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PRESERVATION

Staff Report

to the Historic Preservation Commission (Tempe HPC)

Prepared By: Pamela Rector, Tempe Preservation Volunteer

ZDC 6-402 Neighborhood Meeting: May 11, 2006

**Loma del Rio Archaeological Site AZ U:9:24 (ASU)
HPO-2006.40 ORD# 2006.43**

BACKGROUND / STATUS

On April 17, 2006, Historic Preservation Office received a nomination for designation of the Loma del Rio Archaeological Site as a Tempe Historic Property and listing in the Tempe Historic Property Register from the Historical Museum Administrator. The application has been reviewed by HPO and all requirements for notification, posting and advertisement, as set forth in Tempe City Code Chapter 14A "the Tempe Historic Preservation Ordinance", have been met and public hearings set.

The property is located at 715 North Mill Avenue, on a portion of a 72 acre parcel (132-04-002E) within the 296 acre City of Tempe portion of the 1500 total acre Papago Park.¹ The property is zoned AG – Agricultural and is located in the Rio Salado Overlay District.² The property is designated Public Open Space in General Plan 2030.³

ZDC Neighborhood Meeting Date: May 11, 2006

Tempe Rio Salado Advisory Commission HPC Presentation: May 23, 2006

HPC Public Hearing Date: June 8, 2006

Tempe Parks & Recreation Board HPC Presentation: June 13, 2006

P&Z Public Hearing Date: June 27, 2006

Council 1st Public Hearing Date: July 20, 2006

Council 2nd Public Hearing Date: August 3, 2006

SUMMARY

HPO recommends Loma del Rio as an excellent candidate for historic designation and listing in the Tempe Historic Property Register. Tempe Papago Park is dedicated to the opportunity for the city dweller to get away from the noise and rush of the urban environment and enjoy contact with nature.⁴ Tempe's Papago Park provides an archaeological perspective unique within the Salt River Valley related to the geographic placement of the Tempe and Papago Buttes on opposite sides of the Salt River which provides an unusual perspective on prehistoric use of the desert. The high ground of the Papago Hills represents an island of natural desert in a vast plain of prehistoric irrigated fields. Hohokam (A.D. 700 to 1450) and early Akimel Au-Authm (A.D. 1700 to 1850) treated the Papago Park area in a way which was different and unique from their villages spread out over other parts of the valley floor. Loma del Rio provides a perspective on the Hohokam use of non-irrigated fields to raise desert plants. The site provides indication of use as an Akimel Au-Authm shrine in the historic period. The Loma del Rio site shows a different aspect of Hohokam society, a use of the desert in a way which is not represented at other interpretive facilities.⁵

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The City of Tempe is a
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Tempe Historic
Preservation Office
Community Development
Department
21 East 6th Street, Suite 208
P.O. Box 5002
Tempe, AZ 85280



480.350.8028
8579 FAX; 8913TDD



HISTORY

Loma del Rio (hill by the river) is an archaeological site occupied by the Hohokam during the Classic Period (A.D. 1200-1450). The site contains remains of a block of six connected rooms, one other room on the east side probably used for cooking and food processing, a stone—or cobble-paved patio, and crescent-shaped agricultural terraces on the hillside southwest of the habitation. The site at one time also contained a walled plaza.

This was probably a residence for approximately 15 to 20 people. At some point during its occupation, the doorways in three of the rooms on the north and west sides were sealed and likely used for storage. Entrance to these storage areas would have been by ladder from an opening in the roof. The walls of this compound were built by covering a “core” of stones with adobe. These materials were readily available locally: stones from the local bedrock and adobe made by combining clay from the river banks with water. To build up the walls wooden forms may have been placed on either side of the stone core. Finally, caliche may have been plastered onto the surface of the walls. Caliche is a hard-packed soil containing a large amount of calcium carbonate (lime).

The crescent-shaped agricultural terraces built into the hillside to the southwest of this habitation were ideal for growing agave (aka the Century Plant), which requires no irrigation. Agave was a mainstay for the Hohokam who used the fibers to weave cloth and make rope. They ate the nutritious “heart,” an important source of food especially during periods of drought.

