed as residential housing, the golf course, and a road, four low-density artifact clusters were identified near Locus A, north of and within Locus B, and within and southeast of Locus C—Tee Box (Barr 2020).

The proposed development has the potential to affect intact archaeological deposits where artifacts were found and in the portions of the site that have not been developed. Much was learned about the Sleeping Snake Village site from previous archaeological investigations; however, SWCA recommends that a monitor be present during initial ground disturbance where buried archaeological deposits may be present. The site is a habitation site, which increases the possibility of the discovery of human remains. Human remains discoveries on private land are protected by state law (Arizona Revised Statutes 41-865), and archaeological monitoring would help to ensure that any such discoveries are treated in accordance with state law.

SECTION 19. ATTACHMENTS

19a. References: ☒

19b. Project Location Maps: ☒ Figures 1 and 2

19c. Land Jurisdiction Map: ☒ See Figure 2

19d. Background Research Map(s): ☒ Figure 3

19e. GLO Map(s): ☐

19f. Results Map: ☐

19g. Photographs of the project area: N/A

19h. Previous Survey Report(s): ☒

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SECTION 20. CONSULTANT CERTIFICATION

I certify that the information provided herein has been reviewed for content and accuracy and all work meets applicable agency standards.

A handwritten signature in blue ink, appearing to read "David M. R. Barr", followed by a long horizontal flourish.

David M. R. Barr, M.A.
Principal Investigator

SECTION 21. DISCOVERY CLAUSE

If human remains are encountered during ground-disturbing activities, all work must immediately cease within 30 meters (100 feet) of the discovery and the area must be secured. The ASM must be notified of the discovery. Pursuant to Arizona Revised Statutes § 41-844, work must not resume in this area without authorization from the ASM.

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References Cited

Arizona Geological Survey

- 2013 *Geologic Map of Arizona*. Available at: <http://data.azgs.az.gov/geologic-map-of-arizona/>. Accessed March 7, 2023.

Barr, David M. R.

- 2020 *Archaeological Survey of Approximately 96 Acres for the Proposed Vistoso Golf Course Development Project in Oro Valley, Pima County, Arizona*. Cultural Resources Report No. 20-407. Cultural Resources Report No. 17-653. SWCA Environmental Consultants, Tucson, Arizona.

Brown, D. E.

- 1994 *Biotic Communities: Southwestern United States and Northwestern Mexico*. University of Utah, Salt Lake City.

Craig, Douglas B.

- 1987 Archaeological Site Descriptions. In *Prehistoric Settlement in the Canada del Oro Valley, Arizona: The Rancho Vistoso Survey Project*, edited by D.B. Craig and H.D. Wallace, pp. 35–45. Anthropological Papers 8. Institute for American Research, Tucson.

Craig, Douglas B., and Henry D. Wallace

- 1987 *Prehistoric Settlement in the Canada del Oro Valley, Arizona: The Rancho Vistoso Survey Project*. Anthropological Papers 8. Institute for American Research, Tucson.

Ezzo, Joseph A. (editor)

- 2007 *Ballcourt on the Bajada: Data Recovery at Sleeping Snake Village (AZ BB:9:104[ASM]) and Los Venados (AZ BB:9:186[ASM]), Oro Valley, Arizona*. Cultural Resources Report No. 05-290. SWCA Environmental Consultants, Tucson, Arizona.

Hewitt, James H., and David Stephen

- 1981 *Archaeological Investigations in the Tortolita Mountains Region, Southern Arizona*. Archaeological Field Report No. 10. Pima Community College, Tucson, Arizona.

Natural Resources Conservation Service

- 2022 *Web Soil Survey for Pinal County, Arizona*. Available at: <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>. Accessed March 7, 2023.

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Figure 1. Project location map.

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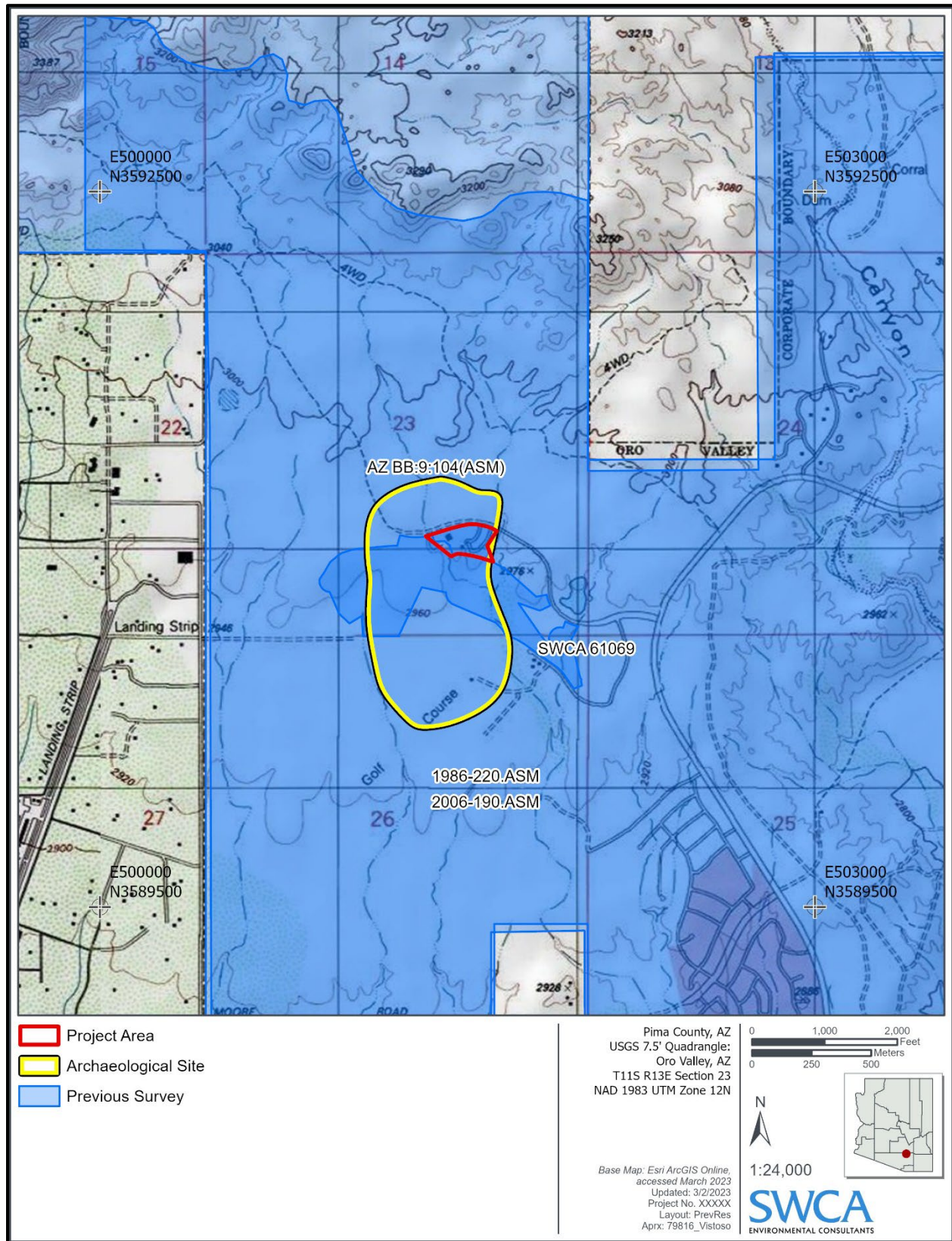



Figure 3. Previous archaeological projects and sites within the project area.

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The logo for SWCA is positioned vertically on the left side of the page. It consists of the letters 'S', 'W', 'C', and 'A' in a large, stylized, light blue font. The letters are stacked vertically, with the 'S' at the bottom and the 'A' at the top. The background of the entire page is a solid blue color.

Archaeological Survey of Approximately 96 Acres for the Proposed Vistoso Golf Course Development Project in Oro Valley, Pima County, Arizona

JUNE 2020

PREPARED FOR
Romspen Vistoso, LLC

PREPARED BY
SWCA Environmental Consultants

**ARCHAEOLOGICAL SURVEY OF APPROXIMATELY 96
ACRES FOR THE PROPOSED VISTOSO GOLF COURSE
DEVELOPMENT PROJECT IN ORO VALLEY, PIMA COUNTY,
ARIZONA**

Prepared for

Romspen Vistoso, LLC
162 Cumberland Street, Suite 300
Toronto, Ontario M5R 3N5
Attn: Peter Oelbaum

Prepared by

David M. R. Barr, M.A., RPA

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SWCA Project No. 61069

SWCA Cultural Resources Report No. 20-407

June 2020

Report Title: Archaeological Survey of Approximately 96 Acres for the Proposed Vistoso Golf Course Development Project in Oro Valley, Pima County, Arizona

Project Name: Vistoso Golf Course Archaeological Survey

Project Location: Oro Valley, Pima County, Arizona

Project Locator UTM: NAD 83 Zone 12 501576mE 3590862mN

Project Sponsor: Romspen Vistoso, LLC

Sponsor Project Number(s): Not applicable

Lead Agency: Town of Oro Valley

Agency Project Name/Number: Not applicable

Other Involved Agencies: Not applicable

Applicable Regulations: Town of Oro Valley Historic Preservation Regulations

Funding Source: Private

Description of the Project/Undertaking: Romspen Vistoso, LLC, is proposing to develop a 96-acre portion of the former Golf Club at Vistoso into single-family residences and a senior living facility in Oro Valley, Pima County, Arizona. Romspen Vistoso contracted SWCA Environmental Consultants (SWCA) to conduct an archaeological survey of the proposed development area to assess the project's potential to adversely affect cultural resources. SWCA conducted the survey as a requirement of the Town of Oro Valley as part of the General Plan Amendment and Planned Area Development Amendment.

Project Area/Area of Potential Effects (APE): The APE consists of 96 acres of an existing, closed golf course and surrounding relatively undisturbed desert. All disturbances will be confined to the surveyed area.

Legal Description: The project area is in Sections 23, 24, and 26, Township 11 South, Range 13 East, Pima County, Gila and Salt River Baseline and Meridian, on the U.S. Geological Survey Oro Valley, Arizona, 7.5-minute quadrangle.

Land Jurisdiction(s): Private

Total Acres: 96 acres

Acres Surveyed: 96 acres—63.2 acres (systematic pedestrian survey) and 32.8 acres (judgmental survey of existing golf course infrastructure, including greens, fairways, driving range, parking lots, and clubhouse buildings)

Acres Not Surveyed: 0

Consultant Firm/Organization: SWCA

Project Number: 61069

Permit Number(s): Not applicable

ASM Accession No.: Not applicable

Date(s) of Fieldwork: May 20 and 22, 2020

Number of Isolated Occurrences (IOs) Recorded: 11

Number of Sites Recorded: Two (AZ BB:9:87[ASM] and AZ BB:9:104[ASM])

Eligible Sites: Two

Ineligible Sites: None

Unevaluated Sites: None

Sites Not Relocated: One (AZ BB:9:103[ASM])

Site Summary Table

Land Jurisdiction	Identification Status (new or previously recorded)	Site Number/ Property Address	Eligibility Status/ Criterion/Criteria	Recommended Treatment
Private	Previously recorded	AZ BB:9:87(ASM)	Determined eligible (State Historic Preservation Office[SHPO])	Site has been subjected to data recovery. Monitoring during ground disturbances in undisturbed areas is recommended.
Private	Previously recorded	AZ BB:9:104(ASM)	Determined eligible (SHPO)	Site has been subjected to multiple phases of data recovery. Monitoring during ground disturbances in undisturbed areas is recommended.

Comments:

An archaeological survey of the project area resulted in the identification of the remnants of two previously documented and excavated archaeological sites (AZ BB:9:87[ASM] and AZ BB:9:104[ASM]) and the documentation of 11 IOs. The IOs are not eligible for the National Register of Historic Places (NRHP). One site (AZ BB:9:103[ASM]) that is depicted in AZSITE as being partially within the current project area was not found.

AZ BB:9:87(ASM), the Triangle Road Site, was originally recorded as a Hohokam artifact scatter with associated roasting pits and several rock piles (Craig and Wallace 1987; Hewitt and Stephen 1981; Wellman 1999). In 1996, SWCA conducted archaeological data recovery at the site during which eight pit houses, one ramada, and 114 extramural features were found within two clusters, Locus A and Locus B (Ezzo 2007; Wellman 1999). All eight pit houses were excavated and limited excavation on almost all the extramural features was undertaken. The site was notable for being an early discovery of an Early

Ceramic period (Tortolita phase) (pre-Hohokam) habitation site. Although the majority of the site was subsequently developed as residential housing, the golf course, and road construction, a small, low-density artifact cluster was identified in what would have been the northern extent of Locus A during the current survey.

AZ BB:9:104(ASM), Sleeping Snake Village, was a large Hohokam habitation site with a ballcourt and six loci (Craig and Wallace 1987; Ezzo 2007; Hewitt and Stephen 1981). The site was subjected to two phases of testing, four phases of data recovery, and several episodes of monitoring, over an 11-year period (Ezzo 2007). As a result of these investigations, more than 520 features were identified and over 260 were excavated (Ezzo 2007). Although the majority of the site was subsequently developed as residential housing, the golf course, and road construction, four low-density artifact clusters were identified near Locus A, north and within Locus B, and within and southeast of Locus C–Tee Box.

The proposed residential development has the potential to affect intact archaeological deposits where artifacts were found and in the portions of the sites that have not been developed. A great deal was learned about the two sites as a result of the previous archaeological investigations; however, SWCA recommends that a monitor be present during initial ground disturbance in area where buried archaeological deposits may be present. Both sites are habitation sites, which increases the possibility of the discovery of human remains. Human remains discoveries on private land are protected by state law (Arizona Revised Statutes 41-865) and archaeological monitoring would help to ensure that any such discoveries are treated in accordance with state law.

PROJECT DESCRIPTION

Romspen Vistoso, LLC, is proposing to develop a 96-acre portion of the former Golf Club at Vistoso into single-family residences and a senior living facility in Oro Valley, Pima County, Arizona. Romspen Vistoso contracted SWCA Environmental Consultants (SWCA) to conduct an archaeological survey of the proposed development area to assess the project's potential to adversely affect cultural resources. SWCA conducted the survey as a requirement of the Town of Oro Valley as part of the General Plan Amendment and Planned Area Development Amendment.

The area of potential effects (APE) consists of 96 acres of an existing, closed golf course and surrounding relatively undisturbed desert. All disturbances will be confined to the surveyed area.

PROJECT LOCATION

The project area is in northwestern Oro Valley, approximately 1 mile south of the Tortolita Mountains and 4 miles west of Canada del Oro Wash (Figure 1). Specifically, it is in Sections 23, 24, and 26, Township 11 South, Range 13 East, Pima County, Gila and Salt River Baseline and Meridian, on the U.S. Geological Survey (USGS) Oro Valley, Arizona, 7.5-minute quadrangle (Figure 2).

PHYSIOGRAPHIC CONTEXT

The project area is on the southeastern piedmont of the Tortolita Mountains. Surficial geologic units include Pleistocene-age or older piedmont alluvium. Surface sediments are tannish brown gravelly loam with granite outcrops.

The survey area is within a paloverde-cacti-mixed scrub association in the Arizona Upland subdivision of the Sonoran Desertscrub biotic community (Brown 1994) at an elevational range of 2,910 to 2,974 feet above mean sea level (Figure 3). The dominant vegetation within the survey area consists of velvet mesquite (*Prosopis velutina*), foothill paloverde (*Parkinsonia microphylla*), cholla (*Cylindropuntia* sp.), burrobush (*Ambrosia dumosa*), and prickly pear cactus (*Opuntia* sp.). Other vegetation observed within the survey area includes brittlebush (*Encelia* sp.), broom snakeweed (*Gutierrezia sarothrae*), triangle-leaf bursage (*Ambrosia deltoidea*), Christmas cactus (*Cylindropuntia leptocaulis*), and hedgehog cactus (*Echinocerus triglochidiatus*).