Agave may have also been traded with local villages. In fields below the terraces crops such as corn, beans and squash could have been grown, irrigated by water from the Salt River. Besides local trading of agave, evidence of trade between Loma del Rio and people as far away as 300 miles was found. Archaeologists determined this by the distinctive pottery and stone tool fragments found at the site. These items very likely came from such places as Casas Grandes, Mexico; Mule Creek, New Mexico; and Flagstaff, Arizona.

CONTEXT

Tempe Papago Park and environs include a number of archaeological sites; Loma Del Rio AZ U:9:24 (ASU), West Park Site AZ U:9:91 (ASU), Bedrock Mortar Site AZ U:9:11 (ASM), Bedrock Mortar Site AZ U:9:25 (ASM), East Park Site AZ U:9:12 (ASM), East Park Site AZ U:9:26 (ASM), East Park Site AZ U:9:27 (ASM), East Park Site AZ U:9:28 (ASM), Terraced Butte Site AZ U:9:77 (ASM), and Tempe Glyphs Site AZ U:9:30 (ASU). However, it is the meticulously stabilized Loma del Rio Archaeological Site AZ U:9:24 (ASU) that has been carefully interpreted to provide the public benefit of insight into this significant habitation locus.

As a broad overview, three general periods of growth and change within the archaeological tradition known as the Hohokam can be recognized. First, there is an early period which witnessed the development of agriculture, pottery, and the establishment of settled villages leading to a sedentary lifestyle. These developments are subsumed under the heading of the Pioneer period, which dates between 300 B.C. and A.D. 700. A second period is characterized by the development of irrigation systems, large villages, ornate arts and crafts industries, public architecture, such as ball courts and mounds, formalized mortuary ritual, and geographic expansion. This middle period encompasses the Colonial and Sedentary periods and dates to between A.D. 700 and 1150. The final or late period witnessed the further expansion of irrigation systems in some areas, shifts in settlement patterns, shifts in architectural styles from pit houses to above ground walled villages, significant changes in pottery and craft assemblages, shifts in burial patterns, and the reorganization of exchange networks. This horizon, known as the Classic period, dates between A.D. 1150 and 1390, is the latest period identified for the Hohokam sequence and the period when Loma del Rio was inhabited.⁶

Classic Period Hohokam in Papago Park

The term “Hohokam” has its roots in the O’odham language, referring specifically to ancestral people who are prominent in O’odham oral traditions. It is in this sense that the word is most meaningful to O’odham speakers, however, the term will be used in our discussion in its archaeological sense, referring to a tradition of shared material culture, economy, and social organization in the Sonoran Desert region that is distinguishable from adjacent related traditions by about A.D. 500. It is now generally recognized that the Hohokam archaeological tradition was not made up of a single biologically or culturally homogeneous people, but was an archaeologically distinctive tradition that came to be shared by a variety of local populations in the Sonoran Desert as they grew out of local Archaic antecedents. The Hohokam were a multi-ethnic group that encompassed speakers of earlier forms of the Tepiman (Tepehuan and Piman) languages as well as River Yuman and possibly the Zuni language.⁷

The Classic Period, after about A.D. 1150, brought conspicuous changes among the Hohokam. Local population aggregation was accompanied by the appearance of platform mounds as community centers. Compound architecture evolved from pre-Classic pithouse and house-in-pit predecessors (Sires 1983a).⁸ Polychrome pottery appeared. Inhumation (rare in earlier periods) challenged cremation as the dominant burial form. Numerous other changes in the world of the Hohokam have been identified during this time period including the regional extent of the Hohokam tradition. Some areas where Hohokam ballcourts were seen earlier ceased to show Hohokam characteristics, while at the same time, platform mounds that first appeared among the Hohokam at Gila River settlements like Gatlin and Snaketown spread to areas where the earlier Hohokam ballcourts were not found, such as the Tonto Basin.⁹