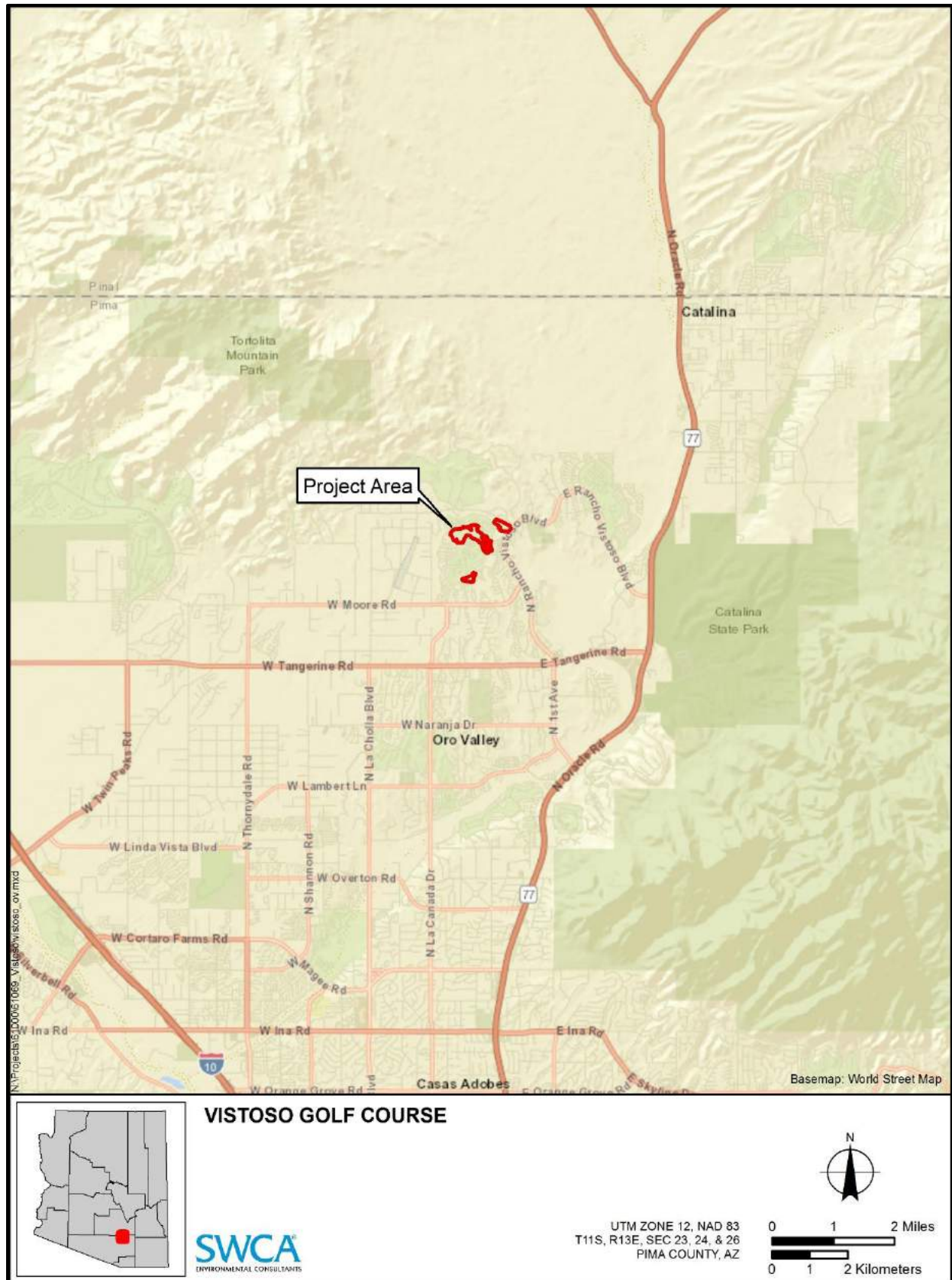


Figure 1. Project vicinity.

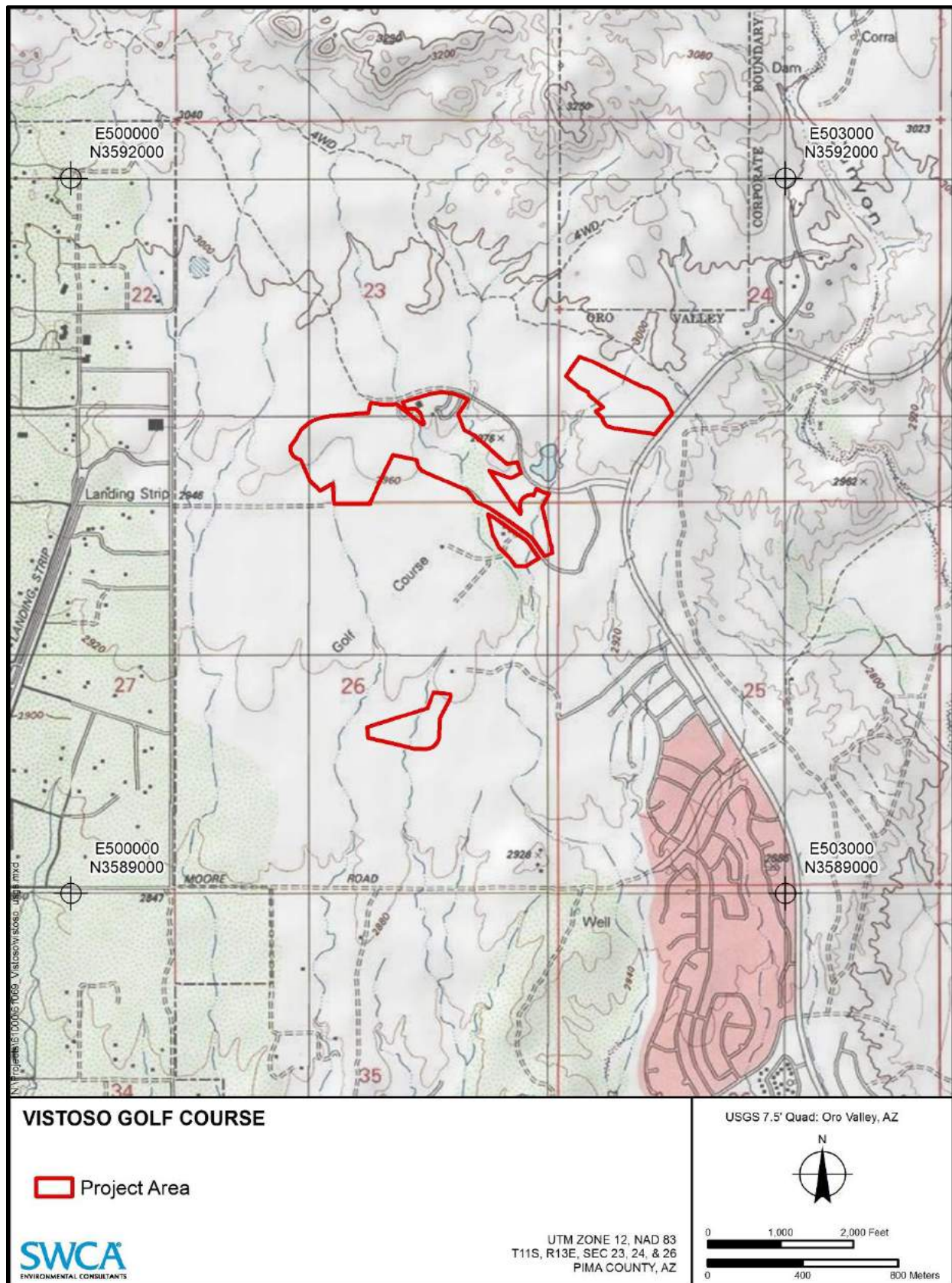


Figure 2. Project location.



Figure 3. Overview of project area, facing south.

CULTURE HISTORY

Human occupation of the greater Tucson Basin spans some 12,000 years, from the Paleoindian period to the present. For this overview, we use traditional cultural-historical labels and date ranges that have been defined for periods and phases. Our level of understanding varies with the intensity of archaeological research and the number of investigated sites.

Paleoindian Period (9500–8000 B.C.)

The earliest known human occupation of southern Arizona is the Paleoindian period (9500–8000 B.C.). Archaeological remains that characterize the period reflect small groups of hunter-gatherers who hunted now-extinct large game, including mammoths. Many excavated Paleoindian sites represent the killing and butchering of these animals; residential sites (“base camps”) are rare. Artifact assemblages include distinctive “fluted” projectile points, which were hafted to handheld spears, along with other tools used for skinning animals and cutting meat and bone.

No Paleoindian material has been found in Oro Valley (O’Mack 2010:9), although southeastern Arizona has been an important region for its study. Four Clovis culture sites associated with mammoth remains have been excavated in the upper San Pedro River valley (Faught and Freeman 1998). Individual Clovis points have been found in the Tucson Basin at the Valencia site (AZ BB:13:15[ASM]) (Doelle 1985:181) and in Saguaro National Park East (Simpson and Wells 1984), as well as in the Tucson Mountains and Avra Valley to the west (Huckell 1984).

Early and Middle Preceramic Periods (8000–2000 B.C.)

The long temporal span of the Early and Middle Preceramic periods encompassed a host of major economic and settlement changes among aboriginal groups in the Southwest (Whittlesey et al. 2007). Climatic fluctuations led to hunting and gathering strategies that focused on small game and locally available plant resources. The extinction of large Pleistocene mammals during Paleoindian times was at least one cause of a shift from a largely hunting-based economy to an economy based on collecting a broad spectrum of wild plant and animal foods. Dates for the beginning of the Early Preceramic period are not well established, but the available evidence suggests that it began around 8000 B.C. The Early Preceramic period is poorly documented in southern Arizona and virtually unknown in the Tucson Basin (Huckell 1984:137). Tapering-stemmed points, such as the Lake Mohave, Jay, and Silver Lake types, characterize assemblages from this period.

The Middle Preceramic period is better represented in southern Arizona, especially in the San Pedro and Sulphur Springs valleys (Sayles and Antevs 1941). The Middle Preceramic period is marked by the presence of Chiricahua, San Jose/Pinto, and, in the latest stages, Cortaro style (Roth and Huckell 1992) projectile points. Socioeconomic adaptation at this time in southern Arizona appears to have been based on the exploitation of a wide range of plants and animals in complementary environmental zones. Middle Preceramic period assemblages from southern Arizona frequently include large numbers of projectile points and slab metates, as well as basin metates, mortars, and pestles.

Excavations at Los Pozos (AZ AA:12:91[ASM]) along the Santa Cruz River in northwest Tucson identified deeply buried evidence of episodic occupations during the late Middle Preceramic period (Gregory 1999). The site was characterized by thermal features, oxidized surfaces, a large number of Cortaro projectile points, and only minimal numbers of ground stone artifacts. Small charred seeds and mesquite beans reflected on-site processing of wild floral resources. Large- and small-mammal remains represented important resources for food, tools, and probably pelts (Gregory 1999:85–86). Maize (*Zea mays*) with a radiocarbon date of 4050 ± 50 B.P. (CAMS-34923; maize; $\delta^{13}\text{C} = -10.0\text{‰}$), was also found in the Middle Preceramic deposits; however, the dated sample did not originate from a feature, and the date was considered somewhat unreliable because of the potential for contamination and mixing of sediments (Gregory 1999:118).

A relatively substantial Middle Preceramic period occupation was found at Las Capas (AZ AA:12:111[ASM]), which is located along the Santa Cruz River near its confluence with the Rillito River. Early maize remains were identified in deeply buried features associated with Cortaro style projectile points at Las Capas (Whittlesey et al. 2007). Maize from this deposit yielded a date of 3670 ± 40 B.P. (Beta-148409; maize; $\delta^{13}\text{C} = -10.6\text{‰}$). Twenty-five features were excavated. Pit shapes included bells, cylinders, cones, and basins, although no architectural features were discovered.

Late Preceramic Period (2000 B.C.–A.D. 200)

As more research is undertaken in southeastern Arizona, the initial introduction of maize is being pushed back in time. Huckell (1995) defined the earliest phase of the period, dating from about 2000 to 1300 B.C., but did not give it a label. The following San Pedro phase (1300–800 B.C.) witnessed changes in artifact assemblages, cultural features, and archaeobotanical remains, signifying changes in settlement and subsistence patterns. At the Milagro site (AZ BB:10:46[ASM]), located on a low terrace north of Tanque Verde Creek in the eastern Tucson Basin, Las Capas, and elsewhere, the San Pedro phase was characterized by relatively small domestic structures with a few small, interior bell-shaped storage pits, numerous extramural storage and processing pits, abundant flaked stone artifacts (including San Pedro

and Empire projectile points), simple shell jewelry, clay objects, utilitarian seed milling equipment, and maize cultivation (Huckell and Huckell 1984; Huckell et al. 1995).

The succeeding early and late Cienega phases (800 B.C.–A.D. 200) witnessed further changes. Most pit structures were small, informal constructions that lacked hearths and contained many large storage pits, which suggests they may have served as specialized storage facilities. At the same time, the number of extramural storage facilities was greatly reduced (Gregory 2001; Huckell 1990, 1995; Mabry 1998). Corner-notched Cienega points replaced the earlier San Pedro and Empire points, and ground stone and shell inventories became more elaborate. Large structures may have been used for communal ritual functions. What remains to be determined is whether the Late Preceramic period settlements along the Santa Cruz River were characteristic of the period elsewhere in southern Arizona and beyond. Current evidence indicates a possible dual settlement system focused on the floodplains and on the bajadas (Roth 1989). An important issue concerns whether sedentism began before or after cultivation was established (Fish et al. 1992; Huckell 1990:371). Fish et al. (1992:13–15) suggest that the riverine zone provided an “optimal environmental constellation” for sedentary, or near-sedentary, settlement by non-agricultural hunters and gatherers. This constellation included reliable sources of water, availability of a staple (mesquite pods), and access to environmental diversity. Increasing residential stability would have contributed to the adoption of farming (Roth 1989). In fact, it has been argued that “restricted residential mobility may be as much a prerequisite for a successful transition to agriculture as the result of such a transition” (Fish et al. 1992:14).

Early Ceramic Period (A.D. 200–650)

The Early Ceramic period marks the transition between the Late Preceramic period and the subsequent Hohokam Pioneer period. It is divided in two phases: the Agua Caliente and Tortolita phases. This was a transitional time, marked by the introduction of new patterns and the persistence of some older patterns. By the end of the Early Ceramic period around A.D. 650, sufficient cultural differentiation was present to warrant treating the material culture of groups that inhabited southern Arizona as separate cultural entities. Some basic patterns persisted into the Hohokam sequence, however, and others continued in the Mogollon cultural tradition of southeastern Arizona (Ciolek-Torrello 1995).

Sometime around A.D. 200, perhaps as much as two centuries earlier, true ceramic containers appeared in the Tucson Basin. The Agua Caliente phase was characterized by plain brown ware ceramics and vessel shapes that include primarily seed jars and occasionally bowls (Deaver and Ciolek-Torrello 1995; Whittlesey 1998). These sand-tempered ceramics were made over broad areas of the Southwest, including the Peñasco phase of the San Simon Mogollon in southeastern Arizona, the Agua Caliente phase in the Tucson Basin, and the Red Mountain phase in the Gila-Salt Basin. Because of the technological similarity over such a broad region, ceramic-container technology may have been introduced from a single source, and the cultural differentiation characteristic of later periods had yet to take place (Whittlesey 1995).

The introduction of a red-slipped ware marked the beginning of the Tortolita phase around A.D. 400. New vessel shapes, such as the flared-rim jar and flared-rim bowl (the latter thought to be a hallmark of later Hohokam ceramic technology) were introduced. In addition to the locally made Tortolita Red pottery, Gila-Salt Basin Vahki Red and Vahki Plain ceramics and Mogollon San Francisco Red are commonly found at Tortolita phase sites in the Tucson Basin. Architecture at Early Ceramic period sites shows a formalization of previous building techniques. Many pit structures were square to rectangular, with formal, plastered hearths centered on the entryway. Some structures had entryways flanked by adobe pillars that supported entry posts, creating a “bean” shape. This formalization in architecture suggests greater residential stability. True pit houses characterized the Agua Caliente phase. During the following Tortolita phase, houses in pits made their appearance, and they eventually became the most common architectural style (Wallace and Lindeman 2003:Table 4.1). Large communal houses continued

to be used. Some material-culture patterns remained much like those of earlier times, however, including the persistence of large dart points and ground stone tools focused on basin metates and hand stones (Ciolek-Torrello 1998).

The Hohokam (A.D. 650–1450)

The Hohokam archaeological culture of the Tucson and Gila-Salt basins developed out of the Early Ceramic period. The Hohokam sequence is composed of four periods: Pioneer (A.D. 650–750), Colonial (A.D. 750–950), Sedentary (A.D. 950–1150), and Classic (A.D. 1150–1450). In the Tucson Basin, the Pioneer period includes the Estrella-Sweetwater and Snaketown phases (duplicating the phases of the Gila-Salt Basin sequence). The Colonial period includes the Cañada del Oro phase, equivalent to the Gila Butte phase of the Phoenix area, and the Rillito phase, equal to the Santa Cruz phase. The Sedentary period includes the Rincon phase, which has been divided into early, middle, and late subphases and is equivalent to the Sacaton phase of the Phoenix area. The Classic period incorporates the Tanque Verde phase (Soho phase equivalent) and Tucson phase (Civano phase equivalent). Little evidence of the latest Hohokam phase of the Gila-Salt Basin, the Polvorón phase, has been found to date in the Tucson Basin.