After about A.D. 1000-1100 there is evidence of the presence of Yuman groups from the west, first in the Papaguería and on the Gila River at Gila Bend (the westernmost extent of the Hohokam tradition), and later at sites in the Phoenix area. There also was development of a distinctive, although still generally Hohokam in appearance, southern network that included the Gila Bend area, the Tucson Basin, and the Papaguería. In the north, the Sinagua bounded the Hohokam. The closely-related Trincheras Culture flourished in northern Mexico, immediately south of the Hohokam.¹⁰

By A.D. 1300 many Hohokam characteristics had markedly changed. Building methods included pithouses and above ground structures that were post-reinforced, rock reinforced, or solid caliche-adobe and contiguous room structures were present. By this time, the single family or small extended family appears to have been the primary social unit and society experienced a general decline in complexity. The distribution of sites from this period suggests varied subsistence strategies, which likely included small scale irrigation, at least in areas where canal headgates could be easily rebuilt after the catastrophic floods of the mid to late fourteenth century.¹¹

After about A.D. 1350 there was a substantial, although far from complete, decline in population in the Phoenix Basin, associated with the end of platform mound ceremonialism. Occupation of some major village sites continued on a less intensive basis while smaller settlements on seasonal drainages were established (Sires 1983b).¹² Although these changes show a shift to a less aggregated settlement system and apparently to a less hierarchical society, there were still signs of long-distance trade, of productive agriculture, and generally of a different but nevertheless viable society. From the time that the Polvorón Phase was first identified, it has been apparent that this was not a time of complete collapse and depopulation. Regional trade in some commodities, for example obsidian, even increased after the mid-1300’s (Teague 1984).¹³

Perhaps the most distinctive feature of the Hohokam tradition during these centuries is the economic and social diversity and flexibility that was brought to life in the Sonoran Desert. There were major changes in various aspects of the tradition over a period of many centuries, sometimes leading to significant differences in the appearance of Hohokam settlements, but these reflect the underlying adaptability of the Hohokam rather than cultural discontinuities.¹⁴

The continuing relationship between the prehistoric Hohokam and the people of the modern Four Southern Tribes: Gila River Indian Community, Salt River Pima-Maricopa Indian Community, Ak-Chin Indian Community, and Tohono O'odham Nation, is referred to as cultural affiliation. Connections between the prehistoric Hohokam of the Phoenix Basin and the people of the Salt River Pima-Maricopa and Gila River Indian Communities is established based on a number of characteristics ranging from broadly defined attributes, such as a relatively dispersed settlement pattern, to such specifics as pottery, figurines, domesticated crops, textiles and basketry, architecture, shared histories and great similarities in language and culture.¹⁵

The high ground of the Papago Hills represents an island of natural desert in a vast plain of canal irrigated fields. Prehistoric Hohokam (AD 700 to 1450) and early the Akimel Au-Authm (AD 1700 to 1850) treated the Papago Park area in a way which was different and unique from their villages spread out over other parts of the valley floor. The area provides a perspective on the Hohokam use of non-irrigated fields to raise desert plants. The area includes a number of shrines mostly of Akimel Au-Authm origin, but there are some indications of earlier uses for Hohokam shrines.

Loma del Rio and Tempe Papago Park have the potential for showing a different aspect of Hohokam society, a use of the desert in a way which is not represented at Pueblo Grande (City of Phoenix) or Park of the Canals (City of Mesa).

CRITERIA FOR EVALUATION

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

- A. That are associated with events that have made a significant contribution to the broad patterns of our history (Community Planning and Development); or
- B. That are associated with the lives of significant persons in our past; or
- C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction (Architectural Styles); or
- D. That have yielded or may be likely to yield, information important in history or prehistory.¹⁶

DESCRIPTION

Loma del Rio ("hill by the river") is located on the crest of a ridge on the north side of the Rio Salado. This archaeological site includes a Hohokam ruin that is approximately 650 years old and is easily accessible to the public. Stabilized and enhanced with a ramada and wheelchair accessible path, visitors may explore the ruin at no cost. The site consists of six connected residential rooms and another room set apart which was probably used for cooking.¹⁷

Loma del Rio was a small Hohokam residence that was occupied during the Classic Period, some time between A.D. 1200 and 1450. The site might have been home to 15 or 20 people belonging to an extended family. Several generations of parents, grandparents, siblings, aunts, uncles and cousins probably lived together. The site contains the remains of a block of six rooms, an isolated room, a stone-paved area and agricultural terraces on the slope of the hill immediately to the southwest of the habitation. The single room on the east side appears to have been used for cooking and processing food. The remaining six rooms were built as residences. However, some time during the occupation of the site, the doors of three of the rooms on the north and west side of the room block was sealed off, probably so they could be used for storage. They would have been entered from an opening in the roof. The concentration of rocks on the southeast side of the site appears to form the surface of an open area that was used for a variety of domestic activities.¹⁸

INTEGRITY

The adobe walls of Loma del Rio were covered in 1994 in order to minimize further erosion and deterioration. In 1928, archaeologists estimated that the partially buried walls were at least six feet high. Today, the walls are no more than three feet high and have collapsed in many places. If left exposed, the site would have faded completely into the landscape. There is no effective means of treating the adobe to stop deterioration. Covering the structure will preserve what remains for future generations. The walls can be uncovered for further study or in the event that a technique is developed to preserve and stabilize adobe.¹⁹

Loma del Rio was excavated in 1984 and 1985 by archaeologists from Arizona State University. After the excavation was completed, plastic sheeting and soil were placed over the site. These materials have been left in place. When the stabilization began in 1994, a special synthetic textile was placed over the existing surface to provide a moisture-resistant layer while allowing air to circulate through the soil. Then the mound was built layer upon layer using soil similar in chemical composition to the natural terrain. Each layer was compacted to minimize erosion. The surface of the mound was graded to provide runoff. Historic photographs were used to make the mound look much as it did before it was excavated. In the last decade natural vegetation has grown over the mound, holding the soil in place and further minimizing erosion.²⁰

SIGNIFICANCE

Loma del Rio is significant as one of the first two sites where sherd tempering in Hohokam ceramics has been detected.²¹ *Untempered clay will shrink and crack during drying or firing. To alleviate this, various forms of temper were added to the clay to provide greater strength. Crushed rock, which appears more angular, might also be used. Frequently, old broken pottery was crushed and used as temper.*²²

Loma del Rio is significant because of the use of stone cobble as a core for adobe wall construction. The walls of the rooms at Loma del Rio were constructed by forming adobe around a core of stones. The stones were taken from the local bedrock formation. The adobe was made by mixing clay from the river banks with water. Wooden forms may have been placed on either side of the stone core in order to build up the adobe walls. The surfaces of the walls may have been plastered with caliche, a hard-packed soil that contains high concentrations of lime (calcium carbonate).²³

There is evidence for a network of crescent-shaped terrace gardens built into the hillside to the west and south of the roomblock. In addition to irrigation agriculture, Hohokam farmers also built hillside terraces to contain small amounts of rain. These terraces were ideal for growing agave, also known as the century plant, because agave plants required very little water. Agave was an important food source, especially during periods of drought. The Hohokam ate the

nutritious heart of the agave and used the fibers from the leaves to weave cloth or make rope. It is possible that they traded some of the agave with other villages for items that they might have needed. Other crops such as corn, beans and squash could have been planted below in fields, irrigated by water from the Salt River.^{24 25}

Loma del Rio is a significant site on many levels. From a recreation and tourism standpoint the site enhances the City of Tempe's park system. Having an archaeological site in an urban setting allows easy accessibility to tourists and residents alike. From an archaeological standpoint it is important to understanding Tempe and the Valley of the Sun's past as it relates to Hohokam occupation for approximately 1500 years. Small farmsteads are relatively rare in the metropolitan area, and most interpretive efforts have gone into large towns/sites such as Pueblo Grande. Loma del Rio gives us a glimpse at life in a small settlement where farming terraces rarely found in the center of the Salt River Valley occur much as they do further out at higher elevations. Archaeological sites give us more information on how the Valley of the Sun was populated; the location of settlements and how they interacted with one another.