An ongoing, much-debated issue concerns the origin of Hohokam groups in the Phoenix and Tucson Basins. Whereas some archaeologists view the Hohokam culture as an outgrowth of local Early Ceramic period populations (Wallace and Lindeman 2003), others believe the Hohokam essentially were a frontier Mesoamerican group who moved into the Tucson and Gila-Salt basins (Whittlesey 2004a). The number of parallels to Mesoamerican material culture, ritual, ideology, and cosmology make the Mesoamerican-migration hypothesis an attractive one.

The beginning of regional diversification in ceramic technology is evidenced during Pioneer period, when local ceramic production may have begun in the Tucson Basin. Evidence for canal irrigation has been found at the Dairy site (Deaver 1996). Current evidence indicates rapid population increase during the Colonial period. By A.D. 800, the beginning of the Rillito phase, a number of settlements were established along the Santa Cruz River. Doelle and Wallace (1991) suggest this represents a fourfold increase in the number of sites known from the Cañada del Oro phase. Ball court villages dating to the Colonial period are known in the western Tucson Basin, as well as at the base of the Tortolita and Santa Catalina Mountains and in the Avra Valley (Czaplicki and Ravesloot 1989; Doelle and Wallace 1991; Downum 1993). These ball court villages were the centers of larger communities that included farmsteads, field houses, and plant-procurement locales. Honey Bee Village (AZ BB:9:88[ASM])—a large Hohokam ball court village site that has been the subject of extensive archaeological research and historic preservation efforts (Wallace 2012)—is the nearest ball court village to the current survey area. The site is defined by numerous trash mounds surrounding a ball court and a rock-lined courtyard, situated on a bench overlooking the confluence of Honey Bee Canyon and Big Wash. The Tucson Basin ceramic tradition burgeoned, with red-on-brown pottery that differed from the Gila-Salt Basin red-on-buff pottery in technology but paralleled it in design and vessel shapes. Villages were structured as clusters of courtyard groups, each with communal work areas, trash mounds, and associated cemeteries. Open plazas served communal functions.

By the middle of the Sedentary period, the Hohokam regional system had reached its maximum extent (Crown and Judge 1991; Wilcox 1991). The Sedentary period was a time of considerable change in the Tucson Basin. Although there was substantial growth in the number of small to moderate-sized settlements, with settlement expanding into all parts of the Tucson Basin (Elson 1986), ball courts ceased to be used. Settlements were expanded away from riverine environments to secondary drainages and bajadas. The repertoire of agricultural strategies was expanded on the bajadas to include large rock-pile fields, which are thought to have been used to a large degree for agave cultivation. Although courtyard groups continued to reflect the predominant organizational form, the number of houses in a group

decreased (Whittlesey and Deaver 2004). In the Gila-Salt Basin, ceramics were distinguished by degeneration in the execution of line work and a bolder decorative style. Vessels were thicker and heavier than in earlier periods, and the distinctive Gila shoulder made its first appearance. In the Tucson Basin, ceramic manufacturing flourished, with the appearance of white-slipped and red-slipped pottery, black-painted pottery, and by the late Middle Rincon phase, Rincon Polychrome pottery (Deaver 1989).

Ceramics from the Sedentary period are distinguished by a degenerated execution of line work and a bolder decorative style. Vessel construction was thicker and heavier than in earlier periods, and the distinctive Gila shoulder made its first appearance on the bodies of jars and ollas. There is evidence of emerging craft specialization at certain sites. It has been suggested that certain households at three Rincon phase sites in the Tucson Basin—Julian Wash, Valencia, and West Branch (Harry and Bubemyre 2004 [although this model is criticized by Whittlesey 2004b]; Heidke 2011)—focused much of their energies on the production of pottery. It has also been suggested that some of the population of Honey Bee Village became specialists in textile making and marine shell working (Wallace 2012:811). Wallace (2012:797) characterizes the social structure of Honey Bee and other Tucson-area Hohokam villages pre-A.D. 1100 as a “muted hierarchy” in which overt displays of power and wealth were limited, and the layout of settlements was open and unrestricted. The emergence of craft specialization, and the associated potential for trade-based relationships, may have led to a weakening of social ties within Hohokam village communities. Both Honey Bee and the Valencia community appear to have become divided settlements, with two distinct settlement loci in each village, during the Rincon phase.

Beginning in the late Rincon phase, sweeping changes took place. Many existing settlements were abandoned, and new settlements were established in previously unoccupied areas. Large communities were located along the major drainages (Doelle and Wallace 1991). New architectural types, modes of interment, and changes in subsistence and economic pursuits were introduced. Various types of adobe-walled construction appeared, including adobe-walled pit houses and, later, aboveground structures of adobe and stone masonry. Dwellings and habitations often were enclosed entirely or in part by adobe and stone compound walls (Kelly et al. 1978; Slaughter and Roberts 1996). Earthen platform mounds became the focal point of communal activities. Platform mounds were built at University Indian Ruin and Martinez Hill and in the Marana community.

Inhumation burial was added to the mortuary complex; at some sites, cremation persisted along with inhumation, although at other sites, inhumation replaced cremation. Maize, beans, squash, and cotton continued to dominate agricultural production, but a wider variety of cultivars and wild-plant resources were exploited than previously. Other changes in subsistence pursuits included significant increases in agave use (Wallace 1995:806–810) and reliance on artiodactyls. Whereas the expansion of farm sites in the Sedentary period has been attributed to salubrious climatic conditions (Van West and Altschul 1994), the expansion of alternative farming methods in the Classic period tends to suggest that other options were needed to mitigate the unpredictable availability of water for irrigation (e.g., Crown 1984; Fish et al. 1984:69; Miksicek 1987). Vulnerabilities in canal systems may have prompted some settlement relocations (Wallace 1995:810–811). Certainly in the Phoenix Basin at villages such as Pueblo Grande, populations were under severe nutritional stress. Regionally, the Classic period was a time of demographic shifts, likely prompted by drought. Evidence of population relocation from northern and central Arizona has been documented in southeastern Arizona in the San Pedro River valley and possibly the eastern Tucson Basin (e.g., Clark 2001; Di Peso 1958; Slaughter and Roberts 1996; Woodson 1999).

Important Classic period settlements in the Tucson Basin include the Dairy site (AZ AA:12:285[ASM]), Los Morteros (AZ AA:12:57[ASM]), and the Huntington Ruin (AZ AA:12:73[ASM]). Occupations at Los Morteros and the Huntington Ruin may have been related, with growth at the Huntington Ruin and adjacent hill top trincheras sites contemporaneous with the decline in population at Los Morteros. Many Tanque Verde phase sites, including the platform mounds at Marana and Los Robles and nearby

trincheras sites, were abandoned (Doelle and Wallace 1991:Figures 7.25 and 7.26; Downum 1993; Fish et al. 1992). By the Tucson phase, there is indication of increased social differentiation and aggregation of populations into fewer and larger villages. During the Tucson phase, population aggregation is apparent in the southern Tucson Basin near Martinez Hill, the northern Altar Valley around the Coyote Mountains, and at University Indian Ruin at the confluence of Pantano Wash and Tanque Verde Wash (Doelle and Wallace 1991:Figure 7.26).

Protohistoric Period

The Protohistoric period, from the end of the Hohokam occupation around A.D. 1450 to Spanish contact at the end of the sixteenth century, is little understood in southern Arizona. At some point before the arrival of the first Spanish conquistadors in southern Arizona, the Classic period population was reorganized yet again. Although the end of Hohokam culture at the close of the Classic period is accepted, the fate of the Hohokam is unknown. The ancestors of the present-day Native Americans populating southern Arizona have been suggested to be Hohokam (Haury 1976), O'otam (Di Peso 1956), Amargosans (Hayden 1970), and Sonoran Indians (Masse 1980:312). A Hohokam-Piman continuum has not been demonstrated conclusively, although there is some evidence that certain parts of southern Arizona were not completely abandoned at A.D. 1450 (Ciolek-Torrello 1988:314; Henderson 1993:86). The Great House at Casa Grande, however, was an abandoned ruin when Padre Kino visited in the late 1600s (Bolton 1919), and a new population was living along the San Pedro and Santa Cruz Rivers. These were the Sobaípurí, a subgroup of O'odham people who were long ago absorbed into other O'odham groups. We know little of the chronology of this reorganization, the ethnic affiliation of the Protohistoric and Early Historic period groups, or details of lifeways. However, oral-history accounts relate a close connection between the O'odham peoples and the Classic period populations (Bahr et al. 1994). This continuity has been reaffirmed in a recent study of Akimel O'odham cultural traditions and the archaeological record (Loendorf and Lewis 2017).