CHRONOLOGY

- 1200-1450 – Loma del Rio occupied by the Hohokam people during Classic Period
- 1700-1850 – Akimel Au-Authm use site as shrine leaving offerings such as Spanish glass beads, called "padre beads," made in Spain and given as gifts from priests and Spanish settlers
- 02/28/1859 – A reservation was set apart for the Maricopa and Pima by Act of Congress February 28, 1859
- 08/31/1876 – Maricopa and Pima reservation enlarged by Executive Order
- 06/14/1879 – Maricopa and Pima reservation revoked and other lands set apart by Executive Order
- 05/05/1882 – Maricopa and Pima reservation was again enlarged by Executive Order
- 11/15/1883 – Maricopa and Pima reservation was again enlarged by Executive Order to its final configuration. No treaty was ever made with Maricopa and Pima
- 02/12/1887 – First recorded historic site visit by the Hemenway Expedition, headed by Frank Hamilton Cushing²⁶
- 01/31/1914 – President Woodrow Wilson signed Proclamation No. 1262 declaring the area as the Papago Saguaro National Monument
- 1928 – Loma del Rio surveyed by Gila Pueblo archaeological staff (possibly including Frank Midvale a member of this group who was living in Phoenix at this time)
- 1930 – Eisendrath House constructed by noted Arizona architect Robert T. Evans. The building is an important example of Evans' skill and mastery of adobe architecture. The construction of the Eisendrath House, and of other buildings designed by Evans, helped inspire a revival of adobe architecture in the Salt River Valley from the mid-twenties to the start of World War II.
- 04/07/1930 – Act of Congress (amended on July 7, 1932) abolishes the Papago Saguaro National Monument

- 1933 – Work Progress Administration constructs Moeur Park Ramadas/Structures in Tempe Papago Park; stone and concrete bridge, raised planters, stairs, planter borders, stone benches and tables, automobile bridge, retaining walls, irrigation boxes

- 06/06/1935 – President Franklin D. Roosevelt conveys Papago Park land by Patent Number 1076186 to City of Tempe for use as a municipal park²⁷

- 1939 – Loma del Rio recorded by Odd S. Halseth, Albert H. Schroeder and Julian T. Hayden; all prominent archaeologists

- 04/13/1955 – City of Tempe conveys 19.72 acres of Papago Park land by Patent Number 1153368 to Salt River Project Agricultural Improvement and Power District for construction of office and other facilities²⁸

- 1961 – Loma del Rio visited by Dr. Donald H. Morris and Frank Midvale who completed an ASU Archaeological Survey Form noting “heavy impact by pot hunters

- 1964 – Loma del Rio visited by Arizona State Museum personnel

- 1973 – Loma del Rio surveyed by Betina Rosenberg and Donald E. Weaver, Jr.
1977 – Dr. Alfred E. Dittert, Jr. and ten graduate students from his ASU Cultural Inventory Methods class assess archaeological resources within the Rio Salado Developmental District

- 1984-1986 – Site excavation by Arizona State University archaeology students under the supervision of Dr. Dittert

- 06/15/1984 – Tempe transfers 10.6 acres to Arizona Historical Society for construction of Central Arizona Museum of History²⁹

- 1988 – Loma del Rio part of an archaeological survey of a 40-acre area of Tempe Papago Park commissioned by the City of Tempe titled “A Plan for the Management of Archaeological Sites in the Tempe Papago Park Area.” It was conducted by Linda Williams and Karen Atwell on behalf of the Office of Cultural Resource Management, Department of Anthropology, Arizona State University

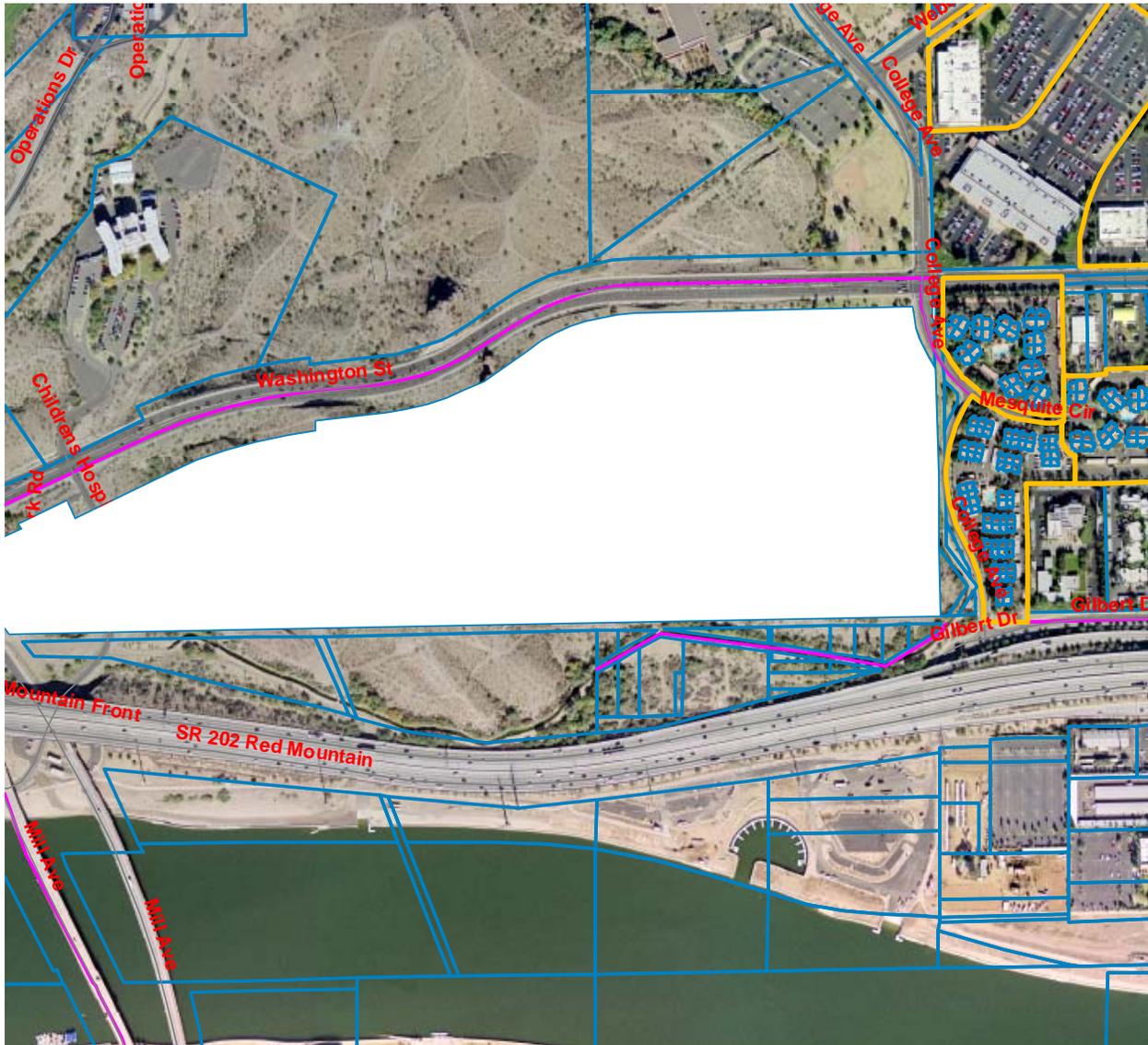
- 1991 – Arizona Parks Board awards Tempe a Heritage Fund Historic Preservation Grant for Loma del Rio stabilization

- 1993-1995 – Loma del Rio stabilized in partnership with Arizona State Parks; Dr. Amy Douglass Tempe Historical Museum Administrator (project conception and realization), Dr. Glen Rice and the ASU Office of Cultural Resource Management (field work), National Park Service (technical assistance with stabilization), Dr. Dittert (expertise on the Hohokam and information regarding prior excavation of the site), Howard Needles Tammen & Bergendoff (HNTB), Architects, Arizona State Parks and the State Historic Preservation Office (Heritage Fund grant)