Historic Period

The Historic period in the Tucson Basin can be divided into a Spanish/Mexican period (A.D. 1699–1854) and an American period (A.D. 1854–1950)—the terms Spanish, Mexican, and American referring to political hegemony rather than to ethnic identity (Ayres 1984). Spanish colonization of what is now known as southern Arizona began in the 1690s with the travels of the Jesuit missionary Eusebio Francisco Kino. Kino first traveled as far north as the Tucson Basin in 1692 and 1694 (Doelle 1984). The mission at San Xavier del Bac in the southern Tucson Basin was established under Kino's influence in 1700. In 1775, a presidio was established in Tucson to protect the Missions at San Xavier and San Agustín from

Apache attack (Harry and Ciolek-Torrello 1992). Small numbers of Spanish settlers populated the Santa Cruz Valley after the establishment of the presidio, but settlement slowed after Mexican independence and the renewed threat of Apache attack (Clemensen 1987, Harry and Ciolek-Torrello 1992).

The Mexican Cession of 1848 and the Gadsden Purchase of 1854 added the lands of present-day Arizona to the area of the United States, although Arizona did not achieve Territorial status in its own right until 1863. The population expanded but remained centered on the town of Tucson until the 1870s because of continued Apache raids. For example, Francisco Romero established a ranch in what is now Catalina State Park during the 1860s, but was driven from the ranch by Apache attacks (O'Mack 2010:3). The incessant Apache raids of that era also threatened the population of Tucson, and from 1860–1861 and 1866–1873, the U.S. Army was stationed at Camp Lowell in the old Spanish presidio in the heart of Tucson. In 1873, Camp Lowell was moved to the confluence of Pantano Wash and Tanque Verde Creek, where it became known as Fort Lowell (Turner 1982). After this, settlers from the eastern United

States and from Mexico began to ranch and farm along Tanque Verde Creek and the Rillito River. Settlement in the Tucson area was further expanded by the arrival of the Southern Pacific Railroad in 1880 (Myrick 1975; Sheridan 1995). In 1874, two German immigrants—George Pusch and Johann Zellweger—established the Steam Pump Ranch in Oro Valley. The ranch was named for the steam-powered pump used to extract water from the aquifer below the site. The Pusch family also operated a butcher shop in downtown Tucson, and an ice plant close to the railroad (Town of Oro Valley 2015).

By 1893, the University of Arizona had been established, and in 1912 Arizona was named the forty-eighth state. At this time, the population of Tucson was more than 13,000; by 2000, it had reached 600,000. A constant growth of population occurred throughout the twentieth century, from a variety of sources. As mining and ranching jobs disappeared in smaller communities, people left and relocated to Tucson. Military personnel who had trained in the desert Southwest relocated to Tucson after both World Wars. By the 1950s, Tucson was linked to the rest of the country not only by railroads but by the Tucson Freeway, which connected to several state highways as well. Industries such as banking and tourism boomed after World War II, as did the manufacturing sector (Thiel 2005).

The population boom in Tucson caused residential development to expand into Oro Valley. Notable early development projects included the Campo Bello Subdivision, and Louis Landon's Oro Valley Estates, a community of luxury homes built around a golf course (O'Mack 2010:4). The City of Tucson attempted to annex Oro Valley during the late 1960s and, in response, the Town of Oro Valley was incorporated in 1974. The Town of Oro Valley recognized that development projects threatened existing cultural resources in the town and attempted to preserve some sites, for example, through the purchase of the Steam Pump Ranch in 2007. In 1994, a decade's worth of planning and conservation efforts led to the *Honey Bee Canyon Management Plan*, adopted by the City Council of Oro Valley (CBD/Planning 1994). Key points of the management plan included the recommended preservation of the Honey Bee Village site core and data recovery investigations in the surrounding areas. The plan additionally called for stabilization and further preservation efforts, while developing a plan for recreational use. These early efforts led to the drafting of the *Oro Valley General Plan* (adopted June 15, 2005; Town of Oro Valley 2005), which set forth a policy of preservation in place, mitigative data recovery, and documentation for significant cultural resources encountered during development projects.

PREVIOUS RESEARCH

Archaeological Records Search

Before fieldwork, SWCA consulted the AZSITE database to identify previously conducted surveys and previously recorded sites in the project area and within a 1-mile radius of the project area.

The records search showed that 11 archaeological projects have been conducted in or within 1 mile of the project area. The entire project area has been previously surveyed by one survey (ASM Accession No. 1986-220.ASM) (Appendix A). In 1986, the Institute for American Research (IAR; now Desert Archaeology, Inc.) conducted an extensive survey of the entire Rancho Vistoso property (Craig and Wallace 1987). Approximately 7,700 acres were surveyed, and 54 archaeological sites were recorded (Craig 1987). Although the subject parcels were previously surveyed during the IAR survey, the survey was conducted over 30 years ago and therefore would not be considered satisfactory (adequate or accurate) when evaluated under State Historic Preservation Office (SHPO) Guidance Point No. 5, *SHPO Position on Relying on Old Archaeological Survey Data* (available at <https://azstateparks.com/shpo-guidance-points>), primarily because of changes that have since occurred in survey methodology and site definitions. Within the 1-mile radius, approximately 80 percent has been

surveyed between 1985 and 2014 for residential and commercial development, road improvements, electrical transmission/distribution lines, and potable water and wastewater pipelines.

Three archaeological sites (AZ BB:9:87[ASM], AZ BB:9:103[ASM], and AZ BB:9:104[ASM]) have been documented in the project area (Table 1; see Appendix A); 59 sites have been identified within a 1-mile radius of the project area.

AZ BB:9:87(ASM), also known as the Triangle Road Site, was first recorded in 1978 during the Tortolita Mountains Area Survey conducted by Pima Community College (PCC) (Hewitt and Stephen 1981). It was documented as a medium-density artifact scatter with a possible rock feature. The site was revisited and recorded during the Vistoso Golf Course survey and documented in similar condition (Craig and Wallace 1987). In 1999, SWCA conducted data recovery in response to proposed residential development (Wellman 1999). Data recovery resulted in the identification and excavation of eight pit houses, one ramada, and 114 extramural features. The site was notable for being an Early Ceramic period (Tortolita phase) habitation.

AZ BB:9:103(ASM), also known as the Sleeping Snake Outlier, was first recorded in 1978 by PCC as a sherd and flake stone scatter adjacent to a large Hohokam habitation site (Hewitt and Stephen 1981). It was not evaluated for eligibility. This site was not reidentified during the Vistoso survey (Craig and Wallace 1987).

AZ BB:9:104(ASM), also known as Sleeping Snake Village, was first documented during the PCC survey as a large habitation/village with 24 trash mounds and associated artifact scatters (Hewitt and Stephen 1981). It was revisited and recorded during the Vistoso Golf Course survey (Craig and Wallace 1987) and documented as a large habitation site with over 100 trash mounds, four roasting pits, five rock alignments, and a ball court. The site was divided into five loci (A–E), and 30 of the larger trash mounds were subjected to limited surface collections (Craig and Wallace 1987). Starting in the 1990s, SWCA began a series of mitigation efforts at the site that lasted over 11 years. During this time, two phases of testing and four phases of data recovery (as well as several episodes of monitoring) constituted the fieldwork (Ezzo 2007). These phases resulted in the identification of more than 520 previously unrecorded cultural features and the excavation of over 260 of them (Ezzo 2007). The excavated features included the following: 116 pit houses, 71 extramural pits, 18 trash mounds, the ball court, a variety of miscellaneous extramural features, 40 cremations, one cemetery area, and three inhumations (Ezzo 2007:1).