- 10/14/1995 – Loma del Rio Archaeological Site formally dedicated by the City of Tempe as part of the Rio Salado Expo that included dedication of Papago Park Trails and Rio Salado Project Update presentations
- 11/04/1999 – Historic 1933 Moeur Park WPA Structures in Tempe Papago Park listed in Tempe Historic Property Register
- 11/21/2000 – City of Tempe (Carter Burgess) prepare Papago Park/Crosscut Canal Master Plan and Path Design broad-scale contextual relationships of trail/path and transportation connections to the details of the integrated design and art³⁰
- 06/20/2002 – Historic 1930 Eisendrath House in Tempe Papago Park listed in Tempe Historic Property Register as an example of a Pueblo Revival style seasonal residence
- 04/17/2006 – Historic Preservation Office received a nomination for designation of the Loma del Rio Archaeological Site as a Tempe Historic Property and listing in the Tempe Historic Property Register from the Tempe Historical Museum Administrator (day 1)
- 04/19/2006 – Tempe HPO submitted zoning amendment application DS 060608 for historic overlay zoning for HPO-2006.40 (ORD# 2006.43) historic designation and listing in the Tempe Historic Property Register for Loma del Rio Archaeological Site AZ U:9:24 (ASU) (day 3)
- 05/11/2006 – Zoning & Development Code Section 6-402 Neighborhood Meeting for HPO-2006.40 (ORD# 2006.43) historic designation and listing in the Tempe Historic Property Register for Loma del Rio Archaeological Site AZ U:9:24 (ASU) (day 31)
- 05/23/2006 – Tempe Rio Salado Advisory Commission presentation by Historic Preservation Commission (day 43)
- 06/08/2006 – Tempe HPC Public Hearing for HPO-2006.40 (ORD# 2006.43) historic designation and listing in the Tempe Historic Property Register for Loma del Rio Archaeological Site AZ U:9:24 (ASU) (day 59)
- 06/13/2006 – Tempe Parks & Recreation Board Historic Preservation Commission presentation (day 64)
- 06/27/2006 – Tempe P&Z Public Hearing for HPO-2006.40 (ORD# 2006.43) historic designation and listing in the Tempe Historic Property Register for Loma del Rio Archaeological Site AZ U:9:24 (ASU) (day 78)
- 07/20/2006 – Tempe City Council introduction and first Public Hearing for HPO-2006.40 (ORD# 2006.43) historic designation and listing in the Tempe Historic Property Register for Loma del Rio Archaeological Site AZ U:9:24 (ASU) (day 101)
- 08/03/2006 – Tempe City Council second Public Hearing for HPO-2006.40 (ORD# 2006.43) historic designation and listing in the Tempe Historic Property Register for Loma del Rio Archaeological Site AZ U:9:24 (ASU) (day 115)

RECOMMENDATION

Staff recommends that the Tempe Historic Preservation Commission support the nomination for historic designation and listing in the Tempe Historic Property Register for the **Loma del Rio Archaeological Site AZ U:9:24 (ASU) HPO-2006.40 ORD# 2006.43**, and that Tempe HPC direct Staff to assist in this regard.



<http://www.maricopa.gov/Assessor/GIS/Maps/assessor.mwf?ToolBar=Off&LAT=33.437644&LON=-111.935177&WIDTH=4407.439970&UNITS=ft&EXT=MWF>