Table 1. Previously Recorded Archaeological Sites within the Project Area

Site Number	Site Type	Cultural/Temporal Affiliation	Eligibility Status
AZ BB:9:87(ASM)	Habitation	Native American/Tortolita Phase (A.D. 450–650)	Determined eligible (SHPO)
AZ BB:9:103(ASM)	Artifact scatter	Hohokam/Ceramic	Not evaluated (recorder)
AZ BB:9:104(ASM)	Habitation (village)	Hohokam/Rincon/early Tanque Verde (A.D. 900–1200)	Determined eligible (SHPO)

National Register of Historic Places–Listed Properties

The National Park Service’s National Register of Historic Places (NRHP) database was searched to identify properties listed in the NRHP that are located in or within 1 mile of the project area. No NRHP-listed properties were identified within the search area. The NRHP-listed property nearest

to the project area is the DeGrazia Gallery in the Sun Historic District, which is approximately 10 miles southeast of the project area.

Historical Map Research

Historical maps were consulted to identify historic-era properties that were present, and may still be present, in the search area.

The 1924 General Land Office map of Township 11 South, Range 13 East shows the ANDRES ELIAS HOUSE in the SE $\frac{1}{4}$ of Section 24 and three unnamed dirt roads; one dirt road trends northeast-southwest from Andres Elias House to Section 26; the other two trend north-south into Section 25. Two unnamed dirt roads are depicted in Section 26. No evidence of these roads or the house was identified during the survey. No other historical structures, farm fields, ranches, roads, or other facilities are shown in the immediate vicinity of the project area.

In addition, the 1957 USGS Mt. Lemmon, Arizona, 15-minute quadrangle was examined. No historical structures, farm fields, ranches, roads, or other facilities are shown within or in the immediate vicinity of the project area.

SURVEY METHODS

Resource Definitions

Archaeological resources were evaluated according to criteria established by the Arizona State Museum (ASM). The criteria recognize two classes of archaeological remains: the site and the isolated occurrence (IO). The archaeological site is defined under rules adopted for the administration of the Arizona Antiquities Act:

“Archaeological site” means any area with material remains of past Indian or non-Indian life or activities that are of archaeological interest, including without limitation, historic or prehistoric ruins, burial grounds, and inscriptions made by human agency. (Arizona Antiquities Act, Arizona Revised Statutes 41-841, *et seq.*, Chapter 8-201, A.3)

As interpreted by the ASM, “remains of archaeological interest” may include “purposeful constructions” or simply concentrations of materials more than 50 years old. Additionally, sites should consist of at least one of the following:

- 30+ artifacts of a single class (i.e., 30 sherds, 30 tin cans) within an area 15 meters (50 feet) in diameter, except when all pieces appear to originate from a single source (i.e., one ceramic pot, one core, one glass bottle);

- 20+ artifacts which include at least 2 classes of artifact types (i.e., sherds, groundstone, nails, glass) within an area 15 meters (50 feet) in diameter:

- One or more archaeological features in temporal association with any number of artifacts;

- Two or more temporally associated archaeological features without artifacts.

Non-linear, isolated features without associated artifacts may be recorded at the discretion of the archaeologists. An “isolated feature” is defined as a feature that does not have any other features

within a 100 meter (325 feet) diameter. This might include isolated rock piles, mine shafts, prospecting pits or unidentified depressions without associated artifact associations. (ASM 1995)

An archaeological occurrence meeting these minimum criteria is recorded as a site. An occurrence not meeting these criteria is generally classified as an IO, although under exceptional circumstances an occurrence may be judgmentally classified as a site.

Survey Coverage

SWCA archaeologist Paul Rawson surveyed the project area on May 20 and 22, 2020, resulting in a total of two person-field days. General conditions for the survey were excellent, and ground visibility was generally 85 percent. The survey was conducted using standard archaeological techniques following ASM guidelines for survey coverage and site recording methodologies. According to the standards for pedestrian survey established by ASM, a person conducting a pedestrian survey can achieve 100 percent coverage of a parcel by walking a series of systematic transects spaced no more than 20 meters (m) (66 feet) apart. The systemic pedestrian survey involved transects spaced no more than 20 m (66 feet) apart on 63.2 acres, and judgmental survey within the 32.8-acre developed portion of the golf course, excluding existing golf course infrastructures including greens, fairways, driving range, parking lots, and clubhouse buildings. The judgmental survey focused on those areas not built upon or highly disturbed.

The archaeologist sought evidence for cultural resources in the form of artifacts (e.g., ceramics, lithics, historical metals, or glass) or features (concentrations of fire-affected rock, charcoal-stained soil, prehistoric or historical structures, or other cultural anomalies). In addition to searching for archaeological remains, the archaeologist searched for in-use properties (e.g., buildings, roads, corrals) greater than 50 years old.

Once a site was identified, Rawson then proceeded to mark the locations of artifacts and features with pin flags. Next, he completed the site form for what was located within the project area, conducted artifact inventories, took photographs, and mapped the site with a handheld global positioning system (GPS) unit. GPS data were reported in Universal Transverse Mercator (UTM) coordinates projected using the 1983 North American Datum (NAD 83). No artifacts were collected.

Archaeological remains designated as IOs were point located and recorded using a handheld GPS unit. When culturally diagnostic or unusual items comprised IOs, they were photographed.

National Register of Historic Places Criteria for Evaluation

Four criteria are applied in the evaluation of cultural properties for listing in the NRHP (36 Code of Federal Regulations 60.4). The same criteria are used to evaluate properties for listing in the Arizona Register of Historic Places (ARHP) (Arizona Administrative Code R12-8-302). Normally, a significant property must be at least 50 years old and meet at least one of these four criteria to be considered eligible for the ARHP. According to the ARHP criteria, the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and

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

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

SURVEY FINDINGS

The survey of the project area resulted in the identification of the remnants of two previously investigated archaeological sites (AZ BB:9:87[ASM] and AZ BB:9:104[ASM]) and the documentation of 11 IOs (Figure 4). One site (AZ BB:9:103[ASM]) is depicted in AZSITE as being partially within the current project area; however, no evidence of this site was found during the current survey or during IAR's survey of the Rancho Vistoso area (Craig and Wallace 1987). Two single artifact IOs (IOs 8 and 11) were found 16 m and 47 m, respectively, from the site boundary as depicted in AZSITE.

AZ BB:9:87(ASM)

AZ BB:9:87(ASM), the Triangle Road Site, was originally recorded as a Hohokam artifact scatter with associated roasting pits and several rock piles (Craig and Wallace 1987). The site was subjected to archaeological investigations before development in 1996 (Wellman 1999). During the data recovery investigations, eight pit houses, one ramada, and 114 extramural features were identified that broadly divided the site into two clusters, Locus A and Locus B (Ezzo 2007; Wellman 1999). All eight pit houses were excavated, and limited excavation on almost all the extramural features was undertaken. Although the majority of the site area was subsequently developed as residential housing, the golf course, and a road, a small low-density artifact cluster was identified in what would have been the northern extent of Locus A during the current survey.

The artifact cluster measures 19 × 34 m and is estimated to contain approximately 82 ceramic and flaked stone artifacts. The ceramic assemblage consists of 79 small, fragmented sand-and-mica-tempered plainware sherds. The flaked stone assemblage is sparse and consists of one quartzite cortical flake, one rhyolite noncortical flake, and one multidirectional basalt core.

Since the site was subjected to thorough data recovery investigation, no further data recovery work is recommended. However, SWCA recommends that a monitor be present during initial ground disturbance within the area of the newly identified artifact scatter in the event that human remains may be present.

AZ BB:9:104(ASM)

AZ BB:9:104(ASM), Sleeping Snake Village, was a large Hohokam habitation site with a ball court and seven loci (Loci A–B, Locus C–Tee Box, Locus C–2000 Data Recovery, and Loci D–F). The site was subjected to two phases of testing, four phases of data recovery, and several episodes of monitoring over an 11-year period (Ezzo 2007). As a result of these investigations, more than 520 features were identified and over 260 were excavated (Ezzo 2007). Feature types include pit houses, extramural pits, trash mounds, cremations, a cemetery area, and inhumations. Although the majority of the site area was subsequently developed as residential housing, the golf course, and a road, four low-density artifact clusters were found near Locus A, north of and within Locus B, and within and southeast of Locus C–Tee Box. In addition, approximately 14 isolated artifacts were observed outside the clusters but within the site boundary.

The artifact cluster that partially overlaps with Locus A measures 32×58 m and is estimated to contain approximately 320 ceramic and flaked stone artifacts. The ceramic assemblage consists of 300 small, fragmented sand-and mica-tempered plainware sherds. The flaked stone assemblage consists of approximately 20 rhyolite and metasediment cortical and noncortical flakes. One exhausted rhyolite core was also observed.

Overall, the other three artifact clusters measure 159×280 m and are separated by golf course infrastructure. Within the three clusters there are approximately 2,100 ceramic and flaked stone artifacts. Most of the ceramic assemblage is small, fragmented sand-and mica-tempered plainware sherds; however, three red-on-brown sherds were found. The flaked stone assemblage consists of primarily cortical flakes of quartzite, rhyolite, and metasediment. A few exhausted cores were also observed.

Ezzo (2007) concluded that the material culture database generated through the four seasons of data recovery provided a level of investigation such that the research potential of the site has been exhausted. However, since human remains were found during data recovery and subsequent monitoring along Pebble Creek Drive (Ezzo 2005), SWCA recommends that a monitor be present during initial ground disturbance.

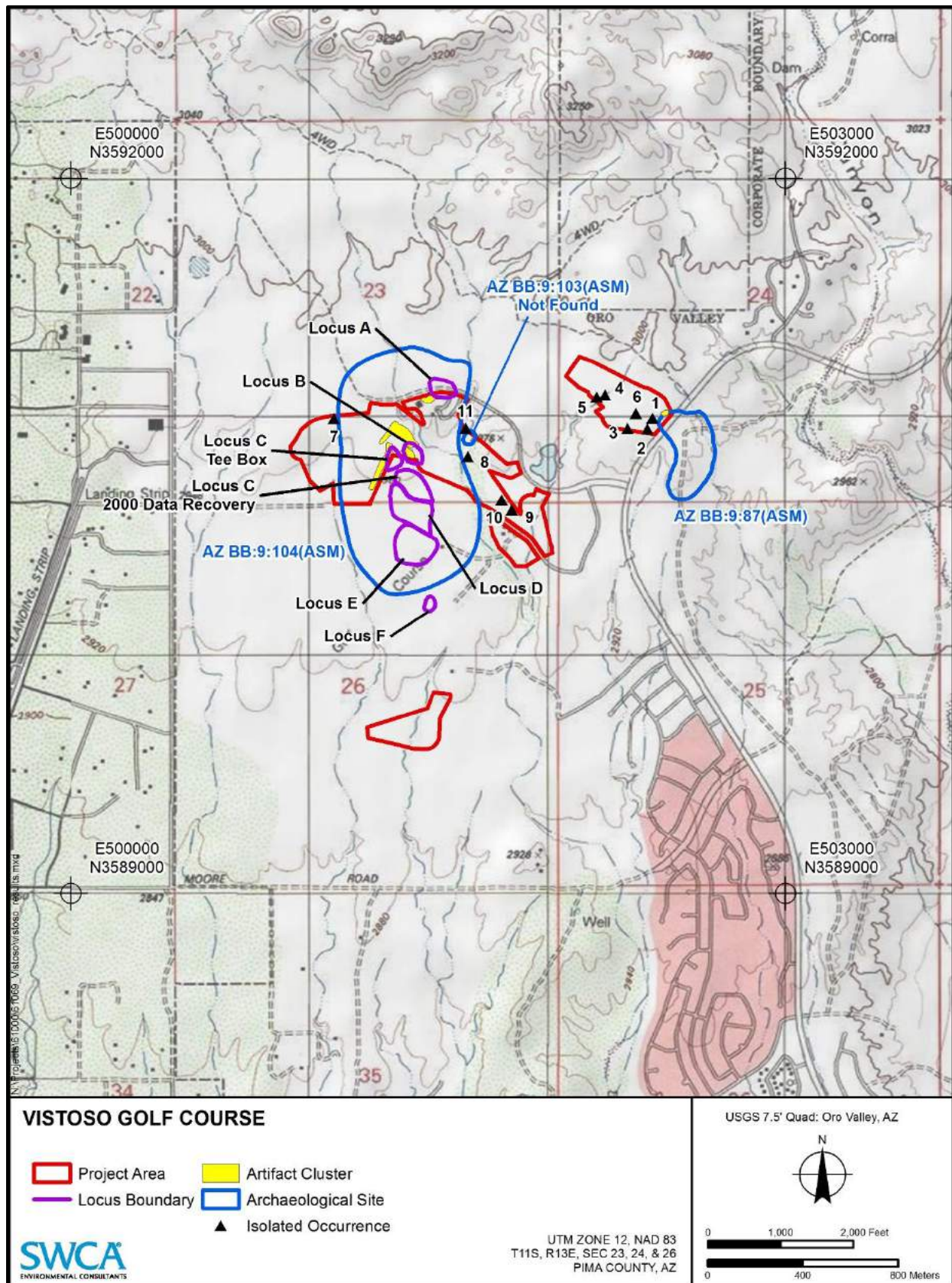


Figure 4. Results of current survey.

Isolated Occurrences

Eleven IOs of artifacts or features were recorded during survey of the project area (Table 2; see Figure 4). All the IOs are prehistoric manifestations and consist primarily of fragmented plainware ceramic sherds.

Table 2. Isolated Occurrences

IO No.	IO Description	Area of Dispersal	Easting*	Northing*
1	Two small sand-and-mica-tempered plainware sherds	1 m	520442	3590993
2	One sand-and-mica-tempered plainware sherd	—	502420	3590949
3	One red-on-brown jar body sherd	—	502338	3590951
4	One sand-and-mica-tempered plain waresherd	—	502243	3591091
5	Two sand-and-mica-tempered plain waresherds	1 m	502207	3591082
6	Five sand-tempered plain ware sherds and one metasediment noncortical flake	5 × 15 m	502372	3591014
7	One sand-and-mica-tempered plainware sherd	—	501104	3590992
8	One sand-tempered plainware sherd	—	501667	3590833
9	Six sand-tempered plainware sherds and one rhyolite noncortical flake	2 m	501851	3590610
10	Two sand-and-mica-tempered plainware sherds	1 m	501809	3590652
11	Three sand-tempered plainware sherds	1 m	501657	3590951

* UTM coordinates (NAD 83), Zone 12

SUMMARY AND MANAGEMENT RECOMMENDATIONS

An archaeological survey of the project area resulted in the identification of the remnants of two previously documented and excavated archaeological sites (AZ BB:9:87[ASM] and AZ BB:9:104[ASM]) and the documentation of 11 IOs. The IOs are not eligible for the NRHP. One site (AZ BB:9:103[ASM]) that is depicted in AZSITE as being partially within the current project area was not found.

AZ BB:9:87(ASM), the Triangle Road Site, was originally recorded as a Hohokam artifact scatter with associated roasting pits and several rock piles (Craig and Wallace 1987; Hewitt and Stephen 1981; Wellman 1999). In 1996, SWCA conducted archaeological data recovery at the site during which eight pit houses, one ramada, and 114 extramural features were found within two clusters, Locus A and Locus B (Ezzo 2007; Wellman 1999). All eight pit houses were excavated, and limited excavation on almost all the extramural features was undertaken. The site was notable for being an early discovery of an Early Ceramic period (Tortolita phase) (pre-Hohokam) habitation site. Although the majority of the site was subsequently developed as residential housing, the golf course, and a road, a small low-density artifact cluster was identified in what would have been the northern extent of Locus A during the current survey.

AZ BB:9:104(ASM), Sleeping Snake Village, was a large Hohokam habitation site with a ball court and seven loci (Craig and Wallace 1987; Ezzo 2007; Hewitt and Stephen 1981). The site was subjected to two phases of testing, four phases of data recovery, and several episodes of monitoring, over an 11-year period (Ezzo 2007). As a result of these investigations, more than 520 features were identified and over 260 were excavated (Ezzo 2007). Although the majority of the site was subsequently developed as residential housing, the golf course, and a road, four low-density artifact clusters were identified near Locus A, north of and within Locus B, and within and southeast of Locus C–Tee Box.

The proposed residential development has the potential to affect intact archaeological deposits where artifacts were found and in the portions of the sites that have not been developed. Much was learned about the two sites from the previous archaeological investigations; however, SWCA recommends that a monitor be present during initial ground disturbance where buried archaeological deposits may be present. Both sites are habitation sites, which increases the possibility of the discovery of human remains. Human remains discoveries on private land are protected by state law (Arizona Revised Statutes 41-865), and archaeological monitoring would help to ensure that any such discoveries are treated in accordance with state law.

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APPENDIX A

Previous Research Maps