ENDNOTES

- ¹ Papago Park is a hilly desert park covering some 490 hectares (1200 acres) in its Phoenix extent, and some 140 hectares (296 acres) in its Tempe extent (the latter is also referred to specifically as Tempe Papago Park).
http://en.wikipedia.org/wiki/Papago_Park
- ² The purpose of the Rio Salado Overlay District is to accomplish the objectives of the specific plan referred to as the "Tempe Rio Salado Plan" as adopted by the City Council. http://www.tempe.gov/zoning/ZDC_amended/ \
- ³ Tempe General Plan 2030 [http://www.tempe.gov/tdsi/GP2030/FinalDocument/ExecSummary\[Mapside\].pdf](http://www.tempe.gov/tdsi/GP2030/FinalDocument/ExecSummary[Mapside].pdf)
- ⁴ Tempe Parks & Recreation <http://www.tempe.gov/pkrec/parkfacil/parks/papago.htm>
- ⁵ Rice, Glen 1988 ASU Dept of Anthropology "A Plan for The Management Of Archaeological Sites In The Tempe Papago Park Tempe, Arizona. [2001.0000.0133](http://www.tempe.gov/tdsi/GP2030/FinalDocument/ExecSummary[Mapside].pdf)
- ⁶ Aguila, Lourdes, 2006; Phoenix Basin Prehistory (updated) Manuscript on file at Archaeological Consulting Services, Ltd. ACS, Tempe [2006.0000.0032](http://www.tempe.gov/tdsi/GP2030/FinalDocument/ExecSummary[Mapside].pdf)
- ⁷ Teague, Lynn S., August 2000; The Four Southern Tribes And The Hohokam Of The Phoenix Basin [*O'odham-Hohokam Cultural Affiliation*](http://www.tempe.gov/tdsi/GP2030/FinalDocument/ExecSummary[Mapside].pdf)
- ⁸ Sires, Earl W., Jr., 1983a; Archaeological Investigations at Los Fosas (AZ U:15:19): A Classic Period Settlement on the Gila River. In Hohokam Archaeology Along the Salt-Gila Aqueduct, Central Arizona Project, Volume 6: Habitation Sites on the Gila River, edited by Lynn S. Teague and Patricia L. Crown, Arizona State Museum, Archaeological Series 150. University of Arizona, Tucson.
- ⁹ Teague, 2000
- ¹⁰ Teague, 2000
- ¹¹ Aguila, 2006
- ¹² Sires, Earl W., Jr., 1983b; Excavations at El Polvorón (AZ U:15:59). In Hohokam Archaeology along the Salt-Gila Aqueduct, Central Arizona Project, Vol. IV: Prehistoric Occupation of the Queen Creek Delta, edited by Lynn S. Teague and Patricia L. Crown, Arizona State Museum Archaeological Series 150. U of A
- ¹³ Teague, Lynn S., 1984; The Organization of Hohokam Economy. In *Hohokam Archaeology along the Salt-Gila Aqueduct, Central Arizona Project, Vol. IX: Synthesis and Conclusions*, edited by Lynn S. Teague and P. L. Crown Arizona State Museum Archaeological Series 150. U of A <http://library.lib.asu.edu/search/>
- ¹⁴ Teague, 2000
- ¹⁵ Teague 2000
- ¹⁶ U.S. Department of the Interior, National Park Service, 2002
- ¹⁷ Savage, Kim, 1999; Pueblo Loma del Rio, an ancient Hohokam site in Tempe Papago Park [Site AZ U:9:24 (ASU)] http://archaeology.asu.edu/vm/southwest/loma/loma_del_rio.htm
- ¹⁸ Tempe Historical Museum 2005 - Loma del Rio: Prehistory in Papago Park
http://www.tempe.gov/museum/prehistory/loma_del_rio.htm
- ¹⁹ Tempe Historical Museum 2005
- ²⁰ Tempe Historical Museum 2005
- ²¹ Kwiatkowski, Scott, 1988; The effects of postoccupational disturbance on archaeobotanical data from AZ U:9:24 (ASU) <http://library.lib.asu.edu/search/>
- ²² Logan Museum POTTERY-MAKING TECHNIQUES
<http://www.beloit.edu/~museum/logan/southwest/introduction/techniques.htm>
- ²³ Tempe Historical Museum 2005
- ²⁴ Tempe Historical Museum 2005
- ²⁵ Savage 1999

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- ²⁶ Hinsley, Curtis M. & David R. Wilcox, 2002 – The Lost Itinerary of Frank Hamilton Cushing, University of Arizona Press <http://library.lib.asu.edu/search>
- ²⁷ U.S. General Land Office Patent Number 1076186
<http://www.tempe.gov/pkrec/parkfacil/parks/Papago%20Land%20Patent%201935.pdf>
- ²⁸ U.S. Bureau of Land Management Patent Number 1153368
<http://www.tempe.gov/pkrec/parkfacil/parks/Papago%20Land%20Patent%201955.pdf>
- ²⁹ Solliday, Scott 1990; History of Tempe Papago Park [2000.0000.697](#)
- ³⁰ Carter Burgess 2000; Papago Park/Crosscut Canal Master Plan and Path Design (Bureau of Reclamation funding) [2002.0000.0028](#)